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REPORT NOS. DOT-TSC-NHTSA-78-24 HS-803 289

# ROADSIDE BARRIER EFFECTIVENESS
## Noise Measurement Program

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Transportation Systems Center
Kendall Square
Cambridge MA 02142


APRIL 1978

FINAL REPORT



Prepared for

U.S DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
Office of Research and Development
Washington DC 20590

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16. Abstract

A field noise measurement program was conducted to assess the performance of a variable height highway noise barrier with and without an acoustic lining material. The barrier site on Interstate I-93 in Andover MA was located adjacent to an acoustically similar unobstructed site. The noise emissions from a common stream of vehicular traffic were measured at both sites simultaneously and compared to evaluate the performance of the barrier. A 1000-foot-long barrier at effective heights of 2.8, 6.8, 10.8 and 14.8 feet was measured and evaluated.

Included in this report is the statistical noise data from fourteen measuring systems for each barrier configuration along with spectral data, traffic information and meteorological conditions.

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# PREFACE

This report documents the results of a field noise measurement program to assess the performance of a temporary highway noise barrier constructed to reduce community noise caused by vehicular traffic on a highway.

Data obtained from this program provides a basis for the optimization of highway noise barriers with regard to their height and distance from the roadway.

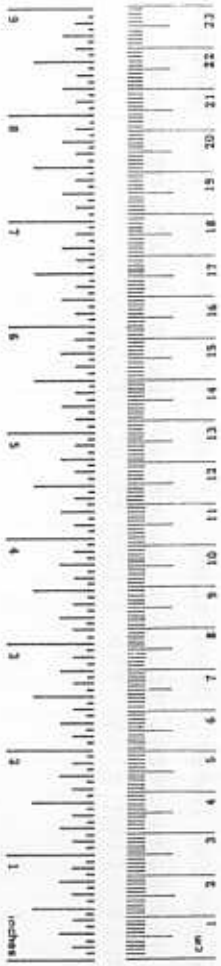
The program was sponsored by the U.S. Department of Transportation, Office of Noise Abatement.

Appreciation is expressed to Mr. C.F. Mistretta, District Highway Engineer, Department of Public Works of the Commonwealth of Massachusetts, for the necessary permits and approval for construction along the state right-of-way.

# METRIC CONVERSION FACTORS

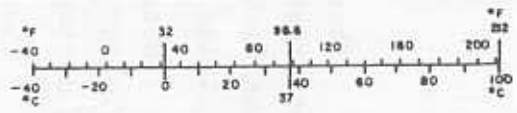
## Approximate Conversions to Metric Measures

| Symbol | When You Know | Multiply by | To Find | Symbol |
|---|---|---|---|---|
| | | **LENGTH** | | |
| in | inches | 2.5 | centimeters | cm |
| ft | feet | 30 | centimeters | cm |
| yd | yards | 0.9 | meters | m |
| mi | miles | 1.6 | kilometers | km |
| | | **AREA** | | |
| $in^2$ | square inches | 6.5 | square centimeters | $cm^2$ |
| $ft^2$ | square feet | 0.09 | square meters | $m^2$ |
| $yd^2$ | square yards | 0.8 | square meters | $m^2$ |
| $mi^2$ | square miles | 2.6 | square kilometers | $km^2$ |
| | acres | 0.4 | hectares | ha |
| | | **MASS (weight)** | | |
| oz | ounces | 28 | grams | g |
| lb | pounds | 0.45 | kilograms | kg |
| | short tons (2000 lb) | 0.9 | tonnes | t |
| | | **VOLUME** | | |
| tsp | teaspoons | 5 | milliliters | ml |
| Tbsp | tablespoons | 15 | milliliters | ml |
| fl oz | fluid ounces | 30 | milliliters | ml |
| c | cups | 0.24 | liters | l |
| pt | pints | 0.47 | liters | l |
| qt | quarts | 0.95 | liters | l |
| gal | gallons | 3.8 | liters | l |
| $ft^3$ | cubic feet | 0.03 | cubic meters | $m^3$ |
| $yd^3$ | cubic yards | 0.76 | cubic meters | $m^3$ |
| | | **TEMPERATURE (exact)** | | |
| °F | Fahrenheit temperature | 5/9 (after subtracting 32) | Celsius temperature | °C |



## Approximate Conversions from Metric Measures

| Symbol | When You Know | Multiply by | To Find | Symbol |
|---|---|---|---|---|
| | | **LENGTH** | | |
| mm | millimeters | 0.04 | inches | in |
| cm | centimeters | 0.4 | inches | in |
| m | meters | 3.3 | feet | ft |
| m | meters | 1.1 | yards | yd |
| km | kilometers | 0.6 | miles | mi |
| | | **AREA** | | |
| $cm^2$ | square centimeters | 0.16 | square inches | $in^2$ |
| $m^2$ | square meters | 1.2 | square yards | $yd^2$ |
| $km^2$ | square kilometers | 0.4 | square miles | $mi^2$ |
| ha | hectares (10,000 $m^2$) | 2.5 | acres | |
| | | **MASS (weight)** | | |
| g | grams | 0.035 | ounces | oz |
| kg | kilograms | 2.2 | pounds | lb |
| t | tonnes (1000 kg) | 1.1 | short tons | |
| | | **VOLUME** | | |
| ml | milliliters | 0.03 | fluid ounces | fl oz |
| l | liters | 2.1 | pints | pt |
| l | liters | 1.06 | quarts | qt |
| l | liters | 0.26 | gallons | gal |
| $m^3$ | cubic meters | 35 | cubic feet | $ft^3$ |
| $m^3$ | cubic meters | 1.3 | cubic yards | $yd^3$ |
| | | **TEMPERATURE (exact)** | | |
| °C | Celsius temperature | 9/5 (then add 32) | Fahrenheit temperature | °F |



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## LIST OF SYMBOLS

| | | |
|---|---|---|
| A | Average sound level (arithmetic) | dB(A) |
| $D_b$ | Distance from observation point to barrier | |
| $D_n$ | Distance from observation point to the edge of the highway: $D_n = D_b + 30$ ft | |
| E | Energy mean ($L_{eq}$) | dB(A) |
| $H_b$ | Barrier height | |
| $H_0$ | Height of observation point | |
| IL | Insertion loss | |
| $(IL)_n$ | Insertion loss based on the level $L_n$ | |
| L | Noise level (dBA) (used interchangeably with sound level) | |
| $L_{eq}$ | Mean energy noise level | |
| $L_n$ | Noise level (dBA) exceeded n% of the measuring time | |
| M | Maximum level measured | dB(A) |
| N | Noise pollution level (NPL) | dB(A) |
| NR | Noise reduction | |
| NROG | Noise reduction over ground | |
| R | Range of data measured | dB(A) |
| S | Standard deviation | dB |
| TTST | Trailer truck single trailer | |
| $\delta$ | Difference in acoustic path length from source to receiver resulting from insertion of barrier | |
| 1 | L1, level exceeded 1% of time | dB(A) |
| 10 | L10, level exceeded 10% of time | dB(A) |
| 50 | L50, level exceeded 50% of time | dB(A) |
| 90 | L90, level exceeded 90% of time | dB(A) |
| 99 | L99, level exceeded 99% of time | dB(A) |

# 1. INTRODUCTION

The U.S. Department of Transportation, Transportation Systems Center (TSC), Cambridge, Massachusetts, conducted a field measurement program from September 1975 to September 1976 to obtain baseline statistical data to assess the performance of barriers as a means of reducing wayside noise caused by high-density vehicular traffic.

Two highway sites were selected for the programs. The sites were adjacent to each other in a large flat open field with approximately 2000 feet frontage to Interstate 93 in Andover, Massachusetts. A temporary barrier 1000 feet long was constructed on one site. Measurements were obtained during different phases of construction to obtain variations due to barrier height. The second site was left in its natural state.

Prior to construction of the barrier, acoustical similarity was established between the two sites using a measurement grid composed of 14 microphone positions. After construction, measurements of the noise generated by a common stream of vehicular traffic were simultaneously made behind the barrier (site 1) and in the unobstructed site (site 2). Because of the similarity of the two sites, a direct comparison of noise levels from corresponding microphones provided insertion loss data for the barrier.

Some of the more important results obtained in the study can be summarized as follows:

a. Predicted insertion loss values, obtained using the method proposed by the Highway Research Board in Report 144 of the National Cooperative Highway Research Program are generally lower than those measured, except at the lowest observation height (three feet).

b. The effect on the insertion loss of the barrier by adding an absorptive treatment* (two inch fiberglass board) to the barrier is too small to be of practical significance for observation points behind the barrier.

* In this report the terms "absorptive" and "treated" are used interchangeably, as are the terms "reflective" and "untreated".

c. The largest measured value of insertion loss, based on L50 data was 13dB; this value was obtained 55 feet behind the barrier at a microphone height of 8 feet. The effective barrier height was 14.8 feet, the maximum height tested.

d. For barrier heights other than three feet, the largest insertion loss does not necessarily occur at the lowest observation point.

e. To improve the prediction procedure, more attention should be paid to the frequency dependence of the transmission characteristics along the path from source to receiver.

## 2. BACKGROUND

Increasing national concern for the environment has resulted in efforts to reduce the intrusion of traffic noise into our daily lives. Roadside barriers have been constructed in some states in the hopes of reducing excessive traffic noise. Assessment of the effectiveness of these barriers is difficult because of the high level of activity in the communities which they are to protect.

Analytical and field studies have demonstrated that barriers can reduce wayside noise from highways; however, a thorough performance evaluation under real traffic conditions, taking into account the effects of variations in height and of adding absorption to the face of an outdoor barrier, has not been investigated.

The primary purpose of this field measurement program was to obtain on-site data and perform a thorough assessment of the effects of height and absorption on the performance of an in-service roadside barrier, taking into account noise source location; traffic mix, speed and volume; and meteorological effects.

The acoustic consultant firm of Cambridge Collaborative (CC), Cambridge, Massachusetts, provided technical assistance in barrier design and developing the test plan. Data measured by TSC was also provided to CC for analysis and interpretation. Their analysis is to be published as a separate report[1]

# 3. METHODS

## 3.1 PROGRAM SCOPE

Two adjacent highway sites were selected for this program where the noise caused by a common high-density stream of mixed vehicular traffic could be measured seqentially. A variable-height noise barrier was built at one of the sites. The second site provided control data with which to assess the barrier performance. Noise measurements were made at each of the sites prior to construction to determine the similarity of the noise environment at each site.

An acoustic consulting firm (Cambridge Collaborative Inc., Cambridge, MA) under contract to TSC, using on-site noise data and the best application of state-of-the-art barrier technology, designed and constructed (subject to TSC approval) a temporary variable-height noise barrier providing substantial noise reduction. In addition, the contractor assisted in developing a plan to test the barrier parametrically in its various configurations.

The TSC Noise Measurement and Assessment Laboratory made the actual field measurements and reduced all the data.

## 3.2 DESCRIPTION OF TEST SITE

The measurement program was conducted in Andover, Massachusetts on a site adjacent to the southbound lane of Interstate 93 ( a six-lane divided highway).

The site selected was a large, flat open field with 2000 feet of frontage on I-93 (highway station markers 305 to 325) bounded to the north and west by tall forests. Sixty-five feet from the edge of the near traveled lane of the highway is a 20 foot wide line of widely spaced white pines (about 20 feet high) intermixed with deciduous shrubs and trees. Beyond this at 90 feet is a chain-link fence at which point the ground drops rapidly about three feet. Terrain beyond this point is essentially flat, made up of fine sandy soil covered with field grass and scattered with a few saplings.

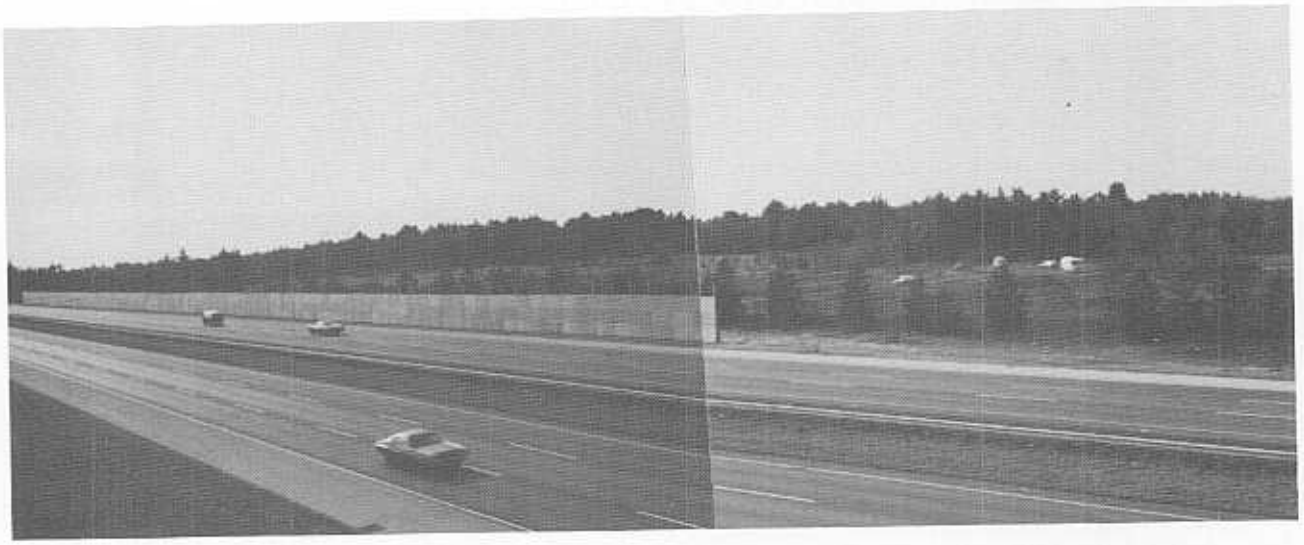
The 1000 foot barrier was constructed between station markers 305 and 315, 30 feet offset and parallel to the edge of the near traveled lane. The area between station markers 315 and 325 was left in its natural state (see Figure 1).

## 3.3 BARRIER DESIGN AND CONSTRUCTION

A 16 foot high, 1000 foot long, horizontally straight, plain-faced barrier was constructed 30 feet offset from the edge of the near traveled lane. The barrier was constructed of 5/8 inch exterior grade plywood. These four-by-eight-foot panels of plywood were secured to a framework of two-by-six-inch wooden beams. The beams were secured to one-foot-diameter wooden posts eight feet on center. The framework provided stiffening and insured a positive acoustic seal at the joints of the plywood panels. The central 200 foot section of the barrier was constructed with two overlapping sheets of 5/8 inch plywood while the 400 foot sections at both ends were constructed with a single layer for economic reasons. Two inch thick semirigid glass fiber boards were to be applied to the source side of the barrier (facing the highway) to change the acoustic properties of barrier from reflective to absorptive.

The barrier was constructed in the sequence indicated below with acoustic measurements made at intermediate barrier heights of 4, 8, 12, and finally 16 feet. (Because of local grade conditions the effective barrier heights above the level of the near lane were 2.8, 6.8, 10.8, and 14.8 feet respectively.)

a. Erect posts and install one row of panel - 2.8 ft reflective.
b. Install one row glass fiber boards - 2.8 ft absorptive.
c. Install second row of panels and glass fiber boards - 6.8 ft absorptive.
d. Remove all glass fiber boards - 6.8 ft reflective.
e. Install third row plywood panels - 10.8 ft reflective.
f. Install three rows glass fiber boards - 10.8 ft absorptive.
g. Install fourth row panels and glass fiber boards - 14.8 ft absorptive.
h. Remove all glass fiber boards - 14.8 ft reflective.



VIEW FROM ROAD (Barrier at left)

VIEW FROM BEHIND BARRIER (Open field at far left)

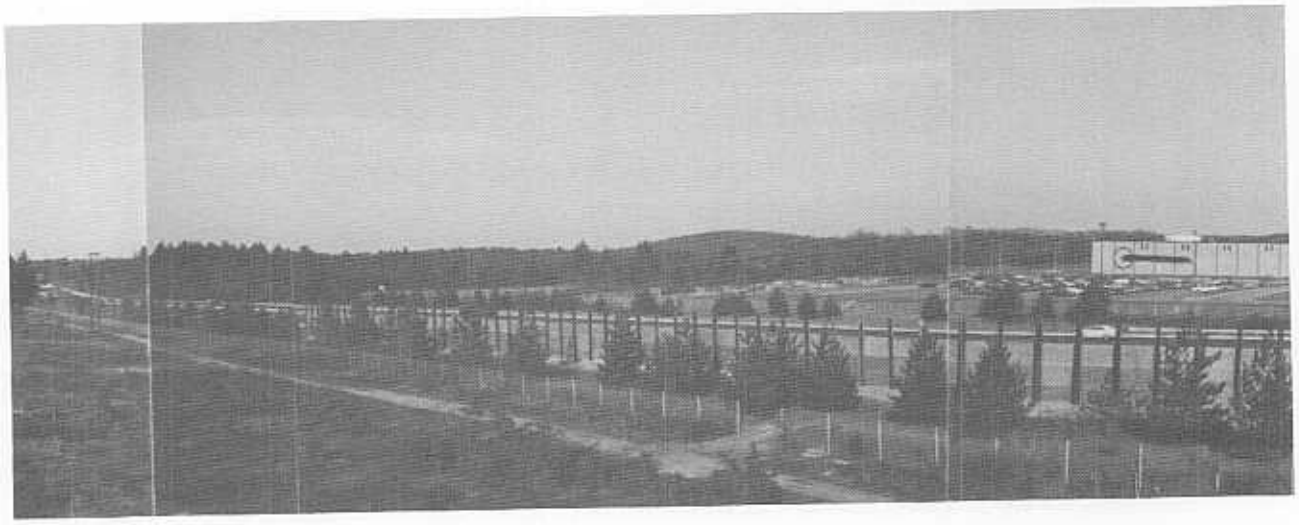
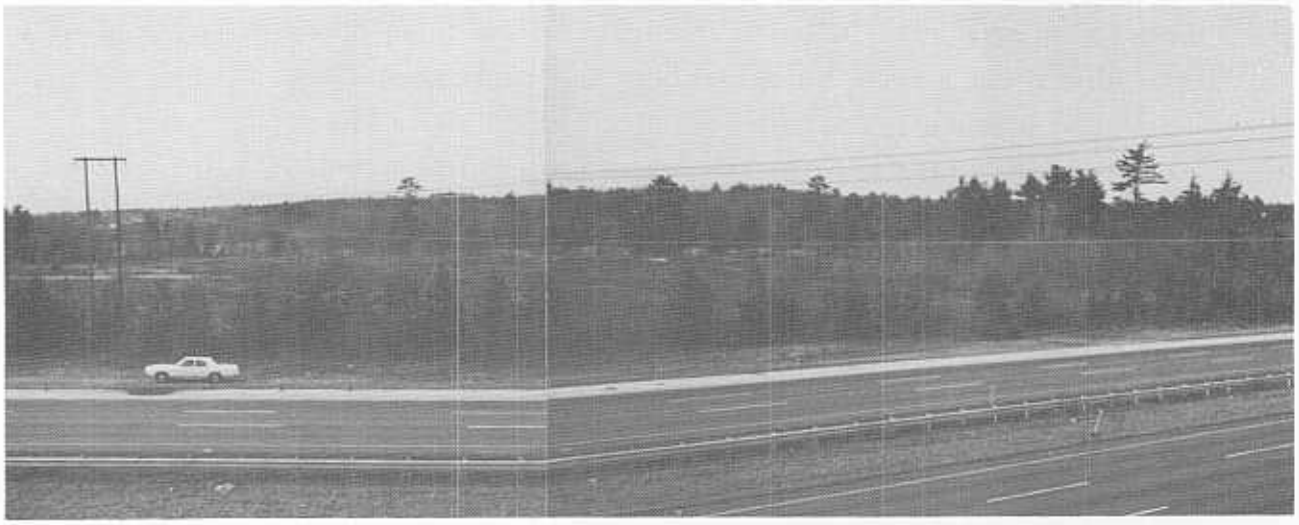
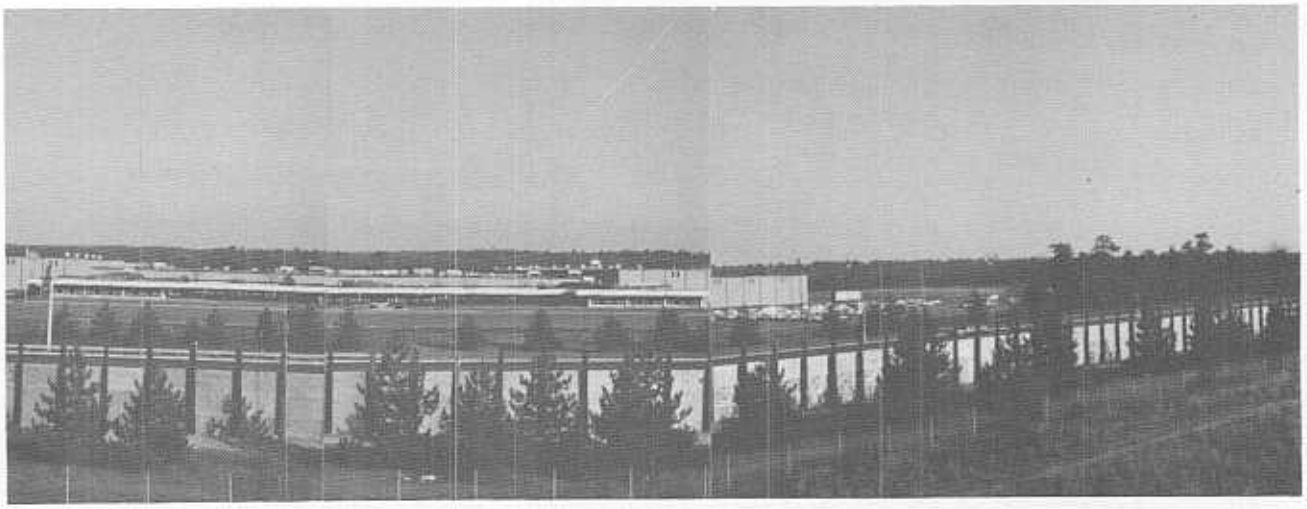


FIGURE 1. PANORAMIC VIEW OF BARRIER AND OPEN FIELD SITES



VIEW FROM ROAD (Open field)

VIEW FROM BEHIND BARRIER



A more complete description of the barrier design can be found in Appendix A.

## 3.4 INSTRUMENTATION

For this program, the TSC Mobile Noise Measurement Laboratory, (a fully equipped noise measurement and analysis laboratory) was used for on-line data collection and analysis. The laboratory was positioned at station marker 315 approximately 350 feet offset from the edge of the near traveled southbound lane of the highway.

### 3.4.1 Measurement Systems

Figure 2 depicts schematically the basic elements of one of the 14 noise data gathering systems deployed. Random incidence microphones were used on all systems. Data measured were fed through approximately 700 feet of cable to the mobile laboratory for recording and/or processing.

Microphones at the higher elevations were mounted on a mast structure of 1/2 inch thin walled electrical conduit supported with a tri-level arrangement of guy wires. The microphones were positioned one foot away from the mast and placed in its shadow as viewed from the roadway. This positioning insured minimum errors due to reflections from the mast structure. (See Figure 3.)

System calibration on-site was performed prior to each measurement run with three GR 1562A calibrators. These calibrators provide a signal of 1000 Hz at a level of 114dB re 20 micropascal. The signal is generated by a solid state oscillator driving a small magnetic loudspeaker. The levels of the three calibrators were compared with each other on microphone 1 prior to each use and again at microphone 14 after each use to insure their relative levels were stable. To avoid confusion and to control systematic errors, the calibrators were numbered and were always used on the same microphone system each time a calibration was performed. Also, a passive microphone simulator was substituted for the microphone to determine the minimum discernible sound pressure level (noise floor) of the system.

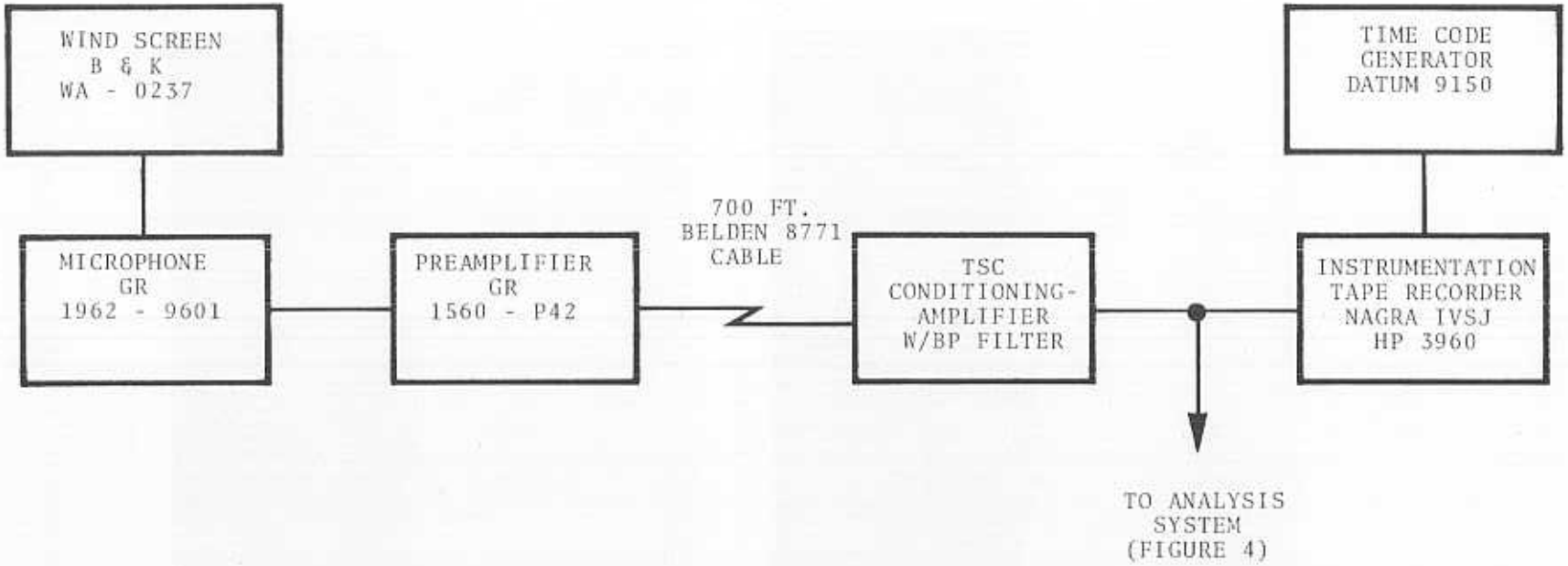
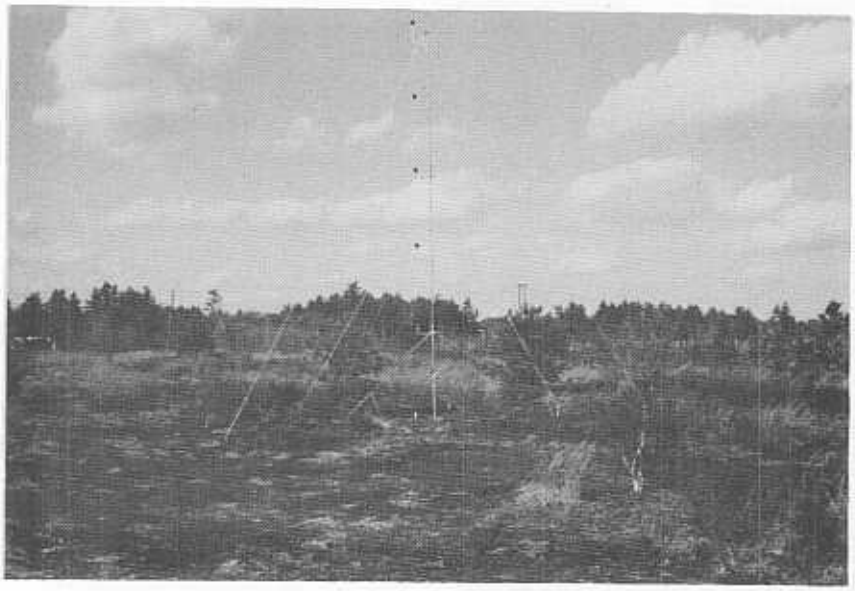
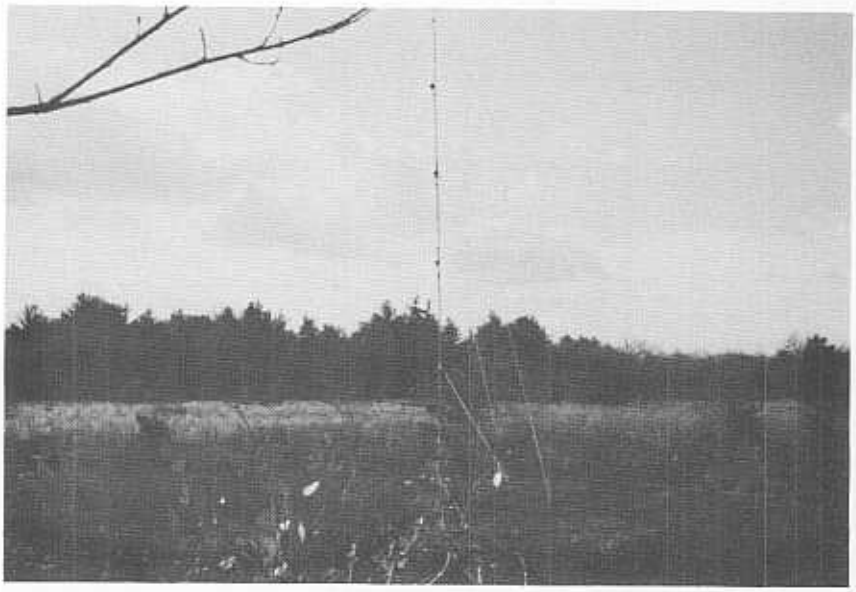



FIGURE 2. BLOCK DIAGRAM OF ACOUSTIC MEASURING INSTRUMENTATION

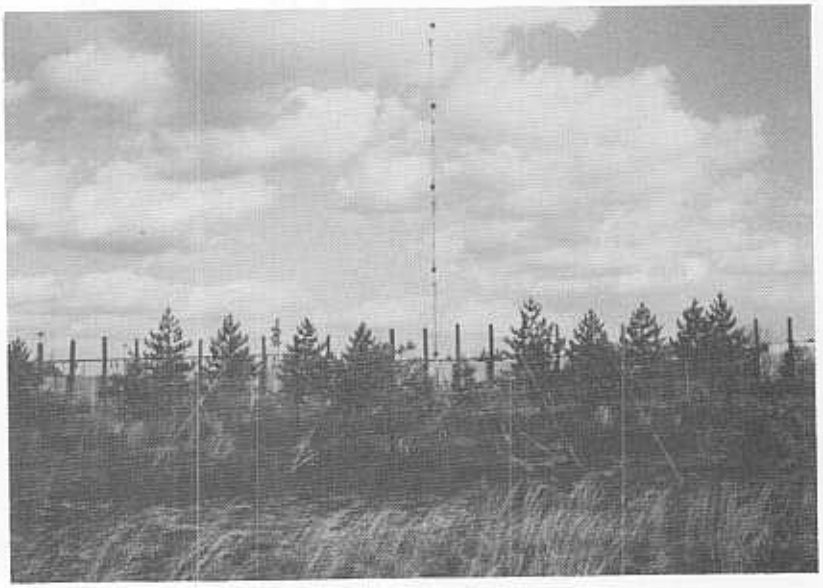


NORTH

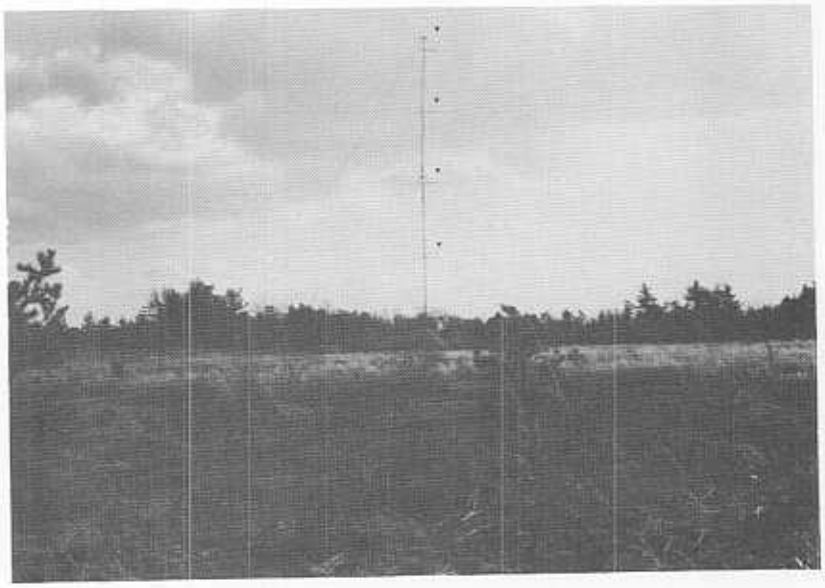


WEST

FIGURE 3. MICROPHONE MAST STRUCTURE AT MEASUREMENT LOCATION D



EAST



SOUTH

The calibration signals, where appropriate, were recorded on magnetic tape and were used as reference levels to adjust the absolute range of each channel of the analysis system.

A weather station was deployed at station marker 315 and offset 250 feet from the edge of the roadway to measure and continuously record temperature, humidity, wind speed, and direction. A wind cup anemometer was mounted ten feet above the ground. Temperature and humidity were measured five feet above the ground.

A doppler radar was set up at station marker 315 to measure the speed of traffic in the southbound lanes. Readings were manually taken from the doppler digital output and recorded every ten seconds.

### 3.4.2 On-Line Data Analysis and Recording System

Figure 4 depicts the on-line data analysis and recording system used for this program in the TSC Mobile Noise Laboratory. Data from the microphone systems were fed through up to 700 feet of cable to the laboratory for processing and recording.

Processing on-line was accomplished using a modified GR 1921 Real Time Analysis System made up of a GR 1925 Multifilter and GR 1926 Multichannel RMS Detector. The GR 1921 was modified to accept data simultaneously from the 14 microphone systems. Data from microphone 1 was fed to the GR 1925 Multifilter which contained nine parallel octave band filters from 31.5 Hz to 8 KHz plus an unfiltered channel with a flat frequency response between 25 Hz and 15 KHz, and a standard "A" weighted channel. The output from these eleven channels was fed to the GR 1926 Detector. In addition, the outputs of microphones 2 through 14 were fed through individual "A" weighting networks and matching circuitry to the GR 1926. Prior to A-weighting, the outputs of microphones 3, 4, 5, 8, 10, and 13 were fed to instrumentation grade magnetic tape recorders to preserve the data for future processing. A time code signal from the Datum 9150 Time Code Generator was also recorded on tape to provide synchronization between the recorded data and the data processed on-line.

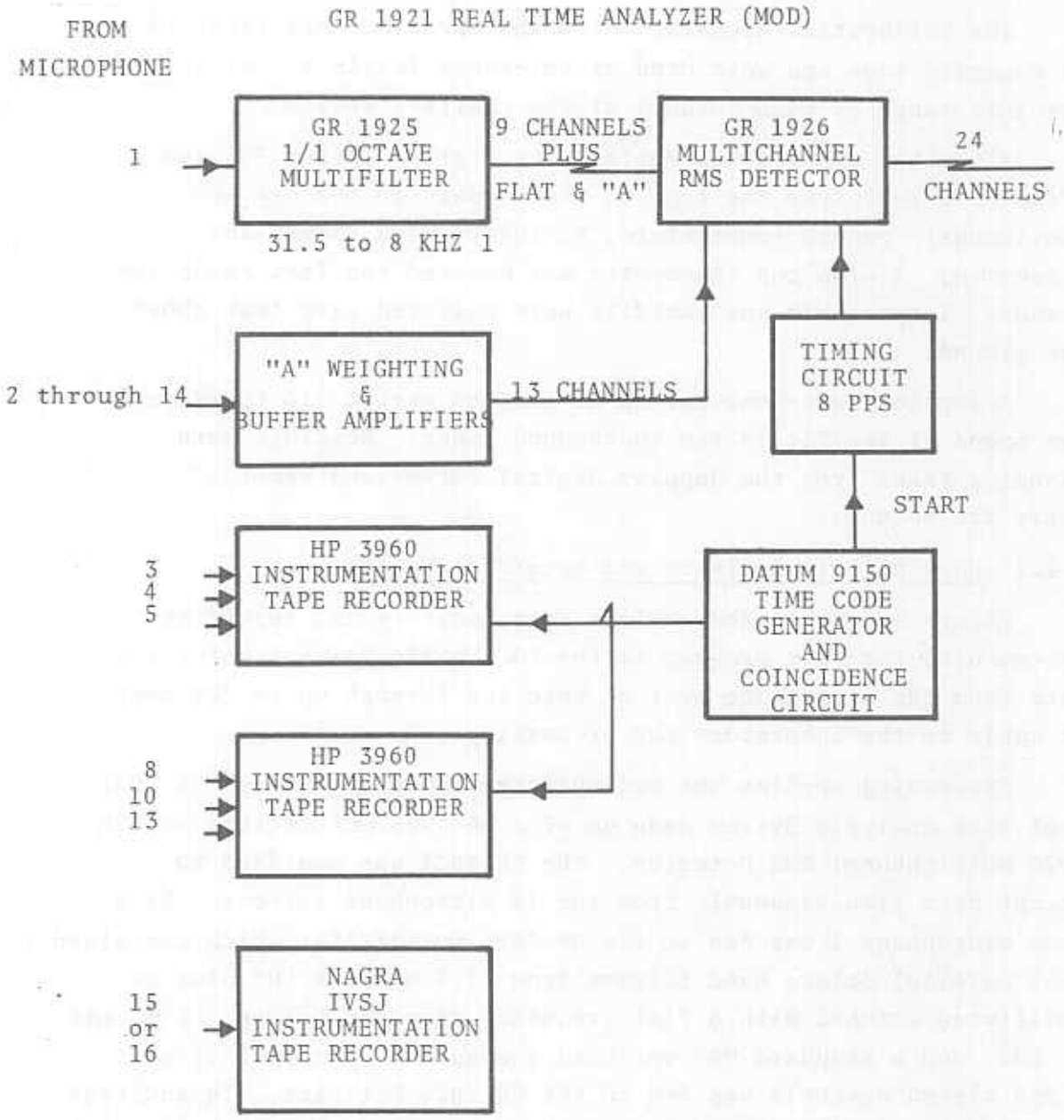
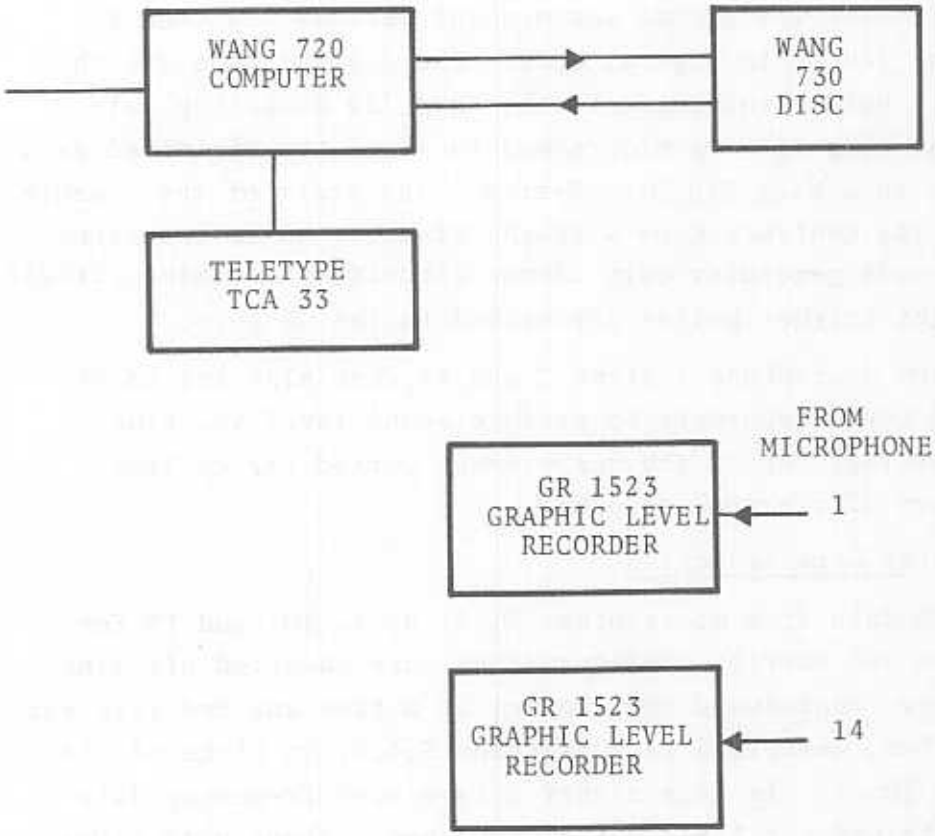



FIGURE 4. ANALYSIS AND RECORDING SYSTEM


WANG 720
COMPUTER
WANG
730
DISC
TELETYPE
TCA 33
FROM
MICROPHONE
GR 1523
GRAPHIC LEVEL
RECORDER
1
GR 1523
GRAPHIC LEVEL
RECORDER
14
CMI
RADAR
SPEEDGUN
WEATHER STATION
CLIMATRONICS
EWS

The GR #1926 Detector was programmed to compute simultaneously the root-mean-square (rms) level in dB for each of the above 24 data channels over 1/8 second measurement periods and then to convert these levels to digital code. The digital code was then fed through a buffer interface to the Wang 720 computing calculator. The Wang 720 was programmed to store the digitized data sequentially on a Wang 730 Disc System. The start of the measurement period was controlled by a timing circuit. Once initiated by the time code generator coincidence circuit, the timing circuit provided eight trigger pulses per second to the GR 1926.

Data from microphone systems 2 and 14 were also fed to GR 1523 Graphic Level Recorders to produce sound level vs. time history recordings during the measurement period for on-line identification of extraneous sounds.

### 3.4.3 Off-Line Data Reduction

Recorded data from microphones 3, 4, 5, 8, 10, and 13 for selected runs and barrier configurations were analyzed off line. These data were reproduced one channel at a time and fed into the analysis system, described in subsection 3.4.2, in place of the microphone 1 input. In this manner octave band frequency data were also obtained for these six microphones. These data along with the on-line frequency data from microphone 1 already stored in the disc system, were processed, and a tabulation was prepared of the octave band energy mean measured during selected ten minute runs.

## 3.5 EXPERIMENTAL PROCEDURE

The test program was carried out in two parts: (1) in the no-barrier situation acoustical measurements were made in the two adjacent unobstructed sites to confirm the acoustic similarity of the two sites; and (2) after construction of the barrier, measurements were simultaneously made behind the barrier and at the adjacent unobstructed site.

### 3.5.1 No Barrier

To confirm the similarity of the two adjacent sites, a 14-microphone measurement system was deployed and measurements made over a two-day period (September 3-4, 1975) with the microphones arranged as shown in Figure 5. Microphones 1,4, and 14 were placed 20 feet above grade level. All other microphones were placed five feet above grade level. Table 1 shows the microphone height relative to the edge of the near traveled southbound lane.

Thirteen measurement runs were made over a two-day period covering a variety of traffic conditions. Each run covered a period of ten minutes. During each run, traffic information was recorded for both the south- and the northbound lanes. Trucks and buses were separated into classes as determined by the number of axles and tires. Speed in the southbound lanes was measured using a doppler radar and manually recorded once every ten seconds.

Noise data from the fourteen measuring systems were reduced after each measurement run for immediate on-site comparison and analysis. Based on these data the height of microphones 5,6,7,8,9, and 13 were raised by one foot after the third measurement run on September 3, 1975 to compensate for the drop in grade level at these points. After this modification later runs showed a better statistical agreement between microphones, thus confirming the acoustic similarity of the two sites.

### 3.5.2 One-Thousand-Foot Barrier

With the similarity of the two adjacent sites confirmed, construction of the barrier was begun. For this phase of the measurement program the 14 microphone systems were redeployed. Four masts were required, two moveable and two permanently placed. As shown in Figure 6, the two permanent masts were placed at points A and A' with microphones 1 and 13 set 6 inches above the height of the barrier and microphones 2 and 14 set 20 feet above grade level. The two moveable masts, each with five microphones mounted five feet apart, were alternately placed at points B and B', C and C', D and D', and E and E', (mast configurations B, C, D and E

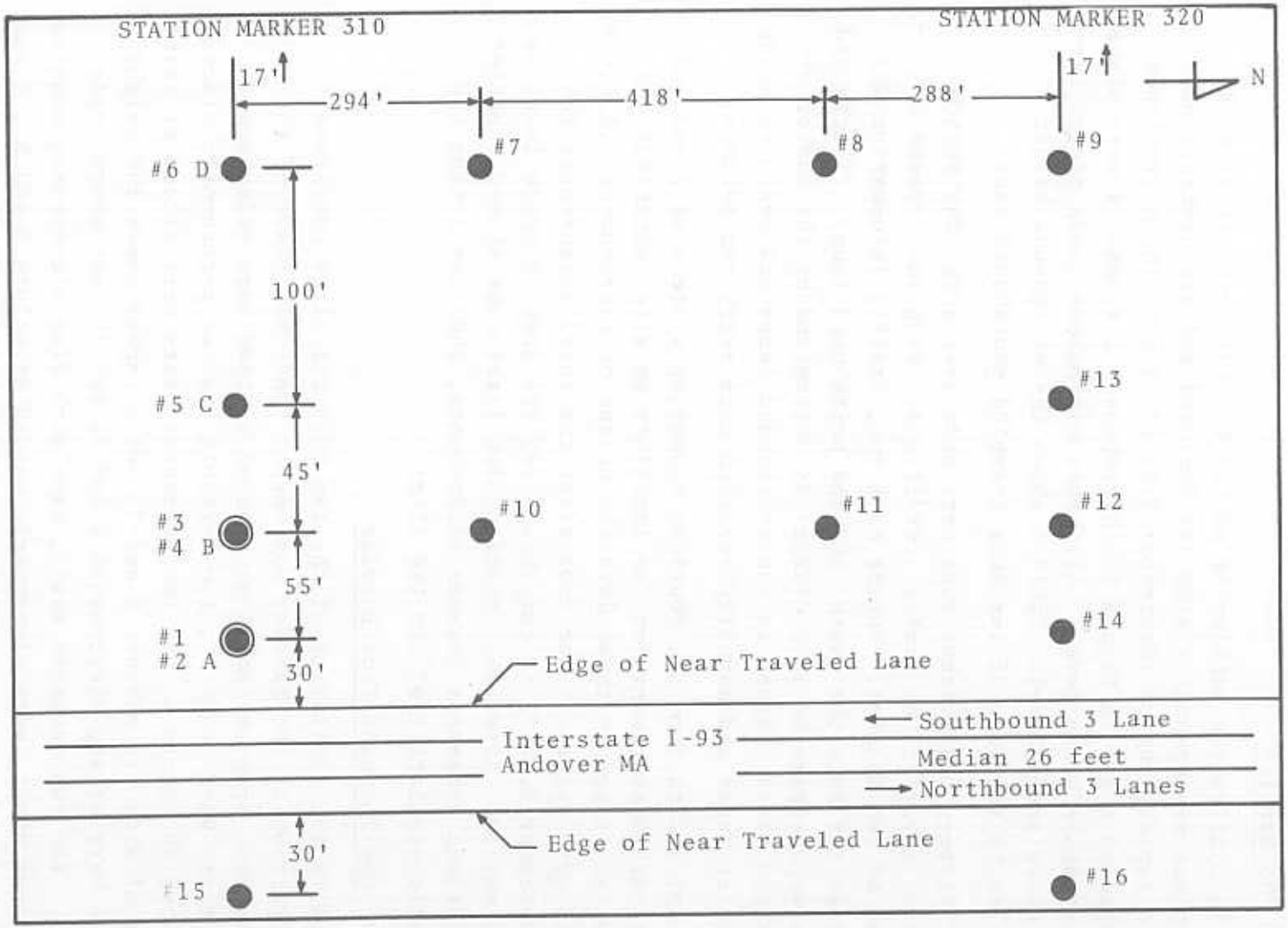



FIGURE 5. MICROPHONE LOCATIONS. NO BARRIER PRESENT

TABLE 1. MICROPHONE LOCATIONS (No barrier present)

| MICROPHONE NUMBER | DISTANCE from NEAREST LANE (feet) | HEIGHT above GROUND (feet) | HEIGHT above EDGE NEAR LANE (feet) | DISTANCE from LINE AD * (feet) |
|---|---|---|---|---|
| 1 | 30 | 20 | 18.3 | 0 |
| 2 | 30 | 5 | 3.3 | 0 |
| 3 | 85 | 5 | 4.1 | 0 |
| 4 | 85 | 20 | 19.1 | 0 |
| 5 (1) | 130 | 5 | 0.8 | 0 |
| 6 (1) | 230 | 5 | 1.2 | 0 |
| 7 (1) | 230 | 5 | 2.3 | 294 |
| 8 (1) | 230 | 5 | 2.7 | 712 |
| 9 (1),(2) | 230 | 5 | -1.9 | 1000 |
| 10 | 85 | 5 | 5.7 | 294 |
| 11 | 85 | 5 | 6.1 | 712 |
| 12 | 85 | 5 | 4.5 | 1000 |
| 13(1) | 130 | 5 | 1.0 | 1000 |
| 14 | 30 | 20 | 18.1 | 1000 |
| 15 | 30 | 5 | 2.8 | 0 |
| 16 | 30 | 5 | 3.3 | 1000 |

* See Figure 5.

(1) Microphone height increased by one foot for runs 4 and 5 on September 3, 1975, and all runs on September 4, 1975.

(2) Microphone 9 moved 50 feet to south for runs 5 through 8 (September 4, 1975; height relative to roadway -0.7 feet).

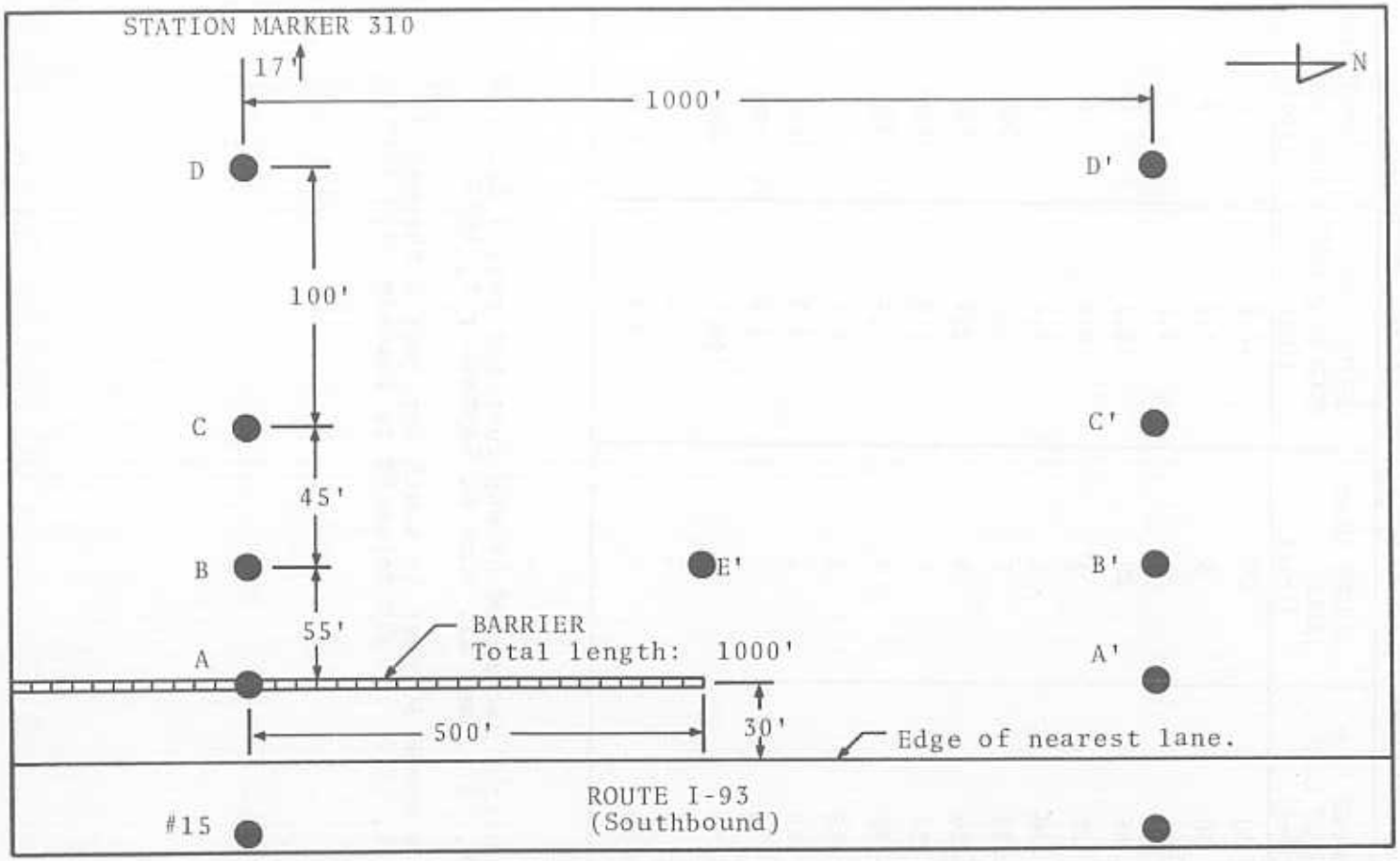



FIGURE 6. MICROPHONE LOCATIONS. BARRIER PRESENT

respectively). The lower sections of the moveable mast were adjustable so that the microphones on each mast were always set at 3,8,13,18 and 23 feet high relative to the Table 2 edge of the near southbound traveled lane regardless of the grade level at each of the measurement points. Table 2 shows the height of all microphones above grade level at each of the measurement points.

Measurements at each barrier height and configuration were taken over a three-day period. The ten-minute measurement runs separated by a period of ten minutes were performed at each measurement location starting the first day with microphone configuration B, and subsequently moving the mast to set up configurations C, D and ending at E'. To obtain a measure of the noise at each location during a variety of traffic conditions, the measurements on the second day were started with microphone configuration E and ended at D; the third day the measurements were started at configuration D and ended at C. Thus a total of approximately six ten-minute measurement runs were made at each microphone mast configuration for each barrier height in a variety of traffic conditions. A statistical "A" weighted analysis was performed for the 14 microphones (seven at each site) and comparisons made.

Each day the measurements were begun as close to the same time as practicable to obtain data at each location under similar traffic conditions. Traffic information and speed were recorded during each ten-minute measurement period. Weather data were continuously recorded.

### 3.5.3 Noise Reflections

To measure the effects, if any, of the noise reflections from the barrier on the source side of the roadway, a portable noise measuring system was positioned opposite the northbound lanes during selected measurement runs at station marker 310 (microphone 15 directly opposite the center of the barrier) and another at station marker 320 (microphone 16 directly opposite the open field site). These microphones were set three feet above the level of the near northbound lane and offset 30 feet from the edge of this

TABLE 2. MICROPHONE LOCATIONS (Barrier present)

| MAST* NUMBER | MICROPHONE NUMBER | HEIGHT ABOVE GROUND AT MEASUREMENT POINTS A/A' B/B' C/C' D/D' B/E' (feet) | | | | | HEIGHT ROAD SURFACE (feet) | STATION** |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | (***) | | | | | (***) | A |
| | 2 | 20.0 | | | | | 18.3 | |
| 2 | 3 | | 3.9 | 7.2 | 6.8 | 3.9 | 3 | B,C or D |
| | 4 | | | | | | 8 | |
| | 5 | | | | | | 13 | |
| | 6 | | | | | | 18 | |
| | 7 | | | | | | 23 | |
| 3 | 8 | | 3.5 | 7.0 | 9.9 | 3.0 | 3 | B',C',D' or E' |
| | 9 | | | | | | 8 | |
| | 10 | | | | | | 13 | |
| | 11 | | | | | | 18 | |
| | 12 | | | | | | 23 | |
| 4 | 13 | (***) | | | | | (***) | A' |
| | 14 | 20.0 | | | | | 18.1 | |
| | 15 | | | | | | 2.8 | |
| | 16 | | | | | | 3.3 | |

*Masts No.2 and No.3 are stationed alternately at B and B', C and C', and D and D', or B and E'.

** See Figure 6 for mast distances from near lane.

*** Six inches above top of barrier. Height above road surface 3.3, 7.3, 11.3, 15.3 feet; height above ground 4.5, 8.5, 12.5 and 16.5 feet for barrier heights of 2.8, 6.8, 10.8 and 16.8 feet, respectively.

lane. Data were recorded on magnetic tape for a period of ten minutes, synchronized by radio with the 14 microphone on-line data gathering systems. Data were recorded during four consecutive runs for each of three barrier heights, 6.8, 10.8 and 14.8 feet). Data from locations 15 and 16 were used to determine any reflective characteristics.

# 4. DATA ANALYSIS

Data were obtained and analysed for nine barrier configurations (Table 3) and several observation point locations, corresponding to the five heights above the level of the roadway (3, 8, 13, 18, and 23 ft.) and the three distances from the barrier (55, 100, and 200 ft.). Fourteen microphones were used simultaneously at these locations, as indicated in Figures 5 and 6. (See Chapter 5 for data.)

## 4.1 DISCUSSION

At the test site the highway is straight and level, and the traffic volume, 40-80 cars per minute, is large enough to provide good data statistics over a ten-minute measurement period. The terrain surrounding the highway is also level and free from obstructions that affect sound transmission characteristics.

These conditions are consistent with those assumed in most procedures for the calculation of barrier insertion loss. One of the main objectives of the analysis is to compare the insertion loss values obtained from the experimental data with the values predicted according to the procedure described in the NCHRP Reports 117 and 144.[2,3] This procedure shall be referred to as the Design Guide in this report.

The primary data analyzed here are $L_{10}$ and $L_{50}$ dB levels at various locations and times. They ranged in values from 60 to 85 dB(A).

The numerical results obtained from the data analysis are discussed and a series of graphs are presented showing the insertion loss as a function of barrier height, observation point height and distance from the barrier. The standard deviation of the insertion loss values in most cases is less than 1 dB and never exceeds 2 dB.

These insertion loss curves can be replotted in terms of the path length difference parameter $\delta$ if desired.[4,5] In the graphs showing the insertion loss as a function of the barrier height

TABLE 3. BARRIER CONFIGURATION

| TEST NO. | HEIGHT* (feet) | R/A** | TEST DATE*** |
|---|---|---|---|
| 1 | 0. | | 9/3 - 9/4 |
| 2 | 2.8 | R | 10/7 - 10/9 |
| 3 | 2.8 | A | 10/15 - 10/17 |
| 4 | 6.8 | A | 10/29 - 10/31 |
| 5 | 6.8 | R | 11/4 - 11/6 |
| 6 | 10.8 | R | 11/18 - 11/20 |
| 7 | 10.8 | A | 12/2 - 12/4 |
| 8 | 14.8 | A | 12/9 - 12/12 |
| 9 | 14.8 | R | 12/16 - 12/18 |

* Height measured from road surface.

** R for reflective barrier surface, and A for absorptive barrier surface.

*** All the measurements were made in 1975.

(Figures 7-24), we have included for comparison the results predicted from the Design Guide.

## 4.2 PROCEDURE

### 4.2.1 Barrier Insertion Loss

The insertion loss (IL) of a barrier at a certain point in space is defined as the difference between two sound pressure levels which are measured at the same point in space before and after a barrier is inserted between the measurement point and the noise source.

In determining insertion loss, it is important that the source of noise (traffic noise in this study) is constant for the measurements with and without the barrier. This stipulation is approximated by the measurement system shown in Figure 6. For example, the insertion loss at observation point B is determined by subtracting the statistical noise level data measured over a ten-minute period at location B' from the statistical data measured at location B during the same time period. Point B' of course (as well as other "primed" points in space) must be outside the shielded region of the barrier. The insertion loss is thus determined from the equation $IL = L'_B - L_B$, or more generally,

$$IL = L' - L \qquad (4.1)$$

The insertion loss values thus obtained were averaged over four to six measurements, each measurement representing an average over a ten minute interval.

### 4.2.2 Noise Reduction Over Ground

As far as the measurements of insertion loss are concerned, as described in the previous section, it is not necessary to study separately the variation of noise level as a function of distance from the highway with no barrier present. However, in a complete theoretical analysis of barrier insertion loss, this transmission characteristic must be considered and is necessary when we attempt to understand the differences between measured values and Design Guide predictions.

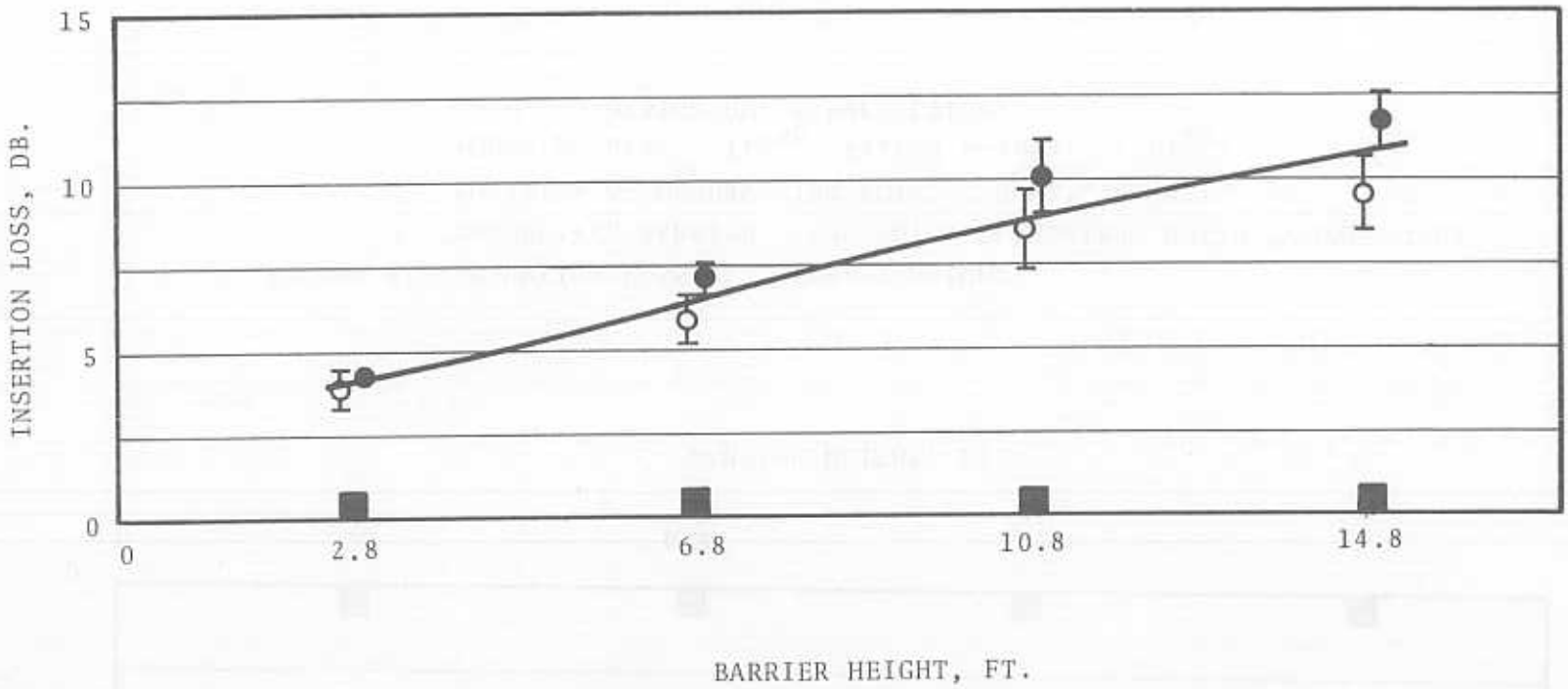



FIGURE 7. INSERTION LOSS VS. BARRIER HEIGHT.
UNTREATED BARRIER.
LOCATION OF OBSERVATION POINT: HEIGHT $H_O$=3', DIST. TO BARRIER $D_B$=55'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
——— DESIGN GUIDE PREDICTION.
(THE ERROR BARS REPRESENT TWO STANDARD DEVIATIONS.)

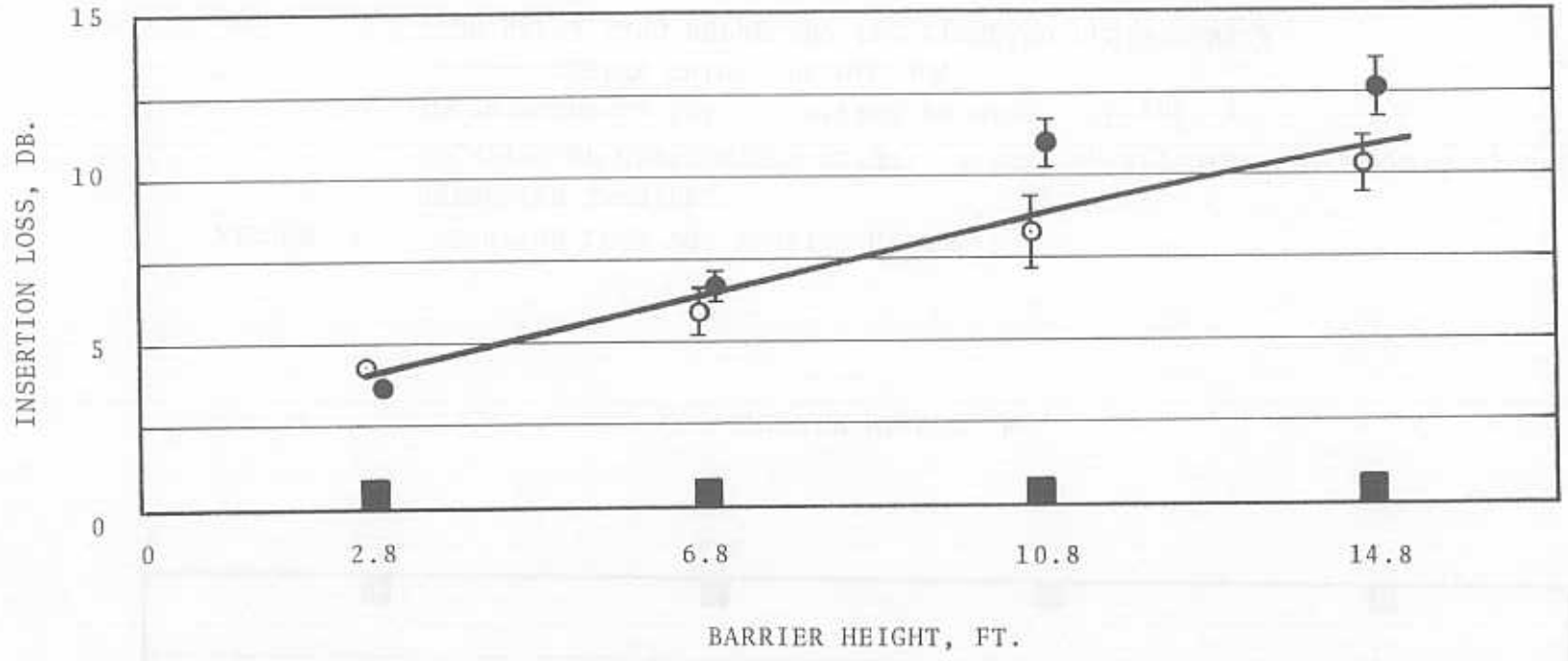



FIGURE 8. INSERTION LOSS VS. BARRIER HEIGHT.
ABSORPTIVE BARRIER. (2" THICK GLASSFIBER BOARD ON ONE SIDE)
LOCATION OF OBSERVATION POINT: $H_o$=3', $D_R$=55'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
———— DESIGN GUIDE PREDICTION.

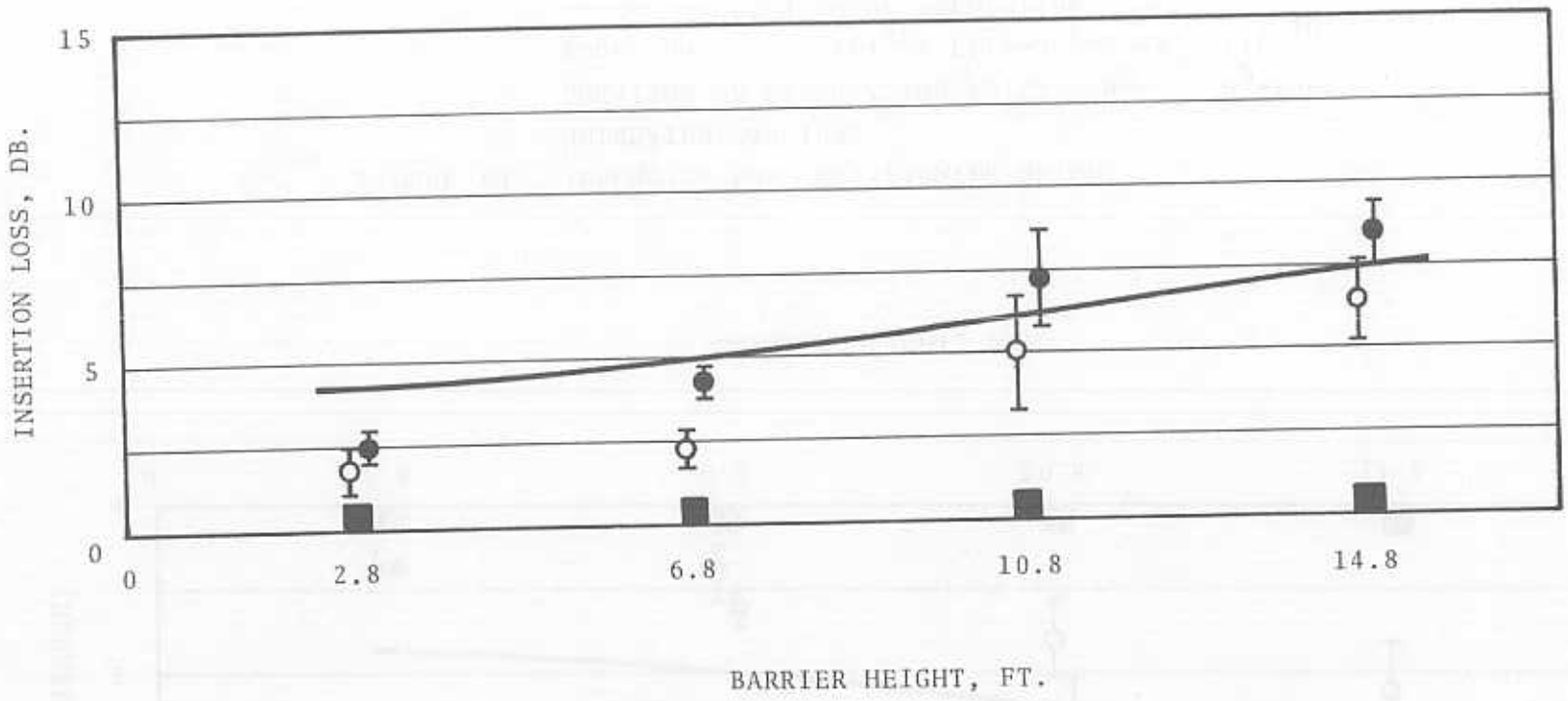



FIGURE 9. INSERTION LOSS VS. BARRIER HEIGHT.
ABSORPTIVE BARRIER.
LOCATION OF OBSERVATION POINT: $H_o$=3', $D_B$=100'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
_____ DESIGN GUIDE PREDICTION.

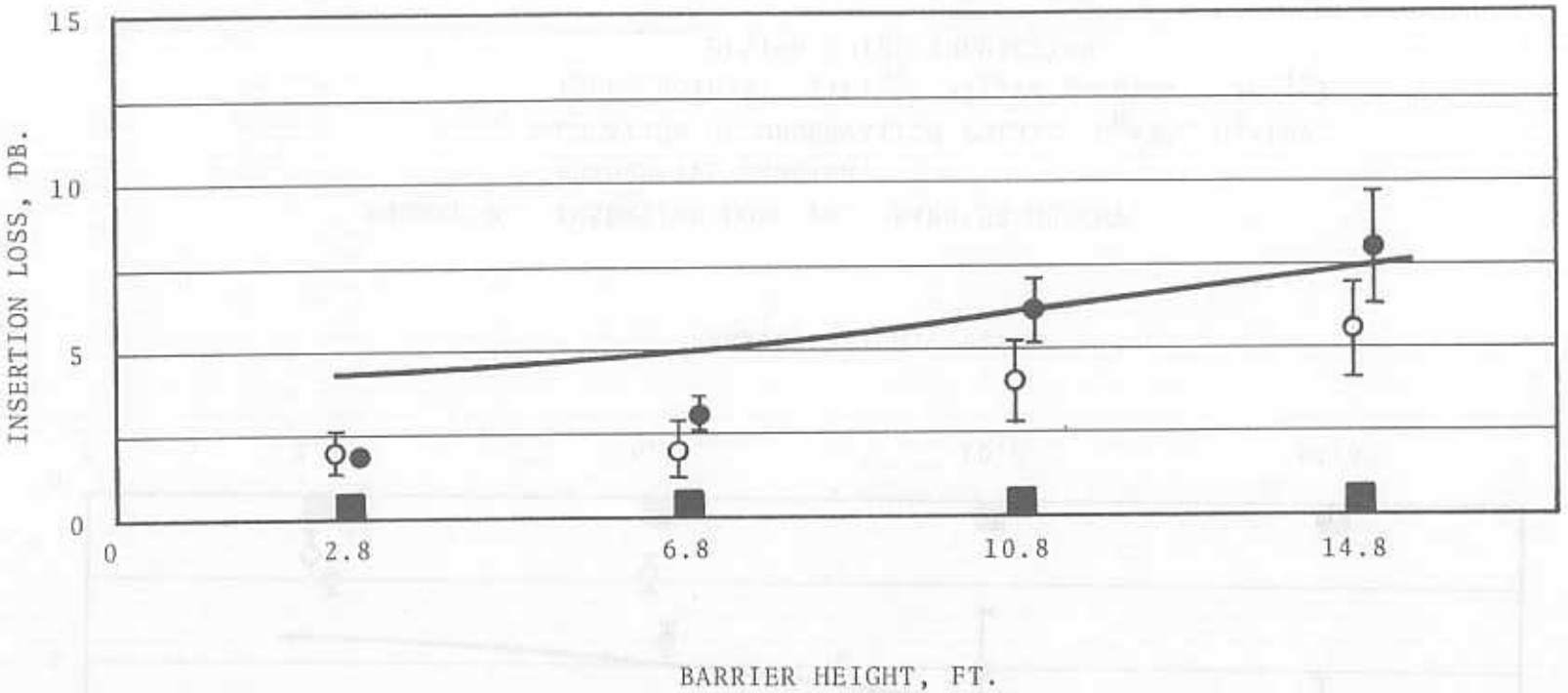



FIGURE 10. INSERTION LOSS VS. BARRIER HEIGHT.
UNTREATED BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=3', $D_B$=100'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
————DESIGN GUIDE PREDICTION.

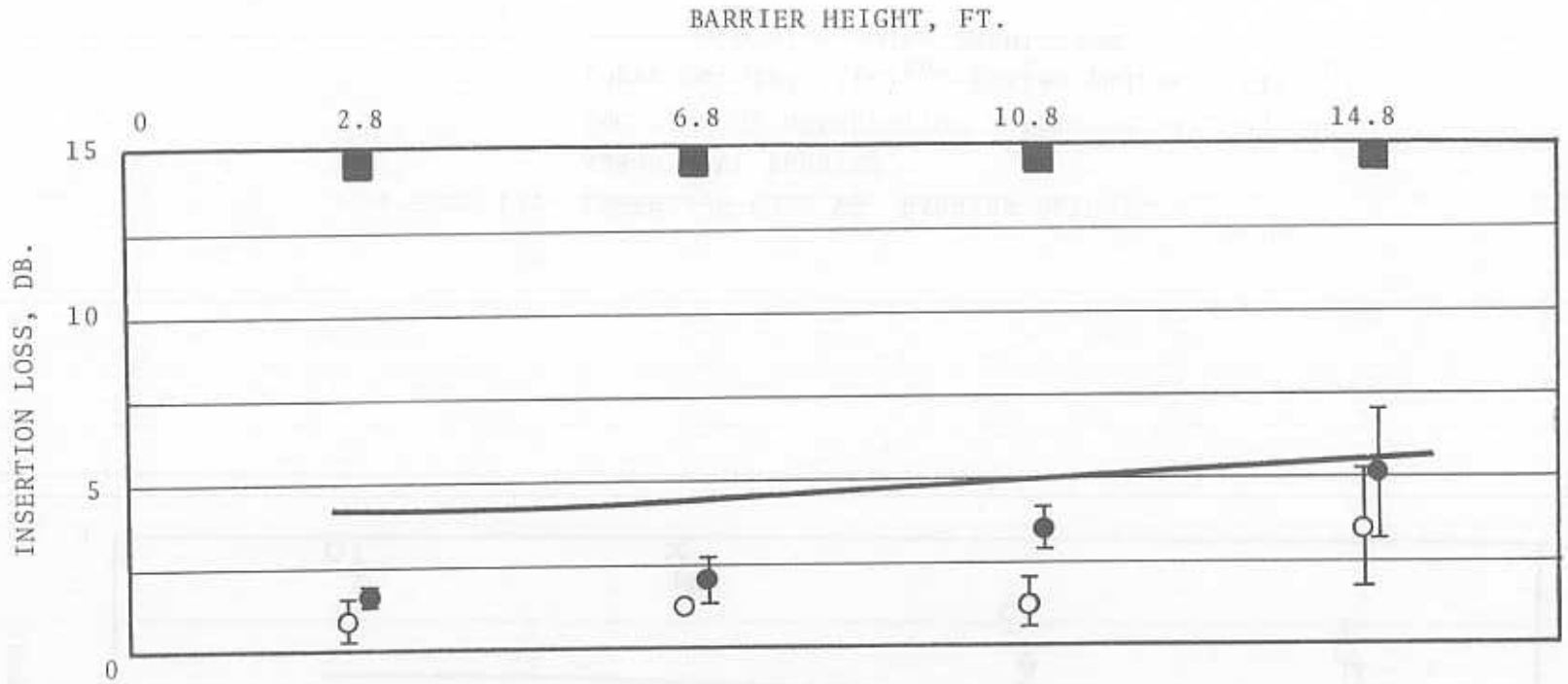



FIGURE 11. INSERTION LOSS VS. BARRIER HEIGHT.
UNTREATED BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=3', $D_B$=200'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
————DESIGN GUIDE PREDICTION.

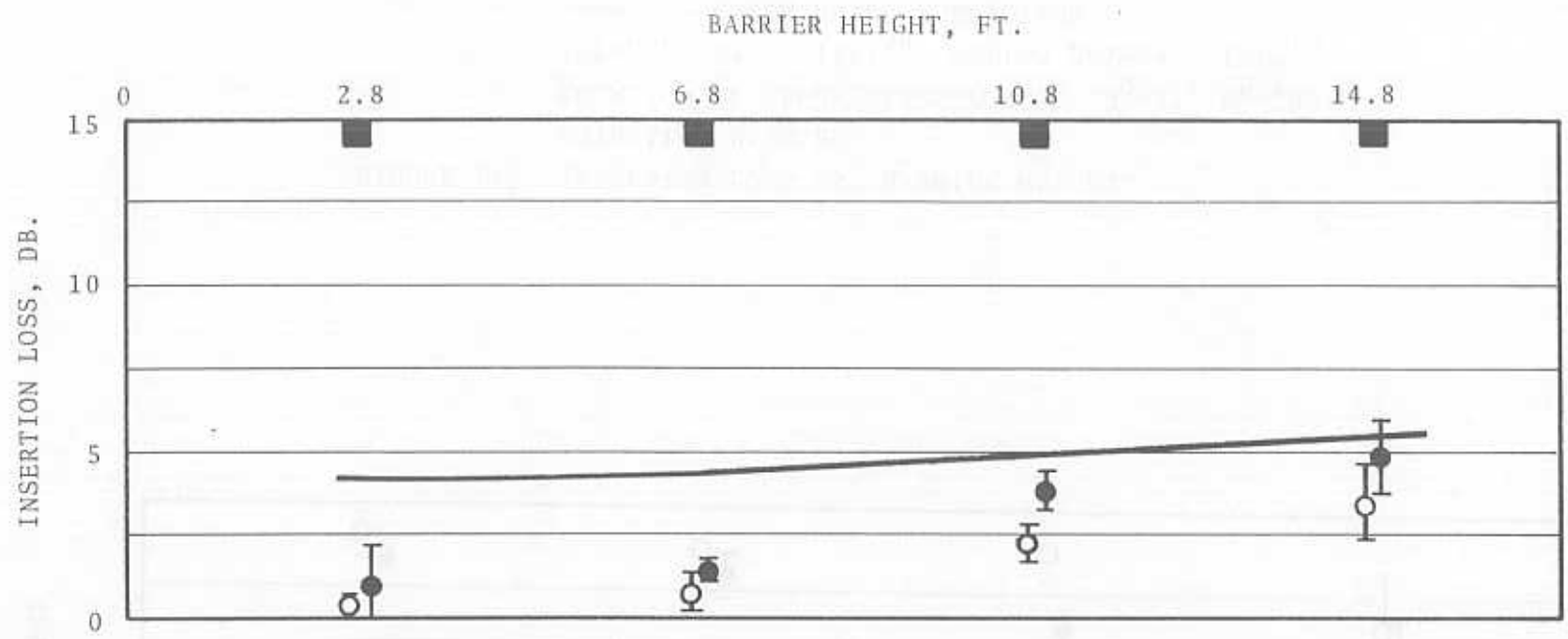



FIGURE 12. INSERTION LOSS VS. BARRIER HEIGHT.
ABSORPTIVE BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=3', $D_B$=200'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
———— DESIGN GUIDE PREDICTION.

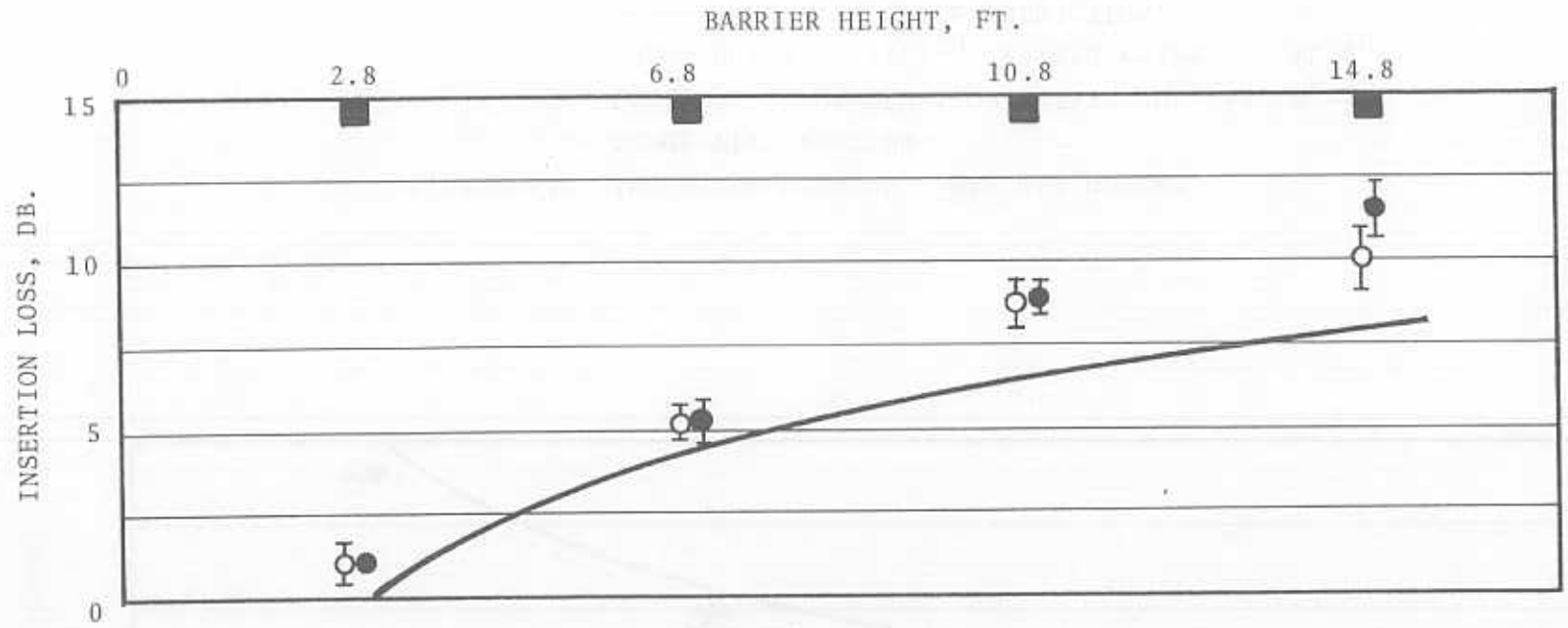



FIGURE 13. INSERTION LOSS VS. BARRIER HEIGHT.
UNTREATED BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=13', $D_B$=45'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
———— DESIGN GUIDE PREDICTION.

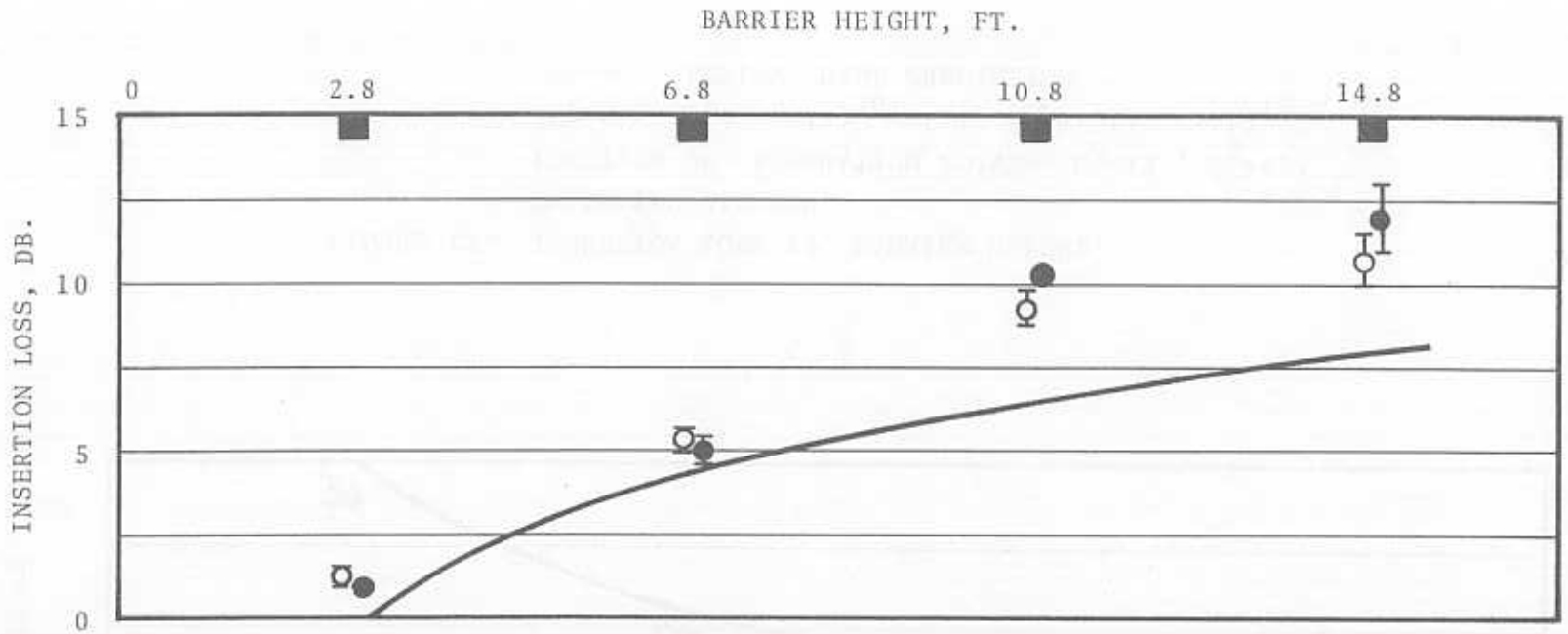



FIGURE 14. INSERTION LOSS VS. BARRIER HEIGHT.
ABSORPTIVE BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=13', $D_B$=55'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
———— DESIGN GUIDE PREDICTION.

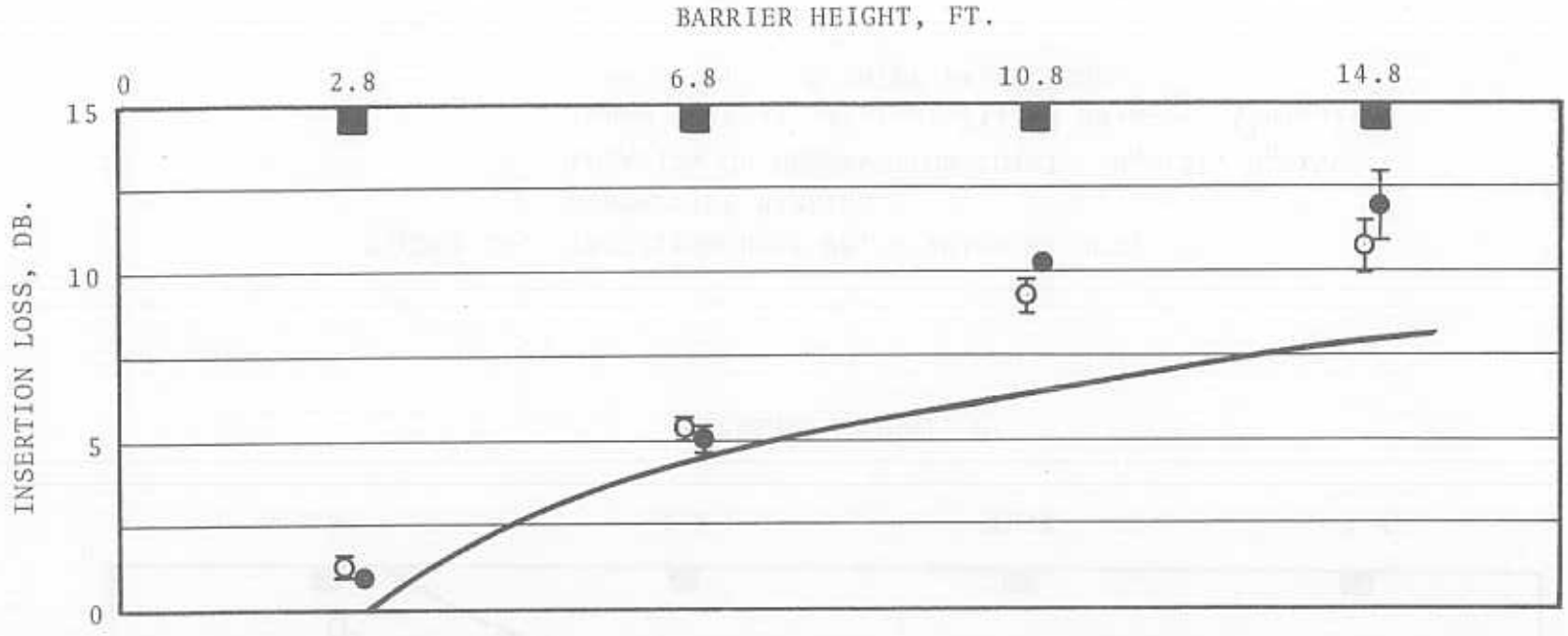



FIGURE 15. INSERTION LOSS VS. BARRIER HEIGHT
UNTREATED BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=13', $D_B$=100'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
———— DESIGN GUIDE PREDICTION.

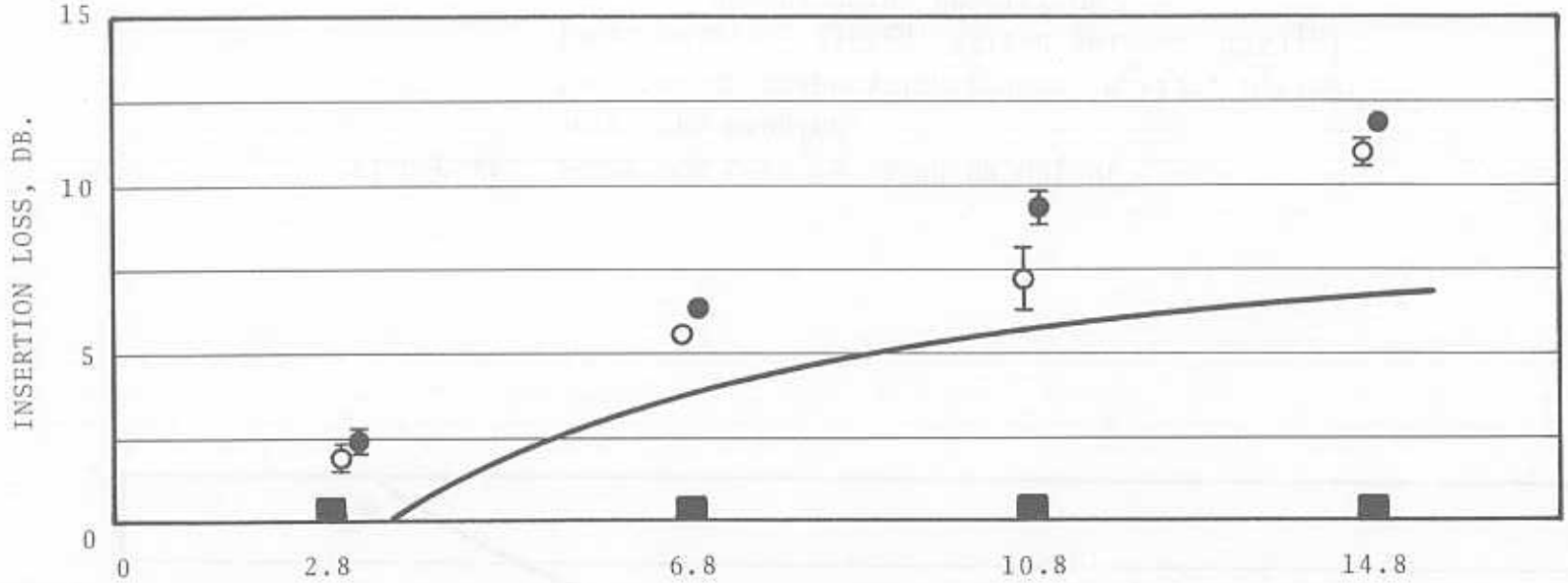



FIGURE 16. INSERTION LOSS VS. BARRIER HEIGHT.
ABSORPTIVE BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=13', $D_B$=100'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
———— DESIGN GUIDE PREDICTION.

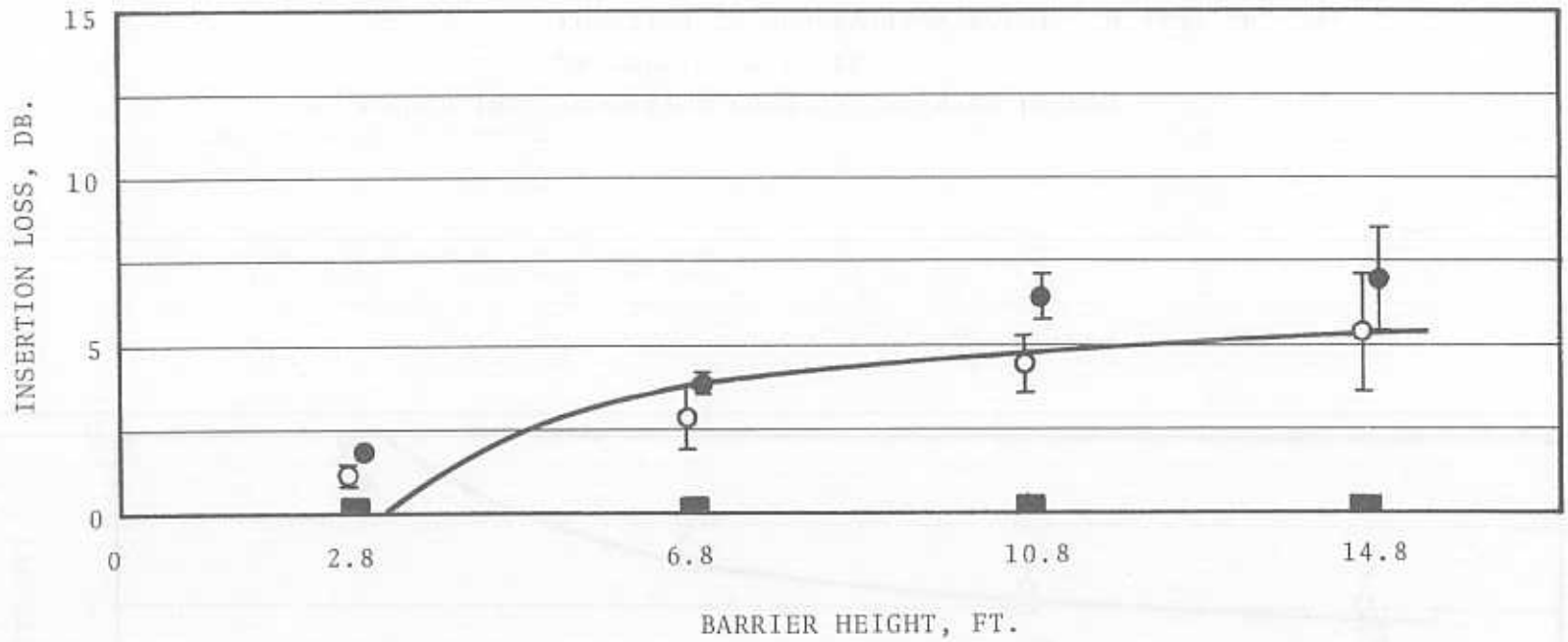



FIGURE 17. INSERTION LOSS VS. BARRIER HEIGHT.
UNTREATED BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=13' $D_B$=200'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
———— DESIGN GUIDE PREDICTION.

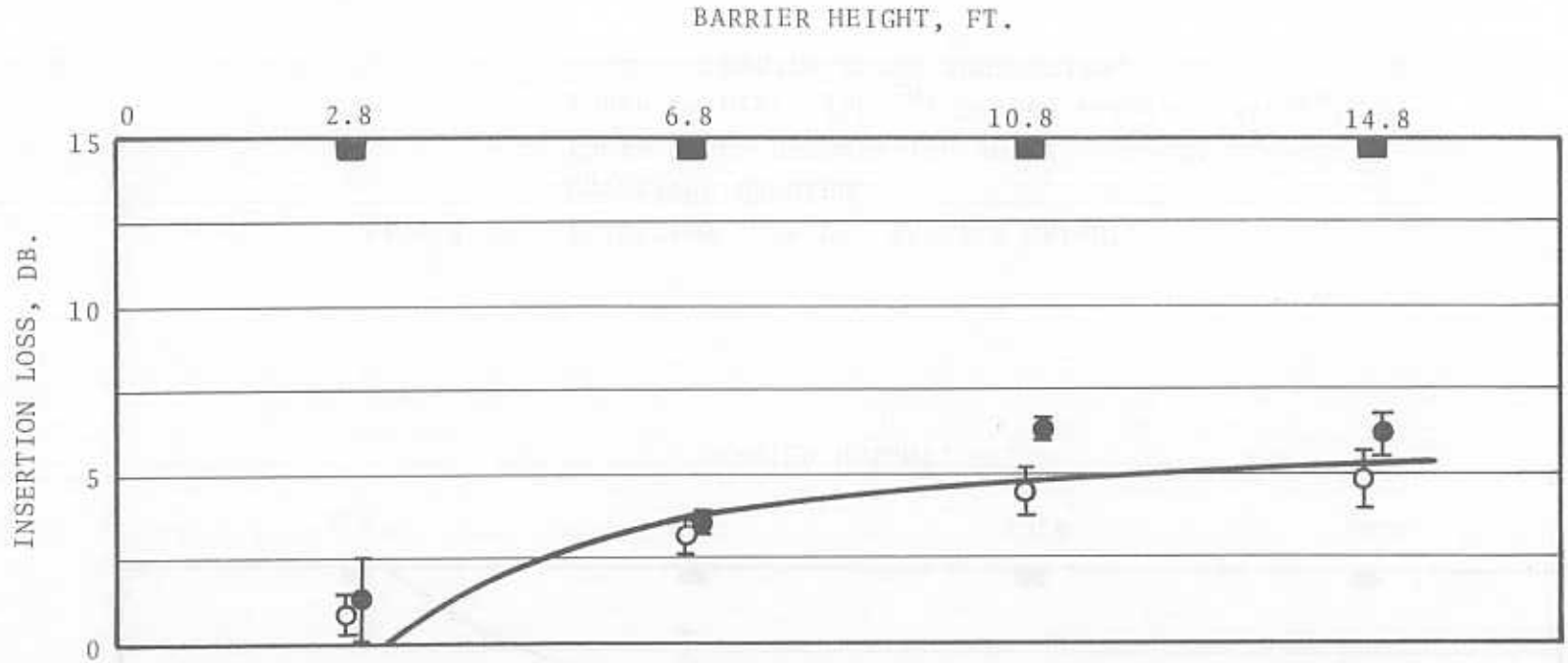



FIGURE 18. INSERTION LOSS VS. BARRIER HEIGHT.
ABSORPTIVE BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=13', $D_B$=200'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
———— DESIGN GUIDE PREDICTION.

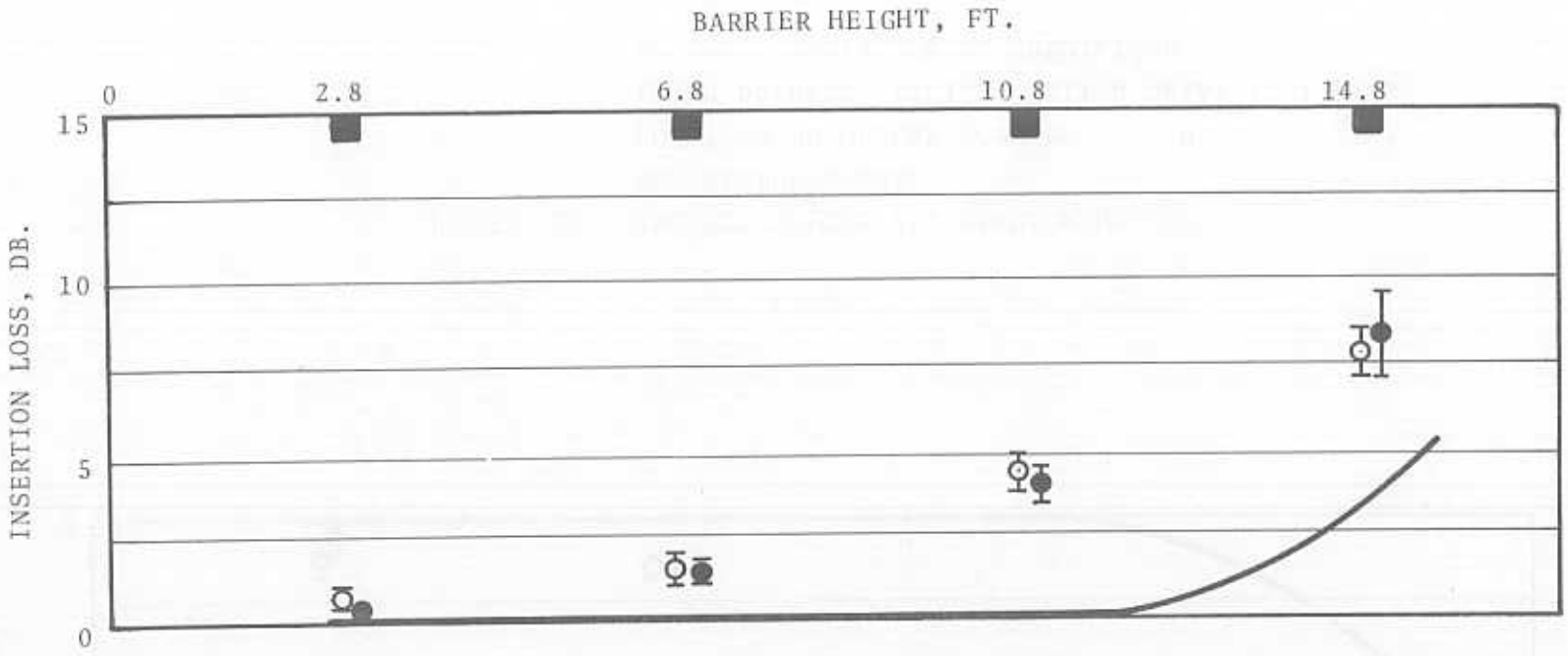



FIGURE 19. INSERTION LOSS VS. BARRIER HEIGHT.
UNTREATED BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=23', $D_B$=55'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
————DESIGN GUIDE PREDICTION.

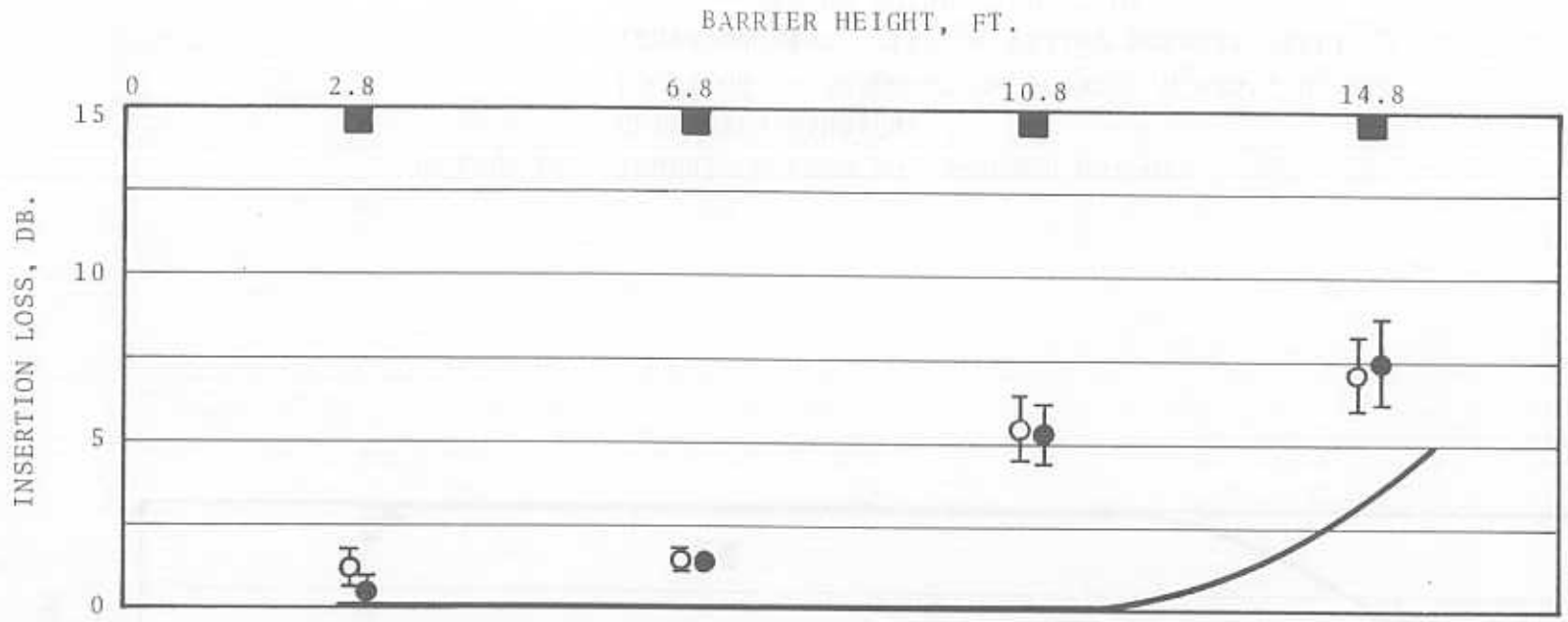



FIGURE 20. INSERTION LOSS VS. BARRIER HEIGHT.
ABSORPTIVE BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=23' $D_3$=55'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
———— DESIGN GUIDE PREDICTION.

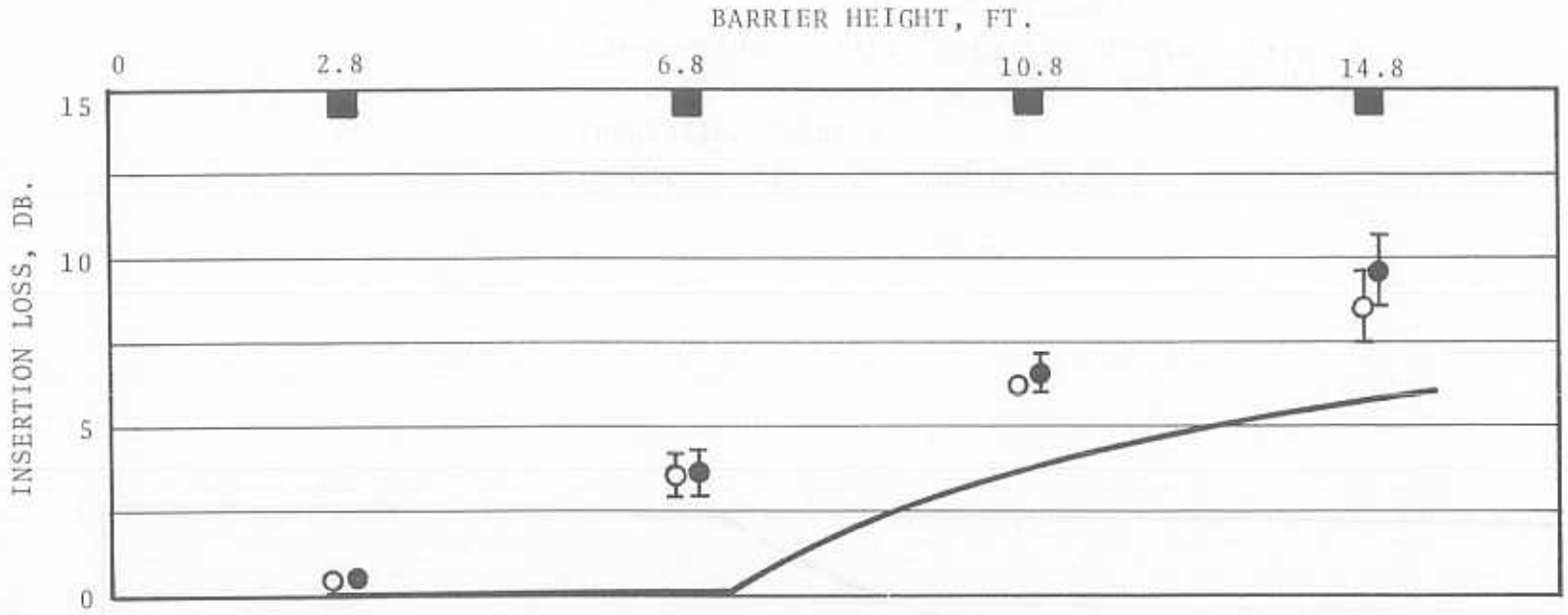



FIGURE 21. INSERTION LOSS VS. BARRIER HEIGHT.
UNTREATED BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=23', $D_B$=100'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
———— DESIGN GUIDE PREDICTION.

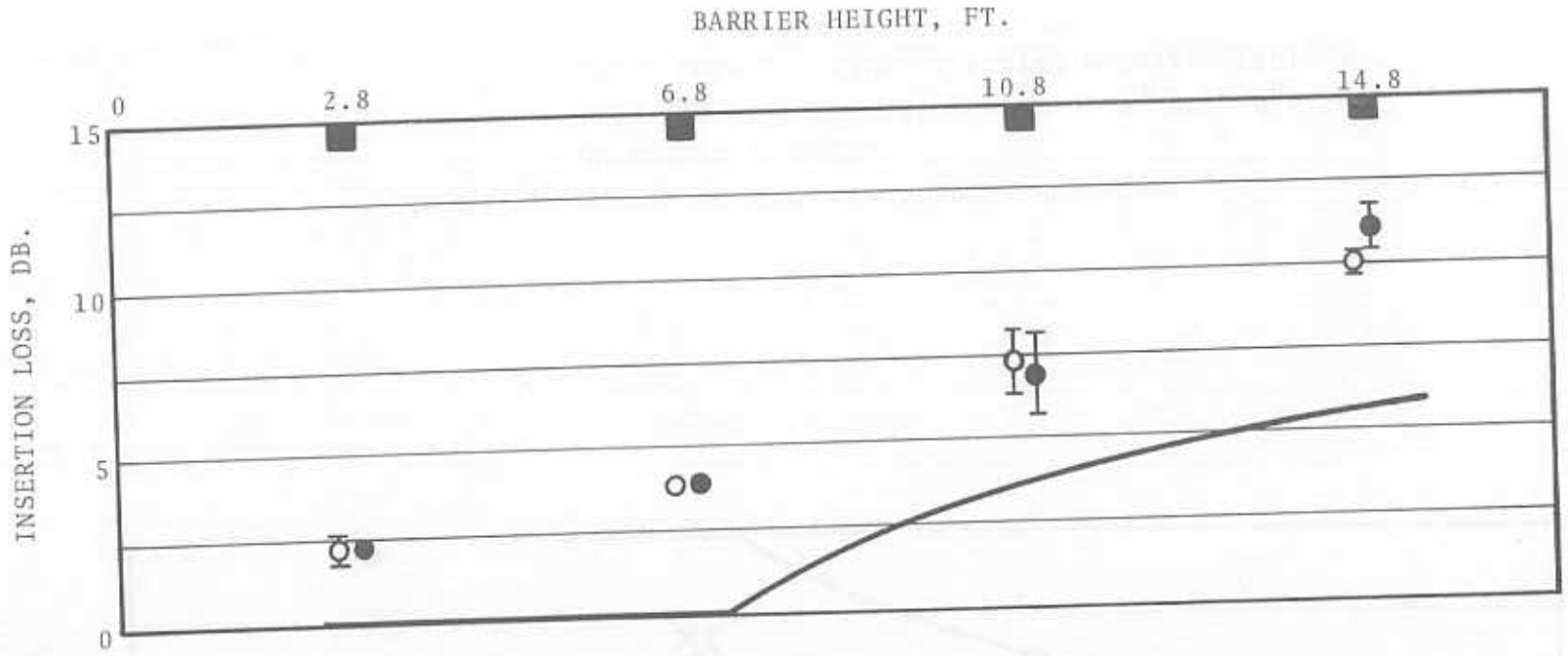



FIGURE 22. INSERTION LOSS VS. BARRIER HEIGHT.
ABSORPTIVE BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=23', $D_B$=100'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
——— DESIGN GUIDE PREDICTION.

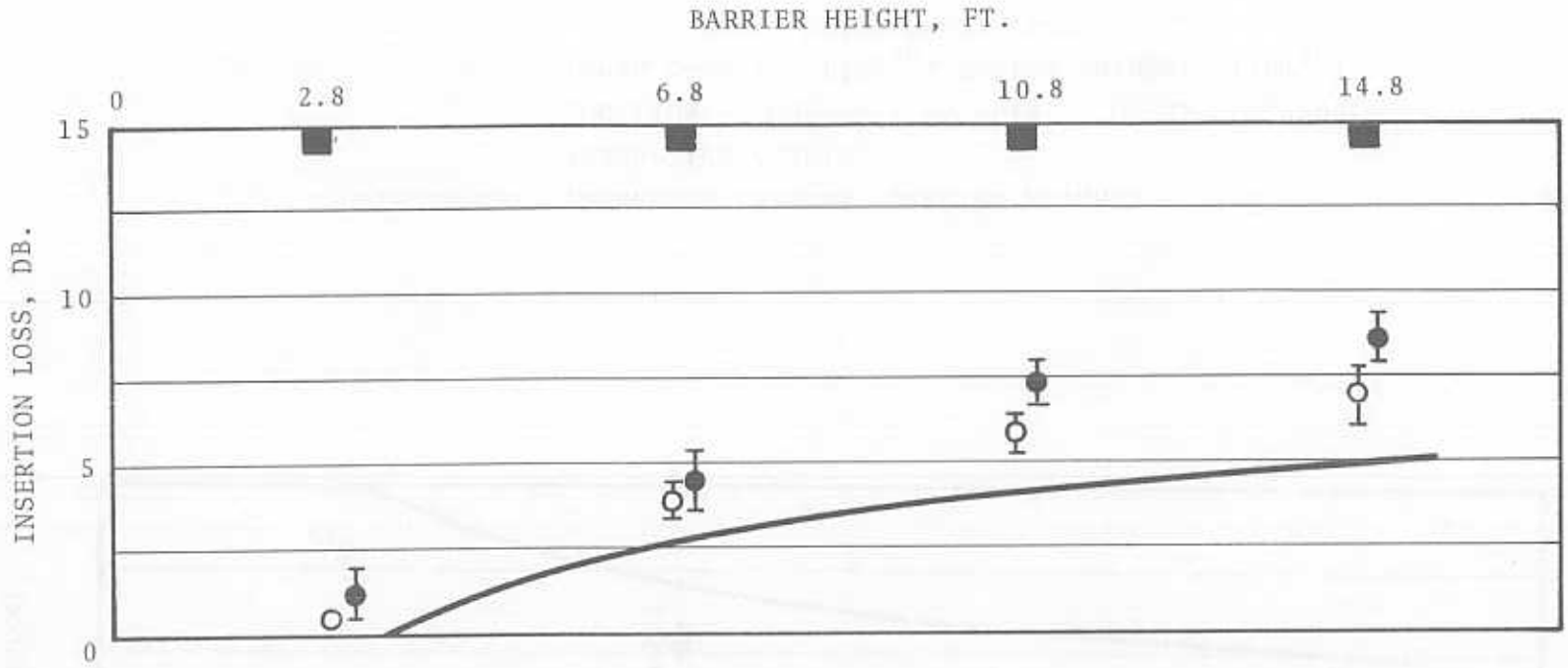



FIGURE 23. INSERTION LOSS VS. BARRIER HEIGHT.
UNTREATED BARRIER.
LOCATION OF OBSERVATION POINT: $H_O$=23', $D_B$=200'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
——— DESIGN GUIDE PREDICTION.

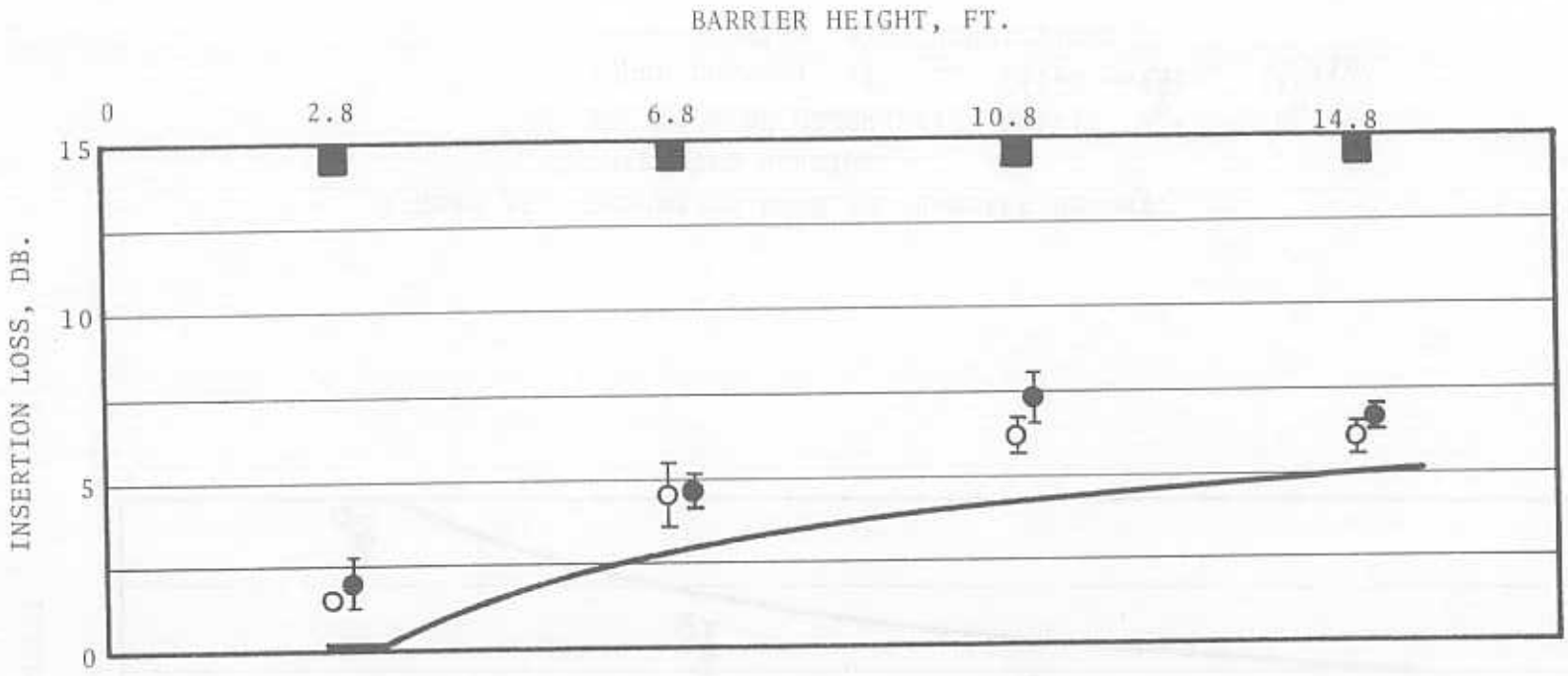



FIGURE 24. INSERTION LOSS VS. BARRIER HEIGHT.
ABSORPTIVE BARRIER
LOCATION OF OBSERVATION POINT: $H_O$=23', $D_B$=200'
(Open points: $(IL)_{50}$; Filled points: $(IL)_{10}$)
——— DESIGN GUIDE PREDICTION.

The data in this report, which concern sound transmission characteristics over ground, are based on measurements of noise reduction over ground (NROG) obtained as the difference between a reference sound level ($L_{ref}$), measured at three feet above ground and 30 feet from the edge of the highway, and the simultaneously measured sound level L at a point P farther from the highway.

$$(NROG)=L_{ref}-L \qquad (4.2)$$

In this connection it should be mentioned that the noise reduction obtained from the sound level measurements at locations A', B', C' and D' in Figure 7, is in good agreement with the noise reduction obtained from the corresponding data in Figure 5 with no barrier present. This demonstrates that the locations A', etc. in the open field site were sufficiently away from the barrier so that its presence did not affect the data at these points; this was an assumption implicit in the procedure used for the determination of the insertion loss in the previous section.

## 4.3 RESULTS OF DATA ANALYSIS

The insertion loss values are presented graphically in several different ways to show explicitly the dependence on barrier height, the distance of the observation point from the barrier, and the height of the observation point over ground. The insertion loss predicted from the Design Guide is included for comparison.

### 4.3.1 $(IL)_{50}$ and $(IL)_{10}$

The experimental values of the insertion loss were determined from both the $L_{50}$ and the $L_{10}$ statistical sound level data. As can be seen in Figures 7-24, the insertion loss $(IL)_{10}$, based on the $L_{10}$ data, is consistently higher than the insertion loss $(IL)_{50}$ based on the $L_{50}$ data.

This difference undoubtedly is related to the relative significance of the truck noise contribution to the $L_{10}$ and $L_{50}$ levels. The number of trucks involved in the present study typically was 5-15 percent of the number of passenger cars. The noise level of a truck is known to be about 10-15 dBa higher than

for a passenger car, and the relative contribution of the truck noise to $L_{10}$ is expected to be greater than to $L_{50}$.

To attempt to explain the difference between $(IL)_{10}$ and $(IL)_{50}$ we must inquire about the difference in barrier insertion loss for truck noise and passenger car noise.

There are several factors to consider. The low frequency noise of a truck is higher than for a passenger car; also, the effective source height of a truck is likely to be greater than that for a passenger car. These two factors tend to make the barrier insertion loss for truck noise lower than for passenger car noise.

There are also two factors which have an opposite effect on the insertion loss and may more than compensate for the effect of those above.

The first of these involves the loss of excess ground attenuation. With no barrier present, vehicle noise is attenuated with distance by air and ground absorption. With the barrier inserted, this natural excess ground attenuation effect is lost. The effect is greatest on passenger car noise because of their associated high frequency content. Since passenger car noise controls the $L_{50}$ levels, the relative $L_{50}$ levels are in a sense penalized by the insertion of the barrier.

A second and more important factor relates to line and point source noise propagation. Because the distance between successive trucks is so large on the average, truck noise is better described as the noise from a single moving point source rather than from a line source. A comparison of these two source configurations shows that the insertion loss of a barrier of finite length is larger for the point source than for the line source, that is, a point source would actually see the barrier as being infinite.

Also noted in Figures 7-24 is that the difference between $(IL)_{10}$ and $(IL)_{50}$ increases with increasing insertion loss and reaches a maximum difference of about 2 dB. This phenomenon is related to source height and to the relative height of the barrier.

For a given source height, the barrier insertion loss will increase in barrier height up to some maximum value. Further increases in barrier height will have little or no effect; also, as the source height is increased the barrier height must be further increased to obtain the new maximum insertion loss value.

Since passenger cars control the $L_{50}$ levels and trucks, which generally have a greater source height than passenger cars, control the $L_{10}$ levels, it follows that as the barrier height is increased the $(IL)_{50}$ and $(IL)_{10}$ will both increase toward a maximum. The $(IL)_{50}$ will achieve its maximum first. Further increases in barrier height will have little effect on the $(IL)_{50}$, however the $(IL)_{10}$ will continue to increase up to its maximum value.

### 4.3.2 Effect of Absorptive Treatment

Insertion loss data were obtained for the barrier untreated as well as with the side facing the traffic covered with a two-inch-thick fiberglass panel.

As can be seen from the data presented here, the application of the absorptive treatment did not alter the insertion loss significantly (increase generally less than 1 dB).

It is interesting to note in this context that in an earlier study of the insertion loss of railroad retarder barriers,[6] absorptive treatment was found to increase the insertion loss markedly. In that case, however, multiple reflections between the barrier and the side of the railroad car make the effect of the absorptive treatment considerably more pronounced.

Measurements were also made across the highway (microphone locations 15 and 16) to determine if the levels increased because of barrier reflectivity. Increases in the $L_{10}$ and $L_{50}$ of less than 2 dB were noted with the untreated barrier. A negligible change was noted after absorptive treatment.

### 4.3.3 Insertion Loss vs. Barrier Height

In Figures 7-24 the insertion loss is plotted as a function of the barrier height for both untreated and absorptive barriers

for different observation points.

To attempt to understand these results qualitatively, we note that in the shielding of a line source by a barrier of finite length there will be a direct line of sight between a portion of the line and the observation point, and the corresponding noise will reach the observer with little interference from the barrier. The significance of this noise "leakage," in comparison with the noise diffracted over the top of the barrier, increases with increasing barrier height, and therefore we expect that the rate of increase of the insertion loss with barrier height will level off at a certain barrier height, at which the leakage will be of the same order of magnitude as the noise diffracted over the barrier.

This critical barrier height of "diminishing return" depends, of course, on the location of the point of observation. This effect is clearly demonstrated by the results obtained. For example, for a point of observation specified by $D_b$=100 feet and $H_0$=13 feet, (Figure 15) the insertion loss vs. height curve starts to level off at a barrier height of about 10 feet, whereas for $D_b$=200 feet and $H_0$=13 feet (Figure 17), the corresponding height is about 7 feet.

4.3.4 Insertion Loss vs. Distance Behind the Barrier

In Figure 25 the insertion loss values have been plotted as a function of the distance of the observation point from the barrier with the height of the observation point as a parameter.

Generally the insertion loss decreases with the distance $D_b$. It is interesting to see, however, that for the observer height H =23 feet and barrier heights 14.8 and 10.8 feet, the data indicate a slight increase of the insertion loss in the range between $D_b$ =50 and $D_b$ =100 feet before the expected decrease with distance occurs.

4.3.5 Insertion Loss vs. Height of Observation Point

The dependence of the insertion loss on the height of the observation point, shown in Figures 26 and 27, is not as simple

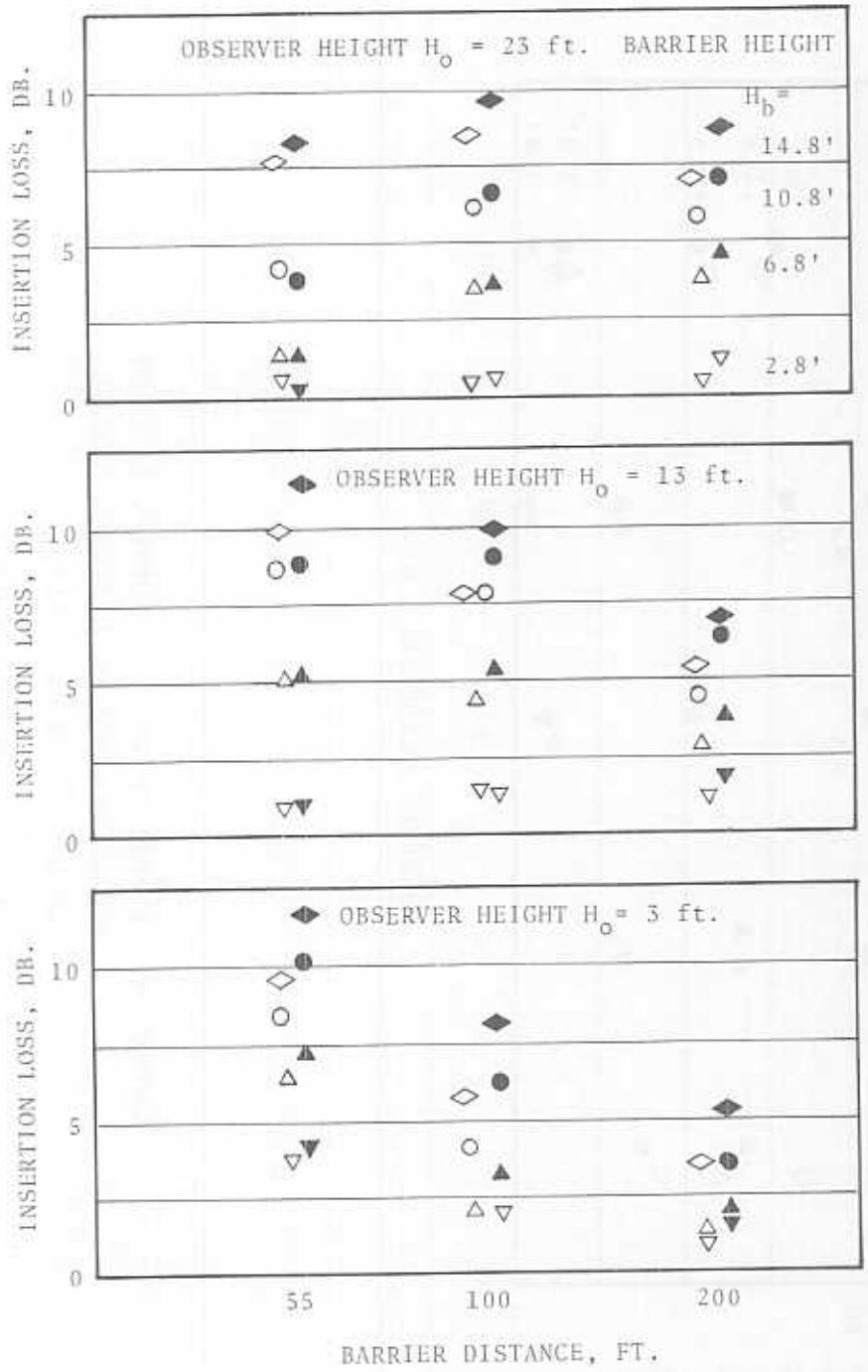



FIGURE 25. INSERTION LOSS VS. OBSERVER-BARRIER DISTANCE $D_b$
OPEN DATA POINTS: $(IL)_{50}$
FILLED DATA POINTS: $(IL)_{10}$

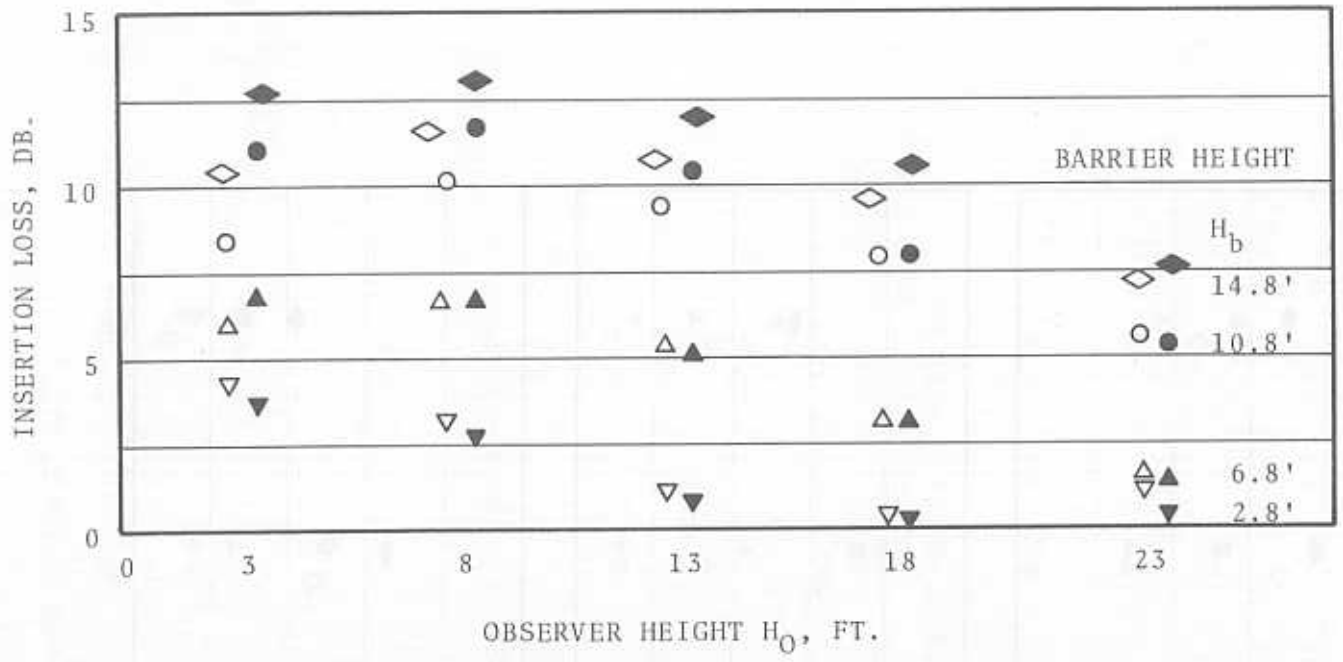



FIGURE 26. INSERTION LOSS VS. OBSERVER HEIGHT.
OBSERVER-BARRIER DISTANCE $D_B$=55'
OPEN DATA POINTS $(IL)_{50}$
FILLED DATA POINTS $(IL)_{10}$

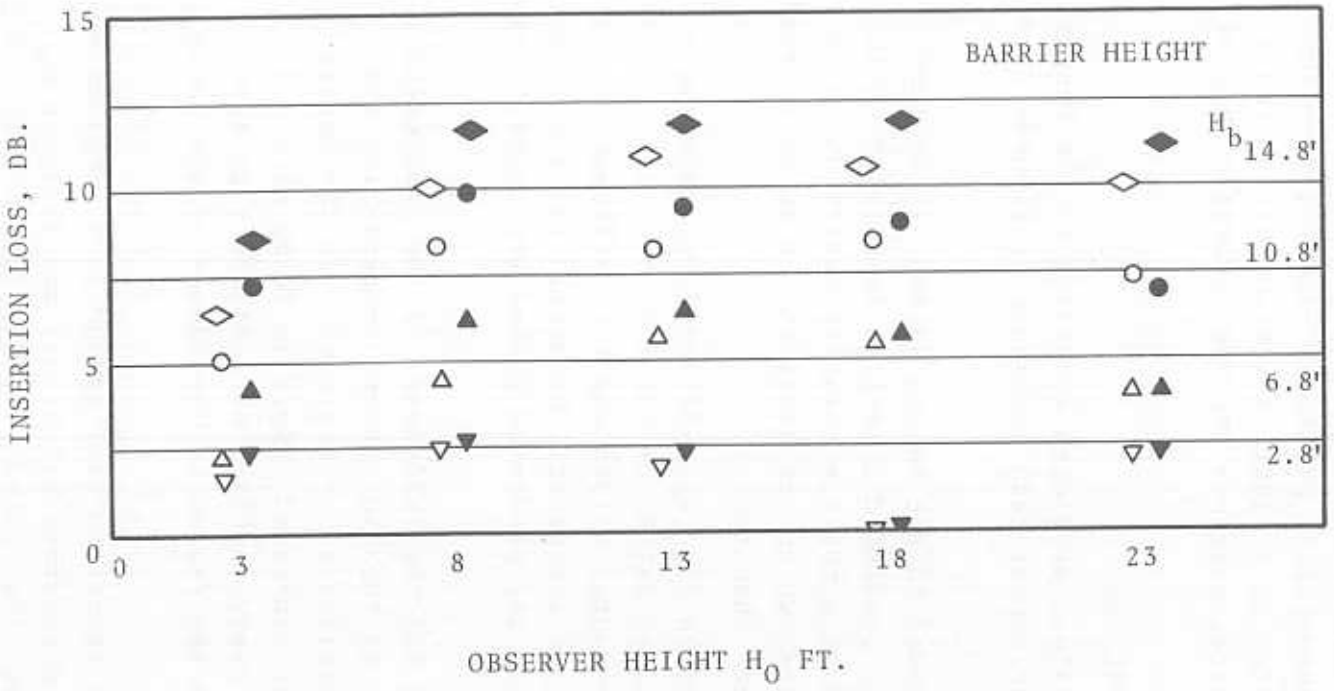



FIGURE 27. INSERTION LOSS VS. OBSERVER HEIGHT.
OBSERVER-BARRIER DISTANCE $D_B$=100'
OPEN DATA POINTS $(IL)_{50}$
FILLED DATA POINTS $(IL)_{10}$

as might be expected from the Design Guide prediction. Except for the barrier height 2.8 feet, the maximum insertion loss does not occur at the lowest observation point, as expected from the Design Guide. This behavior is a clear indication of the inadequacy of the current prediction scheme for the insertion loss of a finite highway barrier.

4.3.6 Predicted Insertion Loss

The insertion loss values predicted according to the Design Guide (Appendix C of NCHRP Report 144) are shown in Figures 7-24 and in Table 4.

A line source is assumed in the Design Guide. It is then appropriate to compare the predicted insertion loss values with the experimental $(IL)_{50}$ data since the relative contribution to $L_{50}$ from the passenger cars (which are dense enough to be treated as a line source) is larger than to $L_{10}$.

We note from the data in Figures 7-24 and from the summary in Table 5 that the predicted values of the insertion loss generally are smaller than the measured values and the difference can be as large as 6 dB. There are exceptions, however. For the lowest observer height, $H_0$=3 feet, the predicted values are consistently higher than the measured.

One important reason for the inadequacy of the prediction procedure seems to be the failure to account properly for the noise transmission characteristics over ground. In the Design Guide the ground effect is expressed simply in terms of a 4.5 dB decrease in level for every doubling of distance from the source, without regard to the frequency dependence of the noise reduction.

In reality the noise reduction over ground is a complicated function of frequency, the observer height $H_0$, and distance $D_b$ from the barrier. This is illustrated by the results in Figure 28 of measurements of octave band noise reduction at various values of $H_0$ and $D_b$.

TABLE 4. DESIGN GUIDE PREDICTED BARRIER INSERTION LOSS

| $H_b$ (ft) | $D_b$ (ft) | $H_o$ | | | | |
|---|---|---|---|---|---|---|
| | | 3ft | 8ft | 13ft | 18ft | 23ft |
| 2.8 | 55 | 4.3(5.3)* | 0. | 0. | 0. | 0. |
| | 100 | 4.3(5.6) | 0. | 0. | 0. | 0. |
| | 200 | 3.7(5.7) | 0. | 0. | 0. | 0. |
| 6.8 | 55 | 6.7(8.8) | 5.4(6.3) | 4.6(5.6) | 0. | 0. |
| | 100 | 5.2(8.4) | 4.5(7.1) | 4.0(5.4) | 3.9(5.0) | 0. |
| | 200 | 4.5(8.3) | 4.2(7.5) | 4.0(6.7) | 3.6(5.5) | 3.0(3.5) |
| 10.8 | 55 | 9.0(11.6) | 7.0(9.1) | 6.0(7.1) | 0. | 0. |
| | 100 | 6.3(10.6) | 6.0(9.2) | 5.2(8.3) | 4.5(6.9) | 3.9(5.0) |
| | 200 | 5.1(10.2) | 5.0(9.6) | 4.9(8.9) | 4.5(8.2) | 4.2(7.4) |
| 14.8 | 55 | 11.0(13.9) | 9.0(11.9) | 8.0(10.0) | 6.2( 7.8) | 4.2(5.0) |
| | 100 | 7.5(12.6) | 7.0(11.4) | 6.3(10.5) | 6.0( 9.4) | 5.1(8.1) |
| | 200 | 5.5(11.9) | 5.4(11.3) | 5.3(10.8) | 5.1(10.0) | 5.0(9.2) |

* The figures within parenthesis refer to a barrier of infinite length.

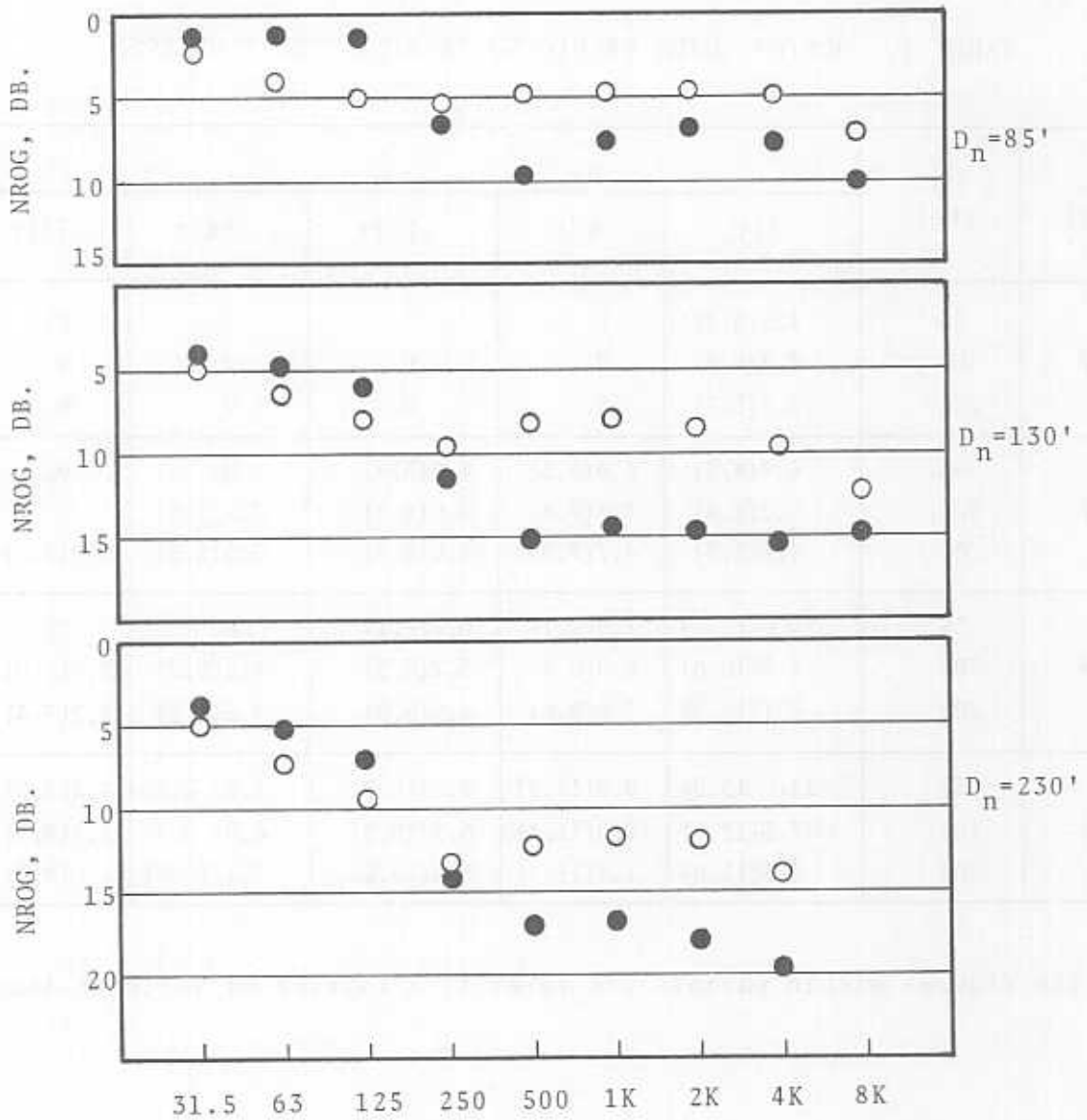



FIGURE 28. OCTAVE BAND NOISE REDUCTION OVER GROUND.
OPEN DATA POINTS $H_0$=13', FILLED POINTS $H_0$=3'
$D_n=D_b$+30 ft.

As a result, the shape of the noise spectrum will change with distance from the source and there will be a corresponding change in the "average" frequency and wavelength of the spectrum. This is illustrated in the octave band noise spectra measured at several locations and heights as shown in Figure 29.

The Design Guide assumes a constant average frequency of 500 Hz independent of the location of the observer in its computations and may account for the difference between the measured and predicted insertion loss. This effect may be corrected by simply using a lower average frequency than 500 Hz when calculating the insertion loss at low observation points and a higher frequency than 500 Hz at high observation points. The crossover point would be somewhere between a receiver height of 3 and 8 feet as seen in Table 5.

## 4.4 SUMMARY

Some of the more important results obtained in the present study can be summarized as follows:

a. The predicted insertion loss values generally are lower than the measured, except for the lowest height (3 feet) of the observation point. The difference between the predicted and the measured values are summarized in Table 5.

b. The effect on the insertion loss of the barrier by adding an absorptive treatment (two-inch-thick fiberglass board) to the barrier is too small to be of practical significance. However, the absorptive treatment cancels out the slight increase (1-2 dB) in noise levels across the highway due to barrier reflectivity.

c. The largest measured value of the insertion loss, based on data, was 13 dB, corresponding to a 14.8 foot high barrier and a location of the observation point specified by $H_0$=8 feet and $D_b$=55 feet.

d. For barrier heights other than 3 feet, the largest insertion loss does not necessarily occur at the lowest observation point.

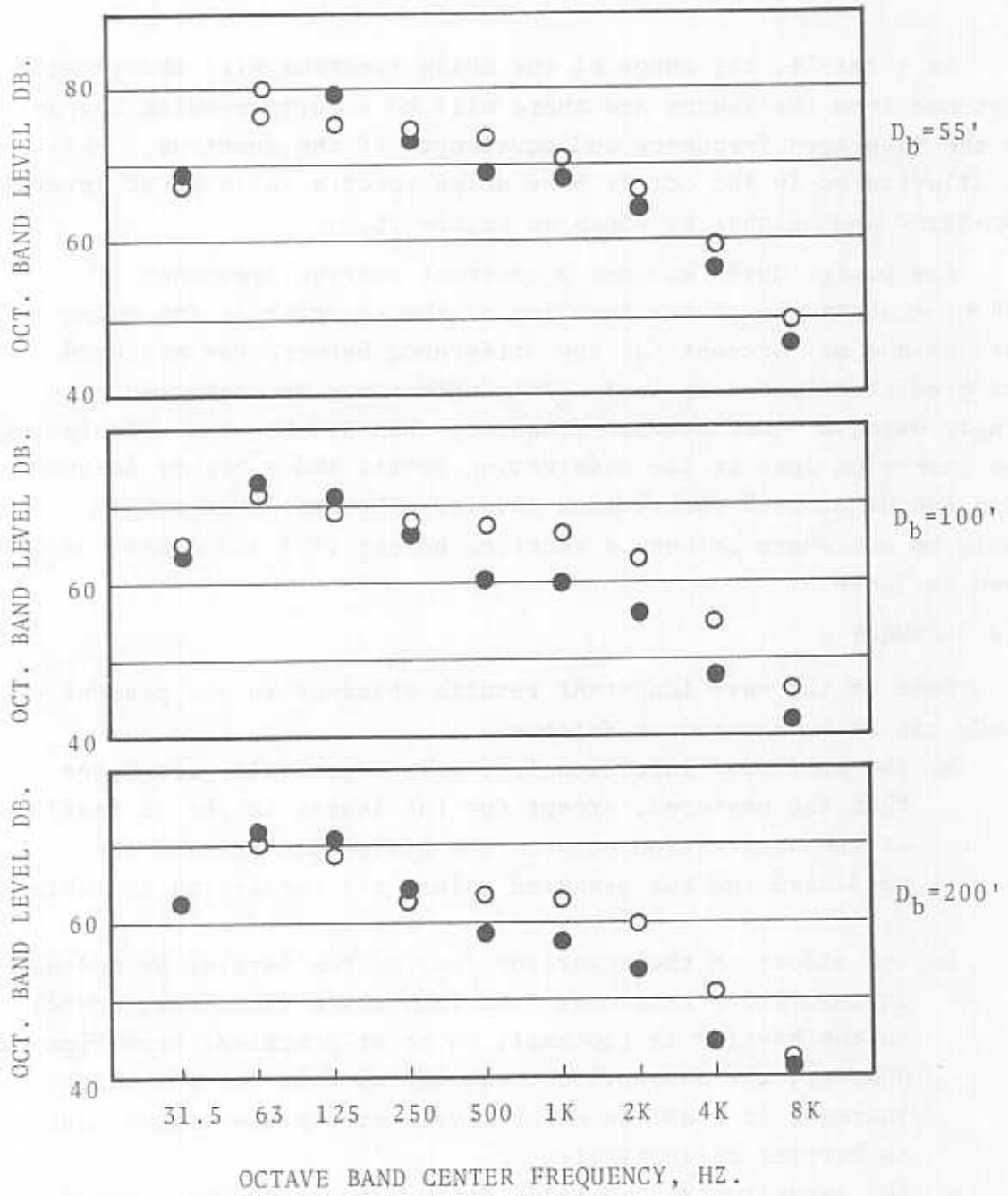



FIGURE 29. OCTAVE BAND NOISE SPECTRUM.
OPEN DATA POINTS: $H_0$=13',
FILLED-POINTS: $H_0$=3'

TABLE 5. DIFFERENCE BETWEEN PREDICTED AND MEASURED BARRIER INSERTION LOSS

| $H_b$ (ft) | $D_b$ (ft) | $H_0$ | | | | |
|---|---|---|---|---|---|---|
| | | 3ft | 8ft | 13ft | 18ft | 23ft |
| 2.8 | 55 | +0.5 | -2.9* | -1.0 | -0.4 | -0.7 |
| | 100 | +2.3 | -2.3 | -1.4 | -1.0 | -0.5 |
| | 200 | +2.9 | -1.0 | -1.1 | -0.9 | -0.4 |
| 6.8 | 55 | +0.9 | -1.3 | -0.5 | -3.4 | -1.5 |
| | 100 | +3.2 | +0.2 | -0.4 | -0.5 | -3.5 |
| | 200 | +3.3 | +1.9 | +1.2 | -0.2 | -0.8 |
| 10.8 | 55 | +0.5 | -2.5 | -2.7 | -6.8 | -4.3 |
| | 100 | +2.3 | -1.3 | -2.5 | -2.8 | -2.3 |
| | 200 | +3.9 | +2.1 | +0.5 | -1.0 | -1.6 |
| 14.8 | 55 | +1.4 | -1.6 | -2.0 | -2.4 | -3.5 |
| | 100 | +1.9 | -1.1 | -1.6 | -2.7 | -3.5 |
| | 200 | +2.1 | +1.1 | 0. | -1.3 | -2.0 |

* Negative values in the table are obtained when the predicted value is smaller than the measured.

e. To improve the prediction procedure, more attention should be paid to the frequency dependence of the transmission characteristics along the path from source to receiver.

Although, qualitatively, the effect of spectrum shape and its variation with distance seems to correct the predicted insertion loss values in the right direction toward the experimental values, as indicated above, we have not studied this question quantitatively. We feel that if it is desired to improve upon the existing prediction procedure, such a quantitative study of the effect of spectrum shape should be undertaken. There exist extensive data on the transmission characteristics over ground, which could be used as a basis for such studies, and numerous theoretical investigations of this problem have also been made.

Another question which we have studied briefly during the course of the present work is the role of directivity of the traffic noise. It is clear that the directivity will influence the relative significance of the "leakage" noise, referred to in subsection 4.3.3, and the noise diffracted over the barrier. Furthermore, the shielding characteristics of the barrier will be asymmetrical with respect to the center plane perpendicular to the barrier, and such an asymmetry could influence the choice of location of the barrier with respect to the region to be shielded.

An exploratory study of this question should be undertaken to see whether the effect is large enough to warrant a more serious investigation.

# 5. MEASUREMENT DATA

Data from the 14 microphone systems deployed were fed through up to 700 feet of cable to the mobile noise laboratory for recording and/or on-line processing and storage in the Wang 720 computer system. At the conclusion of a ten-minute measurement run, the Wang 720 was programmed to separate the stored digital data and statistically analyze the ten minutes of data for each microphone (4800, 1/8-second "A" weighted data samples). The calculated results for each microphone were computed and are presented in tabular form. Definitions of calculated noise indexes given in Tables 6 through 123 are as follows:

| Band | Microphone Number | |
|---|---|---|
| A | Average sound pressure level (arithmetic) | dB(A) |
| S | Standard deviation | dB |
| E | Energy mean (Leq) | dB(A) |
| N | Noise pollution level (NPL) | dB(A) |
| M | Maximum level measured | dB(A) |
| R | Range of data measured | dB(A) |
| 1 | L1, level exceeded 1% of time | dB(A) |
| 10 | L10, level exceeded 10% of time | dB(A) |
| 50 | L50, level exceeded 50% of time | dB(A) |
| 90 | L90, level exceeded 90% of time | dB(A) |
| 99 | L99, level exceeded 99% of time | dB(A) |

## 5.1 NO BARRIER

Measurements were made on September 3 and 4, 1975, to determine the acoustic similarity of the two adjacent measuring sites. The fourteen microphone systems were deployed in the grid arrangement shown in Figure 5. One additional portable measuring system was deployed at location 15 for two successive runs on September 4, 1975.

Microphone height data is given in Table 1. Note that for runs 4 and 5 on September 3, 1975, and all runs on September 4, 1975, the height of microphones 5 through 9 and 13 were increased

from five to six feet above the ground to compensate for the grade. Also, for runs 5 through 8 on September 4, 1975, the location of microphone 9 was moved 50 feet to the south.

Tables 6 through 12 contain statistical noise data for all microphones for the thirteen 10-minute measurement runs made over the two-day period. Table 11 also includes data for microphone 15.

Weather data is summarized in Tables 124-134. Summary traffic data is given in Tables 135-164.

5.2 BARRIER 2.8 FEET HIGH

Measurements were made during the period October 7-9, 1975, on the 2.8 foot high barrier with reflective characteristics, and during the period October 15-17, 1975, on the 2.8 foot high barrier with absorptive characteristics. For these tests, microphones 1 and 13 (on permanent masts A/A') were set six inches above the height of the barrier (3.3 feet above the level of the edge of the near southbound lane). See Figure 7 for location of microphone masts and Table 2 for microphone height data.

Tables 13-25 contain noise data for twenty-one, 10-minute data runs for the 2.8 foot reflective barrier for all 14 microphone positions. Tables 26-36 contain noise data for twenty-two 10-minute data runs for the 2.8 foot absorptive barrier.

Weather data is summarized in Tables 126 and 127. Summary traffic data for each measurement run is given in Tables 137 through 142.

5.3 BARRIER 6.8 FEET HIGH

Measurements were made during the period October 29-31, 1975, on the 6.8 foot high absorptive barrier and during the period November 4-6, 1975, on the 6.8 foot high reflective barrier. For these tests, microphones 1 and 13 (on permanent masts A/A') were set six inches above the height of the barrier (7.3 feet above the level of the edge of the near southbound lane). Measurements were alternately made at locations 15 and 16 on October 31, and

November 4, 1975, during four consecutive runs. See Figure 7 for location of all microphones and Table 2 for microphone height data.

Tables 37-44 contain noise data for fifteen, 10-minute data runs for the 6.8 foot absorptive barrier. Tables 45-56 contain noise data for twenty-four, 10-minute data runs for the 6.8 foot reflective barrier. Tables 43, 44, 47 and 48 include data for microphones 15 and 16.

Weather data is summarized in Tables 127 and 128. Summary traffic data for each measurement run is given in Tables 143-147.

## 5.4 BARRIER 10.8 FEET HIGH

Measurements were made during the period November 18-20, 1975, on the 10.8 foot reflective barrier and during the period December 2-4, 1975, on the 10.8 foot absorptive barrier. For these tests, microphones 1 and 13 (on permanent masts A/A') were set six inches above the height of the barrier (11.3 feet above the level of the edge of the near southbound lane). Alternate measurements at locations 15 and 16 were made on November 18, 1975, and December 2, 1975, during four consecutive runs. See Figure 7 for location of all microphones and Table 2 for microphone height data.

Tables 57-68 contain noise data for twenty-four, 10-minute data runs for the 10.8 foot reflective barrier; Tables 69-80 contain noise data for twenty-four, 10-minute data run for the 10.8 foot absorptive barrier. Tables 59, 60, 70 and 71 include data for microphones 15 and 16.

Weather data is summarized in Tables 129 and 130; summary traffic data for each measurement run is given in Tables 148-153.

## 5.5 BARRIER 14.8 FEET HIGH

Measurements were made during the period December 9-12, 1975, on the 14.8 foot absorptive barrier and during the periods December 16-18, 1975; April 27-29, 1976; and September 14-16, 1976, on the 14.8 foot reflective barrier. The April and September 1976 measurements were carried out in the same manner as all previous measurements to detect seasonal changes, if any, in barrier

performance as a result of changes in groundcover. For these tests, as in previous tests on the 14.8 foot barrier, microphones 1 and 13 (on permanent masts A/A') were set six inches above the height of the barrier (15.3 feet above the level of the edge of the near southbound lane). Measurements were made alternately at microphone locations 15 and 16 during four consecutive runs on December 11 and 16, 1975. See Figure 7 for location of all microphones and Table 2 for microphone height data.

Tables 81-91 contain noise data for twenty-one, 10-minute data runs for the 14.8 foot absorptive barrier. Tables 92-123 contain noise data for sixty-four, 10-minute data runs for the 14.8 foot reflective barrier. Tables 86, 87, 94 and 95 include data for microphones 15 and 16.

Weather data is summarized in Tables 131-134; summary traffic data for each measurement run is given in Tables 154-164.

## 5.6 OCTAVE BAND FREQUENCY SPECTRA

To obtain a measure of the frequency dependence of the noise reduction characteristics of the barrier, the recorded data from selected measurement runs was reproduced and the mean energy measured for the 10-minute periods in each octave band from 31.5 Hz to 8 KHz plus the overall unweighted level. Mean energy frequency spectra are given in Tables 165-168 for each barrier height (reflective characteristics only) for microphones 1, 3, 4, 5, 8, 10 and 13 for microphone mast configurations B, C, D, and E. See Figure 7 for mast locations and Table 2 for microphone height data.

TABLES 6-12. NOISE DATA: OPEN FIELD MICROPHONES 1-14

TABLE NO. 6
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

OPEN FIELD TEST, MICROPHONES 1 - 14

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 3- 75 1144 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.3 | 5.4 | 78.9 | 92.9 | 93 | 33 | 89.3 | 82.8 | 75.7 | 68.9 | 64.0 |
| 2 | 72.9 | 6.4 | 78.1 | 94.4 | 94 | 36 | 89.7 | 81.3 | 73.5 | 65.3 | 60.7 |
| 3 | 68.1 | 5.0 | 71.2 | 83.8 | 84 | 30 | 80.6 | 75.7 | 68.4 | 62.2 | 58.0 |
| 4 | 71.8 | 4.9 | 74.6 | 87.1 | 86 | 28 | 83.5 | 79.1 | 72.1 | 65.9 | 61.7 |
| 5 | 64.1 | 4.0 | 66.1 | 76.4 | 79 | 26 | 74.8 | 70.1 | 64.2 | 59.7 | 56.6 |
| 6 | 62.1 | 3.7 | 64.0 | 73.3 | 77 | 23 | 72.9 | 67.6 | 62.3 | 58.3 | 55.7 |
| 7 | 62.8 | 3.5 | 64.5 | 73.3 | 81 | 26 | 72.7 | 67.9 | 62.9 | 59.1 | 57.1 |
| 8 | 62.2 | 3.4 | 63.9 | 72.7 | 81 | 28 | 72.6 | 66.8 | 62.7 | 58.4 | 55.5 |
| 9 | 59.7 | 3.2 | 61.1 | 69.4 | 72 | 20 | 69.1 | 64.4 | 60.0 | 56.3 | 53.5 |
| 10 | 67.8 | 4.8 | 70.8 | 83.0 | 84 | 28 | 80.5 | 75.1 | 68.0 | 62.2 | 59.2 |
| 11 | 69.4 | 5.0 | 72.8 | 85.7 | 87 | 29 | 82.9 | 77.3 | 69.5 | 63.5 | 60.5 |
| 12 | 69.1 | 5.1 | 72.6 | 85.6 | 86 | 30 | 82.9 | 76.9 | 69.2 | 63.2 | 59.8 |
| 13 | 62.8 | 3.8 | 64.8 | 74.5 | 78 | 24 | 74.5 | 68.6 | 62.8 | 59.0 | 56.0 |
| 14 | 75.8 | 5.3 | 79.5 | 93.0 | 94 | 33 | 90.5 | 83.2 | 76.0 | 69.9 | 65.1 |

N= 4780

9- 3- 75 1420 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.8 | 5.6 | 81.0 | 95.2 | 99 | 38 | 94.0 | 83.6 | 75.6 | 70.0 | 65.2 |
| 2 | 73.6 | 6.4 | 80.5 | 96.9 | 100 | 40 | 93.7 | 82.3 | 73.7 | 66.3 | 62.7 |
| 3 | 68.4 | 5.4 | 73.3 | 87.1 | 91 | 33 | 86.0 | 76.8 | 67.5 | 63.3 | 60.2 |
| 4 | 72.0 | 5.3 | 76.4 | 90.1 | 92 | 34 | 88.4 | 79.8 | 71.5 | 66.6 | 62.0 |
| 5 | 64.4 | 4.4 | 67.7 | 79.1 | 82 | 26 | 78.8 | 71.4 | 63.6 | 60.5 | 58.6 |
| 6 | 61.5 | 3.9 | 63.8 | 73.7 | 76 | 22 | 73.3 | 68.1 | 61.1 | 57.9 | 56.1 |
| 7 | 61.9 | 3.5 | 63.5 | 72.4 | 75 | 20 | 71.9 | 67.4 | 61.8 | 58.5 | 57.0 |
| 8 | 61.1 | 3.4 | 62.7 | 71.5 | 77 | 24 | 71.2 | 66.4 | 61.1 | 57.6 | 56.0 |
| 9 | 59.1 | 3.5 | 60.8 | 69.7 | 74 | 23 | 69.9 | 64.4 | 58.9 | 55.6 | 53.7 |
| 10 | 68.8 | 5.2 | 73.7 | 87.0 | 90 | 32 | 86.5 | 76.7 | 68.0 | 64.1 | 61.2 |
| 11 | 68.3 | 5.2 | 73.1 | 86.4 | 91 | 33 | 86.0 | 76.3 | 67.8 | 63.1 | 60.1 |
| 12 | 67.6 | 5.5 | 72.5 | 86.5 | 89 | 33 | 85.0 | 75.8 | 67.5 | 61.9 | 58.4 |
| 13 | 61.8 | 4.4 | 64.8 | 76.0 | 78 | 25 | 76.0 | 68.6 | 61.2 | 57.6 | 55.5 |
| 14 | 75.3 | 5.5 | 80.6 | 94.8 | 99 | 37 | 92.8 | 82.9 | 75.4 | 69.3 | 65.3 |

N= 4780

TABLE NO. 7
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

OPEN FIELD TEST, MICROPHONES 1 - 14

NOISE LEVEL - DBA RE 20 MICROPASCAL

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.6 | 3.8 | 78.7 | 88.4 | 91 | 28 | 88.7 | 81.9 | 76.8 | 72.6 | 69.3 |
| 2 | 74.8 | 3.8 | 77.3 | 87.2 | 95 | 25 | 88.3 | 79.8 | 75.0 | 70.7 | 70.1 |
| 3 | 68.1 | 3.6 | 70.1 | 79.3 | 86 | 26 | 79.6 | 73.3 | 68.2 | 64.5 | 62.0 |
| 4 | 72.6 | 3.4 | 74.2 | 82.9 | 85 | 21 | 82.8 | 77.7 | 72.7 | 69.1 | 66.4 |
| 5 | 63.4 | 3.0 | 64.6 | 72.1 | 77 | 20 | 72.5 | 67.9 | 63.4 | 60.5 | 58.7 |
| 6 | 61.4 | 2.7 | 62.4 | 69.3 | 75 | 20 | 70.4 | 65.5 | 61.6 | 58.8 | 57.0 |
| 7 | 61.5 | 2.7 | 62.5 | 69.4 | 72 | 17 | 70.0 | 65.7 | 61.6 | 59.0 | 57.2 |
| 8 | 61.6 | 2.2 | 62.2 | 67.7 | 72 | 15 | 68.7 | 64.9 | 61.8 | 59.5 | 58.1 |
| 9 | 58.9 | 2.0 | 59.5 | 64.6 | 69 | 16 | 65.4 | 62.1 | 59.2 | 57.1 | 55.6 |
| 10 | 68.6 | 3.6 | 70.6 | 79.9 | 84 | 24 | 80.2 | 74.0 | 68.6 | 65.0 | 62.3 |
| 11 | 68.6 | 3.7 | 70.7 | 80.2 | 86 | 26 | 80.5 | 74.2 | 68.6 | 64.7 | 62.3 |
| 12 | 68.2 | 3.6 | 70.2 | 79.5 | 82 | 23 | 79.8 | 73.7 | 68.3 | 64.6 | 61.5 |
| 13 | 62.5 | 2.6 | 63.4 | 70.0 | 75 | 19 | 70.9 | 66.5 | 62.6 | 60.1 | 58.3 |
| 14 | 76.2 | 3.9 | 78.3 | 88.2 | 93 | 28 | 88.0 | 81.5 | 76.4 | 72.2 | 68.5 |

N= 4785

9- 3- 75 1638 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.0 | 4.1 | 79.7 | 90.3 | 97 | 32 | 89.9 | 82.8 | 77.2 | 73.0 | 67.9 |
| 2 | 73.9 | 5.5 | 78.2 | 92.2 | 97 | 36 | 89.5 | 81.2 | 74.5 | 67.2 | 63.3 |
| 3 | 68.5 | 4.1 | 71.1 | 81.5 | 87 | 29 | 81.1 | 74.6 | 68.5 | 64.3 | 61.1 |
| 4 | 72.2 | 3.9 | 74.4 | 84.5 | 89 | 28 | 83.5 | 78.1 | 72.2 | 68.3 | 64.2 |
| 5 | 64.7 | 3.6 | 66.5 | 75.6 | 80 | 23 | 76.1 | 70.0 | 64.7 | 61.1 | 58.9 |
| 6 | 62.7 | 3.0 | 63.9 | 71.6 | 75 | 19 | 72.4 | 67.3 | 62.8 | 59.6 | 57.9 |
| 7 | 62.8 | 2.9 | 64.0 | 71.4 | 74 | 18 | 72.3 | 67.1 | 63.0 | 59.9 | 58.0 |
| 8 | 62.6 | 2.8 | 63.6 | 70.7 | 73 | 17 | 70.9 | 66.9 | 62.8 | 59.7 | 58.2 |
| 9 | 60.8 | 2.8 | 61.8 | 69.0 | 71 | 18 | 69.8 | 65.0 | 60.9 | 58.1 | 56.0 |
| 10 | 69.9 | 4.1 | 72.6 | 83.2 | 89 | 28 | 82.5 | 76.3 | 69.9 | 65.6 | 63.0 |
| 11 | 68.9 | 4.2 | 71.5 | 82.4 | 87 | 28 | 81.4 | 75.2 | 68.9 | 64.3 | 61.3 |
| 12 | 67.9 | 4.3 | 70.5 | 81.6 | 86 | 30 | 80.2 | 74.3 | 68.1 | 63.2 | 59.2 |
| 13 | 64.3 | 3.5 | 66.0 | 75.0 | 80 | 25 | 75.3 | 69.5 | 64.3 | 60.9 | 58.3 |
| 14 | 76.8 | 4.3 | 79.5 | 90.5 | 97 | 34 | 89.4 | 82.9 | 77.0 | 72.2 | 67.8 |

N= 4780

MICROPHONE HEIGHT CHANGED FROM 4.5 FT TO 6 FT ON MICROPHONE NO'S. 5,6,7,8,9, AND 13

TABLE NO. 8
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

OPEN FIELD TEST, MICROPHONES 1 - 14

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 3- 75 1737 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.2 | 4.0 | 77.6 | 87.9 | 91 | 27 | 88.7 | 80.5 | 75.5 | 71.1 | 67.5 |
| 2 | 72.1 | 5.1 | 75.7 | 88.9 | 91 | 32 | 87.6 | 78.5 | 72.8 | 65.9 | 63.0 |
| 3 | 66.8 | 3.9 | 69.1 | 79.2 | 84 | 27 | 79.8 | 72.0 | 67.0 | 62.5 | 59.9 |
| 4 | 70.3 | 3.7 | 72.3 | 81.8 | 86 | 26 | 81.9 | 75.5 | 70.6 | 66.4 | 63.0 |
| 5 | 62.9 | 3.2 | 64.5 | 72.7 | 77 | 21 | 74.5 | 67.6 | 62.9 | 59.9 | 57.6 |
| 6 | 60.6 | 2.6 | 61.7 | 68.4 | 72 | 18 | 69.9 | 64.5 | 60.7 | 58.2 | 56.4 |
| 7 | 61.2 | 2.6 | 62.2 | 68.8 | 73 | 18 | 70.6 | 64.9 | 61.3 | 58.8 | 57.2 |
| 8 | 62.0 | 2.4 | 62.9 | 69.2 | 73 | 18 | 70.7 | 65.5 | 62.3 | 59.6 | 58.0 |
| 9 | 59.6 | 2.6 | 60.6 | 67.3 | 72 | 19 | 69.1 | 63.0 | 59.8 | 57.2 | 55.3 |
| 10 | 67.2 | 3.9 | 69.5 | 79.4 | 84 | 26 | 80.1 | 72.0 | 67.5 | 63.1 | 60.6 |
| 11 | 67.4 | 3.8 | 69.6 | 79.2 | 83 | 25 | 79.9 | 72.5 | 67.7 | 63.4 | 60.7 |
| 12 | 67.9 | 3.8 | 70.1 | 79.7 | 85 | 27 | 80.2 | 72.9 | 68.1 | 63.9 | 61.1 |
| 13 | 63.1 | 3.1 | 64.6 | 72.6 | 80 | 24 | 74.2 | 67.5 | 63.2 | 60.1 | 58.0 |
| 14 | 75.3 | 3.8 | 77.4 | 87.1 | 90 | 25 | 87.7 | 80.4 | 75.6 | 71.4 | 68.3 |

N= 4780

TABLE NO. 9
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

OPEN FIELD TEST, MICROPHONES 1 - 14

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 4- 75 928 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.8 | 5.1 | 78.6 | 91.6 | 96 | 36 | 89.8 | 81.8 | 75.0 | 69.1 | 64.8 |
| 2 | 71.7 | 6.3 | 77.4 | 93.5 | 96 | 39 | 89.6 | 79.6 | 72.3 | 64.2 | 59.4 |
| 3 | 66.9 | 4.9 | 70.4 | 82.9 | 87 | 33 | 80.7 | 74.2 | 66.9 | 61.9 | 57.9 |
| 4 | 71.1 | 4.8 | 74.2 | 86.5 | 89 | 32 | 84.0 | 78.3 | 71.1 | 66.1 | 60.9 |
| 5 | 63.2 | 4.3 | 66.0 | 77.0 | 81 | 28 | 75.6 | 69.8 | 63.1 | 59.0 | 56.1 |
| 6 | 61.0 | 3.7 | 62.9 | 72.4 | 75 | 22 | 71.8 | 66.9 | 60.9 | 57.1 | 55.2 |
| 7 | 61.1 | 3.7 | 63.1 | 72.5 | 77 | 23 | 71.7 | 67.1 | 61.1 | 57.3 | 55.6 |
| 8 | 61.1 | 3.5 | 62.8 | 71.6 | 75 | 21 | 71.5 | 66.4 | 61.2 | 57.5 | 55.4 |
| 9 | 58.9 | 3.3 | 60.5 | 69.0 | 74 | 23 | 68.9 | 64.1 | 59.0 | 55.4 | 53.3 |
| 10 | 67.0 | 5.1 | 70.7 | 83.7 | 86 | 31 | 81.7 | 74.5 | 67.0 | 61.5 | 58.0 |
| 11 | 66.8 | 5.2 | 70.5 | 83.8 | 87 | 33 | 81.3 | 73.9 | 67.0 | 60.7 | 56.6 |
| 12 | 67.0 | 5.2 | 70.7 | 84.0 | 87 | 33 | 81.5 | 74.4 | 67.1 | 61.0 | 56.9 |
| 13 | 62.9 | 3.8 | 65.2 | 75.0 | 81 | 27 | 74.7 | 69.0 | 62.7 | 59.2 | 56.8 |
| 14 | 75.0 | 5.4 | 79.0 | 92.8 | 97 | 39 | 90.0 | 82.4 | 75.4 | 68.7 | 62.2 |

N= 4780

9- 4- 75 1038 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.8 | 5.5 | 80.6 | 94.7 | 100 | 38 | 92.1 | 83.3 | 76.1 | 69.3 | 65.7 |
| 2 | 72.3 | 7.0 | 79.3 | 97.2 | 99 | 43 | 91.7 | 81.5 | 73.2 | 63.5 | 60.1 |
| 3 | 67.7 | 5.5 | 72.8 | 87.0 | 91 | 37 | 86.0 | 76.1 | 67.6 | 61.7 | 58.3 |
| 4 | 72.3 | 5.3 | 76.4 | 89.8 | 93 | 35 | 88.5 | 79.7 | 72.4 | 66.3 | 62.1 |
| 5 | 63.9 | 4.6 | 67.5 | 79.3 | 84 | 30 | 79.4 | 71.0 | 63.4 | 59.5 | 57.1 |
| 6 | 61.3 | 3.9 | 63.8 | 73.9 | 79 | 26 | 73.7 | 67.5 | 60.9 | 57.6 | 55.7 |
| 7 | 61.3 | 3.8 | 63.8 | 73.5 | 80 | 27 | 74.1 | 67.2 | 61.0 | 58.0 | 55.4 |
| 8 | 61.5 | 3.8 | 64.3 | 74.0 | 79 | 26 | 76.3 | 66.4 | 61.5 | 58.1 | 55.8 |
| 9 | 59.4 | 3.9 | 62.3 | 72.3 | 78 | 28 | 74.2 | 64.6 | 59.3 | 55.9 | 53.2 |
| 10 | 68.0 | 5.6 | 73.1 | 87.5 | 90 | 34 | 86.1 | 76.0 | 67.9 | 62.0 | 58.3 |
| 11 | 68.0 | 5.8 | 73.2 | 88.1 | 90 | 36 | 86.4 | 76.2 | 68.0 | 61.5 | 57.4 |
| 12 | 68.7 | 5.8 | 73.8 | 88.6 | 91 | 39 | 86.7 | 77.1 | 68.7 | 62.4 | 56.0 |
| 13 | 63.7 | 4.6 | 67.6 | 79.4 | 84 | 30 | 80.5 | 70.2 | 63.2 | 59.4 | 56.5 |
| 14 | 76.3 | 5.6 | 81.1 | 95.3 | 99 | 39 | 92.8 | 83.5 | 76.6 | 70.0 | 64.2 |

N= 4785

TABLE NO. 10
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

OPEN FIELD TEST, MICROPHONES 1 - 14

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 4- 75 1036 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.4 | 5.3 | 79.0 | 92.6 | 94 | 35 | 89.6 | 82.8 | 75.7 | 69.7 | 62.3 |
| 2 | 71.6 | 6.7 | 77.2 | 94.4 | 95 | 39 | 88.8 | 80.3 | 72.4 | 63.1 | 68.1 |
| 3 | 67.2 | 5.1 | 70.6 | 83.6 | 84 | 30 | 80.7 | 74.8 | 67.2 | 61.5 | 57.1 |
| 4 | 71.5 | 4.8 | 74.3 | 86.7 | 88 | 32 | 83.9 | 78.3 | 71.7 | 66.1 | 60.3 |
| 5 | 63.6 | 4.1 | 65.9 | 76.5 | 78 | 23 | 74.9 | 70.1 | 63.4 | 59.3 | 57.0 |
| 6 | 61.6 | 3.3 | 63.1 | 71.6 | 73 | 20 | 70.8 | 66.9 | 61.8 | 58.2 | 55.5 |
| 7 | 61.8 | 3.3 | 63.2 | 71.5 | 74 | 19 | 70.9 | 66.7 | 62.1 | 58.2 | 56.0 |
| 8 | 62.0 | 3.4 | 63.5 | 72.2 | 73 | 19 | 71.1 | 67.2 | 62.4 | 58.1 | 55.8 |
| 9 | 59.8 | 3.4 | 61.2 | 69.8 | 72 | 20 | 69.6 | 64.8 | 59.9 | 56.1 | 53.4 |
| 10 | 68.5 | 5.1 | 71.9 | 84.9 | 85 | 29 | 81.8 | 76.4 | 68.3 | 63.0 | 58.5 |
| 11 | 67.3 | 5.2 | 70.6 | 83.9 | 85 | 32 | 80.6 | 75.1 | 67.4 | 61.5 | 57.1 |
| 12 | 67.9 | 5.3 | 71.3 | 84.9 | 86 | 32 | 81.1 | 75.7 | 68.2 | 61.8 | 56.5 |
| 13 | 63.1 | 4.1 | 65.1 | 75.5 | 77 | 24 | 73.8 | 69.2 | 63.2 | 58.6 | 55.9 |
| 14 | 75.6 | 5.2 | 79.0 | 92.3 | 94 | 33 | 89.5 | 82.9 | 75.9 | 69.7 | 64.5 |

N= 4780

9- 4- 75 1235 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.4 | 5.4 | 79.2 | 92.9 | 95 | 33 | 90.2 | 82.8 | 75.8 | 68.9 | 64.8 |
| 2 | 70.8 | 7.1 | 77.2 | 95.4 | 94 | 37 | 89.1 | 80.5 | 71.4 | 62.0 | 58.4 |
| 3 | 65.9 | 5.6 | 70.2 | 84.5 | 85 | 32 | 80.7 | 74.6 | 65.9 | 59.4 | 56.0 |
| 4 | 71.5 | 4.9 | 74.6 | 87.2 | 88 | 29 | 84.0 | 79.0 | 71.7 | 65.6 | 61.9 |
| 5 | 61.8 | 4.5 | 64.7 | 76.3 | 79 | 27 | 74.7 | 68.9 | 61.4 | 57.3 | 54.7 |
| 6 | 59.0 | 3.2 | 60.5 | 68.8 | 75 | 24 | 68.7 | 63.9 | 59.0 | 55.9 | 53.3 |
| 7 | 60.4 | 2.8 | 61.6 | 68.9 | 75 | 20 | 69.7 | 64.9 | 60.3 | 57.8 | 56.1 |
| 8 | 60.1 | 2.9 | 61.4 | 68.8 | 74 | 20 | 69.9 | 64.5 | 59.9 | 57.4 | 55.5 |
| 9 | 58.2 | 3.0 | 59.6 | 67.2 | 73 | 20 | 68.5 | 62.9 | 58.0 | 55.6 | 54.1 |
| 10 | 66.5 | 5.4 | 70.6 | 84.4 | 86 | 31 | 81.0 | 74.9 | 66.5 | 60.5 | 57.4 |
| 11 | 66.7 | 5.1 | 70.5 | 83.6 | 86 | 32 | 81.0 | 74.7 | 66.5 | 61.5 | 57.7 |
| 12 | 67.1 | 5.3 | 71.0 | 84.7 | 86 | 30 | 81.8 | 75.6 | 66.9 | 61.1 | 57.9 |
| 13 | 62.4 | 3.7 | 64.5 | 74.0 | 80 | 25 | 74.3 | 68.5 | 62.0 | 59.1 | 57.0 |
| 14 | 75.3 | 4.9 | 79.0 | 91.5 | 96 | 34 | 89.8 | 82.4 | 75.3 | 70.2 | 66.5 |

N= 4780

TABLE NO. 11
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

OPEN FIELD TEST, MICROPHONES 1 - 14

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 4- 75 1502 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.7 | 4.4 | 78.1 | 89.4 | 90 | 25 | 87.5 | 82.0 | 76.0 | 70.5 | 67.0 |
| 2 | 72.1 | 6.1 | 76.2 | 91.7 | 89 | 32 | 86.7 | 79.9 | 73.1 | 64.2 | 60.2 |
| 3 | 66.1 | 4.5 | 68.6 | 80.1 | 79 | 24 | 77.6 | 72.9 | 66.2 | 61.0 | 57.4 |
| 4 | 71.1 | 4.1 | 72.9 | 83.3 | 82 | 23 | 80.5 | 77.2 | 71.5 | 66.3 | 62.3 |
| 5 | 61.9 | 3.7 | 63.7 | 73.1 | 76 | 22 | 72.0 | 68.0 | 61.7 | 58.2 | 56.2 |
| 6 | 59.0 | 2.4 | 59.7 | 65.9 | 68 | 15 | 65.7 | 63.1 | 59.1 | 56.7 | 55.3 |
| 7 | 59.0 | 2.7 | 60.0 | 67.0 | 71 | 18 | 67.1 | 63.5 | 59.0 | 56.4 | 54.7 |
| 8 | 60.5 | 1.9 | 61.0 | 65.9 | 69 | 15 | 66.5 | 63.8 | 60.7 | 59.1 | 57.1 |
| 9 | 57.8 | 2.3 | 58.5 | 64.4 | 67 | 14 | 64.9 | 61.7 | 57.9 | 55.6 | 54.1 |
| 10 | 67.1 | 4.5 | 69.6 | 81.1 | 80 | 25 | 78.6 | 74.0 | 67.3 | 61.8 | 58.0 |
| 11 | 66.9 | 4.3 | 69.4 | 80.3 | 80 | 22 | 78.2 | 73.8 | 66.9 | 62.3 | 59.8 |
| 12 | 67.8 | 4.6 | 70.4 | 82.1 | 81 | 26 | 79.4 | 74.8 | 68.1 | 62.6 | 59.0 |
| 13 | 61.2 | 3.3 | 62.8 | 71.2 | 79 | 24 | 70.8 | 66.8 | 60.9 | 58.1 | 56.4 |
| 14 | 75.2 | 4.4 | 77.7 | 89.0 | 90 | 28 | 87.3 | 81.6 | 75.4 | 70.3 | 66.4 |
| 15 | 74.0 | 4.5 | 76.9 | 88.4 | 91 | 30 | 88.2 | 79.7 | 74.3 | 69.2 | 64.4 |

N= 4780

9- 4- 75 1522 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.1 | 4.1 | 78.6 | 89.2 | 94 | 30 | 88.8 | 81.7 | 76.4 | 71.9 | 67.3 |
| 2 | 72.5 | 5.6 | 76.7 | 90.9 | 94 | 36 | 88.2 | 79.1 | 73.3 | 66.1 | 60.1 |
| 3 | 66.1 | 4.2 | 68.9 | 79.7 | 84 | 28 | 79.5 | 72.4 | 65.9 | 62.1 | 58.4 |
| 4 | 71.5 | 3.8 | 73.4 | 83.1 | 85 | 26 | 82.9 | 77.0 | 71.7 | 67.8 | 62.6 |
| 5 | 61.4 | 3.3 | 63.2 | 71.8 | 77 | 22 | 73.1 | 66.7 | 61.2 | 58.5 | 56.9 |
| 6 | 58.5 | 2.3 | 59.2 | 65.0 | 69 | 15 | 66.1 | 62.0 | 58.6 | 56.4 | 55.2 |
| 7 | 59.3 | 2.3 | 60.0 | 65.8 | 70 | 16 | 67.3 | 62.8 | 59.4 | 57.3 | 56.1 |
| 8 | 59.9 | 2.0 | 60.4 | 65.5 | 70 | 15 | 66.9 | 62.8 | 60.2 | 58.1 | 56.2 |
| 9 | 57.6 | 2.4 | 58.4 | 64.5 | 69 | 18 | 65.7 | 61.3 | 57.7 | 55.4 | 53.9 |
| 10 | 67.3 | 4.1 | 69.9 | 80.3 | 85 | 27 | 80.3 | 73.3 | 67.4 | 63.1 | 60.4 |
| 11 | 66.9 | 4.1 | 69.5 | 80.0 | 85 | 28 | 80.7 | 72.8 | 67.1 | 62.7 | 59.2 |
| 12 | 68.0 | 4.5 | 70.9 | 82.3 | 86 | 31 | 82.0 | 74.2 | 68.5 | 62.6 | 58.4 |
| 13 | 60.9 | 3.4 | 62.8 | 71.4 | 77 | 22 | 73.1 | 66.1 | 60.8 | 57.8 | 56.1 |
| 14 | 75.7 | 4.3 | 78.3 | 89.3 | 93 | 30 | 88.9 | 81.0 | 76.2 | 70.5 | 66.0 |
| 15 | 76.8 | 4.5 | 79.5 | 91.0 | 96 | 31 | 89.1 | 82.9 | 77.3 | 71.5 | 67.6 |

N= 4780

MICROPHONE 9 POSITION CHANGED TO POINT 50 FT TO SOUTH

TABLE NO. 12
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

OPEN FIELD TEST, MICROPHONES 1 - 14

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 4- 75 1620 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.5 | 3.9 | 78.8 | 88.8 | 93 | 28 | 89.4 | 81.7 | 76.8 | 72.4 | 68.3 |
| 2 | 73.2 | 5.1 | 76.9 | 89.9 | 92 | 33 | 88.7 | 79.2 | 73.9 | 67.0 | 62.3 |
| 3 | 67.7 | 3.8 | 69.9 | 79.7 | 83 | 27 | 80.2 | 73.2 | 67.8 | 64.0 | 60.5 |
| 4 | 71.9 | 3.6 | 73.8 | 83.0 | 85 | 23 | 82.8 | 77.4 | 72.0 | 68.4 | 64.4 |
| 5 | 63.3 | 3.3 | 65.0 | 73.4 | 77 | 21 | 74.1 | 68.6 | 63.2 | 60.4 | 58.3 |
| 6 | 61.4 | 2.8 | 62.6 | 69.9 | 74 | 18 | 70.5 | 66.1 | 61.4 | 58.9 | 57.4 |
| 7 | 61.6 | 2.7 | 62.7 | 69.5 | 74 | 18 | 70.1 | 66.2 | 61.5 | 59.3 | 58.0 |
| 8 | 61.0 | 2.7 | 62.1 | 69.1 | 73 | 17 | 69.8 | 65.4 | 60.9 | 58.6 | 57.2 |
| 9 | 59.7 | 3.0 | 61.1 | 68.7 | 74 | 20 | 69.9 | 64.2 | 59.5 | 57.2 | 55.7 |
| 10 | 68.2 | 3.9 | 70.4 | 80.2 | 82 | 29 | 80.5 | 73.5 | 68.3 | 64.2 | 61.0 |
| 11 | 67.8 | 4.0 | 70.4 | 80.7 | 84 | 27 | 80.7 | 73.4 | 68.0 | 63.7 | 60.1 |
| 12 | 68.5 | 4.0 | 70.9 | 81.2 | 85 | 28 | 80.8 | 74.3 | 68.6 | 64.5 | 60.2 |
| 13 | | | | N O | D A T A | | | | | | |
| 14 | 76.4 | 4.1 | 79.0 | 89.5 | 97 | 47 | 89.4 | 81.7 | 76.5 | 72.2 | 68.2 |

N= 4785

9- 4- 75 1701 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.2 | 3.5 | 78.0 | 87.1 | 93 | 27 | 87.3 | 81.2 | 76.4 | 72.5 | 69.6 |
| 2 | 72.4 | 4.9 | 75.7 | 88.3 | 94 | 35 | 86.4 | 78.6 | 73.1 | 66.3 | 62.6 |
| 3 | 66.4 | 4.0 | 68.9 | 79.1 | 85 | 29 | 78.7 | 72.1 | 66.6 | 62.4 | 58.9 |
| 4 | 71.5 | 3.3 | 73.0 | 81.6 | 86 | 25 | 81.2 | 76.7 | 71.6 | 68.2 | 65.0 |
| 5 | 61.8 | 3.3 | 63.7 | 72.1 | 81 | 26 | 73.3 | 66.6 | 61.6 | 59.0 | 57.0 |
| 6 | 59.8 | 2.1 | 60.5 | 65.8 | 75 | 20 | 67.2 | 62.7 | 59.9 | 58.2 | 57.0 |
| 7 | 58.0 | 2.8 | 59.5 | 66.6 | 77 | 25 | 67.4 | 61.8 | 58.1 | 55.6 | 54.1 |
| 8 | 59.7 | 1.9 | 60.4 | 65.3 | 75 | 19 | 68.2 | 62.3 | 59.8 | 58.3 | 57.2 |
| 9 | 57.7 | 2.3 | 58.7 | 64.5 | 76 | 23 | 66.9 | 61.0 | 57.7 | 56.0 | 54.6 |
| 10 | 67.0 | 4.0 | 69.4 | 79.6 | 85 | 29 | 79.0 | 72.3 | 67.3 | 62.7 | 59.0 |
| 11 | 67.2 | 3.7 | 69.3 | 78.7 | 85 | 26 | 78.7 | 72.1 | 67.5 | 63.3 | 61.1 |
| 12 | 67.4 | 3.8 | 69.7 | 79.3 | 85 | 26 | 79.2 | 72.4 | 67.6 | 63.5 | 61.0 |
| 13 | 61.5 | 3.1 | 63.3 | 71.2 | 80 | 24 | 72.2 | 65.9 | 61.3 | 58.9 | 57.4 |
| 14 | 75.8 | 3.6 | 77.8 | 87.1 | 94 | 27 | 87.6 | 80.6 | 76.0 | 71.9 | 69.3 |

N= 4780

TABLES 13-23. NOISE DATA: FOUR FOOT ABSORPTIVE BARRIER; MICROPHONE CONFIGURATIONS B, C, D, E.

TABLE NO. 13
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; ABSORPTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 15- 75 953 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.5 | 6.0 | 78.6 | 94.0 | 96 | 38 | 90.9 | 81.3 | 74.2 | 66.2 | 61.2 |
| 2 | 76.4 | 4.8 | 79.9 | 92.1 | 94 | 30 | 91.1 | 83.2 | 76.4 | 71.3 | 67.5 |
| 3 | 64.5 | 5.0 | 67.9 | 80.6 | 81 | 27 | 78.1 | 72.3 | 64.5 | 59.2 | 55.7 |
| 4 | 66.7 | 4.9 | 70.0 | 82.5 | 83 | 27 | 80.2 | 74.2 | 66.8 | 61.3 | 57.7 |
| 5 | 70.7 | 4.8 | 73.8 | 86.0 | 87 | 28 | 84.2 | 77.9 | 70.9 | 65.5 | 61.2 |
| 6 | 72.5 | 4.5 | 75.3 | 86.7 | 87 | 25 | 85.1 | 79.7 | 72.1 | 68.0 | 64.7 |
| 7 | 72.2 | 4.7 | 75.2 | 87.2 | 87 | 26 | 85.5 | 79.4 | 72.1 | 67.3 | 63.5 |
| 8 | 68.7 | 5.3 | 72.2 | 85.8 | 85 | 32 | 82.7 | 76.4 | 68.8 | 62.9 | 55.5 |
| 9 | 70.6 | 5.0 | 73.7 | 86.5 | 86 | 32 | 83.8 | 77.9 | 70.8 | 65.2 | 58.4 |
| 10 | 72.0 | 4.9 | 75.0 | 87.6 | 87 | 32 | 85.1 | 79.1 | 72.2 | 67.0 | 59.7 |
| 11 | 72.4 | 4.7 | 75.2 | 87.2 | 87 | 29 | 84.9 | 79.5 | 72.3 | 67.7 | 61.3 |
| 12 | 72.9 | 4.6 | 75.5 | 87.2 | 88 | 29 | 85.0 | 79.9 | 72.8 | 68.2 | 62.6 |
| 13 | 74.1 | 5.6 | 78.5 | 92.8 | 95 | 37 | 90.5 | 81.4 | 74.8 | 67.6 | 61.5 |
| 14 | | | | N O | D A T A | | | | | | |

N= 4785

10- 15- 75 1013 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 72.5 | 6.6 | 77.7 | 94.7 | 94 | 40 | 88.9 | 81.1 | 73.4 | 64.2 | 57.8 |
| 2 | 75.6 | 5.2 | 79.1 | 92.4 | 95 | 34 | 89.2 | 82.9 | 75.7 | 69.8 | 64.2 |
| 3 | 64.0 | 5.2 | 67.3 | 80.6 | 81 | 31 | 77.0 | 71.9 | 64.1 | 58.2 | 53.5 |
| 4 | 66.0 | 5.1 | 69.2 | 82.3 | 82 | 31 | 78.4 | 73.6 | 66.2 | 60.1 | 55.6 |
| 5 | 69.8 | 5.2 | 72.9 | 86.1 | 87 | 33 | 81.8 | 77.3 | 70.2 | 63.6 | 57.8 |
| 6 | 71.8 | 4.8 | 74.5 | 86.8 | 87 | 30 | 83.2 | 79.1 | 71.9 | 66.5 | 60.5 |
| 7 | 71.5 | 5.1 | 74.5 | 87.4 | 88 | 31 | 83.5 | 79.0 | 71.6 | 65.8 | 59.6 |
| 8 | 67.6 | 5.6 | 71.3 | 85.6 | 85 | 32 | 81.2 | 75.4 | 68.1 | 60.8 | 55.1 |
| 9 | 69.5 | 5.2 | 72.6 | 86.0 | 86 | 32 | 81.9 | 76.8 | 70.0 | 63.4 | 57.2 |
| 10 | 70.9 | 5.1 | 73.7 | 86.7 | 88 | 32 | 82.9 | 78.0 | 71.4 | 64.9 | 58.9 |
| 11 | 71.7 | 4.8 | 74.3 | 86.5 | 87 | 29 | 83.1 | 78.5 | 72.1 | 66.5 | 60.3 |
| 12 | 72.2 | 4.5 | 74.6 | 86.2 | 88 | 30 | 83.1 | 78.6 | 72.4 | 67.4 | 61.3 |
| 13 | 73.1 | 6.1 | 77.6 | 93.3 | 94 | 37 | 88.9 | 81.3 | 73.9 | 65.5 | 60.1 |
| 14 | | | | N O | D A T A | | | | | | |

N= 4780

TABLE NO. 14
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; ABSORPTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 15- 75 1231 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 70.8 | 7.3 | 77.3 | 96.0 | 94 | 41 | 89.4 | 80.3 | 71.7 | 61.7 | 56.2 |
| 2 | 75.2 | 5.2 | 79.1 | 92.4 | 96 | 33 | 89.8 | 82.6 | 75.5 | 69.4 | 64.9 |
| 3 | 59.2 | 4.8 | 62.9 | 75.1 | 77 | 28 | 74.6 | 66.5 | 58.6 | 54.7 | 51.7 |
| 4 | 62.3 | 4.9 | 65.8 | 78.3 | 79 | 27 | 76.7 | 70.1 | 61.7 | 57.3 | 54.0 |
| 5 | 64.8 | 4.7 | 67.9 | 80.0 | 80 | 26 | 78.3 | 72.4 | 64.5 | 59.7 | 56.1 |
| 6 | 68.8 | 4.6 | 71.5 | 83.2 | 83 | 26 | 81.6 | 76.0 | 68.7 | 63.9 | 59.5 |
| 7 | 67.0 | 4.7 | 69.9 | 82.0 | 81 | 25 | 80.1 | 74.4 | 66.8 | 61.9 | 58.0 |
| 8 | 61.2 | 5.3 | 65.0 | 78.5 | 79 | 29 | 74.9 | 69.7 | 60.9 | 55.3 | 52.2 |
| 9 | 64.7 | 5.5 | 68.4 | 82.6 | 81 | 30 | 78.4 | 73.4 | 64.7 | 58.1 | 54.0 |
| 10 | 66.9 | 5.3 | 70.2 | 83.8 | 83 | 30 | 79.8 | 75.1 | 66.9 | 60.5 | 56.0 |
| 11 | 68.2 | 5.2 | 71.4 | 84.7 | 85 | 30 | 80.7 | 76.3 | 68.4 | 62.1 | 57.3 |
| 12 | 69.1 | 5.1 | 72.0 | 85.0 | 84 | 28 | 81.0 | 76.9 | 69.0 | 63.1 | 58.5 |
| 13 | 71.8 | 6.9 | 77.5 | 95.1 | 95 | 39 | 88.6 | 81.4 | 72.5 | 63.3 | 57.9 |
| 14 | 75.2 | 5.4 | 79.1 | 93.0 | 95 | 34 | 89.0 | 83.4 | 75.5 | 69.0 | 64.7 |

N= 3355 7 MINUTE RUN

10- 15- 75 1248 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 71.0 | 7.0 | 76.8 | 94.7 | 92 | 39 | 89.1 | 79.6 | 72.0 | 62.4 | 55.7 |
| 2 | 75.2 | 5.1 | 78.8 | 91.7 | 93 | 31 | 90.0 | 81.8 | 75.5 | 69.6 | 65.0 |
| 3 | 59.7 | 4.5 | 62.5 | 73.9 | 75 | 25 | 72.5 | 66.7 | 59.4 | 55.2 | 52.4 |
| 4 | 62.5 | 4.6 | 65.4 | 77.2 | 78 | 27 | 75.1 | 69.7 | 62.4 | 57.6 | 54.7 |
| 5 | 64.8 | 4.6 | 67.4 | 79.1 | 79 | 26 | 76.5 | 71.6 | 65.0 | 59.7 | 56.6 |
| 6 | 68.6 | 4.5 | 71.1 | 82.7 | 82 | 26 | 79.9 | 75.2 | 69.0 | 63.3 | 59.6 |
| 7 | 66.9 | 4.6 | 69.4 | 81.3 | 80 | 25 | 78.5 | 73.6 | 67.2 | 61.5 | 57.8 |
| 8 | 61.1 | 5.2 | 64.6 | 77.8 | 77 | 27 | 74.6 | 68.9 | 61.0 | 55.0 | 52.4 |
| 9 | 64.3 | 5.5 | 67.8 | 81.8 | 80 | 29 | 77.7 | 72.4 | 64.8 | 57.4 | 54.0 |
| 10 | 66.3 | 5.3 | 69.4 | 83.0 | 81 | 29 | 79.0 | 73.9 | 66.7 | 59.6 | 55.5 |
| 11 | 67.6 | 5.2 | 70.6 | 83.8 | 83 | 31 | 79.6 | 75.1 | 68.0 | 61.1 | 56.6 |
| 12 | 68.3 | 5.0 | 71.1 | 83.9 | 83 | 29 | 79.8 | 75.5 | 68.8 | 62.2 | 57.2 |
| 13 | 71.4 | 6.9 | 77.0 | 94.5 | 94 | 38 | 88.8 | 80.2 | 72.0 | 62.5 | 57.7 |
| 14 | 74.7 | 5.5 | 78.6 | 92.7 | 94 | 32 | 89.5 | 82.2 | 75.0 | 68.1 | 64.3 |

N= 4785

TABLE NO. 15
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; ABSORPTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 15- 75 1455 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.5 | 5.4 | 78.8 | 92.6 | 98 | 37 | 90.1 | 81.6 | 75.0 | 68.2 | 63.3 |
| 2 | 77.3 | 4.5 | 80.5 | 92.0 | 100 | 35 | 91.6 | 83.5 | 77.5 | 72.8 | 67.7 |
| 3 | 65.6 | 3.5 | 67.2 | 76.1 | 79 | 22 | 75.9 | 70.7 | 65.8 | 61.9 | 59.5 |
| 4 | 67.6 | 3.5 | 69.2 | 78.1 | 82 | 22 | 77.6 | 72.7 | 67.9 | 64.0 | 61.3 |
| 5 | 66.9 | 3.4 | 68.4 | 77.2 | 81 | 23 | 76.7 | 71.9 | 67.1 | 63.2 | 60.7 |
| 6 | 68.2 | 3.4 | 69.7 | 78.3 | 84 | 24 | 77.9 | 72.9 | 68.5 | 64.5 | 62.3 |
| 7 | 66.9 | 3.4 | 68.4 | 77.1 | 83 | 24 | 76.4 | 71.8 | 67.1 | 63.1 | 61.1 |
| 8 | 65.5 | 3.6 | 67.2 | 76.5 | 78 | 21 | 76.0 | 70.6 | 65.8 | 61.4 | 59.1 |
| 9 | 66.5 | 3.7 | 68.3 | 77.7 | 79 | 22 | 77.5 | 71.7 | 66.8 | 62.4 | 59.4 |
| 10 | 67.0 | 3.7 | 68.9 | 78.4 | 82 | 25 | 78.1 | 72.0 | 67.3 | 63.0 | 59.8 |
| 11 | 67.7 | 3.8 | 69.6 | 79.4 | 83 | 25 | 78.8 | 72.8 | 68.1 | 63.4 | 60.2 |
| 12 | 68.1 | 3.8 | 70.0 | 79.6 | 83 | 24 | 79.3 | 73.0 | 68.4 | 64.0 | 60.7 |
| 13 | 75.5 | 5.2 | 79.5 | 92.9 | 100 | 39 | 90.4 | 82.5 | 76.0 | 69.2 | 65.1 |
| 14 | 76.1 | 4.7 | 79.4 | 91.5 | 96 | 32 | 90.1 | 82.6 | 76.3 | 70.8 | 67.3 |

N= 4780

10- 15- 75 1515 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.9 | 5.3 | 78.6 | 92.1 | 95 | 35 | 89.3 | 81.9 | 75.5 | 68.4 | 63.9 |
| 2 | 77.9 | 4.3 | 80.4 | 91.5 | 95 | 29 | 90.0 | 84.1 | 78.1 | 73.2 | 69.2 |
| 3 | 67.1 | 3.0 | 68.2 | 76.0 | 77 | 17 | 74.5 | 72.0 | 67.3 | 63.7 | 61.9 |
| 4 | 68.6 | 3.1 | 69.7 | 77.7 | 78 | 17 | 76.2 | 73.4 | 68.9 | 65.1 | 63.1 |
| 5 | 67.7 | 3.0 | 68.8 | 76.6 | 77 | 17 | 75.4 | 72.5 | 68.0 | 64.4 | 62.2 |
| 6 | 68.8 | 2.9 | 69.9 | 77.4 | 79 | 18 | 76.2 | 73.4 | 69.1 | 65.5 | 63.4 |
| 7 | 67.5 | 3.0 | 68.5 | 76.2 | 77 | 17 | 75.0 | 72.2 | 67.7 | 64.2 | 62.1 |
| 8 | 66.9 | 3.1 | 68.0 | 76.0 | 77 | 19 | 74.4 | 71.6 | 67.5 | 63.3 | 60.9 |
| 9 | 67.7 | 3.0 | 68.8 | 76.5 | 78 | 19 | 75.1 | 72.1 | 68.2 | 64.3 | 61.6 |
| 10 | 67.9 | 3.0 | 68.9 | 76.6 | 78 | 19 | 75.3 | 72.4 | 68.3 | 64.5 | 61.7 |
| 11 | 68.6 | 3.0 | 69.6 | 77.5 | 79 | 19 | 75.9 | 73.0 | 69.0 | 65.1 | 62.4 |
| 12 | 68.9 | 3.0 | 70.0 | 77.6 | 79 | 20 | 76.2 | 73.3 | 69.4 | 65.5 | 62.8 |
| 13 | 76.1 | 4.8 | 79.0 | 91.2 | 95 | 31 | 89.0 | 82.6 | 76.7 | 70.2 | 66.6 |
| 14 | 76.5 | 4.2 | 78.9 | 89.7 | 94 | 29 | 88.1 | 82.5 | 77.0 | 71.7 | 67.9 |

N= 4780

TABLE NO. 16
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; ABSORPTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 15- 75 1609 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.6 | 4.1 | 78.0 | 88.5 | 92 | 29 | 88.5 | 81.0 | 75.8 | 71.3 | 67.2 |
| 2 | 78.2 | 3.3 | 79.8 | 88.3 | 91 | 23 | 88.9 | 82.7 | 78.4 | 75.0 | 71.5 |
| 3 | 68.4 | 3.0 | 69.7 | 77.4 | 80 | 20 | 77.7 | 72.9 | 68.6 | 65.4 | 62.7 |
| 4 | 72.1 | 3.2 | 73.4 | 81.5 | 84 | 21 | 81.9 | 76.7 | 72.3 | 69.0 | 65.9 |
| 5 | 72.4 | 3.1 | 73.7 | 81.7 | 84 | 20 | 82.0 | 76.9 | 72.6 | 69.3 | 66.2 |
| 6 | 74.1 | 2.9 | 75.2 | 82.6 | 84 | 18 | 82.8 | 78.4 | 74.4 | 71.2 | 68.6 |
| 7 | 72.6 | 3.0 | 73.9 | 81.6 | 83 | 19 | 82.0 | 77.0 | 72.8 | 69.6 | 66.9 |
| 8 | 69.5 | 3.0 | 70.8 | 78.6 | 83 | 22 | 79.1 | 74.1 | 69.7 | 66.5 | 64.2 |
| 9 | 70.7 | 3.1 | 71.9 | 79.8 | 84 | 24 | 79.9 | 75.3 | 70.8 | 67.6 | 64.8 |
| 10 | 71.8 | 3.1 | 73.0 | 80.8 | 83 | 23 | 80.9 | 76.2 | 71.9 | 68.8 | 65.5 |
| 11 | 73.0 | 3.0 | 74.2 | 81.8 | 83 | 21 | 81.9 | 77.5 | 73.2 | 70.1 | 67.3 |
| 12 | 74.0 | 2.9 | 75.1 | 82.4 | 84 | 21 | 82.4 | 78.4 | 74.2 | 71.2 | 68.4 |
| 13 | 76.2 | 4.0 | 78.5 | 88.7 | 93 | 29 | 88.2 | 81.9 | 76.4 | 71.9 | 68.3 |
| 14 | 76.2 | 3.6 | 77.9 | 87.0 | 91 | 24 | 86.8 | 81.4 | 76.3 | 72.4 | 69.3 |

N= 4785

10- 15- 75 1629 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.9 | 4.6 | 77.8 | 89.6 | 93 | 30 | 88.0 | 81.4 | 75.1 | 69.7 | 65.6 |
| 2 | 77.8 | 3.6 | 79.7 | 89.0 | 93 | 26 | 88.7 | 83.0 | 78.0 | 74.2 | 69.8 |
| 3 | 67.7 | 3.2 | 69.0 | 77.3 | 80 | 21 | 76.4 | 73.0 | 67.7 | 64.5 | 62.0 |
| 4 | 71.1 | 3.5 | 72.7 | 81.6 | 84 | 23 | 80.7 | 76.5 | 71.1 | 67.5 | 64.5 |
| 5 | 72.1 | 3.5 | 73.7 | 82.6 | 85 | 24 | 81.9 | 77.4 | 72.2 | 68.5 | 64.8 |
| 6 | 73.8 | 3.2 | 75.1 | 83.3 | 87 | 22 | 82.7 | 78.8 | 73.9 | 70.7 | 67.2 |
| 7 | 72.2 | 3.4 | 73.7 | 82.3 | 86 | 24 | 81.6 | 77.4 | 72.4 | 69.0 | 65.0 |
| 8 | 68.7 | 3.4 | 70.3 | 79.0 | 83 | 23 | 78.4 | 74.2 | 68.6 | 65.3 | 62.6 |
| 9 | 70.1 | 3.5 | 71.7 | 80.7 | 84 | 24 | 79.9 | 75.5 | 70.3 | 66.5 | 63.2 |
| 10 | 71.4 | 3.4 | 72.9 | 81.4 | 83 | 22 | 80.5 | 76.5 | 71.6 | 68.0 | 64.7 |
| 11 | 72.9 | 3.3 | 74.3 | 82.8 | 86 | 23 | 81.9 | 77.9 | 73.0 | 69.4 | 65.9 |
| 12 | 73.7 | 3.2 | 75.0 | 83.2 | 87 | 22 | 82.7 | 78.6 | 73.8 | 70.5 | 67.3 |
| 13 | 75.8 | 4.3 | 78.4 | 89.5 | 93 | 29 | 88.6 | 81.8 | 76.1 | 71.0 | 67.4 |
| 14 | 75.7 | 3.6 | 77.6 | 86.9 | 92 | 25 | 87.0 | 81.0 | 75.8 | 72.0 | 69.5 |

N= 4780

TABLE NO. 17
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; ABSORPTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 16- 75 912 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | NO DATA | | | | | | | |
| 2 | 78.9 | 4.7 | 82.2 | 94.2 | 97 | 29 | 92.8 | 86.3 | 78.6 | 74.1 | 71.1 |
| 3 | 65.6 | 4.4 | 68.2 | 79.5 | 82 | 26 | 77.8 | 72.3 | 65.2 | 61.1 | 58.2 |
| 4 | 69.0 | 4.5 | 71.8 | 83.3 | 85 | 27 | 81.8 | 75.9 | 68.8 | 64.4 | 61.2 |
| 5 | 71.9 | 4.5 | 74.6 | 86.3 | 88 | 27 | 84.3 | 78.9 | 71.8 | 67.1 | 63.6 |
| 6 | 74.2 | 4.3 | 76.7 | 87.7 | 90 | 26 | 85.8 | 80.8 | 74.0 | 69.7 | 66.9 |
| 7 | 73.5 | 4.5 | 76.1 | 87.6 | 90 | 28 | 85.7 | 80.4 | 73.3 | 68.6 | 65.5 |
| 8 | 68.3 | 4.9 | 71.6 | 84.1 | 88 | 32 | 82.1 | 75.8 | 68.2 | 63.0 | 59.7 |
| 9 | 70.3 | 4.9 | 73.5 | 86.1 | 88 | 31 | 83.5 | 77.8 | 70.5 | 64.6 | 60.3 |
| 10 | 72.1 | 4.8 | 74.9 | 87.1 | 88 | 30 | 84.4 | 79.1 | 72.3 | 66.6 | 62.2 |
| 11 | 73.7 | 4.7 | 76.3 | 88.4 | 89 | 29 | 85.5 | 80.6 | 73.9 | 68.4 | 63.4 |
| 12 | 74.3 | 4.6 | 76.8 | 88.6 | 89 | 27 | 85.9 | 81.0 | 74.4 | 69.1 | 64.7 |
| 13 | | | | NO DATA | | | | | | | |
| 14 | 77.9 | 4.9 | 81.2 | 93.7 | 97 | 32 | 91.8 | 85.2 | 77.8 | 72.8 | 68.3 |

N= 4780

10- 16- 75 932 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | NO DATA | | | | | | | |
| 2 | 77.6 | 5.0 | 81.5 | 94.3 | 100 | 34 | 92.3 | 84.5 | 77.7 | 71.9 | 68.9 |
| 3 | 64.0 | 5.0 | 68.4 | 81.2 | 88 | 34 | 79.0 | 71.6 | 63.6 | 59.0 | 56.2 |
| 4 | 67.0 | 5.1 | 71.1 | 84.0 | 89 | 33 | 81.7 | 74.4 | 66.8 | 61.4 | 58.3 |
| 5 | 70.5 | 5.0 | 74.1 | 86.9 | 91 | 33 | 84.9 | 77.8 | 70.6 | 64.6 | 61.2 |
| 6 | 73.0 | 4.7 | 76.0 | 88.1 | 90 | 28 | 86.2 | 79.9 | 72.8 | 67.7 | 64.7 |
| 7 | 72.1 | 4.9 | 75.5 | 88.1 | 90 | 29 | 86.0 | 79.4 | 72.2 | 66.2 | 63.0 |
| 8 | 66.8 | 5.0 | 70.6 | 83.4 | 86 | 32 | 81.6 | 74.3 | 66.6 | 61.7 | 57.1 |
| 9 | 68.7 | 5.2 | 72.5 | 85.8 | 87 | 32 | 83.0 | 76.5 | 68.6 | 63.2 | 57.6 |
| 10 | 70.4 | 5.1 | 73.9 | 87.0 | 90 | 34 | 84.3 | 78.1 | 70.6 | 64.8 | 59.2 |
| 11 | 72.2 | 5.0 | 75.5 | 88.3 | 91 | 33 | 85.8 | 79.6 | 72.2 | 66.8 | 61.2 |
| 12 | 73.0 | 4.8 | 76.0 | 88.3 | 91 | 32 | 86.1 | 80.1 | 72.9 | 68.0 | 62.3 |
| 13 | | | | NO DATA | | | | | | | |
| 14 | 76.5 | 5.4 | 80.5 | 94.2 | 98 | 35 | 91.5 | 84.2 | 76.6 | 70.2 | 66.4 |

N= 4780

MICROPHONE NO.14 SET AT 19' 4" HIGH AND 31 FT FROM EDGE OF NEAR LANE

TABLE NO. 18
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; ABSORPTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 16- 75 1014 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | NO DATA | | | | | | | |
| 2 | 77.3 | 5.5 | 81.4 | 95.6 | 96 | 31 | 91.9 | 85.5 | 77.3 | 70.8 | 66.9 |
| 3 | 64.3 | 4.7 | 67.7 | 79.8 | 86 | 31 | 78.0 | 71.8 | 63.7 | 59.7 | 57.3 |
| 4 | 66.6 | 4.9 | 70.1 | 82.7 | 86 | 29 | 80.6 | 74.4 | 66.3 | 61.4 | 58.9 |
| 5 | 69.6 | 5.2 | 73.0 | 86.2 | 87 | 29 | 82.9 | 77.4 | 69.6 | 63.5 | 60.5 |
| 6 | 72.8 | 5.0 | 75.9 | 88.7 | 89 | 28 | 85.9 | 80.1 | 72.8 | 67.0 | 63.2 |
| 7 | 71.6 | 5.2 | 75.0 | 88.2 | 88 | 28 | 84.9 | 79.3 | 71.7 | 65.4 | 62.0 |
| 8 | 68.7 | 4.8 | 72.0 | 84.3 | 88 | 31 | 82.6 | 76.0 | 68.4 | 64.0 | 60.2 |
| 9 | 70.5 | 4.7 | 73.5 | 85.5 | 88 | 29 | 83.6 | 77.6 | 70.4 | 65.7 | 61.9 |
| 10 | 71.4 | 4.7 | 74.4 | 86.5 | 89 | 29 | 84.1 | 78.4 | 71.4 | 66.3 | 62.9 |
| 11 | 72.8 | 4.7 | 75.7 | 87.7 | 91 | 29 | 85.0 | 79.7 | 72.8 | 67.5 | 64.5 |
| 12 | 73.7 | 4.6 | 76.3 | 88.0 | 88 | 25 | 85.5 | 80.4 | 73.8 | 68.4 | 65.6 |
| 13 | | | | NO DATA | | | | | | | |
| 14 | 76.2 | 5.4 | 80.3 | 94.2 | 97 | 33 | 90.9 | 84.4 | 76.2 | 70.1 | 66.7 |

N= 4785

10- 16- 75 1034 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | NO DATA | | | | | | | |
| 2 | 76.6 | 5.9 | 81.7 | 96.8 | 101 | 38 | 92.9 | 84.8 | 76.8 | 69.6 | 65.5 |
| 3 | 63.6 | 5.1 | 68.8 | 81.8 | 91 | 36 | 80.2 | 71.4 | 62.8 | 59.0 | 56.7 |
| 4 | 65.8 | 5.5 | 71.0 | 84.9 | 90 | 35 | 83.0 | 74.0 | 65.1 | 60.4 | 57.3 |
| 5 | 69.1 | 5.5 | 73.6 | 87.7 | 91 | 35 | 85.5 | 77.2 | 68.8 | 63.1 | 59.0 |
| 6 | 72.2 | 5.5 | 76.3 | 90.4 | 92 | 34 | 87.3 | 80.3 | 72.0 | 65.9 | 61.5 |
| 7 | 70.9 | 5.7 | 75.4 | 90.0 | 92 | 35 | 86.8 | 79.4 | 70.9 | 64.4 | 59.8 |
| 8 | 67.9 | 5.1 | 72.3 | 85.4 | 89 | 33 | 84.2 | 75.6 | 67.8 | 62.6 | 58.6 |
| 9 | 69.6 | 5.3 | 74.1 | 87.6 | 92 | 35 | 86.1 | 77.5 | 69.6 | 64.0 | 59.7 |
| 10 | 70.4 | 5.4 | 74.9 | 88.8 | 91 | 33 | 87.2 | 78.4 | 70.3 | 64.6 | 60.0 |
| 11 | 71.6 | 5.5 | 76.0 | 90.0 | 91 | 32 | 87.8 | 79.8 | 71.5 | 65.8 | 61.4 |
| 12 | 72.6 | 5.4 | 76.6 | 90.4 | 91 | 31 | 88.0 | 80.7 | 72.4 | 66.7 | 62.6 |
| 13 | | | | NO DATA | | | | | | | |
| 14 | 75.1 | 6.1 | 80.7 | 96.3 | 100 | 39 | 92.3 | 83.7 | 75.1 | 68.0 | 63.7 |

N= 4780

MICROPHONE NO.14 SET AT 19' 4" HIGH AND 31 FT FROM EDGE OF NEAR LANE

TABLE NO. 19
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; ABSORPTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 16- 75 1147 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 71.6 | 7.5 | 78.7 | 98.0 | 96 | 43 | 91.0 | 82.1 | 72.0 | 62.3 | 56.7 |
| 2 | 76.6 | 5.3 | 80.6 | 94.1 | 98 | 33 | 91.9 | 84.3 | 76.7 | 70.8 | 57.0 |
| 3 | 60.7 | 4.7 | 64.4 | 76.3 | 81 | 30 | 76.5 | 67.5 | 60.4 | 56.2 | 53.5 |
| 4 | 63.9 | 5.0 | 67.4 | 80.2 | 82 | 29 | 78.2 | 71.5 | 63.7 | 58.4 | 55.7 |
| 5 | 65.7 | 4.9 | 68.8 | 81.4 | 81 | 27 | 78.9 | 72.8 | 65.6 | 60.1 | 57.1 |
| 6 | 69.3 | 4.8 | 72.1 | 84.4 | 83 | 27 | 81.7 | 76.0 | 69.5 | 63.6 | 59.4 |
| 7 | 67.7 | 4.9 | 70.6 | 83.1 | 83 | 28 | 80.5 | 74.8 | 67.8 | 61.9 | 58.4 |
| 8 | 62.3 | 4.9 | 65.7 | 78.1 | 81 | 29 | 75.8 | 69.9 | 61.7 | 57.4 | 54.4 |
| 9 | 65.8 | 5.4 | 69.5 | 83.3 | 83 | 30 | 79.6 | 74.0 | 65.6 | 59.8 | 55.8 |
| 10 | 67.4 | 5.2 | 70.8 | 84.1 | 84 | 30 | 80.8 | 75.1 | 67.3 | 61.5 | 57.1 |
| 11 | 69.2 | 5.0 | 72.3 | 85.2 | 85 | 29 | 82.3 | 76.3 | 69.3 | 63.4 | 59.2 |
| 12 | 70.2 | 4.8 | 73.0 | 85.4 | 85 | 29 | 82.3 | 77.2 | 70.5 | 64.6 | 60.2 |
| 13 | 72.1 | 7.0 | 78.5 | 96.5 | 97 | 40 | 90.6 | 82.0 | 72.5 | 63.6 | 59.2 |
| 14 | 76.0 | 5.8 | 80.5 | 95.3 | 99 | 39 | 91.9 | 84.0 | 76.2 | 69.4 | 64.1 |

N= 4780

10- 16- 75 1207 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 70.1 | 7.1 | 76.9 | 95.1 | 97 | 46 | 89.2 | 79.2 | 71.0 | 61.5 | 55.3 |
| 2 | 65.3 | 5.0 | 69.3 | 82.0 | 88 | 38 | 80.5 | 71.9 | 65.5 | 60.0 | 54.7 |
| 3 | 59.5 | 4.1 | 63.3 | 73.9 | 83 | 31 | 74.8 | 65.3 | 59.3 | 55.7 | 53.3 |
| 4 | 62.0 | 4.7 | 66.4 | 78.4 | 85 | 33 | 79.5 | 68.5 | 61.7 | 57.5 | 54.4 |
| 5 | 64.2 | 4.6 | 67.8 | 79.6 | 85 | 33 | 80.0 | 70.6 | 64.2 | 59.6 | 56.1 |
| 6 | 67.7 | 4.7 | 70.9 | 83.0 | 87 | 34 | 82.0 | 73.9 | 68.0 | 62.6 | 57.0 |
| 7 | 66.0 | 4.7 | 69.5 | 81.6 | 88 | 36 | 81.0 | 72.5 | 66.2 | 61.0 | 56.3 |
| 8 | 61.1 | 4.2 | 63.7 | 74.5 | 79 | 27 | 73.3 | 67.3 | 61.0 | 56.7 | 54.3 |
| 9 | 64.4 | 4.6 | 67.2 | 79.0 | 81 | 27 | 77.3 | 70.8 | 64.6 | 59.1 | 56.1 |
| 10 | 65.9 | 4.5 | 68.6 | 80.2 | 81 | 26 | 78.2 | 72.3 | 66.1 | 60.7 | 57.5 |
| 11 | 67.7 | 4.4 | 70.2 | 81.4 | 84 | 28 | 79.3 | 74.0 | 67.8 | 62.6 | 59.5 |
| 12 | 68.7 | 4.3 | 71.0 | 82.0 | 84 | 26 | 80.5 | 74.8 | 68.8 | 63.9 | 60.6 |
| 13 | 70.7 | 6.5 | 76.3 | 93.0 | 93 | 37 | 88.9 | 79.3 | 71.2 | 62.7 | 59.2 |
| 14 | 74.8 | 5.3 | 78.7 | 92.2 | 94 | 32 | 90.0 | 82.2 | 75.1 | 68.6 | 64.9 |

N= 4730

TABLE NO. 20
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; ABSORPTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 16- 75 1456 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 71.7 | 6.6 | 78.1 | 95.1 | 100 | 43 | 90.2 | 80.4 | 72.2 | 63.6 | 59.6 |
| 2 | 76.0 | 5.1 | 80.0 | 93.0 | 99 | 36 | 91.4 | 83.3 | 76.1 | 70.4 | 67.2 |
| 3 | 59.2 | 2.8 | 60.2 | 67.3 | 72 | 21 | 67.6 | 63.4 | 59.3 | 56.5 | 54.5 |
| 4 | 62.0 | 3.2 | 63.4 | 71.4 | 76 | 21 | 71.8 | 66.8 | 62.0 | 59.0 | 56.7 |
| 5 | 61.3 | 3.2 | 62.7 | 71.0 | 75 | 21 | 71.4 | 66.0 | 61.3 | 58.2 | 56.0 |
| 6 | 64.1 | 3.5 | 65.8 | 74.7 | 78 | 22 | 74.7 | 69.2 | 64.1 | 60.5 | 58.3 |
| 7 | 62.5 | 3.4 | 64.1 | 72.7 | 77 | 22 | 72.7 | 67.5 | 62.5 | 59.1 | 57.0 |
| 8 | 61.4 | 4.0 | 63.8 | 73.9 | 78 | 25 | 74.3 | 67.5 | 61.1 | 57.5 | 55.6 |
| 9 | 62.4 | 4.1 | 65.0 | 75.5 | 80 | 27 | 75.3 | 68.6 | 62.1 | 58.2 | 56.1 |
| 10 | 63.7 | 4.1 | 66.3 | 76.8 | 81 | 26 | 76.5 | 69.9 | 63.6 | 59.5 | 57.2 |
| 11 | 65.1 | 4.1 | 67.5 | 78.0 | 82 | 27 | 77.0 | 71.3 | 65.0 | 60.8 | 58.4 |
| 12 | 65.9 | 4.1 | 68.1 | 78.7 | 82 | 25 | 77.5 | 72.1 | 65.7 | 61.4 | 59.3 |
| 13 | 72.6 | 6.0 | 78.3 | 93.8 | 99 | 39 | 90.5 | 80.6 | 73.1 | 65.5 | 61.9 |
| 14 | 76.5 | 5.0 | 80.4 | 93.2 | 100 | 36 | 91.9 | 83.4 | 76.6 | 71.1 | 67.0 |

N= 4785

10- 16- 75 1516 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.9 | 6.8 | 79.5 | 96.9 | 95 | 37 | 90.8 | 84.4 | 74.3 | 65.4 | 60.7 |
| 2 | 77.2 | 4.6 | 80.4 | 92.2 | 96 | 31 | 90.9 | 84.2 | 77.3 | 72.2 | 68.3 |
| 3 | 59.5 | 3.0 | 60.9 | 68.6 | 76 | 23 | 68.9 | 64.0 | 59.6 | 56.6 | 55.1 |
| 4 | 62.5 | 3.3 | 64.2 | 72.7 | 78 | 23 | 72.7 | 67.7 | 62.4 | 59.3 | 57.4 |
| 5 | 62.0 | 3.5 | 63.8 | 72.7 | 79 | 24 | 72.5 | 67.4 | 61.8 | 58.6 | 56.7 |
| 6 | 64.8 | 3.5 | 66.4 | 75.4 | 77 | 20 | 74.7 | 70.1 | 64.8 | 61.3 | 59.0 |
| 7 | 63.2 | 3.6 | 64.9 | 74.0 | 78 | 22 | 73.6 | 68.6 | 63.0 | 59.7 | 57.6 |
| 8 | 61.5 | 4.2 | 64.1 | 74.9 | 78 | 24 | 74.0 | 68.1 | 60.8 | 57.4 | 55.7 |
| 9 | 62.5 | 4.4 | 65.2 | 76.6 | 79 | 25 | 75.1 | 69.4 | 62.0 | 58.0 | 56.2 |
| 10 | 63.9 | 4.4 | 66.5 | 77.8 | 81 | 26 | 75.7 | 70.9 | 63.5 | 59.3 | 57.0 |
| 11 | 65.4 | 4.3 | 67.9 | 79.0 | 82 | 26 | 77.1 | 72.0 | 65.2 | 60.9 | 58.0 |
| 12 | 66.2 | 4.3 | 68.5 | 79.4 | 81 | 24 | 77.7 | 72.6 | 65.9 | 61.7 | 58.5 |
| 13 | 73.2 | 6.1 | 78.5 | 94.0 | 97 | 38 | 90.0 | 81.3 | 73.8 | 65.8 | 61.8 |
| 14 | 77.3 | 5.0 | 80.8 | 93.5 | 98 | 36 | 91.6 | 84.2 | 77.5 | 71.7 | 67.1 |

N= 4780

MICROPHONES 8, 9, 10, 11, AND 12 SET 40" HIGHER THAN SPECIFIED

TABLE NO. 21
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; ABSORPTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 17- 75 917 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 111 | 72.6 | 6.4 | 77.7 | 94.2 | 94 | 39 | 89.7 | 80.4 | 73.7 | 64.4 | 58.7 |
| 2 | 76.0 | 5.0 | 79.5 | 92.2 | 94 | 32 | 90.7 | 82.4 | 76.4 | 70.6 | 65.1 |
| 3 | 60.9 | 3.5 | 62.5 | 71.5 | 75 | 24 | 71.4 | 65.9 | 61.0 | 57.3 | 54.3 |
| 4 | 62.9 | 3.5 | 64.4 | 73.4 | 75 | 21 | 72.8 | 67.9 | 63.0 | 59.1 | 56.4 |
| 5 | 63.5 | 3.5 | 65.1 | 74.2 | 75 | 21 | 73.5 | 68.7 | 63.6 | 59.8 | 57.0 |
| 6 | 65.7 | 3.5 | 67.3 | 76.4 | 77 | 21 | 75.4 | 70.8 | 66.0 | 61.9 | 58.9 |
| 7 | 64.8 | 3.6 | 66.4 | 75.5 | 76 | 21 | 74.6 | 70.1 | 65.1 | 61.0 | 57.9 |
| 8 | 61.8 | 4.2 | 64.0 | 74.7 | 75 | 23 | 73.1 | 67.8 | 61.9 | 57.2 | 54.4 |
| 9 | 63.7 | 4.2 | 65.9 | 76.7 | 76 | 22 | 74.7 | 69.8 | 63.8 | 59.0 | 56.1 |
| 10 | 65.0 | 4.2 | 67.2 | 77.9 | 78 | 24 | 75.8 | 71.3 | 65.1 | 60.3 | 56.8 |
| 11 | 66.2 | 4.2 | 68.3 | 79.0 | 79 | 24 | 77.0 | 72.4 | 66.2 | 61.6 | 57.8 |
| 12 | 66.6 | 4.1 | 68.6 | 79.2 | 79 | 25 | 77.0 | 72.8 | 66.7 | 62.2 | 57.8 |
| 13 | 73.1 | 6.2 | 77.8 | 93.6 | 95 | 42 | 89.5 | 80.8 | 74.0 | 66.1 | 57.5 |
| 14 | 76.1 | 5.0 | 79.4 | 92.1 | 94 | 33 | 90.4 | 82.8 | 76.3 | 70.8 | 64.2 |

N= 4780

10- 17- 75 937 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.7 | 6.5 | 79.1 | 95.8 | 97 | 46 | 90.8 | 82.4 | 74.6 | 65.7 | 59.4 |
| 2 | 77.4 | 5.0 | 80.9 | 93.7 | 98 | 35 | 91.3 | 84.6 | 77.5 | 71.8 | 67.6 |
| 3 | 61.8 | 3.7 | 63.8 | 73.3 | 77 | 25 | 74.5 | 66.5 | 62.0 | 58.1 | 54.2 |
| 4 | 63.7 | 3.7 | 65.5 | 75.0 | 77 | 24 | 75.3 | 68.7 | 64.1 | 59.8 | 55.4 |
| 5 | 64.8 | 3.7 | 66.5 | 75.9 | 79 | 26 | 75.5 | 69.9 | 65.2 | 61.1 | 56.1 |
| 6 | 67.1 | 3.5 | 68.6 | 77.6 | 79 | 23 | 76.8 | 72.1 | 67.4 | 63.3 | 58.4 |
| 7 | 66.2 | 3.5 | 67.7 | 76.8 | 78 | 22 | 76.2 | 71.3 | 66.6 | 62.6 | 57.6 |
| 8 | 62.4 | 4.4 | 64.9 | 76.1 | 78 | 25 | 75.6 | 68.8 | 62.3 | 57.7 | 54.7 |
| 9 | 64.6 | 4.3 | 67.0 | 78.1 | 81 | 27 | 76.7 | 70.9 | 64.7 | 59.8 | 56.6 |
| 10 | 66.0 | 4.3 | 68.3 | 79.4 | 80 | 24 | 77.5 | 72.3 | 66.3 | 61.1 | 58.0 |
| 11 | 67.4 | 4.2 | 69.5 | 80.4 | 81 | 24 | 78.4 | 73.5 | 67.7 | 62.5 | 59.5 |
| 12 | 67.9 | 4.2 | 69.9 | 80.7 | 82 | 24 | 78.4 | 73.9 | 68.2 | 63.0 | 60.2 |
| 13 | 74.5 | 6.1 | 79.3 | 94.8 | 95 | 35 | 90.9 | 82.6 | 75.1 | 66.8 | 62.5 |
| 14 | 77.4 | 4.9 | 81.0 | 93.6 | 98 | 32 | 91.8 | 84.6 | 77.3 | 72.0 | 68.8 |

N= 4730

TABLE NO. 22
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; ABSORPTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 17- 75 1201 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 71.8 | 7.6 | 79.8 | 99.4 | 101 | 50 | 92.5 | 81.5 | 72.5 | 63.2 | 53.5 |
| 2 | 75.5 | 5.8 | 80.7 | 95.5 | 100 | 43 | 92.8 | 83.4 | 75.6 | 69.7 | 60.7 |
| 3 | 63.3 | 5.8 | 69.0 | 83.9 | 90 | 42 | 81.1 | 72.0 | 62.9 | 57.8 | 50.3 |
| 4 | 67.2 | 5.9 | 72.2 | 87.4 | 89 | 39 | 84.9 | 75.8 | 67.1 | 61.4 | 52.4 |
| 5 | 69.4 | 6.1 | 74.4 | 89.9 | 91 | 41 | 87.3 | 77.9 | 69.7 | 63.2 | 52.6 |
| 6 | 71.7 | 5.6 | 76.1 | 90.5 | 91 | 39 | 88.6 | 79.8 | 71.5 | 66.6 | 56.2 |
| 7 | 70.9 | 5.9 | 75.7 | 90.9 | 91 | 40 | 88.6 | 79.4 | 70.9 | 65.0 | 54.4 |
| 8 | 67.1 | 6.5 | 73.0 | 89.6 | 91 | 40 | 86.2 | 75.8 | 67.6 | 59.2 | 54.0 |
| 9 | 69.5 | 6.1 | 74.8 | 90.3 | 92 | 38 | 87.6 | 77.8 | 70.1 | 62.2 | 56.9 |
| 10 | 70.7 | 5.9 | 75.5 | 90.5 | 92 | 37 | 88.4 | 78.5 | 71.2 | 63.6 | 58.2 |
| 11 | 72.2 | 5.5 | 76.5 | 90.5 | 92 | 35 | 88.7 | 79.9 | 72.5 | 65.9 | 60.7 |
| 12 | 72.9 | 5.2 | 76.7 | 90.0 | 93 | 34 | 88.8 | 80.0 | 73.0 | 67.1 | 62.2 |
| 13 | 73.0 | 7.0 | 80.2 | 98.2 | 100 | 45 | 93.1 | 81.9 | 73.8 | 64.1 | 59.4 |
| 14 | 75.7 | 5.7 | 80.8 | 95.3 | 99 | 38 | 93.0 | 83.3 | 76.2 | 69.1 | 64.4 |

N= 4780

10- 17- 75 1221 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 72.6 | 7.0 | 78.5 | 96.3 | 96 | 42 | 91.0 | 80.8 | 73.9 | 63.5 | 56.8 |
| 2 | 75.8 | 5.2 | 79.6 | 93.0 | 96 | 34 | 91.6 | 82.5 | 76.2 | 69.6 | 64.5 |
| 3 | 64.1 | 4.9 | 67.5 | 80.0 | 81 | 29 | 78.6 | 71.7 | 63.8 | 59.2 | 55.4 |
| 4 | 67.8 | 5.2 | 71.4 | 84.6 | 86 | 32 | 82.8 | 75.1 | 68.0 | 62.0 | 57.2 |
| 5 | 70.2 | 5.3 | 73.7 | 87.3 | 87 | 33 | 85.2 | 77.3 | 70.7 | 64.1 | 57.7 |
| 6 | 72.1 | 4.9 | 75.4 | 87.9 | 90 | 33 | 86.7 | 79.0 | 72.3 | 66.9 | 61.0 |
| 7 | 71.5 | 5.2 | 75.0 | 88.2 | 89 | 34 | 86.4 | 78.5 | 71.8 | 65.9 | 59.0 |
| 8 | 67.4 | 5.6 | 71.6 | 86.1 | 87 | 35 | 83.3 | 75.2 | 67.8 | 60.8 | 55.8 |
| 9 | 69.8 | 5.4 | 73.6 | 87.4 | 87 | 33 | 84.7 | 77.3 | 70.1 | 63.5 | 58.0 |
| 10 | 70.9 | 5.3 | 74.5 | 88.0 | 89 | 33 | 85.5 | 78.3 | 71.3 | 64.7 | 59.1 |
| 11 | 72.4 | 5.0 | 75.6 | 88.3 | 90 | 31 | 86.3 | 79.5 | 72.6 | 66.8 | 61.6 |
| 12 | 72.9 | 4.7 | 75.9 | 87.9 | 90 | 30 | 86.5 | 79.6 | 73.1 | 67.8 | 63.4 |
| 13 | 73.2 | 6.5 | 78.7 | 95.3 | 97 | 42 | 91.3 | 81.1 | 74.2 | 65.1 | 59.3 |
| 14 | 76.1 | 5.1 | 79.9 | 92.9 | 96 | 35 | 91.7 | 82.9 | 76.4 | 70.5 | 64.9 |

N= 4780

TABLE NO. 23
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; ABSORPTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 17- 75 1030 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.2 | 6.8 | 79.1 | 96.5 | 99 | 45 | 91.1 | 81.8 | 74.3 | 64.4 | 59.2 |
| 2 | 76.9 | 5.3 | 80.8 | 94.3 | 98 | 39 | 91.8 | 83.8 | 77.4 | 71.3 | 62.4 |
| 3 | 65.6 | 4.9 | 69.3 | 81.8 | 87 | 34 | 79.9 | 72.3 | 65.7 | 60.2 | 56.2 |
| 4 | 68.3 | 5.1 | 71.8 | 84.7 | 87 | 33 | 82.9 | 75.2 | 68.5 | 62.7 | 56.8 |
| 5 | 71.0 | 5.3 | 74.5 | 87.9 | 91 | 37 | 85.5 | 77.7 | 71.5 | 65.0 | 57.2 |
| 6 | 72.5 | 4.9 | 75.5 | 88.0 | 90 | 34 | 85.9 | 79.2 | 72.8 | 67.3 | 58.8 |
| 7 | 72.1 | 5.2 | 75.5 | 88.7 | 91 | 37 | 85.9 | 79.0 | 72.5 | 66.3 | 57.7 |
| 8 | 68.0 | 5.1 | 71.8 | 84.8 | 89 | 34 | 83.0 | 75.0 | 68.1 | 62.5 | 58.2 |
| 9 | 69.5 | 5.1 | 73.0 | 86.0 | 91 | 35 | 84.2 | 76.3 | 69.8 | 64.0 | 58.4 |
| 10 | 71.0 | 5.0 | 74.3 | 87.2 | 90 | 33 | 85.0 | 77.8 | 71.3 | 65.6 | 59.5 |
| 11 | 72.0 | 4.9 | 75.2 | 87.8 | 90 | 33 | 85.8 | 78.9 | 72.2 | 66.6 | 61.0 |
| 12 | 72.4 | 4.8 | 75.5 | 87.6 | 89 | 31 | 86.1 | 79.0 | 72.6 | 67.5 | 61.8 |
| 13 | 73.9 | 6.1 | 79.1 | 94.8 | 99 | 42 | 90.6 | 81.9 | 74.5 | 66.5 | 61.9 |
| 14 | 76.9 | 5.0 | 80.6 | 93.3 | 99 | 35 | 91.8 | 83.7 | 77.2 | 71.4 | 66.5 |

N= 4730

10- 17- 75 1050 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.1 | 6.0 | 78.4 | 93.7 | 94 | 35 | 89.4 | 82.4 | 74.6 | 66.7 | 62.0 |
| 2 | 77.4 | 4.7 | 80.5 | 92.6 | 93 | 27 | 90.5 | 84.9 | 77.3 | 72.4 | 68.8 |
| 3 | 66.1 | 4.6 | 68.7 | 80.3 | 80 | 25 | 77.8 | 73.4 | 66.0 | 61.3 | 57.0 |
| 4 | 68.6 | 4.7 | 71.4 | 83.5 | 85 | 29 | 80.9 | 75.9 | 68.5 | 63.6 | 58.9 |
| 5 | 71.3 | 4.8 | 74.1 | 86.3 | 87 | 29 | 83.6 | 78.6 | 71.3 | 66.1 | 60.9 |
| 6 | 72.6 | 4.5 | 75.2 | 86.7 | 87 | 28 | 84.3 | 79.7 | 72.6 | 67.9 | 63.5 |
| 7 | 72.3 | 4.7 | 75.0 | 87.0 | 87 | 29 | 84.4 | 79.4 | 72.4 | 67.2 | 62.2 |
| 8 | 68.1 | 4.7 | 71.0 | 83.0 | 85 | 29 | 80.5 | 75.2 | 68.2 | 63.1 | 58.9 |
| 9 | 69.9 | 4.7 | 72.5 | 84.5 | 87 | 31 | 81.5 | 76.6 | 70.1 | 64.9 | 59.2 |
| 10 | 71.3 | 4.7 | 73.9 | 85.8 | 87 | 30 | 83.0 | 78.0 | 71.6 | 66.4 | 60.2 |
| 11 | 72.3 | 4.6 | 74.8 | 86.5 | 87 | 29 | 84.0 | 78.8 | 72.5 | 67.6 | 61.5 |
| 12 | 72.9 | 4.4 | 75.2 | 86.5 | 87 | 28 | 83.8 | 79.3 | 73.0 | 68.2 | 62.2 |
| 13 | 74.6 | 5.5 | 78.6 | 92.8 | 95 | 38 | 89.7 | 82.3 | 75.0 | 68.3 | 63.1 |
| 14 | 77.6 | 4.8 | 80.6 | 92.9 | 96 | 33 | 90.7 | 84.6 | 77.6 | 72.4 | 67.0 |

N= 4730

TABLES 24-36. NOISE DATA: FOUR FOOT REFLECTIVE BARRIER; MICROPHONE CONFIGURATIONS B, C, D, E.

TABLE NO. 24
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 7- 75 1159 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 72.0 | 7.5 | 78.6 | 97.7 | 95 | 41 | 90.8 | 81.7 | 72.9 | 62.1 | 57.0 |
| 2 | 75.8 | 5.7 | 80.1 | 94.6 | 96 | 36 | 91.4 | 83.5 | 75.9 | 69.3 | 64.0 |
| 3 | 64.7 | 5.2 | 68.1 | 81.3 | 81 | 29 | 78.0 | 72.3 | 64.6 | 58.7 | 55.5 |
| 4 | 66.9 | 5.4 | 70.4 | 84.1 | 84 | 30 | 80.2 | 74.9 | 67.0 | 60.4 | 57.2 |
| 5 | 70.4 | 5.5 | 73.9 | 87.9 | 89 | 32 | 83.8 | 78.1 | 70.7 | 63.4 | 59.6 |
| 6 | 71.8 | 5.4 | 75.3 | 89.1 | 91 | 33 | 85.2 | 79.7 | 72.0 | 65.0 | 61.1 |
| 7 | 72.4 | 5.2 | 75.7 | 89.0 | 90 | 32 | 85.3 | 80.2 | 72.4 | 66.3 | 62.1 |
| 8 | 67.4 | 6.0 | 71.9 | 87.3 | 88 | 36 | 82.7 | 76.2 | 67.6 | 60.2 | 54.5 |
| 9 | 69.9 | 5.7 | 73.6 | 88.3 | 87 | 33 | 83.7 | 78.0 | 70.1 | 63.2 | 56.7 |
| 10 | 70.9 | 5.7 | 74.5 | 89.1 | 89 | 35 | 84.3 | 79.1 | 71.3 | 64.2 | 56.9 |
| 11 | 71.8 | 5.6 | 75.2 | 89.5 | 88 | 34 | 84.6 | 79.8 | 72.1 | 65.4 | 57.7 |
| 12 | 72.2 | 5.4 | 75.3 | 89.2 | 87 | 32 | 84.3 | 79.9 | 72.5 | 66.1 | 58.4 |
| 13 | 72.6 | 7.1 | 78.9 | 97.1 | 96 | 41 | 91.3 | 82.0 | 73.3 | 63.5 | 58.6 |
| 14 | 75.4 | 6.0 | 79.8 | 95.1 | 95 | 38 | 91.0 | 83.4 | 76.1 | 68.5 | 59.9 |

N= 4780

TABLE NO. 25
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 7- 75 1510 HOUR

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KEY SEARCH CL. X TO CLEAR HISTOS | | | | | | | | | | | |
| 1 | 73.1 | 6.5 | 78.2 | 94.9 | 93 | 42 | 89.8 | 81.7 | 73.8 | 65.3 | 55.5 |
| 2 | 76.0 | 5.2 | 79.4 | 92.7 | 93 | 37 | 90.3 | 83.1 | 76.1 | 70.9 | 61.0 |
| 3 | 62.1 | 4.1 | 64.3 | 74.9 | 77 | 27 | 74.0 | 68.0 | 62.1 | 58.0 | 53.2 |
| 4 | 65.4 | 4.3 | 67.6 | 78.5 | 80 | 28 | 76.8 | 71.7 | 65.4 | 61.2 | 55.7 |
| 5 | 66.5 | 4.3 | 68.6 | 79.5 | 80 | 28 | 77.4 | 72.5 | 66.8 | 62.2 | 55.3 |
| 6 | 68.2 | 4.2 | 70.2 | 81.0 | 82 | 29 | 79.0 | 74.2 | 68.4 | 63.7 | 56.5 |
| 7 | 69.6 | 4.2 | 71.6 | 82.2 | 83 | 28 | 80.1 | 75.7 | 69.7 | 65.1 | 58.6 |
| 8 | 63.9 | 4.1 | 66.1 | 76.5 | 78 | 24 | 75.6 | 70.0 | 64.0 | 59.4 | 56.4 |
| 9 | 67.4 | 4.2 | 69.7 | 80.5 | 82 | 27 | 79.3 | 73.5 | 67.5 | 62.8 | 58.6 |
| 10 | 68.4 | 4.1 | 70.5 | 81.1 | 82 | 26 | 80.0 | 74.4 | 68.5 | 64.0 | 59.8 |
| 11 | 69.7 | 4.0 | 71.7 | 81.9 | 83 | 25 | 80.6 | 75.5 | 69.8 | 65.5 | 61.3 |
| 12 | 70.2 | 3.9 | 72.1 | 82.1 | 83 | 24 | 80.7 | 75.9 | 70.3 | 66.2 | 61.9 |
| 13 | 73.5 | 5.9 | 78.0 | 93.0 | 93 | 36 | 89.4 | 81.5 | 74.2 | 66.5 | 61.4 |
| 14 | 76.0 | 4.7 | 79.0 | 90.9 | 93 | 33 | 89.6 | 82.7 | 76.1 | 71.2 | 66.3 |

N= 4780

TABLE NO. 26
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 7- 75 17 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.5 | 6.1 | 80.0 | 95.6 | 99 | 39 | 91.7 | 82.7 | 75.1 | 67.1 | 63.1 |
| 2 | 77.2 | 4.7 | 81.2 | 93.3 | 100 | 33 | 92.1 | 84.2 | 77.1 | 72.4 | 69.5 |
| 3 | 60.6 | 3.7 | 62.5 | 71.9 | 77 | 24 | 72.0 | 65.8 | 60.8 | 56.6 | 54.7 |
| 4 | 62.7 | 3.6 | 64.5 | 73.7 | 78 | 23 | 74.5 | 67.9 | 62.7 | 58.8 | 56.8 |
| 5 | 63.4 | 3.7 | 65.3 | 74.7 | 79 | 23 | 75.2 | 68.9 | 63.4 | 59.5 | 57.4 |
| 6 | 64.8 | 3.7 | 66.8 | 76.2 | 81 | 24 | 76.8 | 70.4 | 64.8 | 61.1 | 59.0 |
| 7 | 66.5 | 3.6 | 68.4 | 77.6 | 83 | 24 | 78.2 | 71.9 | 66.4 | 63.0 | 61.1 |
| 8 | 60.9 | 4.1 | 63.5 | 74.0 | 79 | 27 | 74.8 | 67.0 | 60.8 | 56.6 | 54.3 |
| 9 | 63.0 | 4.3 | 65.7 | 76.7 | 83 | 30 | 77.3 | 69.1 | 62.8 | 58.6 | 55.4 |
| 10 | 64.5 | 4.3 | 67.4 | 78.4 | 84 | 30 | 79.1 | 70.6 | 64.3 | 60.3 | 56.4 |
| 11 | 66.1 | 4.2 | 69.0 | 79.8 | 86 | 30 | 80.7 | 72.0 | 66.0 | 62.0 | 58.1 |
| 12 | 66.7 | 4.2 | 69.5 | 80.2 | 86 | 29 | 81.2 | 72.6 | 66.6 | 62.6 | 58.6 |
| 13 | 74.2 | 6.1 | 80.1 | 95.7 | 102 | 43 | 91.2 | 82.6 | 74.7 | 66.8 | 61.8 |
| 14 | 76.6 | 4.9 | 80.9 | 93.5 | 101 | 37 | 91.5 | 83.9 | 76.4 | 71.5 | 66.6 |

N= 4785

TABLE NO. 27
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGUATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 7- 75 1759 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.8 | 5.2 | 77.7 | 91.1 | 95 | 35 | 89.5 | 80.1 | 74.3 | 67.8 | 63.6 |
| 2 | 40.0 | .2 | 40.0 | 40.7 | 45 | 5 | 41.8 | 40.9 | 40.5 | 40.1 | 40.0 |
| 3 | 66.3 | 3.4 | 68.0 | 76.6 | 82 | 47 | 77.3 | 71.1 | 66.5 | 63.0 | 60.3 |
| 4 | 69.7 | 3.7 | 71.7 | 81.1 | 87 | 26 | 81.6 | 74.8 | 69.8 | 66.0 | 63.2 |
| 5 | 70.9 | 3.9 | 73.2 | 83.2 | 88 | 26 | 83.4 | 76.3 | 71.0 | 66.9 | 63.8 |
| 6 | 71.4 | 3.8 | 73.6 | 83.3 | 89 | 27 | 83.9 | 76.8 | 71.4 | 67.5 | 64.3 |
| 7 | 72.2 | 3.6 | 74.2 | 83.3 | 89 | 26 | 84.0 | 77.4 | 72.2 | 68.7 | 65.7 |
| 8 | 68.6 | 3.6 | 70.4 | 79.7 | 83 | 23 | 80.2 | 73.6 | 68.7 | 64.8 | 62.0 |
| 9 | 69.8 | 3.7 | 71.7 | 81.2 | 84 | 25 | 81.0 | 75.0 | 69.8 | 66.1 | 62.4 |
| 10 | 70.6 | 3.9 | 72.6 | 82.4 | 84 | 25 | 81.8 | 76.1 | 70.7 | 66.6 | 62.6 |
| 11 | 71.4 | 3.7 | 73.3 | 82.7 | 85 | 24 | 82.7 | 76.9 | 71.5 | 67.8 | 64.1 |
| 12 | 71.7 | 3.6 | 73.5 | 82.6 | 86 | 24 | 82.7 | 77.0 | 71.7 | 68.2 | 64.4 |
| 13 | 73.5 | 5.0 | 77.3 | 90.2 | 94 | 33 | 88.8 | 79.9 | 73.9 | 68.0 | 64.5 |
| 14 | 75.5 | 4.0 | 78.1 | 88.3 | 93 | 35 | 88.8 | 80.7 | 75.7 | 71.5 | 68.3 |

N= 4780

TABLE NO. 28
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 8- 75 1010 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 72.1 | 7.4 | 79.3 | 98.4 | 98 | 43 | 91.2 | 82.3 | 72.8 | 63.1 | 58.1 |
| 2 | | | | N O | D A T A | | | | | | |
| 3 | 63.9 | 5.2 | 67.7 | 81.1 | 83 | 30 | 78.2 | 71.9 | 63.6 | 58.2 | 55.1 |
| 4 | 66.8 | 5.4 | 70.9 | 84.8 | 86 | 31 | 81.7 | 74.9 | 66.6 | 60.9 | 57.1 |
| 5 | 70.2 | 5.5 | 74.4 | 88.6 | 91 | 34 | 85.4 | 78.3 | 70.3 | 63.8 | 59.6 |
| 6 | | | | N O | D A T A | | | | | | |
| 7 | 73.1 | 5.2 | 76.9 | 90.2 | 93 | 32 | 88.0 | 81.1 | 73.0 | 67.6 | 63.1 |
| 8 | 65.5 | 5.6 | 70.5 | 85.0 | 89 | 36 | 81.5 | 74.0 | 65.2 | 59.4 | 55.6 |
| 9 | 68.0 | 5.8 | 72.9 | 87.7 | 91 | 37 | 84.3 | 76.6 | 68.0 | 61.6 | 56.5 |
| 10 | 69.9 | 5.7 | 74.3 | 88.8 | 92 | 37 | 85.8 | 78.3 | 69.9 | 63.4 | 58.2 |
| 11 | 71.7 | 5.5 | 75.9 | 90.0 | 92 | 35 | 87.0 | 80.1 | 71.7 | 65.6 | 60.6 |
| 12 | 72.3 | 5.3 | 76.3 | 89.8 | 93 | 35 | 87.8 | 80.5 | 72.1 | 66.7 | 61.7 |
| 13 | 72.8 | 7.0 | 79.6 | 97.4 | 100 | 46 | 91.4 | 82.1 | 73.3 | 63.9 | 59.1 |
| 14 | 85.4 | 5.7 | 90.3 | 105.0 | 111 | 45 | 101.5 | 93.3 | 85.3 | 78.9 | 73.4 |

N= 4780

10- 8- 75 1032 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 72.8 | 6.5 | 78.0 | 94.7 | 97 | 42 | 89.3 | 81.3 | 73.7 | 64.4 | 58.8 |
| 2 | 76.2 | 5.0 | 79.7 | 92.4 | 98 | 36 | 89.8 | 83.1 | 76.6 | 70.6 | 65.5 |
| 3 | 64.5 | 4.8 | 67.7 | 79.9 | 85 | 34 | 78.3 | 71.0 | 64.7 | 59.2 | 54.0 |
| 4 | 67.0 | 4.9 | 70.3 | 82.8 | 87 | 34 | 80.4 | 73.7 | 67.5 | 61.4 | 56.2 |
| 5 | 70.6 | 4.9 | 73.8 | 86.4 | 91 | 35 | 83.9 | 77.3 | 71.3 | 64.7 | 59.3 |
| 6 | | | | N O | D A T A | | | | | | |
| 7 | 73.2 | 4.5 | 76.0 | 87.6 | 93 | 32 | 85.7 | 79.5 | 73.6 | 68.1 | 63.5 |
| 8 | 66.6 | 5.1 | 70.3 | 83.3 | 88 | 34 | 80.6 | 73.8 | 67.0 | 60.5 | 56.9 |
| 9 | 68.7 | 5.2 | 72.4 | 85.6 | 91 | 37 | 82.7 | 75.8 | 69.2 | 62.3 | 57.9 |
| 10 | 70.4 | 5.0 | 73.6 | 86.4 | 91 | 36 | 83.6 | 77.2 | 71.1 | 64.4 | 59.5 |
| 11 | 71.6 | 4.8 | 74.8 | 87.2 | 92 | 35 | 85.0 | 78.2 | 72.1 | 65.9 | 61.1 |
| 12 | 72.2 | 4.6 | 75.0 | 86.8 | 92 | 34 | 84.2 | 78.6 | 72.6 | 66.7 | 62.2 |
| 13 | 73.1 | 6.4 | 78.4 | 94.7 | 99 | 40 | 89.0 | 81.6 | 73.7 | 64.9 | 60.8 |
| 14 | 75.6 | 5.0 | 79.3 | 92.2 | 101 | 39 | 89.8 | 82.6 | 76.0 | 69.7 | 65.3 |

N= 4780

TABLE NO. 29
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 8- 75 1302 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 71.6 | 7.2 | 77.9 | 96.4 | 96 | 44 | 89.8 | 81.1 | 72.5 | 62.1 | 57.6 |
| 2 | 75.9 | 5.5 | 80.0 | 94.2 | 97 | 37 | 90.5 | 83.8 | 76.1 | 69.6 | 65.0 |
| 3 | 60.7 | 5.1 | 64.4 | 77.4 | 82 | 32 | 74.3 | 68.6 | 60.2 | 55.4 | 53.0 |
| 4 | 64.1 | 5.2 | 67.7 | 81.1 | 83 | 31 | 77.3 | 72.3 | 63.9 | 58.4 | 55.5 |
| 5 | 65.8 | 5.1 | 68.9 | 81.9 | 82 | 29 | 78.1 | 73.6 | 65.8 | 60.0 | 57.0 |
| 6 | 68.0 | 4.9 | 70.9 | 83.5 | 83 | 30 | 80.0 | 75.5 | 68.1 | 62.3 | 59.0 |
| 7 | 69.4 | 4.9 | 72.2 | 84.7 | 85 | 31 | 80.7 | 76.8 | 69.5 | 63.8 | 60.1 |
| 8 | 62.2 | 5.2 | 66.2 | 79.4 | 83 | 32 | 75.8 | 70.6 | 61.7 | 56.9 | 54.3 |
| 9 | 66.0 | 5.2 | 69.6 | 83.0 | 84 | 29 | 79.2 | 74.5 | 65.7 | 60.2 | 56.8 |
| 10 | 67.2 | 4.9 | 70.4 | 83.0 | 84 | 28 | 79.9 | 75.2 | 67.1 | 61.9 | 58.4 |
| 11 | 69.1 | 4.7 | 72.0 | 84.2 | 85 | 28 | 81.3 | 76.7 | 68.9 | 64.1 | 60.5 |
| 12 | 70.4 | 4.5 | 73.1 | 84.7 | 86 | 28 | 82.4 | 77.6 | 70.1 | 65.6 | 62.1 |
| 13 | 72.4 | 6.7 | 78.3 | 95.3 | 96 | 39 | 90.1 | 81.6 | 72.9 | 64.5 | 60.2 |
| 14 | 75.5 | 5.3 | 79.7 | 93.3 | 97 | 33 | 90.4 | 83.5 | 75.4 | 69.7 | 66.7 |

N= 4780

10- 8- 75 1324 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 71.6 | 6.4 | 77.3 | 93.8 | 99 | 45 | 88.7 | 79.6 | 72.5 | 63.4 | 58.0 |
| 2 | 75.6 | 4.9 | 79.1 | 91.6 | 99 | 37 | 89.4 | 82.4 | 76.0 | 70.0 | 65.3 |
| 3 | 61.4 | 4.0 | 63.7 | 74.0 | 78 | 25 | 72.7 | 67.3 | 61.5 | 57.0 | 54.7 |
| 4 | 64.7 | 4.3 | 67.2 | 78.2 | 84 | 30 | 76.1 | 70.8 | 64.9 | 59.7 | 57.0 |
| 5 | 66.5 | 4.3 | 68.9 | 79.8 | 85 | 30 | 77.8 | 72.5 | 66.7 | 61.6 | 58.2 |
| 6 | 68.5 | 4.3 | 71.0 | 82.0 | 88 | 31 | 80.3 | 74.5 | 68.7 | 63.5 | 59.7 |
| 7 | 69.6 | 4.2 | 72.1 | 82.9 | 88 | 31 | 81.4 | 75.5 | 69.8 | 64.8 | 60.8 |
| 8 | 63.0 | 4.0 | 65.7 | 75.9 | 83 | 29 | 76.3 | 68.8 | 62.7 | 59.1 | 56.4 |
| 9 | 66.5 | 4.2 | 69.4 | 80.1 | 87 | 31 | 79.5 | 72.3 | 66.6 | 62.2 | 58.4 |
| 10 | 67.5 | 4.1 | 70.2 | 80.8 | 88 | 31 | 79.9 | 73.1 | 67.7 | 63.1 | 59.7 |
| 11 | 69.1 | 4.1 | 71.7 | 82.2 | 90 | 33 | 81.3 | 74.8 | 69.2 | 64.8 | 61.0 |
| 12 | 70.2 | 4.0 | 72.6 | 82.8 | 88 | 30 | 81.9 | 75.7 | 70.4 | 66.1 | 62.1 |
| 13 | 72.1 | 6.0 | 77.4 | 92.7 | 100 | 44 | 88.6 | 79.2 | 73.0 | 64.7 | 59.5 |
| 14 | 75.1 | 4.8 | 78.6 | 91.0 | 99 | 37 | 89.4 | 81.4 | 75.3 | 69.7 | 64.7 |

N= 4780

TABLE NO. 30
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 8- 75 1149 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 72.0 | 7.3 | 78.9 | 97.6 | 98 | 44 | 91.0 | 81.7 | 72.5 | 63.0 | 56.8 |
| 2 | 76.0 | 5.5 | 80.5 | 94.7 | 97 | 38 | 91.9 | 83.8 | 76.0 | 70.2 | 64.7 |
| 3 | 63.7 | 5.5 | 68.0 | 82.1 | 82 | 31 | 79.4 | 71.5 | 63.4 | 58.0 | 54.2 |
| 4 | 67.5 | 5.5 | 71.5 | 85.5 | 85 | 31 | 82.4 | 75.7 | 67.3 | 61.4 | 57.6 |
| 5 | 69.3 | 5.5 | 73.1 | 87.1 | 87 | 32 | 83.3 | 77.4 | 69.4 | 62.8 | 58.7 |
| 6 | 71.2 | 5.4 | 75.0 | 88.9 | 89 | 31 | 85.7 | 79.2 | 71.2 | 65.0 | 60.7 |
| 7 | 71.9 | 5.3 | 75.7 | 89.1 | 89 | 31 | 86.5 | 79.9 | 71.6 | 66.4 | 62.3 |
| 8 | 66.8 | 6.1 | 71.8 | 87.5 | 87 | 35 | 83.4 | 75.8 | 66.7 | 59.4 | 55.2 |
| 9 | 69.0 | 5.8 | 73.5 | 88.4 | 88 | 34 | 84.5 | 77.4 | 68.9 | 62.3 | 57.1 |
| 10 | 70.1 | 5.7 | 74.2 | 88.8 | 89 | 34 | 85.2 | 78.1 | 70.2 | 63.4 | 58.1 |
| 11 | 71.6 | 5.4 | 75.4 | 89.2 | 90 | 34 | 86.1 | 79.4 | 71.7 | 65.6 | 60.4 |
| 12 | 72.6 | 5.2 | 76.1 | 89.4 | 91 | 34 | 86.7 | 80.0 | 72.6 | 66.9 | 62.2 |
| 13 | 72.6 | 7.0 | 79.1 | 97.0 | 97 | 41 | 91.5 | 81.9 | 73.0 | 63.9 | 59.0 |
| 14 | 75.4 | 5.6 | 80.0 | 94.5 | 98 | 38 | 91.7 | 83.0 | 75.4 | 69.1 | 63.9 |

N= 4780

10- 8- 75 1210 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 72.5 | 6.8 | 78.4 | 95.7 | 95 | 38 | 90.7 | 81.6 | 73.1 | 64.0 | 59.4 |
| 2 | 76.6 | 5.2 | 80.4 | 93.8 | 95 | 34 | 91.8 | 84.1 | 76.7 | 71.1 | 65.7 |
| 3 | 63.9 | 4.6 | 66.8 | 78.6 | 85 | 32 | 76.8 | 70.8 | 63.9 | 58.7 | 55.9 |
| 4 | 67.2 | 4.8 | 70.3 | 82.7 | 84 | 28 | 80.7 | 74.3 | 67.3 | 61.7 | 58.5 |
| 5 | 69.7 | 5.0 | 73.0 | 85.9 | 86 | 30 | 83.6 | 76.9 | 69.9 | 63.7 | 59.8 |
| 6 | 71.7 | 5.0 | 74.9 | 87.8 | 89 | 32 | 85.3 | 78.8 | 71.9 | 65.9 | 61.4 |
| 7 | 72.6 | 4.9 | 75.7 | 88.2 | 89 | 30 | 85.9 | 79.7 | 72.6 | 67.2 | 63.1 |
| 8 | 66.8 | 5.7 | 70.9 | 85.4 | 85 | 33 | 81.8 | 75.3 | 67.1 | 60.1 | 54.8 |
| 9 | 68.9 | 5.5 | 72.7 | 86.7 | 87 | 34 | 83.4 | 77.0 | 69.2 | 62.4 | 56.8 |
| 10 | 70.2 | 5.4 | 73.7 | 87.6 | 90 | 37 | 83.8 | 78.0 | 70.5 | 63.7 | 58.1 |
| 11 | 71.8 | 5.2 | 75.1 | 88.5 | 89 | 35 | 84.7 | 79.5 | 72.0 | 65.9 | 60.1 |
| 12 | 72.9 | 5.1 | 76.0 | 89.0 | 89 | 34 | 85.6 | 80.5 | 73.0 | 67.4 | 62.1 |
| 13 | 72.7 | 7.0 | 78.8 | 96.7 | 98 | 44 | 91.2 | 81.7 | 73.6 | 63.9 | 57.9 |
| 14 | 75.8 | 5.6 | 79.8 | 94.1 | 94 | 36 | 91.3 | 83.5 | 76.2 | 69.4 | 63.3 |

N= 4785

TABLE NO. 31
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 8- 75 1620 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.2 | 5.2 | 79.7 | 93.1 | 97 | 36 | 92.4 | 81.7 | 75.6 | 69.4 | 65.8 |
| 2 | 77.9 | 4.2 | 80.9 | 91.7 | 98 | 31 | 92.6 | 83.5 | 78.0 | 73.5 | 70.4 |
| 3 | 62.2 | 3.1 | 63.5 | 71.5 | 73 | 18 | 71.7 | 67.0 | 62.3 | 59.1 | 57.2 |
| 4 | 64.0 | 3.2 | 65.4 | 73.6 | 77 | 20 | 74.1 | 68.8 | 64.0 | 60.8 | 59.1 |
| 5 | 64.9 | 3.2 | 66.4 | 74.5 | 77 | 19 | 74.9 | 69.8 | 64.8 | 61.8 | 60.1 |
| 6 | 65.8 | 3.2 | 67.3 | 75.5 | 78 | 19 | 75.9 | 70.7 | 65.8 | 62.7 | 61.1 |
| 7 | 67.2 | 3.2 | 68.7 | 77.0 | 81 | 20 | 77.5 | 72.1 | 67.2 | 64.1 | 62.4 |
| 8 | 62.9 | 4.0 | 65.5 | 75.7 | 79 | 23 | 75.8 | 69.2 | 62.5 | 59.3 | 57.5 |
| 9 | 65.0 | 3.9 | 67.4 | 77.4 | 82 | 24 | 77.5 | 71.3 | 64.6 | 61.3 | 59.4 |
| 10 | 66.0 | 3.8 | 68.3 | 78.1 | 81 | 23 | 78.2 | 72.3 | 65.7 | 62.4 | 60.3 |
| 11 | 66.9 | 3.8 | 69.0 | 78.8 | 82 | 23 | 78.7 | 73.2 | 66.6 | 63.3 | 61.1 |
| 12 | 67.7 | 3.7 | 69.7 | 79.0 | 83 | 23 | 78.9 | 73.9 | 67.5 | 64.2 | 62.0 |
| 13 | 74.2 | 5.2 | 78.7 | 92.1 | 96 | 34 | 91.4 | 80.9 | 74.6 | 68.5 | 63.9 |
| 14 | 77.2 | 4.3 | 80.4 | 91.4 | 98 | 31 | 92.5 | 83.0 | 77.3 | 73.1 | 69.4 |

N= 4780

10- 8- 75 1640 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.1 | 4.1 | 77.5 | 88.0 | 93 | 29 | 88.5 | 79.9 | 75.8 | 70.3 | 66.7 |
| 2 | 77.5 | 3.0 | 79.0 | 86.8 | 93 | 23 | 88.9 | 81.3 | 77.9 | 74.5 | 72.0 |
| 3 | 62.8 | 2.4 | 63.6 | 69.8 | 74 | 17 | 71.0 | 66.5 | 62.9 | 60.6 | 58.9 |
| 4 | 64.6 | 2.3 | 65.3 | 71.3 | 76 | 17 | 72.5 | 68.2 | 64.7 | 62.4 | 60.8 |
| 5 | 65.0 | 2.2 | 65.7 | 71.4 | 75 | 15 | 72.5 | 68.5 | 65.2 | 63.0 | 61.4 |
| 6 | 65.8 | 2.3 | 66.5 | 72.3 | 76 | 16 | 73.5 | 69.4 | 66.0 | 63.8 | 62.2 |
| 7 | 67.1 | 2.2 | 67.8 | 73.5 | 77 | 15 | 74.6 | 70.6 | 67.4 | 65.1 | 63.5 |
| 8 | 64.3 | 2.5 | 65.1 | 71.5 | 75 | 17 | 72.7 | 68.0 | 64.5 | 62.0 | 60.0 |
| 9 | 65.7 | 2.5 | 66.6 | 73.0 | 76 | 17 | 73.8 | 69.5 | 65.9 | 63.3 | 61.3 |
| 10 | 66.2 | 2.5 | 67.1 | 73.5 | 77 | 18 | 74.4 | 70.1 | 66.4 | 63.8 | 61.9 |
| 11 | 66.7 | 2.5 | 67.6 | 74.1 | 76 | 15 | 74.9 | 70.6 | 66.9 | 64.3 | 62.4 |
| 12 | 67.5 | 2.5 | 68.3 | 74.7 | 77 | 16 | 75.6 | 71.4 | 67.6 | 65.1 | 63.3 |
| 13 | 74.2 | 4.0 | 76.5 | 86.8 | 91 | 28 | 87.3 | 78.9 | 75.0 | 69.3 | 66.1 |
| 14 | 76.8 | 3.3 | 78.4 | 86.7 | 92 | 24 | 88.3 | 80.9 | 77.2 | 73.4 | 70.3 |

N= 4785

TABLE NO. 32
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 8- 75 1710 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.7 | 4.4 | 77.4 | 88.7 | 94 | 31 | 87.6 | 80.2 | 75.3 | 69.5 | 65.4 |
| 2 | 77.3 | 3.3 | 79.0 | 87.6 | 94 | 28 | 88.2 | 82.0 | 77.6 | 74.1 | 70.9 |
| 3 | 61.3 | 2.7 | 62.3 | 69.3 | 75 | 19 | 69.3 | 66.0 | 61.3 | 58.8 | 57.2 |
| 4 | 62.9 | 2.8 | 64.0 | 71.1 | 77 | 19 | 71.1 | 67.7 | 62.9 | 60.4 | 59.1 |
| 5 | 63.7 | 2.8 | 64.8 | 71.9 | 76 | 18 | 71.9 | 68.5 | 63.7 | 61.2 | 59.8 |
| 6 | 64.8 | 2.7 | 65.9 | 72.9 | 78 | 19 | 73.0 | 69.6 | 64.7 | 62.3 | 61.0 |
| 7 | 66.4 | 2.7 | 67.5 | 74.4 | 79 | 18 | 74.8 | 71.1 | 66.4 | 64.1 | 62.4 |
| 8 | 63.2 | 3.0 | 64.5 | 72.1 | 75 | 19 | 72.7 | 68.1 | 63.1 | 60.4 | 58.3 |
| 9 | 64.8 | 3.0 | 66.1 | 73.9 | 77 | 20 | 73.9 | 69.9 | 64.7 | 62.0 | 59.7 |
| 10 | 65.6 | 3.0 | 66.9 | 74.6 | 77 | 18 | 74.7 | 70.6 | 65.6 | 62.8 | 60.7 |
| 11 | 66.4 | 3.0 | 67.7 | 75.3 | 78 | 20 | 75.6 | 71.3 | 66.4 | 63.6 | 61.5 |
| 12 | 67.2 | 2.9 | 68.4 | 75.9 | 78 | 17 | 76.2 | 72.0 | 67.2 | 64.5 | 62.6 |
| 13 | 73.8 | 4.6 | 76.8 | 88.5 | 94 | 33 | 87.4 | 79.6 | 74.4 | 68.4 | 65.1 |
| 14 | 76.7 | 3.6 | 78.8 | 88.0 | 95 | 28 | 88.8 | 81.6 | 77.0 | 73.0 | 70.1 |

N= 4780

TABLE NO. 33
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 9- 75 906 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.2 | 5.8 | 81.1 | 95.9 | 98 | 39 | 92.9 | 83.9 | 76.5 | 69.6 | 64.1 |
| 2 | 78.8 | 4.9 | 82.5 | 95.2 | 100 | 36 | 94.0 | 85.5 | 78.8 | 73.6 | 69.1 |
| 3 | 64.0 | 4.0 | 66.1 | 76.3 | 79 | 24 | 75.2 | 70.0 | 64.0 | 59.8 | 57.4 |
| 4 | 65.6 | 3.9 | 67.6 | 77.5 | 79 | 21 | 76.5 | 71.4 | 65.8 | 61.3 | 59.2 |
| 5 | 66.7 | 3.7 | 68.5 | 78.0 | 80 | 21 | 77.2 | 72.2 | 66.9 | 62.5 | 60.3 |
| 6 | 68.0 | 3.7 | 69.7 | 79.2 | 81 | 22 | 78.3 | 73.5 | 68.3 | 64.0 | 61.2 |
| 7 | 68.5 | 3.7 | 70.2 | 79.7 | 82 | 22 | 78.8 | 73.9 | 68.7 | 64.5 | 61.7 |
| 8 | 64.4 | 4.5 | 66.9 | 78.4 | 78 | 24 | 76.1 | 71.2 | 64.5 | 59.3 | 56.2 |
| 9 | 67.0 | 4.4 | 69.3 | 80.6 | 80 | 25 | 78.2 | 73.5 | 67.1 | 61.9 | 58.5 |
| 10 | 67.4 | 4.4 | 69.7 | 80.9 | 80 | 25 | 78.6 | 73.8 | 67.5 | 62.4 | 59.0 |
| 11 | 68.2 | 4.3 | 70.4 | 81.5 | 81 | 25 | 79.3 | 74.6 | 68.2 | 63.4 | 60.0 |
| 12 | 68.9 | 4.2 | 71.0 | 81.8 | 83 | 26 | 79.8 | 75.1 | 69.0 | 64.2 | 60.8 |
| 13 | 76.6 | 5.7 | 81.2 | 95.8 | 99 | 37 | 93.1 | 84.2 | 77.1 | 69.5 | 65.0 |
| 14 | 77.3 | 5.2 | 81.3 | 94.7 | 98 | 33 | 92.7 | 84.5 | 77.4 | 71.2 | 67.6 |

N= 4780

10- 9- 75 926 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.5 | 5.8 | 78.6 | 93.4 | 93 | 33 | 89.9 | 81.9 | 75.1 | 67.2 | 63.0 |
| 2 | 77.2 | 4.7 | 80.1 | 92.3 | 94 | 30 | 90.6 | 83.6 | 77.5 | 71.7 | 67.8 |
| 3 | 62.3 | 3.9 | 64.2 | 74.1 | 75 | 24 | 73.0 | 67.7 | 62.6 | 57.9 | 55.0 |
| 4 | 63.3 | 3.7 | 64.9 | 74.3 | 74 | 20 | 72.5 | 68.6 | 63.7 | 59.0 | 56.2 |
| 5 | 65.2 | 3.6 | 66.6 | 75.7 | 76 | 21 | 73.9 | 70.3 | 65.6 | 60.9 | 58.1 |
| 6 | 66.5 | 3.5 | 67.9 | 76.8 | 78 | 21 | 75.2 | 71.6 | 67.0 | 62.4 | 59.8 |
| 7 | 67.1 | 3.4 | 68.4 | 77.2 | 77 | 19 | 75.5 | 72.1 | 67.5 | 63.1 | 60.3 |
| 8 | 62.6 | 4.3 | 64.9 | 75.9 | 76 | 25 | 73.5 | 69.0 | 62.7 | 57.6 | 54.4 |
| 9 | 65.3 | 4.2 | 67.4 | 78.3 | 77 | 23 | 75.6 | 71.5 | 65.6 | 60.3 | 57.1 |
| 10 | 66.0 | 4.1 | 67.9 | 78.4 | 77 | 22 | 75.6 | 72.0 | 66.4 | 61.1 | 58.0 |
| 11 | 66.9 | 4.0 | 68.7 | 78.9 | 77 | 21 | 75.8 | 72.8 | 67.2 | 62.0 | 58.8 |
| 12 | 67.7 | 3.9 | 69.4 | 79.5 | 78 | 21 | 76.6 | 73.5 | 68.1 | 63.0 | 59.5 |
| 13 | 75.0 | 5.4 | 78.9 | 92.7 | 94 | 32 | 90.3 | 82.4 | 75.5 | 68.4 | 64.3 |
| 14 | 75.9 | 4.9 | 79.0 | 91.6 | 93 | 32 | 89.4 | 82.9 | 76.1 | 70.5 | 65.2 |

N= 4730

TABLE NO. 34

STATISTICAL NOISE DATA

ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 9- 75 1020 HOUR

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.4 | 5.3 | 80.0 | 93.6 | 99 | 38 | 91.8 | 82.0 | 75.9 | 69.3 | 65.3 |
| 2 | 77.7 | 4.8 | 81.3 | 93.5 | 100 | 34 | 92.5 | 84.1 | 77.9 | 72.3 | 68.9 |
| 3 | 67.3 | 4.3 | 70.0 | 81.1 | 84 | 29 | 81.3 | 73.4 | 67.4 | 62.7 | 59.1 |
| 4 | 69.1 | 4.5 | 72.0 | 83.4 | 86 | 28 | 83.2 | 75.3 | 69.3 | 64.2 | 60.3 |
| 5 | 72.3 | 4.4 | 75.2 | 86.4 | 91 | 30 | 85.9 | 78.1 | 72.5 | 67.5 | 64.0 |
| 6 | 73.5 | 4.3 | 76.2 | 87.1 | 91 | 29 | 87.0 | 79.3 | 73.5 | 68.9 | 65.9 |
| 7 | 73.8 | 4.1 | 76.3 | 86.9 | 91 | 29 | 86.7 | 79.6 | 73.8 | 69.3 | 66.9 |
| 8 | 68.0 | 4.7 | 71.4 | 83.6 | 88 | 31 | 83.0 | 74.4 | 67.9 | 62.7 | 59.5 |
| 9 | 70.6 | 4.7 | 73.9 | 86.0 | 90 | 30 | 84.9 | 77.0 | 70.7 | 65.4 | 61.5 |
| 10 | 71.7 | 4.5 | 74.6 | 86.1 | 90 | 29 | 84.7 | 78.0 | 71.8 | 66.8 | 62.9 |
| 11 | 72.8 | 4.5 | 75.7 | 87.1 | 91 | 30 | 86.7 | 79.0 | 72.7 | 68.0 | 64.1 |
| 12 | 73.5 | 4.3 | 76.2 | 87.3 | 91 | 29 | 86.7 | 79.7 | 73.3 | 68.9 | 65.4 |
| 13 | 75.4 | 5.4 | 79.9 | 93.7 | 100 | 37 | 92.0 | 82.0 | 76.0 | 69.0 | 65.2 |
| 14 | 76.7 | 4.7 | 80.2 | 92.3 | 98 | 34 | 92.1 | 82.9 | 76.7 | 71.6 | 67.7 |

N= 4780

10- 9- 75 1040 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.2 | 5.9 | 78.5 | 93.5 | 94 | 36 | 90.1 | 82.0 | 74.7 | 67.5 | 61.2 |
| 2 | 76.6 | 5.1 | 79.9 | 92.9 | 94 | 33 | 90.7 | 83.6 | 76.9 | 70.9 | 64.8 |
| 3 | 65.7 | 4.8 | 68.4 | 80.6 | 80 | 29 | 78.2 | 72.6 | 65.9 | 60.5 | 55.3 |
| 4 | 67.4 | 4.9 | 70.3 | 82.8 | 83 | 31 | 80.2 | 74.3 | 67.6 | 62.2 | 55.7 |
| 5 | 71.0 | 4.9 | 73.9 | 86.5 | 87 | 32 | 83.7 | 77.8 | 71.3 | 65.9 | 57.8 |
| 6 | 72.2 | 4.8 | 74.9 | 87.2 | 87 | 31 | 84.6 | 78.7 | 72.3 | 67.4 | 59.0 |
| 7 | 72.3 | 4.8 | 74.9 | 87.1 | 86 | 30 | 84.4 | 78.9 | 72.5 | 67.6 | 58.7 |
| 8 | 67.1 | 4.8 | 70.1 | 82.3 | 83 | 27 | 80.1 | 73.8 | 67.5 | 61.6 | 58.3 |
| 9 | 69.6 | 4.8 | 72.5 | 84.9 | 85 | 28 | 82.0 | 76.2 | 70.1 | 63.6 | 60.2 |
| 10 | 70.9 | 4.8 | 73.6 | 86.0 | 87 | 30 | 83.3 | 77.4 | 71.4 | 64.7 | 61.0 |
| 11 | 71.6 | 4.7 | 74.2 | 86.1 | 87 | 29 | 83.7 | 77.9 | 72.0 | 65.8 | 62.0 |
| 12 | 72.2 | 4.5 | 74.7 | 86.3 | 87 | 28 | 84.2 | 78.5 | 72.7 | 66.9 | 62.5 |
| 13 | 74.9 | 5.4 | 78.8 | 92.5 | 95 | 34 | 89.7 | 82.1 | 75.4 | 68.4 | 64.1 |
| 14 | 75.5 | 5.0 | 79.0 | 91.8 | 95 | 32 | 89.8 | 82.6 | 75.7 | 70.0 | 66.1 |

N= 4780

TABLE NO. 35
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 9- 75 1205 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 71.8 | 6.2 | 77.3 | 93.1 | 96 | 41 | 90.0 | 79.2 | 72.7 | 64.4 | 58.3 |
| 2 | 75.4 | 4.8 | 78.9 | 91.1 | 97 | 36 | 90.7 | 81.4 | 75.8 | 69.9 | 65.8 |
| 3 | 62.3 | 5.3 | 66.5 | 80.1 | 83 | 34 | 78.4 | 69.2 | 62.5 | 56.6 | 51.8 |
| 4 | 66.1 | 5.0 | 69.6 | 82.5 | 84 | 31 | 80.7 | 72.7 | 66.4 | 60.4 | 55.7 |
| 5 | 68.9 | 4.8 | 72.0 | 84.3 | 87 | 31 | 82.8 | 74.9 | 69.2 | 63.5 | 58.2 |
| 6 | 70.8 | 4.6 | 73.9 | 85.6 | 91 | 34 | 84.9 | 76.6 | 71.0 | 65.8 | 60.8 |
| 7 | 71.5 | 4.5 | 74.6 | 86.1 | 92 | 33 | 85.6 | 77.6 | 71.5 | 66.8 | 62.4 |
| 8 | 66.6 | 5.7 | 70.7 | 85.3 | 87 | 38 | 83.4 | 73.5 | 67.4 | 59.9 | 52.5 |
| 9 | 69.2 | 5.4 | 73.0 | 86.8 | 90 | 37 | 84.8 | 75.6 | 69.9 | 62.8 | 56.2 |
| 10 | | | | N O D A T A | | | | | | | |
| 11 | 71.0 | 4.8 | 74.2 | 86.6 | 90 | 34 | 85.4 | 76.9 | 71.5 | 65.3 | 60.1 |
| 12 | 72.0 | 4.5 | 74.9 | 86.5 | 92 | 33 | 85.8 | 77.6 | 72.5 | 66.6 | 62.1 |
| 13 | 72.4 | 6.2 | 77.8 | 93.8 | 97 | 43 | 90.4 | 79.5 | 73.5 | 64.9 | 58.1 |
| 14 | 74.7 | 5.1 | 78.6 | 91.6 | 97 | 37 | 90.3 | 80.9 | 75.3 | 68.5 | 64.0 |

N= 4785

10- 9- 75 1225 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 71.6 | 7.2 | 77.6 | 95.9 | 94 | 41 | 89.4 | 80.9 | 72.3 | 62.4 | 55.6 |
| 2 | 75.1 | 5.5 | 79.1 | 93.2 | 94 | 34 | 89.8 | 83.3 | 75.2 | 68.8 | 63.8 |
| 3 | 62.6 | 6.0 | 66.8 | 82.1 | 81 | 33 | 76.8 | 71.7 | 62.6 | 55.7 | 50.1 |
| 4 | 65.1 | 5.9 | 69.2 | 84.3 | 83 | 32 | 79.3 | 74.0 | 65.3 | 58.1 | 52.7 |
| 5 | 68.4 | 5.9 | 72.3 | 87.4 | 86 | 33 | 82.5 | 77.0 | 68.7 | 61.2 | 55.6 |
| 6 | 70.4 | 5.7 | 74.1 | 88.7 | 88 | 32 | 84.0 | 78.9 | 70.6 | 64.0 | 58.2 |
| 7 | 71.2 | 5.3 | 74.6 | 88.1 | 87 | 29 | 84.2 | 79.3 | 71.1 | 65.4 | 60.1 |
| 8 | 66.4 | 6.3 | 70.8 | 86.9 | 85 | 36 | 82.2 | 75.5 | 67.0 | 58.4 | 52.3 |
| 9 | 69.2 | 5.9 | 73.2 | 88.4 | 88 | 36 | 83.9 | 77.5 | 69.9 | 61.8 | 55.2 |
| 10 | 70.1 | 5.7 | 73.7 | 88.3 | 88 | 34 | 84.1 | 78.2 | 70.7 | 63.1 | 57.2 |
| 11 | 71.2 | 5.3 | 74.6 | 88.3 | 91 | 34 | 84.8 | 78.9 | 71.6 | 64.9 | 59.5 |
| 12 | 71.9 | 5.0 | 75.0 | 87.8 | 89 | 30 | 84.9 | 79.5 | 71.9 | 66.2 | 61.4 |
| 13 | 72.2 | 6.8 | 77.7 | 95.2 | 94 | 40 | 89.3 | 80.8 | 73.2 | 63.6 | 56.8 |
| 14 | 74.3 | 5.4 | 78.3 | 92.3 | 93 | 32 | 89.4 | 82.2 | 74.5 | 68.0 | 63.7 |

N= 4780

TABLE NO. 36
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 4 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 9- 75 1511 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.1 | 6.1 | 79.1 | 94.6 | 96 | 41 | 91.3 | 81.6 | 74.9 | 66.9 | 61.2 |
| 2 | 76.9 | 4.7 | 80.3 | 92.3 | 96 | 33 | 91.6 | 83.0 | 77.1 | 72.1 | 67.3 |
| 3 | 60.9 | 4.9 | 64.1 | 76.5 | 77 | 29 | 74.0 | 68.4 | 60.5 | 56.0 | 52.0 |
| 4 | 64.9 | 4.8 | 68.0 | 80.3 | 82 | 30 | 77.9 | 72.3 | 64.6 | 59.9 | 55.9 |
| 5 | 66.9 | 4.6 | 69.7 | 81.4 | 83 | 30 | 78.9 | 74.0 | 66.8 | 62.2 | 57.6 |
| 6 | 68.7 | 4.5 | 71.3 | 82.7 | 85 | 30 | 80.7 | 75.4 | 68.7 | 64.2 | 59.5 |
| 7 | 70.2 | 4.2 | 72.7 | 83.4 | 87 | 29 | 82.5 | 76.1 | 70.3 | 66.1 | 61.4 |
| 8 | 63.2 | 4.7 | 66.1 | 78.2 | 79 | 28 | 75.9 | 70.3 | 63.2 | 58.0 | 54.2 |
| 9 | 67.5 | 4.5 | 70.2 | 81.8 | 82 | 28 | 79.7 | 74.5 | 67.7 | 62.7 | 58.1 |
| 10 | 68.5 | 4.3 | 70.9 | 81.9 | 83 | 26 | 79.9 | 75.0 | 68.5 | 63.8 | 59.8 |
| 11 | 70.0 | 4.1 | 72.2 | 82.9 | 85 | 26 | 81.4 | 76.2 | 70.1 | 65.6 | 61.6 |
| 12 | 70.9 | 4.0 | 73.0 | 83.2 | 85 | 26 | 81.9 | 77.0 | 70.9 | 66.8 | 62.8 |
| 13 | 74.5 | 5.5 | 78.6 | 92.6 | 95 | 37 | 90.5 | 80.8 | 75.3 | 67.9 | 62.4 |
| 14 | 76.2 | 4.6 | 79.4 | 91.3 | 94 | 31 | 90.5 | 82.3 | 76.5 | 71.2 | 67.1 |

N= 4780

10- 9- 75 1531 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.1 | 5.2 | 78.9 | 92.3 | 95 | 35 | 90.2 | 81.7 | 75.8 | 68.9 | 64.2 |
| 2 | 77.5 | 4.1 | 80.1 | 90.5 | 95 | 28 | 90.7 | 82.9 | 77.8 | 73.2 | 70.1 |
| 3 | 61.7 | 4.2 | 64.3 | 75.2 | 77 | 24 | 74.9 | 68.4 | 61.4 | 57.3 | 55.0 |
| 4 | 65.4 | 4.0 | 67.6 | 77.8 | 79 | 23 | 76.6 | 71.8 | 65.3 | 61.2 | 58.5 |
| 5 | 67.5 | 3.7 | 69.4 | 78.9 | 80 | 22 | 78.0 | 73.2 | 67.7 | 63.6 | 60.6 |
| 6 | 69.2 | 3.5 | 70.9 | 80.0 | 81 | 21 | 79.3 | 74.5 | 69.5 | 65.5 | 62.3 |
| 7 | 70.9 | 3.4 | 72.4 | 81.2 | 82 | 20 | 80.8 | 76.1 | 71.1 | 67.3 | 64.4 |
| 8 | 64.0 | 4.0 | 66.2 | 76.4 | 77 | 23 | 75.4 | 70.6 | 63.9 | 59.9 | 57.5 |
| 9 | 68.2 | 3.7 | 70.1 | 79.6 | 81 | 23 | 78.4 | 74.3 | 68.3 | 64.4 | 61.3 |
| 10 | 69.0 | 3.5 | 70.6 | 79.6 | 80 | 20 | 78.7 | 74.7 | 69.1 | 65.4 | 62.6 |
| 11 | 70.3 | 3.4 | 71.8 | 80.4 | 81 | 19 | 79.6 | 75.7 | 70.5 | 66.9 | 64.1 |
| 12 | 71.3 | 3.2 | 72.6 | 80.9 | 82 | 19 | 80.2 | 76.4 | 71.4 | 68.0 | 65.4 |
| 13 | 75.5 | 4.9 | 78.7 | 91.2 | 93 | 31 | 89.6 | 82.1 | 75.9 | 70.0 | 66.0 |
| 14 | 76.9 | 4.0 | 79.3 | 89.6 | 93 | 27 | 89.4 | 82.7 | 77.0 | 72.8 | 69.5 |

N= 4780

TABLES 37-44. NOISE DATA: EIGHT FOOT ABSORPTIVE BARRIER; MICROPHONE CONFIGURATIONS B, C, D, E.

TABLE NO. 37
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; ABSORPTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 29- 75 985 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 72.8 | 6.6 | 78.2 | 95.1 | 98 | 43 | 89.7 | 80.4 | 74.1 | 64.2 | 58.3 |
| 2 | 75.3 | 5.5 | 79.4 | 93.5 | 99 | 39 | 90.0 | 82.4 | 76.0 | 68.5 | 63.5 |
| 3 | 60.2 | 4.6 | 63.3 | 75.1 | 78 | 28 | 73.9 | 67.2 | 59.9 | 55.4 | 52.5 |
| 4 | 62.4 | 4.8 | 65.8 | 78.2 | 82 | 30 | 77.0 | 69.6 | 62.0 | 57.4 | 54.4 |
| 5 | 65.5 | 5.0 | 68.8 | 81.6 | 84 | 30 | 79.5 | 72.8 | 65.5 | 59.9 | 56.2 |
| 6 | 68.3 | 5.0 | 71.3 | 84.0 | 86 | 32 | 80.9 | 75.3 | 68.6 | 62.2 | 57.5 |
| 7 | 71.0 | 4.9 | 73.8 | 86.4 | 90 | 34 | 82.6 | 77.8 | 71.5 | 65.1 | 59.7 |
| 8 | 66.2 | 5.8 | 70.6 | 85.5 | 90 | 40 | 81.2 | 73.8 | 66.8 | 59.4 | 52.8 |
| 9 | 69.4 | 5.3 | 73.0 | 86.6 | 91 | 40 | 82.8 | 76.5 | 69.9 | 63.4 | 55.8 |
| 10 | 70.5 | 4.9 | 73.7 | 86.4 | 92 | 37 | 83.4 | 77.2 | 71.0 | 65.0 | 58.5 |
| 11 | 71.4 | 4.7 | 74.4 | 86.3 | 93 | 35 | 84.1 | 78.1 | 71.7 | 66.5 | 60.9 |
| 12 | 72.8 | 4.4 | 75.5 | 86.9 | 94 | 34 | 84.6 | 79.2 | 72.9 | 68.3 | 63.2 |
| 13 | 74.2 | 5.8 | 79.0 | 93.8 | 100 | 40 | 90.2 | 81.1 | 75.0 | 67.2 | 62.5 |
| 14 | 75.7 | 5.0 | 79.4 | 92.3 | 100 | 38 | 89.6 | 82.5 | 76.0 | 70.3 | 64.8 |

N= 4780

10- 29- 75 1005 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.3 | 6.6 | 79.5 | 96.3 | 98 | 45 | 91.2 | 82.7 | 75.1 | 66.3 | 56.5 |
| 2 | 77.0 | 5.3 | 80.6 | 94.2 | 97 | 37 | 91.7 | 83.9 | 77.4 | 70.8 | 65.0 |
| 3 | 62.1 | 4.4 | 64.6 | 75.8 | 79 | 28 | 74.6 | 68.2 | 62.3 | 57.0 | 52.7 |
| 4 | 64.1 | 4.5 | 66.7 | 78.2 | 80 | 28 | 76.9 | 70.4 | 64.4 | 58.9 | 54.7 |
| 5 | 66.6 | 4.7 | 69.3 | 81.4 | 84 | 31 | 79.5 | 73.0 | 66.8 | 61.2 | 55.9 |
| 6 | 69.4 | 4.8 | 72.0 | 84.2 | 85 | 30 | 81.6 | 75.9 | 69.8 | 63.7 | 58.2 |
| 7 | 72.2 | 4.7 | 74.7 | 86.8 | 88 | 30 | 83.9 | 78.6 | 72.6 | 66.5 | 61.1 |
| 8 | 67.6 | 5.7 | 71.6 | 86.2 | 87 | 35 | 82.0 | 75.4 | 68.1 | 60.7 | 55.1 |
| 9 | 70.9 | 5.2 | 74.0 | 87.3 | 89 | 34 | 83.8 | 77.9 | 71.6 | 64.8 | 58.8 |
| 10 | 72.0 | 4.9 | 74.8 | 87.3 | 89 | 32 | 84.4 | 78.6 | 72.6 | 66.2 | 60.4 |
| 11 | 72.9 | 4.7 | 75.4 | 87.4 | 90 | 32 | 84.9 | 79.2 | 73.3 | 67.6 | 61.8 |
| 12 | 74.1 | 4.4 | 76.5 | 87.8 | 90 | 31 | 85.7 | 80.2 | 74.6 | 69.2 | 64.3 |
| 13 | 75.6 | 5.9 | 80.0 | 95.2 | 98 | 39 | 91.2 | 83.3 | 76.3 | 68.2 | 62.8 |
| 14 | 77.0 | 5.0 | 80.4 | 93.3 | 98 | 35 | 90.7 | 83.7 | 77.4 | 71.1 | 66.2 |

N= 4780

TABLE NO. 38
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; ABSORPTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 29- 75 1131 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 71.5 | 7.7 | 78.2 | 97.9 | 96 | 44 | 89.7 | 82.2 | 72.2 | 62.0 | 55.3 |
| 2 | 74.1 | 6.1 | 78.8 | 94.5 | 95 | 37 | 89.7 | 83.1 | 74.6 | 67.1 | 61.7 |
| 3 | 58.8 | 4.5 | 61.3 | 73.0 | 73 | 24 | 70.7 | 65.5 | 58.8 | 54.0 | 51.2 |
| 4 | 60.8 | 4.7 | 63.4 | 75.4 | 74 | 23 | 72.7 | 67.6 | 60.8 | 55.7 | 53.1 |
| 5 | 61.8 | 4.9 | 64.7 | 77.2 | 76 | 26 | 74.4 | 68.8 | 61.7 | 56.4 | 53.2 |
| 6 | 63.3 | 4.8 | 66.1 | 78.5 | 77 | 25 | 75.2 | 70.5 | 63.4 | 57.9 | 54.2 |
| 7 | 66.0 | 4.7 | 68.6 | 80.7 | 79 | 26 | 77.6 | 72.9 | 66.2 | 60.8 | 56.2 |
| 8 | 61.0 | 5.9 | 65.4 | 80.4 | 81 | 32 | 75.8 | 69.8 | 60.8 | 54.3 | 51.0 |
| 9 | 65.4 | 6.1 | 69.8 | 85.4 | 86 | 35 | 80.1 | 74.3 | 65.6 | 58.0 | 53.8 |
| 10 | 67.3 | 5.7 | 71.1 | 85.6 | 88 | 36 | 81.2 | 75.4 | 67.5 | 60.6 | 56.2 |
| 11 | 68.5 | 5.5 | 72.0 | 86.1 | 89 | 35 | 81.7 | 76.2 | 68.6 | 61.9 | 57.4 |
| 12 | 69.2 | 5.3 | 72.5 | 86.2 | 88 | 34 | 81.9 | 76.7 | 69.5 | 62.8 | 58.4 |
| 13 | 72.9 | 7.1 | 79.0 | 97.1 | 97 | 42 | 90.4 | 82.8 | 73.3 | 64.2 | 58.6 |
| 14 | 74.9 | 5.8 | 79.5 | 94.5 | 97 | 36 | 90.3 | 83.4 | 75.0 | 68.2 | 63.8 |

N= 4785

10- 29- 75 1151 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.0 | 7.0 | 79.3 | 97.1 | 99 | 47 | 91.3 | 81.8 | 73.9 | 64.1 | 57.1 |
| 2 | 75.8 | 5.8 | 80.3 | 95.2 | 97 | 40 | 91.8 | 83.8 | 76.1 | 69.3 | 61.6 |
| 3 | 59.6 | 4.3 | 61.9 | 72.9 | 73 | 25 | 71.0 | 66.0 | 59.6 | 55.0 | 51.5 |
| 4 | 61.8 | 4.5 | 64.4 | 75.8 | 78 | 28 | 73.7 | 68.4 | 61.9 | 57.0 | 53.4 |
| 5 | 62.8 | 4.8 | 65.8 | 78.0 | 81 | 32 | 75.5 | 69.8 | 62.9 | 57.6 | 53.3 |
| 6 | 64.4 | 5.0 | 67.4 | 80.2 | 84 | 34 | 77.0 | 71.5 | 64.5 | 58.9 | 54.3 |
| 7 | 67.1 | 4.9 | 70.0 | 82.7 | 84 | 32 | 79.5 | 74.3 | 67.1 | 61.6 | 57.1 |
| 8 | 61.6 | 5.5 | 65.7 | 79.8 | 81 | 31 | 77.1 | 69.9 | 61.3 | 55.6 | 52.1 |
| 9 | 66.4 | 5.7 | 70.5 | 85.2 | 85 | 33 | 81.7 | 74.6 | 66.7 | 59.6 | 55.3 |
| 10 | 68.5 | 5.4 | 72.2 | 86.0 | 87 | 33 | 82.9 | 75.9 | 68.8 | 62.2 | 57.3 |
| 11 | 69.9 | 5.2 | 73.3 | 86.7 | 89 | 35 | 83.9 | 76.9 | 70.3 | 64.0 | 59.0 |
| 12 | 70.7 | 5.1 | 73.9 | 86.9 | 89 | 35 | 84.5 | 77.6 | 71.0 | 65.0 | 60.2 |
| 13 | 74.3 | 6.3 | 80.1 | 96.3 | 100 | 43 | 92.7 | 82.2 | 75.1 | 66.6 | 61.3 |
| 14 | 76.5 | 5.4 | 80.8 | 94.5 | 98 | 36 | 92.8 | 83.8 | 76.9 | 70.4 | 66.6 |

N= 4780

TABLE NO. 39
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; ABSORPTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 29- 75 1509 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.7 | 5.2 | 79.4 | 92.7 | 95 | 34 | 90.4 | 82.6 | 76.2 | 69.8 | 64.4 |
| 2 | 77.8 | 4.3 | 80.5 | 91.5 | 95 | 29 | 90.4 | 84.0 | 77.9 | 73.3 | 69.3 |
| 3 | 63.5 | 3.7 | 65.3 | 74.8 | 76 | 21 | 73.7 | 69.2 | 63.7 | 59.5 | 57.2 |
| 4 | 65.4 | 3.9 | 67.4 | 77.3 | 81 | 24 | 76.0 | 71.3 | 65.5 | 61.3 | 58.9 |
| 5 | 67.5 | 4.0 | 69.6 | 79.8 | 83 | 26 | 78.2 | 73.5 | 67.6 | 63.2 | 60.3 |
| 6 | 70.1 | 4.0 | 72.1 | 82.3 | 86 | 28 | 80.3 | 76.0 | 70.2 | 65.8 | 62.2 |
| 7 | 72.4 | 3.9 | 74.4 | 84.3 | 88 | 28 | 82.5 | 78.2 | 72.6 | 68.2 | 64.7 |
| 8 | 66.9 | 4.3 | 69.9 | 81.0 | 90 | 35 | 80.3 | 72.9 | 67.0 | 62.6 | 58.6 |
| 9 | 68.6 | 4.3 | 71.3 | 82.1 | 89 | 32 | 81.0 | 74.4 | 68.8 | 64.1 | 59.7 |
| 10 | 70.1 | 4.0 | 72.4 | 82.6 | 90 | 32 | 81.8 | 75.5 | 70.4 | 66.0 | 61.4 |
| 11 | 71.7 | 3.8 | 73.8 | 83.6 | 90 | 30 | 82.9 | 77.0 | 71.9 | 67.8 | 63.4 |
| 12 | 72.9 | 3.8 | 74.9 | 84.6 | 90 | 30 | 83.7 | 78.5 | 73.1 | 69.1 | 65.1 |
| 13 | 76.7 | 4.7 | 80.1 | 92.3 | 101 | 37 | 90.6 | 83.0 | 77.2 | 71.4 | 67.1 |
| 14 | | | | | NO DATA | | | | | | |

N= 4780

10- 29- 75 1529 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.3 | 4.7 | 79.6 | 91.7 | 94 | 31 | 90.8 | 82.7 | 76.6 | 71.8 | 66.3 |
| 2 | 77.9 | 4.0 | 80.3 | 90.6 | 94 | 26 | 90.6 | 83.8 | 77.8 | 73.8 | 70.7 |
| 3 | 63.0 | 3.4 | 64.5 | 73.1 | 76 | 20 | 72.6 | 68.3 | 63.0 | 59.6 | 58.0 |
| 4 | 64.8 | 3.5 | 66.4 | 75.3 | 76 | 19 | 74.3 | 70.4 | 64.8 | 61.2 | 59.4 |
| 5 | 66.9 | 3.6 | 68.6 | 77.7 | 79 | 20 | 77.0 | 72.7 | 66.7 | 63.3 | 61.2 |
| 6 | 69.6 | 3.6 | 71.4 | 80.6 | 83 | 22 | 80.0 | 75.4 | 69.5 | 66.2 | 63.6 |
| 7 | 72.2 | 3.5 | 73.9 | 83.0 | 84 | 20 | 82.5 | 77.9 | 72.2 | 68.6 | 66.2 |
| 8 | 66.9 | 4.3 | 69.7 | 80.6 | 84 | 27 | 80.6 | 72.8 | 67.0 | 62.3 | 59.7 |
| 9 | 68.5 | 4.2 | 71.1 | 81.9 | 85 | 27 | 81.7 | 74.2 | 68.7 | 63.8 | 60.8 |
| 10 | 70.0 | 4.0 | 72.2 | 82.4 | 84 | 23 | 82.3 | 75.5 | 70.3 | 65.8 | 62.6 |
| 11 | 71.6 | 3.8 | 73.7 | 83.4 | 86 | 24 | 83.2 | 77.3 | 71.8 | 67.7 | 64.9 |
| 12 | 73.0 | 3.7 | 74.9 | 84.3 | 86 | 22 | 83.9 | 78.6 | 73.1 | 69.1 | 66.6 |
| 13 | 76.5 | 4.8 | 79.9 | 92.1 | 95 | 32 | 91.4 | 82.9 | 77.0 | 71.0 | 66.7 |
| 14 | | | | | NO DATA | | | | | | |

N= 4785

TABLE NO. 40
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; ABSORPTIVE, MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 29- 75 1359 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.1 | 6.7 | 78.4 | 95.6 | 95 | 40 | 90.1 | 81.8 | 73.9 | 64.7 | 58.8 |
| 2 | 75.8 | 5.4 | 79.5 | 93.4 | 94 | 33 | 90.1 | 83.5 | 76.1 | 69.3 | 64.6 |
| 3 | 57.4 | 3.7 | 59.1 | 68.7 | 70 | 20 | 67.3 | 63.2 | 57.3 | 53.3 | 51.3 |
| 4 | 59.6 | 3.8 | 61.4 | 71.1 | 72 | 21 | 69.7 | 65.5 | 59.5 | 55.4 | 53.4 |
| 5 | 59.9 | 3.8 | 61.8 | 71.6 | 73 | 22 | 70.2 | 65.9 | 59.9 | 55.8 | 53.2 |
| 6 | 60.2 | 4.0 | 62.2 | 72.3 | 73 | 23 | 71.0 | 66.1 | 60.1 | 56.1 | 53.0 |
| 7 | 61.4 | 4.0 | 63.4 | 73.6 | 75 | 23 | 72.1 | 67.4 | 61.5 | 57.2 | 53.9 |
| 8 | 58.2 | 4.5 | 60.6 | 72.0 | 73 | 26 | 69.8 | 64.4 | 58.6 | 52.9 | 49.9 |
| 9 | 60.5 | 4.7 | 62.9 | 75.0 | 73 | 25 | 71.7 | 67.0 | 61.0 | 54.8 | 51.0 |
| 10 | 63.0 | 4.8 | 65.4 | 77.6 | 75 | 25 | 73.6 | 69.5 | 63.7 | 56.9 | 52.6 |
| 11 | 65.1 | 4.8 | 67.3 | 79.5 | 76 | 24 | 75.2 | 71.4 | 66.1 | 58.9 | 54.4 |
| 12 | 66.5 | 4.7 | 68.7 | 80.8 | 79 | 25 | 76.2 | 72.7 | 67.5 | 60.3 | 55.6 |
| 13 | 74.1 | 6.6 | 79.0 | 95.8 | 95 | 38 | 90.1 | 82.5 | 75.5 | 65.1 | 60.6 |
| 14 | | | | N O | D A T A | | | | | | |

N= 4780

TABLE NO. 41
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; ABSORPTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 31- 75 905 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.8 | 6.8 | 79.0 | 96.5 | 96 | 42 | 91.1 | 82.0 | 75.2 | 64.3 | 58.1 |
| 2 | 76.2 | 5.5 | 80.1 | 94.1 | 96 | 36 | 91.4 | 83.1 | 76.8 | 69.7 | 63.5 |
| 3 | 63.6 | 4.3 | 66.5 | 77.5 | 82 | 28 | 77.2 | 69.9 | 63.3 | 59.4 | 56.5 |
| 4 | 65.8 | 4.4 | 68.7 | 79.9 | 83 | 27 | 79.1 | 72.5 | 65.5 | 61.4 | 58.8 |
| 5 | 67.2 | 4.7 | 70.3 | 82.2 | 85 | 29 | 80.5 | 74.1 | 67.2 | 62.2 | 59.0 |
| 6 | 70.4 | 5.0 | 73.3 | 86.2 | 86 | 29 | 82.9 | 77.2 | 71.1 | 64.1 | 60.1 |
| 7 | 72.0 | 4.9 | 74.9 | 87.4 | 89 | 30 | 85.0 | 78.6 | 72.4 | 66.0 | 61.8 |
| 8 | 67.8 | 5.1 | 71.6 | 84.8 | 88 | 33 | 82.8 | 74.5 | 68.2 | 61.7 | 57.8 |
| 9 | 69.4 | 5.2 | 73.0 | 86.2 | 90 | 35 | 83.8 | 76.0 | 69.9 | 63.1 | 59.1 |
| 10 | 69.5 | 5.1 | 73.0 | 86.1 | 90 | 35 | 83.8 | 76.0 | 69.9 | 63.4 | 58.7 |
| 11 | 70.7 | 5.0 | 74.0 | 86.7 | 89 | 34 | 84.7 | 77.5 | 71.1 | 65.1 | 59.3 |
| 12 | 71.8 | 4.8 | 74.6 | 86.9 | 89 | 33 | 84.9 | 78.3 | 72.1 | 66.5 | 60.0 |
| 13 | | | | N O | D A T A | | | | | | |
| 14 | 76.0 | 5.3 | 79.8 | 93.3 | 96 | 36 | 90.9 | 82.9 | 76.4 | 69.7 | 63.6 |

N= 4780

10- 31- 75 925 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.5 | 6.5 | 78.5 | 95.1 | 95 | 38 | 90.3 | 81.7 | 74.6 | 64.8 | 60.0 |
| 2 | 76.4 | 5.0 | 79.7 | 92.6 | 95 | 32 | 90.6 | 83.1 | 77.0 | 70.4 | 66.7 |
| 3 | 63.7 | 4.2 | 65.9 | 76.7 | 81 | 27 | 74.4 | 69.6 | 64.1 | 58.7 | 56.4 |
| 4 | 66.1 | 4.2 | 68.4 | 79.2 | 83 | 26 | 76.6 | 72.3 | 66.6 | 61.0 | 58.7 |
| 5 | 67.0 | 4.4 | 69.5 | 80.8 | 85 | 28 | 78.5 | 73.4 | 67.3 | 61.8 | 59.3 |
| 6 | 69.7 | 4.5 | 72.1 | 83.6 | 85 | 27 | 81.4 | 76.2 | 70.1 | 64.3 | 61.9 |
| 7 | 71.7 | 4.5 | 74.2 | 85.6 | 86 | 25 | 83.5 | 78.2 | 72.2 | 66.3 | 63.5 |
| 8 | 67.1 | 4.9 | 70.4 | 82.9 | 86 | 34 | 81.1 | 73.4 | 67.6 | 61.6 | 56.5 |
| 9 | 68.9 | 5.0 | 72.2 | 85.0 | 87 | 32 | 82.7 | 75.5 | 69.5 | 63.1 | 57.8 |
| 10 | 69.3 | 4.9 | 72.3 | 84.7 | 87 | 32 | 82.4 | 75.8 | 70.0 | 63.6 | 58.6 |
| 11 | 70.8 | 4.6 | 73.5 | 85.3 | 88 | 32 | 82.9 | 77.3 | 71.3 | 65.4 | 60.5 |
| 12 | 71.8 | 4.5 | 74.2 | 85.7 | 87 | 29 | 83.4 | 78.4 | 72.3 | 66.8 | 61.9 |
| 13 | | | | N O | D A T A | | | | | | |
| 14 | 76.1 | 5.1 | 79.3 | 92.2 | 93 | 39 | 90.1 | 82.5 | 76.8 | 70.1 | 63.1 |

N= 4780

TABLE NO. 42
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; ABSORPTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 31- 75 1046 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.9 | 6.8 | 79.9 | 97.4 | 99 | 44 | 92.2 | 82.1 | 75.1 | 65.1 | 58.6 |
| 2 | 76.6 | 5.5 | 80.6 | 94.7 | 98 | 37 | 91.8 | 83.9 | 77.1 | 70.2 | 64.8 |
| 3 | 60.8 | 3.2 | 62.1 | 70.4 | 71 | 20 | 69.6 | 65.8 | 61.1 | 57.5 | 54.5 |
| 4 | 63.4 | 3.3 | 64.7 | 73.1 | 75 | 20 | 72.1 | 68.2 | 63.7 | 59.7 | 57.1 |
| 5 | 62.3 | 3.5 | 63.9 | 72.9 | 76 | 22 | 71.8 | 67.5 | 62.8 | 58.4 | 55.6 |
| 6 | 62.9 | 3.6 | 64.5 | 73.8 | 76 | 22 | 72.5 | 68.3 | 63.3 | 58.8 | 56.2 |
| 7 | 64.1 | 3.6 | 65.7 | 75.1 | 77 | 22 | 73.5 | 69.3 | 64.6 | 59.9 | 57.2 |
| 8 | 62.1 | 4.0 | 64.5 | 74.8 | 78 | 25 | 74.5 | 67.7 | 62.2 | 57.8 | 55.2 |
| 9 | 64.6 | 4.3 | 67.1 | 78.0 | 81 | 27 | 77.1 | 70.5 | 64.8 | 60.0 | 56.9 |
| 10 | 65.6 | 4.2 | 68.0 | 78.7 | 83 | 28 | 77.7 | 71.3 | 66.0 | 61.0 | 57.0 |
| 11 | 67.1 | 4.2 | 69.5 | 80.3 | 84 | 28 | 79.6 | 72.7 | 67.5 | 62.3 | 58.3 |
| 12 | 68.0 | 4.2 | 70.3 | 81.2 | 84 | 27 | 80.6 | 73.7 | 68.5 | 63.2 | 59.1 |
| 13 | | | | N O | D A T A | | | | | | |
| 14 | 76.6 | 5.2 | 80.6 | 94.0 | 100 | 50 | 92.0 | 83.5 | 76.9 | 70.7 | 66.2 |

N= 4725

10- 31- 75 1123 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 71.6 | 7.3 | 77.7 | 96.4 | 95 | 42 | 90.1 | 80.9 | 72.7 | 62.2 | 56.6 |
| 2 | 74.6 | 5.6 | 78.5 | 92.8 | 94 | 35 | 89.6 | 81.9 | 75.1 | 67.9 | 62.1 |
| 3 | 59.4 | 3.2 | 60.7 | 68.9 | 70 | 19 | 67.7 | 64.7 | 59.3 | 56.1 | 54.0 |
| 4 | 61.8 | 3.4 | 63.2 | 71.8 | 73 | 19 | 70.9 | 67.0 | 61.7 | 58.3 | 56.4 |
| 5 | 60.5 | 3.5 | 62.1 | 70.9 | 73 | 21 | 70.1 | 66.0 | 60.4 | 57.0 | 54.7 |
| 6 | 60.8 | 3.5 | 62.4 | 71.4 | 74 | 22 | 70.4 | 66.4 | 60.7 | 57.3 | 55.0 |
| 7 | 61.9 | 3.5 | 63.5 | 72.3 | 74 | 20 | 71.5 | 67.4 | 62.0 | 58.4 | 55.7 |
| 8 | 59.4 | 4.1 | 61.6 | 72.0 | 74 | 23 | 70.1 | 66.0 | 59.2 | 55.2 | 52.7 |
| 9 | 61.7 | 4.3 | 64.1 | 75.2 | 78 | 26 | 72.9 | 68.4 | 61.6 | 57.2 | 54.0 |
| 10 | 62.8 | 4.2 | 65.0 | 75.8 | 78 | 27 | 73.3 | 69.3 | 62.8 | 58.3 | 54.6 |
| 11 | 64.3 | 4.2 | 66.3 | 77.0 | 79 | 26 | 74.1 | 70.6 | 64.5 | 59.7 | 56.0 |
| 12 | 65.3 | 4.1 | 67.2 | 77.7 | 80 | 26 | 74.8 | 71.4 | 65.7 | 60.5 | 57.2 |
| 13 | 71.9 | 6.1 | 76.5 | 92.1 | 92 | 38 | 88.1 | 79.6 | 72.5 | 64.8 | 58.8 |
| 14 | | | | N O | D A T A | | | | | | |

N= 4780

TABLE NO. 43
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; ABSORPTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 31- 75 1250 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 72.9 | 7.4 | 80.0 | 98.9 | 98 | 45 | 92.7 | 82.3 | 73.8 | 63.7 | 58.2 |
| 2 | 75.4 | 5.8 | 80.6 | 95.5 | 98 | 38 | 92.7 | 83.3 | 75.6 | 69.1 | 63.0 |
| 3 | 61.1 | 4.4 | 64.0 | 75.2 | 78 | 26 | 74.3 | 67.5 | 61.0 | 56.6 | 53.6 |
| 4 | 64.2 | 4.5 | 67.3 | 79.0 | 82 | 27 | 77.9 | 70.9 | 64.1 | 59.5 | 57.0 |
| 5 | 63.7 | 4.8 | 67.2 | 79.6 | 83 | 29 | 78.2 | 70.8 | 63.4 | 58.7 | 56.1 |
| 6 | 64.8 | 4.8 | 68.3 | 80.6 | 83 | 29 | 79.2 | 72.0 | 64.5 | 59.8 | 56.9 |
| 7 | 66.8 | 4.7 | 70.0 | 82.2 | 85 | 30 | 80.5 | 74.0 | 66.7 | 61.8 | 58.4 |
| 8 | 64.4 | 5.1 | 68.3 | 81.5 | 85 | 33 | 79.0 | 72.3 | 64.2 | 59.0 | 55.1 |
| 9 | 68.4 | 5.3 | 72.3 | 85.8 | 87 | 32 | 82.9 | 76.7 | 68.4 | 62.6 | 58.5 |
| 10 | 68.9 | 5.2 | 72.6 | 86.0 | 89 | 34 | 83.0 | 77.1 | 68.9 | 63.1 | 58.4 |
| 11 | 69.9 | 5.2 | 73.5 | 86.7 | 90 | 33 | 83.7 | 77.7 | 70.1 | 64.1 | 59.2 |
| 12 | 70.7 | 5.0 | 74.0 | 86.8 | 89 | 32 | 83.9 | 78.3 | 70.9 | 65.1 | 60.1 |
| 13 | 74.0 | 6.7 | 80.1 | 97.2 | 99 | 42 | 92.6 | 82.4 | 74.9 | 66.0 | 60.0 |
| 14 | | | | NO DATA | | | | | | | |
| 15 | 73.0 | 5.6 | 77.2 | 91.5 | 95 | 34 | 88.3 | 80.2 | 73.8 | 66.2 | 63.2 |
| N= | 4780 | | | | | | | | | | |

10- 31- 75 1307 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.8 | 7.5 | 80.9 | 100.1 | 98 | 43 | 93.2 | 84.6 | 74.3 | 64.9 | 58.8 |
| 2 | 76.3 | 6.0 | 81.4 | 96.8 | 100 | 38 | 92.9 | 85.2 | 76.1 | 70.0 | 64.7 |
| 3 | 61.6 | 4.1 | 64.0 | 74.6 | 78 | 26 | 73.3 | 67.8 | 61.5 | 57.3 | 54.8 |
| 4 | 64.7 | 4.2 | 67.1 | 77.9 | 81 | 26 | 76.7 | 71.1 | 64.5 | 60.3 | 57.7 |
| 5 | 64.1 | 4.6 | 67.1 | 78.8 | 83 | 29 | 77.3 | 71.0 | 63.9 | 59.4 | 56.6 |
| 6 | 65.3 | 4.6 | 68.3 | 80.2 | 84 | 30 | 78.6 | 72.3 | 65.1 | 60.4 | 57.4 |
| 7 | 67.2 | 4.6 | 70.2 | 82.0 | 84 | 28 | 80.3 | 74.3 | 67.1 | 62.4 | 58.7 |
| 8 | 64.0 | 5.1 | 67.7 | 80.7 | 84 | 31 | 78.5 | 71.6 | 63.5 | 58.8 | 56.0 |
| 9 | 68.4 | 5.4 | 72.3 | 86.0 | 88 | 32 | 82.9 | 76.6 | 68.1 | 62.5 | 59.0 |
| 10 | 69.4 | 5.2 | 73.1 | 86.5 | 89 | 32 | 84.0 | 77.2 | 69.2 | 63.7 | 60.0 |
| 11 | 70.6 | 5.1 | 74.1 | 87.2 | 90 | 32 | 84.7 | 78.0 | 70.4 | 65.0 | 61.3 |
| 12 | 71.5 | 4.9 | 74.8 | 87.4 | 90 | 31 | 85.4 | 78.5 | 71.4 | 66.1 | 62.4 |
| 13 | 74.8 | 6.6 | 80.7 | 97.6 | 99 | 39 | 92.5 | 84.1 | 75.1 | 66.9 | 63.3 |
| 14 | | | | NO DATA | | | | | | | |
| 16 | 75.0 | 5.6 | 79.2 | 93.5 | 94 | 32 | 90.7 | 82.6 | 75.5 | 68.3 | 64.4 |
| N= | 4785 | | | | | | | | | | |

TABLE NO. 44
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; ABSORPTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

10- 31- 75 1433 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.0 | 5.6 | 79.7 | 94.0 | 95 | 37 | 90.4 | 83.3 | 76.7 | 69.1 | 62.6 |
| 2 | 77.8 | 4.5 | 80.4 | 91.9 | 95 | 31 | 90.2 | 84.0 | 78.2 | 72.8 | 67.7 |
| 3 | 63.8 | 3.3 | 65.1 | 73.4 | 75 | 19 | 72.5 | 68.9 | 63.9 | 60.3 | 58.1 |
| 4 | 66.3 | 3.4 | 67.6 | 76.2 | 78 | 20 | 75.0 | 71.4 | 66.4 | 62.6 | 60.5 |
| 5 | 67.5 | 3.5 | 69.0 | 78.0 | 79 | 22 | 76.5 | 72.8 | 67.8 | 63.4 | 60.6 |
| 6 | 70.4 | 3.7 | 72.0 | 81.4 | 82 | 23 | 79.5 | 75.7 | 70.9 | 66.1 | 62.0 |
| 7 | 72.5 | 3.8 | 74.1 | 83.8 | 84 | 24 | 81.8 | 78.0 | 72.9 | 68.3 | 63.7 |
| 8 | 68.6 | 4.7 | 71.3 | 83.3 | 85 | 31 | 80.8 | 75.3 | 68.8 | 63.1 | 58.7 |
| 9 | 71.1 | 4.4 | 73.3 | 84.6 | 85 | 30 | 81.7 | 77.4 | 71.6 | 65.9 | 62.0 |
| 10 | 71.6 | 4.2 | 73.7 | 84.4 | 85 | 28 | 81.9 | 77.7 | 72.1 | 66.7 | 62.7 |
| 11 | 72.9 | 4.1 | 74.9 | 85.3 | 87 | 28 | 83.0 | 78.8 | 73.3 | 68.2 | 64.4 |
| 12 | 73.6 | 3.9 | 75.4 | 85.4 | 87 | 26 | 83.3 | 79.3 | 73.9 | 69.0 | 65.6 |
| 13 | 75.3 | 5.2 | 78.7 | 91.9 | 93 | 34 | 88.9 | 82.0 | 76.1 | 68.9 | 64.4 |
| 14 | | | | NO DATA | | | | | | | |
| 16 | 77.8 | 5.8 | 81.9 | 96.7 | 98 | 34 | 92.8 | 85.8 | 78.3 | 70.4 | 66.3 |
| N= | 4780 | | | | | | | | | | |

10- 31- 75 1453 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.9 | 6.7 | 80.7 | 97.8 | 102 | 44 | 92.2 | 82.8 | 74.5 | 66.1 | 61.9 |
| 2 | 76.3 | 5.3 | 81.2 | 94.8 | 101 | 40 | 92.0 | 83.7 | 76.5 | 70.6 | 65.8 |
| 3 | 62.1 | 4.3 | 64.8 | 75.9 | 79 | 26 | 75.2 | 68.8 | 61.9 | 57.8 | 54.6 |
| 4 | 64.6 | 4.4 | 67.6 | 78.9 | 84 | 29 | 78.7 | 71.2 | 64.3 | 60.2 | 57.2 |
| 5 | 65.5 | 4.7 | 69.1 | 81.2 | 84 | 29 | 80.8 | 72.5 | 65.5 | 60.5 | 57.2 |
| 6 | 68.5 | 4.8 | 72.1 | 84.4 | 90 | 34 | 83.0 | 75.4 | 68.6 | 63.3 | 59.4 |
| 7 | 70.9 | 4.8 | 74.6 | 86.8 | 92 | 33 | 85.4 | 77.7 | 71.1 | 65.6 | 61.9 |
| 8 | 67.7 | 5.4 | 72.2 | 86.1 | 91 | 37 | 84.5 | 75.4 | 67.8 | 61.6 | 57.4 |
| 9 | 70.2 | 5.2 | 74.4 | 87.7 | 95 | 40 | 86.1 | 77.1 | 70.4 | 64.2 | 59.3 |
| 10 | 70.7 | 5.0 | 74.5 | 87.4 | 93 | 37 | 86.1 | 77.5 | 70.9 | 65.2 | 59.7 |
| 11 | 72.0 | 4.8 | 75.7 | 88.2 | 95 | 38 | 86.8 | 78.7 | 72.2 | 66.8 | 61.3 |
| 12 | 72.7 | 4.6 | 76.1 | 87.9 | 95 | 36 | 87.2 | 78.9 | 72.8 | 67.8 | 62.1 |
| 13 | 73.8 | 6.0 | 79.1 | 94.5 | 100 | 42 | 90.8 | 81.9 | 74.2 | 66.9 | 61.2 |
| 14 | | | | NO DATA | | | | | | | |
| 15 | 73.9 | 4.8 | 77.1 | 89.4 | 94 | 32 | 88.1 | 80.3 | 74.1 | 68.5 | 64.9 |
| N= | 4780 | | | | | | | | | | |

TABLES 45-56. NOISE DATA: EIGHT FOOT REFLECTIVE BARRIER; MICROPHONE CONFIGURATIONS B, C, D, E.

TABLE NO. 45
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 4- 75 905 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.8 | 5.4 | 77.6 | 91.5 | 93 | 35 | 88.8 | 80.3 | 74.7 | 66.9 | 62.1 |
| 2 | 75.8 | 4.5 | 78.5 | 90.1 | 91 | 29 | 88.8 | 81.9 | 76.1 | 70.6 | 66.4 |
| 3 | 61.7 | 3.7 | 63.4 | 72.8 | 76 | 22 | 72.1 | 67.0 | 61.8 | 57.7 | 55.5 |
| 4 | 63.1 | 4.0 | 65.2 | 75.3 | 77 | 22 | 74.2 | 69.1 | 63.2 | 58.9 | 56.8 |
| 5 | 66.1 | 4.2 | 68.4 | 79.2 | 80 | 23 | 77.2 | 72.6 | 66.3 | 61.4 | 59.0 |
| 6 | 69.0 | 4.4 | 71.3 | 82.4 | 82 | 24 | 79.7 | 75.6 | 69.1 | 63.9 | 60.9 |
| 7 | 71.3 | 4.3 | 73.4 | 84.4 | 83 | 23 | 81.8 | 77.6 | 71.6 | 66.2 | 62.5 |
| 8 | 67.7 | 4.4 | 70.3 | 81.5 | 84 | 27 | 80.3 | 73.7 | 68.1 | 62.6 | 59.2 |
| 9 | 69.6 | 4.3 | 71.9 | 82.8 | 83 | 24 | 81.2 | 75.7 | 70.0 | 64.7 | 61.2 |
| 10 | 70.7 | 4.1 | 72.8 | 83.4 | 84 | 26 | 81.8 | 76.7 | 71.0 | 66.0 | 62.4 |
| 11 | 71.8 | 4.0 | 73.9 | 84.1 | 84 | 24 | 82.6 | 77.9 | 72.0 | 67.5 | 63.8 |
| 12 | 72.8 | 3.9 | 74.7 | 84.6 | 85 | 25 | 82.8 | 78.8 | 72.9 | 68.7 | 64.9 |
| 13 | 73.6 | 4.9 | 76.9 | 89.5 | 92 | 32 | 87.8 | 79.9 | 74.3 | 67.6 | 64.0 |
| 14 | 75.9 | 4.6 | 80.3 | 92.1 | 105 | 42 | 89.3 | 81.9 | 76.2 | 70.8 | 66.3 |

N= 4780

11- 4- 75 925 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.7 | 6.4 | 79.0 | 95.3 | 95 | 37 | 90.5 | 82.6 | 74.3 | 65.8 | 60.6 |
| 2 | 75.9 | 5.2 | 79.7 | 93.0 | 94 | 32 | 90.6 | 83.2 | 76.2 | 70.2 | 65.4 |
| 3 | 62.0 | 4.0 | 64.4 | 74.5 | 78 | 25 | 73.6 | 68.5 | 61.6 | 58.2 | 56.2 |
| 4 | 63.5 | 4.2 | 66.3 | 77.1 | 81 | 25 | 76.5 | 70.1 | 63.1 | 59.4 | 57.3 |
| 5 | 66.3 | 4.4 | 69.1 | 80.4 | 83 | 27 | 79.5 | 72.9 | 66.1 | 61.9 | 59.3 |
| 6 | 69.1 | 4.6 | 71.9 | 83.6 | 86 | 28 | 81.9 | 75.8 | 69.0 | 64.2 | 60.7 |
| 7 | 71.3 | 4.6 | 74.1 | 85.9 | 88 | 28 | 83.8 | 78.2 | 71.5 | 66.2 | 62.2 |
| 8 | 68.1 | 5.3 | 72.0 | 85.6 | 87 | 31 | 82.9 | 76.3 | 68.0 | 62.4 | 58.0 |
| 9 | 70.2 | 5.1 | 73.5 | 86.6 | 88 | 31 | 84.0 | 77.9 | 70.1 | 64.6 | 59.6 |
| 10 | 71.2 | 5.0 | 74.4 | 87.1 | 88 | 30 | 84.7 | 78.6 | 71.0 | 65.7 | 60.8 |
| 11 | 72.3 | 4.8 | 75.3 | 87.7 | 88 | 28 | 85.3 | 79.6 | 72.2 | 66.9 | 62.5 |
| 12 | 73.1 | 4.6 | 75.9 | 87.8 | 89 | 28 | 85.7 | 80.2 | 73.1 | 68.1 | 63.9 |
| 13 | 73.8 | 5.8 | 78.5 | 93.5 | 95 | 35 | 90.0 | 82.2 | 74.0 | 67.1 | 62.4 |
| 14 | 76.1 | 5.5 | 81.3 | 95.4 | 106 | 56 | 91.9 | 83.6 | 76.1 | 70.0 | 65.2 |

N= 4785

TABLE NO. 46
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 4- 75 1117 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 72.6 | 7.0 | 79.4 | 97.4 | 99 | 43 | 92.1 | 82.5 | 72.9 | 64.3 | 59.1 |
| 2 | | | | N O | D A T A | | | | | | |
| 3 | 60.4 | 3.4 | 62.1 | 70.7 | 76 | 23 | 70.9 | 65.6 | 60.4 | 57.1 | 55.2 |
| 4 | 61.6 | 3.8 | 63.7 | 73.4 | 77 | 23 | 73.1 | 67.5 | 61.5 | 57.9 | 55.8 |
| 5 | 62.9 | 3.9 | 65.2 | 75.3 | 78 | 23 | 75.0 | 69.0 | 62.7 | 59.0 | 56.9 |
| 6 | 64.4 | 4.2 | 67.0 | 77.8 | 81 | 26 | 77.1 | 70.9 | 64.1 | 60.1 | 57.8 |
| 7 | 66.1 | 4.4 | 68.8 | 80.1 | 84 | 27 | 78.7 | 72.8 | 65.9 | 61.6 | 58.8 |
| 8 | 61.8 | 4.1 | 64.5 | 74.9 | 82 | 29 | 74.9 | 67.8 | 61.6 | 57.8 | 55.4 |
| 9 | 65.3 | 4.8 | 68.5 | 80.6 | 84 | 29 | 78.9 | 72.5 | 65.3 | 60.3 | 56.9 |
| 10 | 67.5 | 4.8 | 70.5 | 82.8 | 88 | 32 | 80.6 | 74.5 | 67.5 | 62.3 | 58.1 |
| 11 | 69.4 | 4.6 | 72.2 | 84.0 | 88 | 30 | 81.9 | 76.1 | 69.5 | 64.3 | 60.0 |
| 12 | 70.5 | 4.5 | 73.2 | 84.8 | 89 | 31 | 82.7 | 77.0 | 70.6 | 65.6 | 61.1 |
| 13 | 72.8 | 6.4 | 78.5 | 94.9 | 98 | 40 | 91.0 | 81.5 | 73.1 | 65.5 | 60.1 |
| 14 | 75.7 | 5.4 | 79.8 | 93.6 | 96 | 34 | 92.0 | 83.3 | 75.8 | 69.9 | 64.7 |

N= 4780

11- 4- 75 1137 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 71.9 | 6.7 | 77.5 | 94.6 | 93 | 38 | 89.6 | 80.5 | 72.6 | 63.6 | 58.6 |
| 2 | 74.6 | 5.7 | 78.6 | 93.3 | 92 | 34 | 89.4 | 82.5 | 75.0 | 67.6 | 62.9 |
| 3 | 60.3 | 3.2 | 61.7 | 69.9 | 75 | 22 | 69.8 | 65.3 | 60.4 | 57.0 | 55.0 |
| 4 | 61.2 | 3.5 | 62.9 | 71.7 | 76 | 22 | 71.4 | 66.5 | 61.3 | 57.6 | 55.6 |
| 5 | 62.4 | 3.7 | 64.3 | 73.8 | 78 | 24 | 73.4 | 68.0 | 62.5 | 58.6 | 56.5 |
| 6 | 63.8 | 3.9 | 65.9 | 75.9 | 79 | 24 | 75.1 | 69.9 | 63.7 | 59.9 | 57.5 |
| 7 | 65.2 | 4.2 | 67.6 | 78.4 | 80 | 25 | 76.7 | 72.0 | 65.2 | 60.8 | 57.9 |
| 8 | 61.6 | 4.3 | 64.1 | 75.0 | 78 | 26 | 73.4 | 68.0 | 61.4 | 57.0 | 54.1 |
| 9 | 64.5 | 5.0 | 67.7 | 80.5 | 81 | 28 | 77.7 | 72.2 | 64.3 | 59.0 | 56.0 |
| 10 | 66.5 | 5.0 | 69.5 | 82.2 | 80 | 26 | 78.6 | 74.1 | 66.3 | 60.9 | 57.4 |
| 11 | 68.2 | 4.9 | 71.0 | 83.5 | 82 | 26 | 79.8 | 75.6 | 68.0 | 62.7 | 59.2 |
| 12 | 69.3 | 4.8 | 71.9 | 84.3 | 83 | 26 | 80.6 | 76.5 | 69.2 | 63.5 | 60.2 |
| 13 | 72.0 | 6.6 | 77.2 | 94.2 | 92 | 37 | 88.9 | 80.7 | 72.8 | 63.3 | 59.4 |
| 14 | 74.5 | 5.9 | 78.6 | 93.6 | 93 | 34 | 89.3 | 82.7 | 75.0 | 67.3 | 62.7 |

N= 4780

TABLE NO. 47
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 4- 75 1236 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 70.9 | 7.1 | 76.8 | 94.9 | 94 | 43 | 89.5 | 79.4 | 71.8 | 62.2 | 54.4 |
| 2 | 73.8 | 5.6 | 77.8 | 92.3 | 93 | 35 | 89.4 | 80.9 | 74.4 | 67.3 | 60.2 |
| 3 | 56.5 | 3.1 | 57.6 | 65.4 | 69 | 21 | 64.7 | 60.9 | 56.9 | 53.0 | 50.2 |
| 4 | 57.3 | 3.2 | 58.6 | 66.7 | 71 | 22 | 65.9 | 61.9 | 57.7 | 53.6 | 50.9 |
| 5 | 58.2 | 3.2 | 59.4 | 67.7 | 71 | 22 | 66.7 | 62.9 | 58.6 | 54.5 | 51.5 |
| 6 | 59.6 | 3.1 | 60.8 | 68.8 | 71 | 20 | 68.0 | 64.2 | 60.0 | 56.1 | 53.3 |
| 7 | 60.2 | 3.4 | 61.6 | 70.3 | 73 | 23 | 69.1 | 65.0 | 60.6 | 56.3 | 53.0 |
| 8 | 57.6 | 3.7 | 59.5 | 69.1 | 71 | 21 | 68.8 | 63.1 | 57.5 | 53.7 | 51.3 |
| 9 | 59.1 | 4.0 | 61.4 | 71.7 | 74 | 24 | 71.2 | 64.9 | 59.1 | 54.8 | 52.2 |
| 10 | 60.3 | 4.3 | 62.9 | 73.9 | 76 | 26 | 72.8 | 66.5 | 60.2 | 55.8 | 52.7 |
| 11 | 62.6 | 4.5 | 65.3 | 76.7 | 78 | 26 | 75.2 | 69.0 | 62.7 | 57.9 | 54.3 |
| 12 | 64.2 | 4.6 | 66.9 | 78.5 | 80 | 27 | 76.5 | 70.9 | 64.5 | 59.2 | 55.4 |
| 13 | 70.9 | 6.6 | 76.7 | 93.6 | 93 | 35 | 89.3 | 79.5 | 71.4 | 62.7 | 59.5 |
| 14 | 73.6 | 5.6 | 77.8 | 92.1 | 95 | 34 | 89.7 | 80.7 | 74.0 | 67.0 | 63.3 |
| 16 | 74.9 | 5.5 | 78.6 | 92.7 | 92 | 30 | 89.0 | 82.5 | 75.4 | 67.9 | 64.2 |
| N= | 4730 | | | | | | | | | | |

11- 4- 75 1256 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 71.6 | 7.0 | 78.3 | 96.3 | 101 | 47 | 90.7 | 80.5 | 72.3 | 62.9 | 58.6 |
| 2 | 74.6 | 5.9 | 79.9 | 94.9 | 102 | 42 | 91.1 | 82.2 | 74.9 | 67.7 | 64.0 |
| 3 | 59.0 | 3.0 | 60.4 | 68.0 | 78 | 26 | 68.8 | 63.0 | 59.3 | 55.9 | 53.8 |
| 4 | 59.6 | 2.9 | 60.9 | 68.3 | 80 | 28 | 68.8 | 63.5 | 60.1 | 56.4 | 54.2 |
| 5 | 60.2 | 3.0 | 61.6 | 69.3 | 76 | 23 | 70.0 | 64.4 | 60.7 | 57.0 | 55.0 |
| 6 | 41.7 | 7.5 | 54.6 | 73.8 | 79 | 40 | 65.8 | 60.3 | 39.6 | 39.1 | 39.0 |
| 7 | 62.1 | 3.4 | 64.0 | 72.7 | 82 | 27 | 72.3 | 66.8 | 62.5 | 58.4 | 56.4 |
| 8 | 60.1 | 3.6 | 61.9 | 71.1 | 77 | 25 | 70.4 | 65.5 | 60.1 | 56.3 | 54.1 |
| 9 | 61.3 | 4.0 | 63.4 | 73.6 | 79 | 26 | 72.2 | 67.3 | 61.3 | 57.1 | 54.4 |
| 10 | 62.1 | 4.1 | 64.2 | 74.7 | 81 | 28 | 72.6 | 68.4 | 62.1 | 57.6 | 55.0 |
| 11 | 64.2 | 4.3 | 66.5 | 77.6 | 79 | 25 | 74.9 | 70.8 | 64.3 | 59.2 | 56.5 |
| 12 | 65.5 | 4.5 | 68.0 | 79.5 | 80 | 26 | 76.5 | 72.4 | 65.7 | 60.4 | 57.5 |
| 13 | 72.1 | 6.4 | 77.5 | 93.9 | 95 | 37 | 89.4 | 80.4 | 72.7 | 64.0 | 60.2 |
| 14 | 74.6 | 5.5 | 78.7 | 92.7 | 95 | 34 | 89.8 | 81.9 | 74.9 | 68.2 | 64.0 |
| 15 | 74.7 | 5.3 | 78.6 | 92.2 | 93 | 30 | 89.5 | 82.5 | 74.6 | 68.8 | 65.5 |
| N= | 4780 | | | | | | | | | | |

TABLE NO. 48
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 4- 75 1437 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.6 | 6.3 | 80.0 | 96.0 | 100 | 42 | 91.7 | 82.7 | 75.1 | 67.2 | 61.0 |
| 2 | 76.9 | 5.3 | 80.9 | 94.6 | 99 | 38 | 91.9 | 84.1 | 77.3 | 71.2 | 65.0 |
| 3 | 63.1 | 3.9 | 65.6 | 75.6 | 84 | 30 | 75.5 | 68.7 | 63.2 | 59.1 | 57.0 |
| 4 | 64.5 | 4.2 | 67.7 | 78.6 | 87 | 31 | 78.5 | 70.4 | 64.4 | 60.2 | 57.7 |
| 5 | 66.2 | 4.4 | 69.8 | 81.1 | 89 | 33 | 80.3 | 72.2 | 66.2 | 61.7 | 59.0 |
| 6 | 69.3 | 4.5 | 72.4 | 83.8 | 89 | 31 | 82.6 | 75.4 | 69.3 | 64.6 | 60.7 |
| 7 | 71.4 | 4.5 | 74.2 | 85.9 | 90 | 33 | 84.2 | 77.6 | 71.7 | 66.5 | 61.6 |
| 8 | 66.7 | 4.6 | 70.2 | 81.9 | 87 | 30 | 81.6 | 73.6 | 66.6 | 62.1 | 59.8 |
| 9 | 67.8 | 4.7 | 71.7 | 83.8 | 99 | 41 | 82.4 | 75.0 | 67.8 | 62.8 | 60.3 |
| 10 | 69.1 | 4.7 | 72.3 | 84.5 | 89 | 50 | 83.0 | 75.9 | 69.1 | 63.9 | 60.7 |
| 11 | 70.7 | 4.7 | 73.9 | 85.8 | 90 | 39 | 84.6 | 77.6 | 70.9 | 65.7 | 62.1 |
| 12 | 71.8 | 4.6 | 74.6 | 86.3 | 89 | 30 | 85.1 | 78.4 | 72.0 | 66.8 | 63.1 |
| 13 | 74.3 | 5.8 | 79.5 | 94.4 | 101 | 41 | 90.5 | 82.2 | 74.6 | 67.4 | 63.1 |
| 14 | 76.9 | 5.1 | 80.9 | 93.9 | 101 | 37 | 91.9 | 83.9 | 77.1 | 71.3 | 66.9 |
| 15 | 76.6 | 5.0 | 79.8 | 92.6 | 94 | 32 | 89.9 | 83.6 | 76.8 | 71.0 | 66.3 |
| N= | 4780 | | | | | | | | | | |

11- 4- 75 1457 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.1 | 6.7 | 80.1 | 97.4 | 99 | 40 | 92.3 | 83.2 | 74.8 | 65.5 | 61.5 |
| 2 | 76.7 | 5.5 | 81.1 | 95.2 | 99 | 36 | 92.4 | 84.6 | 76.9 | 70.3 | 66.4 |
| 3 | 62.9 | 3.6 | 64.7 | 73.8 | 77 | 21 | 73.8 | 68.5 | 62.8 | 59.3 | 57.3 |
| 4 | 64.3 | 4.0 | 66.8 | 77.1 | 82 | 26 | 77.5 | 70.2 | 64.0 | 60.3 | 58.2 |
| 5 | 65.7 | 4.3 | 68.8 | 79.9 | 85 | 28 | 80.1 | 72.2 | 65.4 | 61.5 | 59.3 |
| 6 | 68.5 | 4.5 | 71.7 | 83.4 | 88 | 29 | 82.5 | 75.4 | 68.2 | 63.9 | 61.4 |
| 7 | 70.7 | 4.7 | 73.9 | 85.9 | 89 | 29 | 84.7 | 77.8 | 70.6 | 65.5 | 62.7 |
| 8 | 66.1 | 4.9 | 70.1 | 82.7 | 88 | 32 | 81.6 | 73.2 | 65.9 | 61.0 | 58.2 |
| 9 | 67.3 | 5.0 | 71.1 | 84.0 | 87 | 30 | 82.1 | 74.8 | 67.2 | 61.9 | 58.9 |
| 10 | 68.6 | 5.0 | 72.2 | 85.0 | 87 | 29 | 82.7 | 76.0 | 68.6 | 63.2 | 59.8 |
| 11 | 70.2 | 4.8 | 73.5 | 85.8 | 88 | 29 | 83.8 | 77.5 | 70.2 | 64.9 | 61.5 |
| 12 | 71.4 | 4.7 | 74.4 | 86.4 | 89 | 28 | 84.9 | 78.4 | 71.3 | 66.2 | 62.7 |
| 13 | 74.0 | 6.2 | 79.5 | 95.5 | 101 | 41 | 91.7 | 82.5 | 74.5 | 66.5 | 61.8 |
| 14 | 76.7 | 5.4 | 80.9 | 94.6 | 101 | 38 | 92.4 | 83.9 | 76.9 | 70.6 | 66.2 |
| 16 | 77.3 | 4.9 | 80.6 | 93.1 | 97 | 36 | 91.4 | 84.0 | 77.5 | 72.0 | 67.3 |
| N= | 4785 | | | | | | | | | | |

TABLE NO. 49
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 5- 75 848 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.9 | 5.2 | 78.6 | 92.0 | 95 | 34 | 90.0 | 81.3 | 75.6 | 68.5 | 63.8 |
| 2 | 76.7 | 4.5 | 79.6 | 91.2 | 95 | 32 | 90.7 | 82.5 | 77.2 | 71.7 | 66.9 |
| 3 | 63.7 | 3.4 | 65.2 | 73.9 | 76 | 20 | 73.9 | 68.6 | 63.7 | 60.2 | 57.7 |
| 4 | 65.2 | 3.6 | 66.9 | 76.0 | 80 | 23 | 76.2 | 70.4 | 65.3 | 61.4 | 59.3 |
| 5 | 67.1 | 3.6 | 69.0 | 78.3 | 83 | 25 | 78.7 | 72.5 | 67.1 | 63.3 | 61.1 |
| 6 | 69.3 | 3.7 | 71.2 | 80.8 | 83 | 23 | 80.6 | 74.9 | 69.3 | 65.3 | 62.7 |
| 7 | 71.6 | 3.9 | 73.6 | 83.5 | 85 | 25 | 82.6 | 77.5 | 71.8 | 67.5 | 64.0 |
| 8 | 68.2 | 4.2 | 70.7 | 81.5 | 85 | 27 | 81.3 | 74.2 | 68.3 | 63.5 | 60.2 |
| 9 | 69.3 | 4.2 | 71.8 | 82.7 | 86 | 28 | 82.1 | 75.3 | 69.7 | 64.4 | 60.9 |
| 10 | 70.0 | 4.3 | 72.5 | 83.4 | 86 | 27 | 82.6 | 76.0 | 70.4 | 65.0 | 61.5 |
| 11 | 71.0 | 4.2 | 73.3 | 84.1 | 87 | 28 | 83.2 | 77.1 | 71.2 | 66.2 | 62.5 |
| 12 | 72.0 | 4.1 | 74.3 | 84.8 | 87 | 27 | 83.9 | 78.2 | 72.3 | 67.6 | 63.5 |
| 13 | 74.7 | 5.3 | 78.3 | 92.0 | 95 | 36 | 89.0 | 81.2 | 75.6 | 67.5 | 63.0 |
| 14 | | | | N O | D A T A | | | | | | |

N= 4780

11- 5- 75 908 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.9 | 5.5 | 79.1 | 93.3 | 96 | 36 | 90.6 | 82.6 | 75.3 | 68.1 | 63.5 |
| 2 | 76.8 | 4.7 | 79.9 | 92.0 | 95 | 33 | 90.2 | 83.6 | 77.0 | 71.6 | 67.3 |
| 3 | 63.7 | 3.3 | 65.0 | 73.5 | 75 | 19 | 72.5 | 68.8 | 63.8 | 60.2 | 58.1 |
| 4 | 65.3 | 3.6 | 67.0 | 76.2 | 80 | 23 | 75.4 | 70.9 | 65.4 | 61.6 | 59.2 |
| 5 | 67.3 | 3.8 | 69.3 | 79.0 | 81 | 23 | 78.3 | 73.0 | 67.4 | 63.3 | 60.5 |
| 6 | 69.6 | 4.0 | 71.7 | 81.9 | 84 | 26 | 80.6 | 75.6 | 69.7 | 65.3 | 62.1 |
| 7 | 71.8 | 4.1 | 73.9 | 84.3 | 86 | 27 | 82.6 | 78.1 | 72.0 | 67.3 | 63.8 |
| 8 | 68.4 | 4.2 | 70.8 | 81.4 | 85 | 27 | 80.8 | 74.2 | 68.6 | 63.8 | 60.3 |
| 9 | 69.7 | 4.2 | 72.1 | 83.0 | 87 | 28 | 82.2 | 75.7 | 70.0 | 64.9 | 61.4 |
| 10 | 70.3 | 4.2 | 72.7 | 83.6 | 87 | 28 | 82.4 | 76.4 | 70.7 | 65.5 | 61.7 |
| 11 | 71.3 | 4.3 | 73.7 | 84.6 | 88 | 28 | 83.4 | 77.5 | 71.6 | 66.5 | 62.5 |
| 12 | 72.3 | 4.3 | 74.6 | 85.6 | 88 | 28 | 83.8 | 78.6 | 72.6 | 67.4 | 63.4 |
| 13 | 74.8 | 5.3 | 78.7 | 92.2 | 95 | 33 | 89.8 | 81.9 | 75.3 | 68.4 | 64.2 |
| 14 | | | | N O | D A T A | | | | | | |

N= 4780

TABLE NO. 50
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 5- 75 1014 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.4 | 6.6 | 78.7 | 95.4 | 95 | 38 | 90.6 | 81.7 | 74.2 | 65.0 | 60.0 |
| 2 | | | | NO | DATA | | | | | | |
| 3 | 62.5 | 3.6 | 64.3 | 73.6 | 76 | 22 | 72.9 | 67.9 | 62.7 | 58.6 | 56.0 |
| 4 | 64.0 | 4.0 | 66.1 | 76.3 | 80 | 26 | 75.8 | 69.8 | 64.2 | 59.7 | 57.0 |
| 5 | 65.9 | 4.4 | 68.5 | 79.7 | 82 | 27 | 78.4 | 72.7 | 66.0 | 61.1 | 57.8 |
| 6 | 68.3 | 4.7 | 71.2 | 83.3 | 84 | 28 | 81.3 | 75.6 | 68.4 | 63.1 | 59.2 |
| 7 | 70.9 | 4.8 | 73.7 | 86.1 | 87 | 30 | 83.6 | 78.2 | 71.1 | 65.3 | 60.7 |
| 8 | 67.9 | 4.7 | 71.0 | 83.0 | 86 | 31 | 80.9 | 75.0 | 67.9 | 62.9 | 59.1 |
| 9 | 70.4 | 4.6 | 73.2 | 84.9 | 87 | 31 | 83.2 | 77.2 | 70.5 | 65.4 | 61.3 |
| 10 | 71.4 | 4.6 | 74.1 | 85.7 | 87 | 30 | 83.9 | 78.3 | 71.5 | 66.4 | 61.8 |
| 11 | 72.6 | 4.5 | 75.1 | 86.7 | 88 | 29 | 84.7 | 79.2 | 72.7 | 67.6 | 62.9 |
| 12 | 72.8 | 4.5 | 75.3 | 86.8 | 88 | 29 | 84.8 | 79.5 | 72.9 | 67.9 | 63.4 |
| 13 | 73.9 | 5.6 | 78.1 | 92.4 | 94 | 35 | 89.6 | 81.4 | 74.3 | 67.3 | 63.2 |
| 14 | 75.9 | 5.1 | 79.4 | 92.4 | 93 | 31 | 89.9 | 83.1 | 76.2 | 70.2 | 65.4 |

N= 4780

11- 5- 75 1034 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.5 | 6.8 | 80.0 | 97.3 | 98 | 39 | 92.3 | 82.2 | 73.9 | 65.2 | 61.0 |
| 2 | 75.7 | 5.7 | 80.5 | 95.0 | 97 | 34 | 92.1 | 83.5 | 76.0 | 69.1 | 65.5 |
| 3 | 62.8 | 4.1 | 65.1 | 75.5 | 77 | 25 | 74.2 | 69.3 | 62.9 | 58.5 | 55.3 |
| 4 | 64.1 | 4.4 | 66.9 | 78.1 | 82 | 29 | 76.9 | 70.8 | 63.9 | 59.7 | 56.2 |
| 5 | 65.9 | 4.5 | 68.9 | 80.5 | 83 | 28 | 79.7 | 72.8 | 65.7 | 61.4 | 58.0 |
| 6 | 68.4 | 4.8 | 71.6 | 83.9 | 86 | 29 | 82.0 | 75.8 | 68.2 | 63.3 | 60.2 |
| 7 | 71.4 | 5.0 | 74.8 | 87.5 | 89 | 29 | 85.0 | 78.8 | 71.5 | 65.9 | 62.7 |
| 8 | 67.4 | 5.7 | 72.3 | 86.8 | 88 | 33 | 84.1 | 75.8 | 67.4 | 61.0 | 57.8 |
| 9 | 69.8 | 5.6 | 74.2 | 88.6 | 90 | 33 | 85.5 | 78.1 | 69.9 | 63.4 | 59.5 |
| 10 | 70.8 | 5.5 | 75.0 | 89.1 | 90 | 33 | 86.4 | 78.9 | 70.8 | 64.5 | 60.4 |
| 11 | 72.0 | 5.4 | 76.0 | 89.8 | 91 | 32 | 87.2 | 80.1 | 71.9 | 65.9 | 62.0 |
| 12 | 72.2 | 5.2 | 76.0 | 89.4 | 91 | 32 | 87.0 | 80.1 | 72.2 | 66.5 | 62.4 |
| 13 | 72.7 | 6.7 | 79.1 | 96.3 | 97 | 40 | 91.9 | 81.6 | 73.0 | 64.5 | 60.3 |
| 14 | 75.3 | 5.9 | 80.5 | 95.7 | 98 | 37 | 92.5 | 83.4 | 75.5 | 68.4 | 64.6 |

N= 4785

TABLE NO. 51
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 5- 75 1123 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.2 | 6.4 | 80.6 | 96.9 | 98 | 38 | 91.9 | 84.8 | 75.3 | 67.6 | 63.0 |
| 2 | 77.0 | 5.6 | 81.0 | 95.2 | 98 | 35 | 91.6 | 85.2 | 77.1 | 70.4 | 65.9 |
| 3 | 62.1 | 3.7 | 63.7 | 73.0 | 75 | 23 | 71.8 | 67.4 | 62.5 | 58.0 | 54.7 |
| 4 | 63.4 | 3.9 | 65.3 | 75.3 | 78 | 25 | 73.8 | 68.9 | 63.8 | 59.0 | 55.7 |
| 5 | 64.8 | 4.1 | 66.9 | 77.4 | 80 | 26 | 75.6 | 70.7 | 65.3 | 60.2 | 56.5 |
| 6 | 66.4 | 4.2 | 68.5 | 79.4 | 83 | 28 | 77.1 | 72.3 | 66.9 | 61.4 | 57.6 |
| 7 | 68.2 | 4.3 | 70.4 | 81.4 | 84 | 28 | 78.8 | 74.2 | 68.7 | 63.2 | 59.3 |
| 8 | 63.5 | 5.1 | 66.7 | 79.8 | 87 | 37 | 76.6 | 70.5 | 64.2 | 57.7 | 52.2 |
| 9 | 67.2 | 5.4 | 70.4 | 84.3 | 86 | 36 | 80.5 | 74.7 | 67.6 | 61.2 | 53.1 |
| 10 | 68.8 | 5.3 | 71.8 | 85.4 | 85 | 36 | 81.2 | 76.1 | 69.2 | 63.4 | 53.8 |
| 11 | 70.5 | 5.3 | 73.4 | 86.9 | 87 | 36 | 83.1 | 77.6 | 70.8 | 65.2 | 55.7 |
| 12 | 70.9 | 5.2 | 73.8 | 87.0 | 88 | 37 | 83.5 | 78.0 | 71.2 | 65.9 | 56.3 |
| 13 | 74.2 | 6.7 | 79.4 | 96.5 | 95 | 42 | 90.4 | 83.7 | 74.6 | 66.3 | 57.6 |
| 14 | 76.3 | 6.1 | 80.6 | 96.2 | 97 | 43 | 91.0 | 84.8 | 76.5 | 69.7 | 59.7 |

N= 4780

11- 5- 75 1143 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.8 | 6.4 | 80.1 | 96.4 | 102 | 46 | 91.7 | 81.9 | 74.5 | 66.3 | 59.6 |
| 2 | 75.4 | 5.6 | 80.4 | 94.6 | 100 | 39 | 91.5 | 82.8 | 75.7 | 69.1 | 64.2 |
| 3 | 60.5 | 4.3 | 63.8 | 74.9 | 85 | 35 | 73.9 | 66.4 | 60.4 | 56.1 | 52.8 |
| 4 | 61.8 | 4.6 | 65.6 | 77.4 | 85 | 34 | 76.0 | 68.2 | 61.8 | 57.1 | 54.2 |
| 5 | 63.3 | 4.7 | 67.0 | 79.0 | 86 | 33 | 77.5 | 69.9 | 63.2 | 58.2 | 55.9 |
| 6 | 64.9 | 4.8 | 68.4 | 80.8 | 86 | 32 | 78.9 | 71.8 | 64.8 | 59.7 | 57.1 |
| 7 | 66.8 | 4.9 | 70.2 | 82.7 | 87 | 31 | 80.4 | 73.8 | 66.6 | 61.6 | 58.3 |
| 8 | 63.2 | 4.7 | 67.7 | 79.6 | 88 | 35 | 80.0 | 69.9 | 63.0 | 58.7 | 55.8 |
| 9 | 66.7 | 4.9 | 70.9 | 83.4 | 89 | 34 | 83.6 | 73.6 | 66.6 | 61.6 | 58.0 |
| 10 | 68.0 | 4.7 | 71.8 | 83.9 | 89 | 32 | 84.0 | 74.8 | 67.9 | 63.0 | 59.8 |
| 11 | 69.5 | 4.7 | 73.2 | 85.2 | 92 | 34 | 84.8 | 76.1 | 69.5 | 64.4 | 61.2 |
| 12 | 69.8 | 4.6 | 73.2 | 85.0 | 92 | 34 | 84.5 | 76.3 | 69.7 | 65.0 | 61.5 |
| 13 | 73.0 | 6.2 | 78.8 | 94.7 | 100 | 43 | 89.5 | 81.0 | 73.6 | 65.4 | 60.5 |
| 14 | 75.2 | 5.5 | 80.2 | 94.3 | 102 | 40 | 90.8 | 82.9 | 75.4 | 69.0 | 64.6 |

N= 4780

TABLE NO. 52
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 5- 75 1317 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 72.2 | 6.8 | 78.2 | 95.6 | 99 | 45 | 90.3 | 81.1 | 73.2 | 63.6 | 58.0 |
| 2 | 73.7 | 5.6 | 78.1 | 92.3 | 97 | 37 | 89.5 | 80.9 | 74.0 | 67.4 | 62.9 |
| 3 | 58.3 | 3.5 | 60.0 | 69.0 | 72 | 22 | 68.6 | 63.7 | 58.4 | 54.5 | 52.1 |
| 4 | 58.2 | 3.7 | 60.1 | 69.6 | 72 | 23 | 68.8 | 63.9 | 58.3 | 54.3 | 51.5 |
| 5 | 58.8 | 3.7 | 60.7 | 70.2 | 74 | 24 | 69.6 | 64.6 | 58.8 | 54.9 | 52.1 |
| 6 | 60.1 | 3.8 | 62.1 | 71.8 | 74 | 24 | 71.0 | 66.2 | 60.0 | 56.3 | 53.6 |
| 7 | 60.5 | 3.9 | 62.5 | 72.4 | 77 | 26 | 71.1 | 66.7 | 60.3 | 56.5 | 54.2 |
| 8 | 59.7 | 3.6 | 61.9 | 71.1 | 76 | 26 | 72.1 | 64.8 | 59.7 | 56.3 | 53.5 |
| 9 | 61.1 | 3.9 | 63.6 | 73.5 | 79 | 28 | 73.8 | 66.7 | 61.1 | 57.3 | 54.5 |
| 10 | 62.1 | 4.0 | 64.6 | 74.8 | 80 | 29 | 74.6 | 67.9 | 62.2 | 58.1 | 54.5 |
| 11 | 64.1 | 4.2 | 66.8 | 77.5 | 83 | 29 | 77.5 | 69.9 | 64.2 | 59.7 | 56.2 |
| 12 | 64.3 | 4.2 | 67.0 | 77.8 | 82 | 29 | 78.0 | 70.0 | 64.4 | 59.9 | 56.4 |
| 13 | 74.8 | 6.4 | 80.4 | 96.8 | 100 | 42 | 91.9 | 83.7 | 75.2 | 67.2 | 62.0 |
| 14 | 74.1 | 5.5 | 78.7 | 92.8 | 101 | 43 | 89.2 | 81.2 | 74.5 | 67.7 | 62.4 |

N= 4730

11- 5- 75 1348 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.1 | 6.8 | 80.5 | 97.9 | 101 | 42 | 92.8 | 83.5 | 74.8 | 65.6 | 62.0 |
| 2 | 75.7 | 5.8 | 80.4 | 95.2 | 99 | 38 | 91.7 | 83.6 | 76.0 | 69.1 | 65.0 |
| 3 | 60.4 | 3.5 | 62.1 | 70.9 | 74 | 20 | 70.7 | 65.8 | 60.3 | 56.9 | 55.2 |
| 4 | 60.4 | 3.6 | 62.2 | 71.4 | 74 | 21 | 71.2 | 65.8 | 60.3 | 56.7 | 54.8 |
| 5 | 61.1 | 3.7 | 63.0 | 72.5 | 77 | 24 | 72.4 | 66.4 | 60.9 | 57.2 | 55.2 |
| 6 | 62.4 | 3.7 | 64.4 | 73.9 | 77 | 22 | 73.5 | 67.9 | 62.4 | 58.5 | 56.6 |
| 7 | 62.8 | 3.7 | 64.7 | 74.3 | 77 | 23 | 73.8 | 68.3 | 62.8 | 58.9 | 56.6 |
| 8 | 61.4 | 3.8 | 63.3 | 73.2 | 75 | 23 | 72.5 | 66.9 | 61.5 | 57.4 | 53.8 |
| 9 | 62.7 | 4.1 | 64.9 | 75.5 | 80 | 28 | 74.0 | 68.8 | 62.7 | 58.3 | 54.2 |
| 10 | 63.6 | 4.3 | 66.1 | 77.1 | 81 | 28 | 75.3 | 69.9 | 63.7 | 59.2 | 55.0 |
| 11 | 65.6 | 4.3 | 68.0 | 79.1 | 82 | 28 | 77.0 | 71.9 | 65.6 | 61.0 | 57.0 |
| 12 | 65.8 | 4.3 | 68.2 | 79.3 | 82 | 27 | 77.0 | 72.1 | 65.8 | 61.1 | 57.1 |
| 13 | 76.5 | 6.6 | 81.6 | 98.6 | 101 | 43 | 92.4 | 85.9 | 76.7 | 68.6 | 61.4 |
| 14 | 75.5 | 5.6 | 79.8 | 94.2 | 99 | 40 | 90.7 | 83.0 | 75.7 | 69.5 | 62.6 |

N= 4780

TABLE NO. 53
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 6- 75 850 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.9 | 5.8 | 81.4 | 96.3 | 100 | 41 | 92.5 | 84.2 | 77.6 | 69.7 | 64.3 |
| 2 | 77.9 | 4.9 | 81.4 | 94.1 | 99 | 37 | 92.3 | 84.7 | 78.3 | 72.3 | 68.3 |
| 3 | 59.8 | 4.1 | 61.8 | 72.1 | 73 | 24 | 69.9 | 65.9 | 60.1 | 55.2 | 51.5 |
| 4 | 61.3 | 4.1 | 63.2 | 73.8 | 73 | 23 | 71.0 | 67.2 | 61.7 | 56.5 | 52.4 |
| 5 | 62.3 | 4.1 | 64.1 | 74.6 | 74 | 23 | 71.8 | 67.9 | 62.7 | 57.6 | 53.2 |
| 6 | 63.5 | 4.0 | 65.3 | 75.7 | 75 | 22 | 72.9 | 69.1 | 63.9 | 59.0 | 54.6 |
| 7 | 64.8 | 3.9 | 66.5 | 76.6 | 77 | 23 | 74.0 | 70.3 | 65.2 | 60.4 | 55.9 |
| 8 | 61.5 | 4.5 | 64.0 | 75.5 | 77 | 27 | 73.6 | 67.9 | 61.6 | 56.5 | 53.0 |
| 9 | 64.4 | 4.3 | 66.6 | 77.7 | 81 | 28 | 75.4 | 70.5 | 64.8 | 59.3 | 55.5 |
| 10 | 66.2 | 4.1 | 68.2 | 78.7 | 83 | 28 | 76.7 | 71.9 | 66.8 | 61.3 | 57.4 |
| 11 | 67.9 | 4.0 | 69.9 | 80.1 | 86 | 29 | 78.0 | 73.4 | 68.4 | 63.2 | 59.3 |
| 12 | 68.9 | 4.0 | 70.8 | 81.0 | 87 | 29 | 79.2 | 74.5 | 69.5 | 64.2 | 60.5 |
| 13 | 75.7 | 5.5 | 79.9 | 94.0 | 99 | 37 | 90.7 | 82.8 | 76.4 | 68.9 | 64.6 |
| 14 | 77.1 | 5.0 | 80.6 | 93.3 | 99 | 34 | 91.0 | 83.6 | 77.4 | 71.2 | 67.2 |

N= 4780

11- 6- 75 910 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.0 | 5.3 | 79.4 | 92.9 | 95 | 35 | 89.9 | 83.0 | 76.7 | 69.1 | 64.6 |
| 2 | 77.3 | 4.5 | 79.9 | 91.5 | 95 | 31 | 89.7 | 83.5 | 77.7 | 72.0 | 67.9 |
| 3 | 57.9 | 3.2 | 59.2 | 67.4 | 70 | 20 | 67.0 | 62.7 | 58.2 | 54.5 | 52.3 |
| 4 | 59.5 | 3.3 | 60.8 | 69.1 | 71 | 20 | 68.6 | 64.4 | 59.7 | 56.0 | 53.7 |
| 5 | 60.7 | 3.3 | 62.1 | 70.4 | 72 | 19 | 69.9 | 65.6 | 61.0 | 57.2 | 55.0 |
| 6 | 62.1 | 3.3 | 63.5 | 71.9 | 73 | 19 | 71.4 | 66.8 | 62.5 | 58.5 | 56.1 |
| 7 | 63.3 | 3.3 | 64.6 | 73.1 | 75 | 20 | 72.6 | 68.0 | 63.6 | 59.6 | 57.2 |
| 8 | 59.8 | 3.7 | 61.5 | 70.9 | 73 | 23 | 70.2 | 65.5 | 59.7 | 56.1 | 54.1 |
| 9 | 62.6 | 3.6 | 64.3 | 73.6 | 75 | 22 | 72.4 | 68.2 | 62.7 | 58.7 | 56.7 |
| 10 | 64.7 | 3.5 | 66.2 | 75.2 | 76 | 19 | 74.0 | 70.0 | 64.9 | 60.8 | 58.7 |
| 11 | 66.7 | 3.4 | 68.1 | 76.8 | 77 | 18 | 75.7 | 71.9 | 66.9 | 63.0 | 60.6 |
| 12 | 68.0 | 3.3 | 69.3 | 77.7 | 78 | 18 | 76.8 | 72.9 | 68.2 | 64.4 | 62.2 |
| 13 | 75.3 | 4.8 | 78.4 | 90.8 | 95 | 32 | 88.7 | 81.9 | 75.8 | 69.6 | 65.7 |
| 14 | 76.6 | 4.4 | 79.1 | 90.2 | 94 | 28 | 88.7 | 82.8 | 76.9 | 71.7 | 68.3 |

N= 4785

TABLE NO. 54
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 6- 75 1018 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.1 | 5.9 | 80.5 | 95.5 | 96 | 35 | 91.6 | 84.3 | 76.6 | 68.9 | 63.8 |
| 2 | | | | N O | D A T A | | | | | | |
| 3 | 64.2 | 3.9 | 66.2 | 76.2 | 79 | 27 | 74.5 | 70.0 | 64.4 | 60.3 | 55.3 |
| 4 | 66.5 | 4.0 | 68.7 | 79.0 | 83 | 28 | 77.7 | 72.4 | 66.7 | 62.4 | 57.7 |
| 5 | 69.1 | 4.1 | 71.3 | 81.7 | 84 | 26 | 80.0 | 75.2 | 69.3 | 64.7 | 60.8 |
| 6 | 71.6 | 4.2 | 73.9 | 84.6 | 87 | 27 | 82.8 | 77.8 | 71.9 | 67.0 | 63.1 |
| 7 | 73.1 | 4.2 | 75.4 | 86.2 | 89 | 27 | 84.8 | 79.2 | 73.3 | 68.3 | 65.1 |
| 8 | 67.5 | 4.9 | 71.1 | 83.7 | 86 | 31 | 81.8 | 74.9 | 67.3 | 62.3 | 58.7 |
| 9 | 69.4 | 4.9 | 72.6 | 85.0 | 88 | 31 | 82.8 | 76.5 | 69.3 | 63.9 | 60.1 |
| 10 | 70.7 | 4.7 | 73.5 | 85.5 | 87 | 28 | 83.1 | 77.6 | 70.9 | 65.2 | 61.4 |
| 11 | 72.3 | 4.6 | 74.9 | 86.5 | 88 | 28 | 84.1 | 79.0 | 72.6 | 67.1 | 62.6 |
| 12 | 73.5 | 4.4 | 75.9 | 87.3 | 88 | 27 | 85.2 | 80.1 | 73.7 | 68.5 | 63.9 |
| 13 | 75.9 | 5.7 | 80.1 | 94.6 | 97 | 34 | 91.1 | 83.7 | 76.4 | 69.0 | 65.3 |
| 14 | 76.8 | 5.3 | 80.4 | 94.1 | 95 | 31 | 90.9 | 84.2 | 77.1 | 70.3 | 66.8 |

N= 4780

11- 6- 75 1038 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.2 | 6.6 | 80.6 | 97.3 | 100 | 40 | 92.6 | 83.5 | 74.3 | 66.4 | 62.5 |
| 2 | 76.1 | 5.4 | 80.8 | 94.7 | 99 | 35 | 92.2 | 84.1 | 75.9 | 70.1 | 66.9 |
| 3 | 61.2 | 4.7 | 64.8 | 77.0 | 81 | 31 | 76.4 | 68.0 | 60.8 | 56.6 | 53.2 |
| 4 | 63.7 | 5.0 | 67.9 | 80.6 | 87 | 35 | 79.8 | 70.8 | 63.2 | 58.8 | 55.4 |
| 5 | 65.7 | 4.5 | 69.5 | 81.0 | 87 | 31 | 81.8 | 71.7 | 65.7 | 61.2 | 58.1 |
| 6 | 69.4 | 4.9 | 72.9 | 85.3 | 88 | 30 | 83.8 | 76.6 | 69.0 | 64.3 | 60.7 |
| 7 | 71.3 | 4.9 | 74.7 | 87.2 | 90 | 30 | 85.6 | 78.7 | 71.1 | 66.1 | 62.3 |
| 8 | 64.5 | 5.9 | 69.8 | 84.8 | 88 | 36 | 81.8 | 72.8 | 64.5 | 57.9 | 54.3 |
| 9 | 66.8 | 5.7 | 71.8 | 86.3 | 89 | 36 | 83.3 | 74.9 | 66.8 | 60.4 | 56.6 |
| 10 | 68.4 | 5.4 | 72.9 | 86.8 | 90 | 37 | 83.8 | 76.0 | 68.5 | 62.2 | 57.8 |
| 11 | 70.4 | 5.2 | 74.4 | 87.8 | 91 | 36 | 85.2 | 77.9 | 70.5 | 64.7 | 58.9 |
| 12 | 71.7 | 5.1 | 75.3 | 88.3 | 90 | 34 | 85.9 | 79.1 | 71.8 | 66.3 | 60.6 |
| 13 | 73.6 | 6.1 | 79.1 | 94.7 | 98 | 39 | 90.9 | 82.2 | 73.7 | 66.8 | 63.3 |
| 14 | 75.6 | 5.4 | 80.1 | 93.9 | 98 | 36 | 91.4 | 83.5 | 75.5 | 69.9 | 66.4 |

N= 4780

TABLE NO. 55
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 6- 75 1119 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.3 | 6.6 | 78.8 | 95.7 | 97 | 41 | 90.3 | 82.0 | 74.0 | 64.6 | 60.0 |
| 2 | 75.2 | 5.6 | 79.3 | 93.6 | 97 | 37 | 89.9 | 82.7 | 75.4 | 68.6 | 64.1 |
| 3 | 59.8 | 4.8 | 62.7 | 75.1 | 76 | 27 | 72.3 | 66.9 | 60.0 | 53.9 | 50.8 |
| 4 | 61.9 | 5.2 | 65.2 | 78.5 | 80 | 30 | 75.2 | 69.7 | 62.0 | 55.6 | 52.6 |
| 5 | 64.8 | 5.2 | 68.0 | 81.4 | 81 | 29 | 77.5 | 72.5 | 64.8 | 58.4 | 54.8 |
| 6 | 68.0 | 5.2 | 71.1 | 84.3 | 84 | 29 | 80.1 | 75.6 | 68.1 | 61.7 | 57.6 |
| 7 | 70.2 | 5.1 | 73.2 | 86.3 | 87 | 31 | 82.5 | 77.6 | 70.4 | 63.8 | 59.5 |
| 8 | 66.3 | 5.7 | 70.4 | 85.1 | 85 | 33 | 81.7 | 74.1 | 66.7 | 59.5 | 54.2 |
| 9 | 69.4 | 5.4 | 72.8 | 86.6 | 87 | 33 | 83.0 | 76.7 | 69.8 | 63.1 | 56.8 |
| 10 | 70.5 | 5.1 | 73.6 | 86.6 | 87 | 31 | 83.9 | 77.5 | 71.0 | 64.7 | 58.5 |
| 11 | 71.7 | 4.8 | 74.4 | 86.6 | 88 | 30 | 84.3 | 78.4 | 72.0 | 66.2 | 60.7 |
| 12 | 72.5 | 4.5 | 75.0 | 86.4 | 88 | 29 | 84.8 | 78.8 | 72.7 | 67.6 | 62.5 |
| 13 | 73.7 | 5.9 | 78.3 | 93.4 | 95 | 37 | 89.7 | 81.5 | 74.3 | 66.6 | 61.1 |
| 14 | 75.5 | 5.2 | 79.1 | 92.4 | 95 | 35 | 90.2 | 82.6 | 75.7 | 69.6 | 64.5 |

N= 4780

11- 6- 75 1141 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.2 | 6.6 | 79.9 | 96.8 | 99 | 40 | 91.9 | 82.8 | 74.8 | 66.0 | 61.6 |
| 2 | 76.2 | 5.7 | 80.4 | 95.0 | 97 | 34 | 91.8 | 83.8 | 76.6 | 69.4 | 64.8 |
| 3 | 62.1 | 4.7 | 64.9 | 76.9 | 79 | 28 | 74.8 | 68.5 | 62.5 | 56.7 | 53.8 |
| 4 | 64.6 | 4.8 | 67.5 | 79.7 | 82 | 29 | 78.2 | 71.0 | 64.9 | 59.0 | 55.8 |
| 5 | 67.2 | 4.9 | 70.2 | 82.8 | 84 | 30 | 80.4 | 74.2 | 67.6 | 61.4 | 57.7 |
| 6 | 70.0 | 5.1 | 72.9 | 85.9 | 85 | 29 | 82.5 | 77.1 | 70.5 | 64.1 | 59.5 |
| 7 | 71.8 | 5.1 | 74.7 | 87.7 | 88 | 30 | 84.3 | 78.8 | 72.3 | 65.9 | 61.0 |
| 8 | 67.8 | 6.0 | 72.0 | 87.4 | 87 | 34 | 83.3 | 75.8 | 68.4 | 60.2 | 55.5 |
| 9 | 70.6 | 5.6 | 74.2 | 88.5 | 88 | 32 | 84.6 | 78.3 | 71.2 | 64.0 | 58.3 |
| 10 | 71.4 | 5.4 | 74.9 | 88.8 | 89 | 34 | 85.1 | 78.8 | 71.9 | 65.3 | 58.7 |
| 11 | 72.5 | 5.3 | 75.7 | 89.2 | 90 | 35 | 85.6 | 79.8 | 72.9 | 66.6 | 59.3 |
| 12 | 73.3 | 5.0 | 76.2 | 89.1 | 90 | 34 | 85.6 | 80.3 | 73.6 | 67.6 | 60.5 |
| 13 | 74.0 | 6.3 | 79.2 | 95.5 | 98 | 40 | 91.3 | 82.4 | 74.7 | 66.5 | 60.8 |
| 14 | 76.2 | 5.8 | 80.4 | 95.1 | 98 | 39 | 91.7 | 83.9 | 76.6 | 69.4 | 63.3 |

N= 4785

TABLE NO. 56
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 8 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 6- 75 1320 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.3 | 6.6 | 79.1 | 96.1 | 94 | 38 | 90.2 | 83.2 | 75.1 | 65.9 | 58.5 |
| 2 | 75.8 | 5.5 | 79.4 | 93.4 | 94 | 33 | 89.9 | 83.4 | 76.2 | 69.5 | 63.6 |
| 3 | 59.8 | 3.8 | 61.6 | 71.5 | 73 | 24 | 70.0 | 65.4 | 60.1 | 55.7 | 51.5 |
| 4 | 61.2 | 4.1 | 63.2 | 73.7 | 75 | 25 | 71.8 | 67.0 | 61.4 | 56.7 | 52.3 |
| 5 | 63.1 | 4.2 | 65.2 | 76.0 | 77 | 25 | 73.8 | 69.2 | 63.3 | 58.6 | 54.0 |
| 6 | 64.9 | 4.4 | 67.2 | 78.3 | 79 | 26 | 75.9 | 71.1 | 65.1 | 60.2 | 55.5 |
| 7 | 66.6 | 4.4 | 68.9 | 80.2 | 80 | 27 | 77.6 | 72.9 | 66.8 | 61.8 | 57.0 |
| 8 | 61.8 | 4.5 | 64.3 | 75.8 | 76 | 25 | 72.8 | 68.7 | 61.9 | 56.9 | 53.3 |
| 9 | 65.8 | 5.0 | 68.6 | 81.4 | 84 | 33 | 77.4 | 73.1 | 66.0 | 60.3 | 54.5 |
| 10 | 67.4 | 4.9 | 70.0 | 82.6 | 83 | 32 | 78.4 | 74.5 | 67.6 | 62.0 | 55.2 |
| 11 | 68.8 | 4.8 | 71.3 | 83.5 | 84 | 32 | 79.6 | 75.7 | 69.0 | 63.7 | 56.3 |
| 12 | 69.7 | 4.7 | 72.0 | 84.0 | 83 | 29 | 80.3 | 76.5 | 70.1 | 64.8 | 56.9 |
| 13 | 73.8 | 6.2 | 78.3 | 94.1 | 92 | 34 | 89.2 | 82.6 | 74.1 | 66.5 | 61.2 |
| 14 | 75.1 | 5.6 | 78.9 | 93.2 | 93 | 37 | 89.4 | 83.2 | 75.4 | 69.1 | 61.4 |

N= 4780

11- 6- 75 1340 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.2 | 6.4 | 80.1 | 96.5 | 94 | 38 | 92.1 | 83.8 | 75.9 | 67.2 | 61.3 |
| 2 | 76.7 | 5.4 | 80.5 | 94.3 | 95 | 33 | 91.7 | 84.0 | 77.0 | 70.4 | 64.9 |
| 3 | 61.4 | 4.1 | 63.4 | 74.0 | 75 | 24 | 71.8 | 67.3 | 61.8 | 56.5 | 53.4 |
| 4 | 62.6 | 4.3 | 64.9 | 75.8 | 78 | 25 | 73.5 | 68.8 | 62.9 | 57.8 | 54.6 |
| 5 | 64.5 | 4.4 | 66.9 | 78.2 | 80 | 26 | 75.0 | 70.9 | 64.8 | 59.5 | 56.2 |
| 6 | 66.1 | 4.5 | 68.6 | 80.1 | 82 | 28 | 76.8 | 72.6 | 66.4 | 61.0 | 57.3 |
| 7 | 67.7 | 4.4 | 70.0 | 81.4 | 82 | 27 | 78.3 | 74.2 | 67.9 | 62.6 | 58.5 |
| 8 | 65.2 | 3.9 | 67.1 | 77.2 | 80 | 26 | 75.4 | 71.2 | 65.4 | 60.9 | 57.2 |
| 9 | 68.4 | 4.2 | 70.5 | 81.4 | 81 | 26 | 79.1 | 74.8 | 68.5 | 63.8 | 59.5 |
| 10 | 69.4 | 4.3 | 71.6 | 82.6 | 82 | 26 | 80.4 | 75.7 | 69.6 | 64.7 | 59.5 |
| 11 | 70.4 | 4.3 | 72.6 | 83.6 | 84 | 27 | 81.2 | 76.7 | 70.7 | 65.8 | 59.7 |
| 12 | 71.2 | 4.2 | 73.2 | 84.1 | 84 | 27 | 81.7 | 77.4 | 71.4 | 66.7 | 60.4 |
| 13 | 75.3 | 5.6 | 79.4 | 93.6 | 94 | 34 | 91.2 | 82.8 | 75.8 | 68.8 | 64.4 |
| 14 | 76.7 | 5.1 | 80.2 | 93.3 | 95 | 33 | 91.4 | 83.7 | 77.0 | 71.1 | 65.6 |

N= 4780

TABLES 57-68. NOISE DATA: TWELVE FOOT ABSORPTIVE BARRIER; MICROPHONE CONFIGURATIONS B, C, D, E.

TABLE NO. 57
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; ABSORPTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 2- 75 922 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.1 | 5.2 | 80.8 | 94.2 | 96 | 35 | 91.7 | 84.7 | 77.4 | 70.9 | 66.1 |
| 2 | 78.3 | 4.5 | 81.1 | 92.7 | 96 | 31 | 91.2 | 84.9 | 78.5 | 73.0 | 69.5 |
| 3 | 60.7 | 3.3 | 62.1 | 70.5 | 72 | 19 | 69.8 | 65.6 | 61.1 | 56.9 | 55.0 |
| 4 | 62.1 | 3.5 | 63.7 | 72.7 | 75 | 21 | 72.0 | 67.3 | 62.3 | 58.2 | 56.1 |
| 5 | 64.0 | 3.6 | 65.7 | 74.7 | 78 | 23 | 74.3 | 69.1 | 64.2 | 60.0 | 57.6 |
| 6 | 67.1 | 3.7 | 68.8 | 78.2 | 81 | 24 | 77.0 | 72.7 | 67.3 | 63.0 | 60.0 |
| 7 | 70.5 | 3.6 | 72.1 | 81.4 | 84 | 25 | 80.0 | 75.8 | 70.9 | 66.4 | 62.6 |
| 8 | 69.2 | 5.4 | 72.4 | 86.1 | 84 | 30 | 81.8 | 76.9 | 69.7 | 62.6 | 56.8 |
| 9 | 72.1 | 4.9 | 74.8 | 87.3 | 86 | 29 | 83.5 | 79.1 | 72.5 | 66.1 | 60.6 |
| 10 | 72.6 | 4.7 | 75.0 | 87.0 | 86 | 28 | 83.7 | 79.3 | 73.0 | 67.0 | 61.7 |
| 11 | 73.6 | 4.4 | 75.8 | 87.0 | 87 | 27 | 84.2 | 80.0 | 74.0 | 68.5 | 63.4 |
| 12 | 74.8 | 4.3 | 76.9 | 87.8 | 88 | 27 | 85.0 | 81.2 | 75.3 | 69.8 | 65.4 |
| 13 | 77.2 | 5.3 | 80.7 | 94.3 | 94 | 33 | 90.9 | 84.8 | 77.6 | 70.9 | 64.9 |
| 14 | 77.4 | 4.9 | 80.3 | 92.8 | 93 | 31 | 90.2 | 84.2 | 77.8 | 71.7 | 66.4 |

N= 4780

12- 2- 75 942 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.7 | 5.4 | 79.9 | 93.7 | 99 | 40 | 91.1 | 82.4 | 76.5 | 69.2 | 64.1 |
| 2 | 77.6 | 4.6 | 80.8 | 92.5 | 100 | 35 | 91.5 | 83.5 | 78.1 | 72.5 | 68.2 |
| 3 | 59.2 | 3.2 | 60.8 | 69.0 | 76 | 25 | 69.7 | 63.6 | 59.4 | 56.0 | 54.0 |
| 4 | 60.8 | 3.4 | 62.7 | 71.5 | 77 | 24 | 72.6 | 65.7 | 60.8 | 57.5 | 55.2 |
| 5 | 63.0 | 3.6 | 65.0 | 74.1 | 80 | 26 | 74.3 | 68.0 | 63.0 | 59.4 | 56.9 |
| 6 | 66.4 | 3.7 | 68.3 | 77.9 | 82 | 26 | 76.8 | 71.8 | 66.6 | 62.4 | 59.4 |
| 7 | 70.1 | 3.8 | 71.9 | 81.6 | 84 | 25 | 80.1 | 75.6 | 70.3 | 66.0 | 62.7 |
| 8 | 69.3 | 4.9 | 72.5 | 85.0 | 91 | 35 | 82.8 | 75.8 | 69.7 | 63.6 | 59.3 |
| 9 | 71.8 | 4.6 | 74.7 | 86.6 | 90 | 31 | 85.0 | 77.8 | 72.3 | 66.2 | 62.3 |
| 10 | 72.3 | 4.5 | 75.1 | 86.7 | 90 | 30 | 85.6 | 78.1 | 72.7 | 66.9 | 63.2 |
| 11 | 73.1 | 4.3 | 75.7 | 86.7 | 92 | 29 | 86.0 | 78.7 | 73.5 | 68.2 | 64.6 |
| 12 | 74.5 | 4.1 | 76.9 | 87.4 | 93 | 29 | 87.0 | 79.8 | 74.8 | 69.9 | 66.5 |
| 13 | 76.5 | 5.2 | 80.5 | 93.8 | 100 | 36 | 91.7 | 83.2 | 77.1 | 70.4 | 65.9 |
| 14 | 77.0 | 4.7 | 80.3 | 92.4 | 98 | 34 | 91.1 | 83.2 | 77.5 | 71.6 | 67.1 |

N= 4780

TABLE NO. 58
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; ABSORPTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 2- 75 1045 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.7 | 5.9 | 80.4 | 95.4 | 100 | 42 | 91.7 | 83.1 | 76.4 | 68.6 | 63.5 |
| 2 | 77.5 | 5.0 | 81.1 | 94.0 | 99 | 36 | 91.9 | 84.4 | 77.8 | 71.7 | 67.3 |
| 3 | 57.5 | 3.6 | 59.4 | 68.6 | 72 | 22 | 68.9 | 63.0 | 57.3 | 54.0 | 51.7 |
| 4 | 59.4 | 3.9 | 61.7 | 71.8 | 77 | 25 | 71.9 | 65.2 | 59.3 | 55.6 | 53.4 |
| 5 | 61.0 | 3.9 | 63.2 | 73.3 | 77 | 24 | 73.1 | 66.9 | 60.8 | 57.1 | 55.1 |
| 6 | 62.8 | 4.0 | 64.9 | 75.1 | 76 | 21 | 74.0 | 69.1 | 62.7 | 58.7 | 56.7 |
| 7 | 65.7 | 4.2 | 67.8 | 78.5 | 80 | 23 | 76.2 | 72.2 | 65.6 | 61.1 | 59.1 |
| 8 | 65.0 | 4.4 | 67.9 | 79.2 | 83 | 29 | 79.2 | 71.4 | 65.0 | 60.3 | 56.4 |
| 9 | 69.7 | 4.4 | 72.4 | 83.5 | 88 | 30 | 83.6 | 75.9 | 69.8 | 64.9 | 60.6 |
| 10 | 70.3 | 4.2 | 72.8 | 83.5 | 88 | 29 | 83.7 | 76.3 | 70.5 | 65.8 | 62.2 |
| 11 | 71.6 | 4.0 | 74.0 | 84.4 | 90 | 28 | 84.9 | 77.3 | 71.7 | 67.2 | 64.0 |
| 12 | 72.3 | 3.9 | 74.5 | 84.5 | 90 | 28 | 85.2 | 77.8 | 72.5 | 68.2 | 65.1 |
| 13 | 77.0 | 5.1 | 81.0 | 94.0 | 100 | 37 | 92.2 | 83.7 | 77.4 | 71.2 | 66.8 |
| 14 | 77.3 | 4.8 | 80.8 | 93.2 | 100 | 36 | 91.7 | 83.8 | 77.6 | 72.0 | 67.3 |

N= 4785

12- 2- 75 1105 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.9 | 6.5 | 79.9 | 96.4 | 99 | 41 | 91.0 | 83.2 | 75.6 | 67.0 | 60.8 |
| 2 | 76.8 | 5.4 | 80.5 | 94.2 | 99 | 36 | 90.7 | 84.0 | 77.3 | 70.3 | 65.6 |
| 3 | 57.8 | 4.0 | 60.2 | 70.3 | 77 | 29 | 69.2 | 63.0 | 58.1 | 53.3 | 50.3 |
| 4 | 59.6 | 4.1 | 62.2 | 72.7 | 79 | 29 | 71.1 | 65.4 | 59.8 | 55.0 | 52.4 |
| 5 | 61.2 | 4.2 | 63.7 | 74.4 | 80 | 28 | 72.5 | 67.0 | 61.4 | 56.5 | 54.1 |
| 6 | 63.0 | 4.3 | 65.6 | 76.7 | 82 | 29 | 74.6 | 69.2 | 63.2 | 58.2 | 55.3 |
| 7 | 65.8 | 4.6 | 68.4 | 80.1 | 83 | 28 | 76.8 | 72.2 | 66.0 | 60.6 | 57.0 |
| 8 | 63.0 | 5.3 | 67.0 | 80.6 | 86 | 34 | 77.2 | 70.7 | 63.1 | 57.0 | 54.2 |
| 9 | 68.0 | 5.2 | 71.3 | 84.5 | 87 | 33 | 81.1 | 75.4 | 68.6 | 61.8 | 58.0 |
| 10 | 69.2 | 4.9 | 72.0 | 84.5 | 87 | 31 | 81.1 | 75.6 | 69.8 | 63.1 | 58.9 |
| 11 | 70.5 | 4.7 | 73.2 | 85.4 | 90 | 32 | 82.3 | 76.9 | 71.0 | 64.6 | 60.6 |
| 12 | 71.3 | 4.6 | 73.9 | 85.6 | 91 | 32 | 82.5 | 77.5 | 71.9 | 65.6 | 61.7 |
| 13 | 75.6 | 5.9 | 80.3 | 95.4 | 101 | 39 | 91.2 | 83.7 | 76.1 | 68.6 | 64.1 |
| 14 | 76.0 | 5.5 | 79.9 | 94.0 | 99 | 38 | 90.4 | 83.7 | 76.4 | 69.7 | 64.1 |

N= 4780

TABLE NO. 59
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; ABSORPTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 2- 75 1152 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.0 | 6.8 | 79.9 | 97.2 | 97 | 44 | 91.0 | 83.4 | 76.1 | 66.7 | 55.6 |
| 2 | 76.4 | 5.6 | 80.2 | 94.6 | 97 | 37 | 90.8 | 83.9 | 77.1 | 69.7 | 62.8 |
| 3 | 58.9 | 3.6 | 60.5 | 69.7 | 71 | 22 | 68.3 | 64.0 | 59.4 | 54.5 | 51.9 |
| 4 | 60.2 | 3.7 | 61.8 | 71.2 | 73 | 22 | 69.7 | 65.4 | 60.7 | 55.7 | 53.1 |
| 5 | 60.9 | 3.7 | 62.5 | 71.9 | 74 | 23 | 70.7 | 65.9 | 61.5 | 56.5 | 53.5 |
| 6 | 61.8 | 3.7 | 63.4 | 72.8 | 75 | 24 | 71.6 | 66.9 | 62.4 | 57.5 | 54.3 |
| 7 | 63.1 | 3.8 | 64.7 | 74.5 | 76 | 24 | 73.1 | 68.3 | 63.6 | 58.6 | 55.2 |
| 8 | 61.5 | 4.0 | 63.7 | 73.9 | 78 | 26 | 72.6 | 67.7 | 61.6 | 57.2 | 54.3 |
| 9 | 64.4 | 3.9 | 66.4 | 76.4 | 79 | 25 | 75.3 | 70.4 | 64.5 | 60.2 | 57.1 |
| 10 | 65.8 | 3.8 | 67.6 | 77.3 | 79 | 23 | 76.5 | 71.5 | 66.0 | 61.7 | 58.4 |
| 11 | 67.3 | 3.8 | 69.0 | 78.6 | 81 | 24 | 77.5 | 72.9 | 67.6 | 63.2 | 59.6 |
| 12 | 68.4 | 3.7 | 70.1 | 79.7 | 82 | 25 | 78.5 | 73.9 | 68.8 | 64.4 | 60.1 |
| 13 | 76.5 | 5.4 | 80.4 | 94.2 | 98 | 35 | 91.2 | 83.6 | 77.0 | 70.0 | 65.8 |
| 14 | 76.3 | 5.1 | 79.7 | 92.7 | 98 | 34 | 90.2 | 83.0 | 76.8 | 70.2 | 65.8 |
| 15 | 73.8 | 6.2 | 78.8 | 94.7 | 93 | 33 | 90.1 | 82.7 | 74.2 | 66.3 | 63.1 |
| N= | 4780 | | | | | | | | | | |

12- 2- 75 1212 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.2 | 5.8 | 79.7 | 94.6 | 98 | 38 | 90.3 | 82.7 | 75.9 | 67.8 | 63.4 |
| 2 | 76.7 | 4.9 | 80.0 | 92.5 | 99 | 35 | 89.9 | 83.3 | 77.2 | 70.7 | 66.4 |
| 3 | 57.9 | 3.3 | 59.3 | 67.7 | 70 | 19 | 67.4 | 62.7 | 58.1 | 54.2 | 52.3 |
| 4 | 59.3 | 3.1 | 60.5 | 68.4 | 70 | 18 | 67.9 | 63.9 | 59.5 | 55.8 | 53.9 |
| 5 | 60.0 | 2.9 | 61.1 | 68.6 | 71 | 18 | 68.2 | 64.5 | 60.2 | 56.8 | 55.0 |
| 6 | 61.0 | 2.9 | 62.0 | 69.4 | 71 | 17 | 69.3 | 65.5 | 61.2 | 57.9 | 56.0 |
| 7 | 62.3 | 2.9 | 63.4 | 71.0 | 73 | 18 | 70.6 | 66.9 | 62.6 | 59.2 | 57.2 |
| 8 | 59.4 | 4.4 | 61.8 | 73.1 | 74 | 25 | 70.7 | 66.1 | 59.6 | 54.6 | 52.3 |
| 9 | 62.5 | 4.2 | 64.6 | 75.3 | 76 | 25 | 73.4 | 68.6 | 62.8 | 57.9 | 54.7 |
| 10 | 64.1 | 4.1 | 66.0 | 76.5 | 78 | 26 | 74.3 | 69.9 | 64.5 | 59.5 | 55.3 |
| 11 | 65.6 | 4.0 | 67.5 | 77.8 | 80 | 26 | 75.8 | 71.2 | 66.1 | 61.1 | 56.6 |
| 12 | 67.0 | 4.0 | 68.8 | 79.0 | 82 | 27 | 77.3 | 72.4 | 67.5 | 62.5 | 57.6 |
| 13 | 75.6 | 5.6 | 79.8 | 94.2 | 98 | 38 | 90.5 | 83.1 | 76.1 | 69.1 | 64.3 |
| 14 | 75.7 | 5.2 | 79.2 | 92.6 | 97 | 37 | 89.4 | 82.7 | 76.1 | 69.9 | 64.0 |
| 16 | 76.5 | 6.0 | 80.9 | 96.3 | 98 | 38 | 92.0 | 84.6 | 77.0 | 69.5 | 63.2 |
| N= | 4780 | | | | | | | | | | |

MICROPHONES 8,9,10,11,12 SET 2.9 FT LOW

TABLE NO. 60
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; ABSORPTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 2- 75 1344 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.8 | 5.8 | 80.0 | 94.8 | 96 | 35 | 91.2 | 83.8 | 76.2 | 69.2 | 63.6 |
| 2 | 77.3 | 5.0 | 80.7 | 93.6 | 96 | 32 | 91.4 | 84.5 | 77.4 | 71.5 | 67.2 |
| 3 | 61.0 | 3.3 | 62.3 | 70.8 | 73 | 21 | 69.9 | 65.8 | 61.3 | 57.4 | 54.3 |
| 4 | 63.0 | 3.5 | 64.7 | 73.7 | 78 | 24 | 73.1 | 68.0 | 63.2 | 59.3 | 56.2 |
| 5 | 65.0 | 3.9 | 67.0 | 76.9 | 80 | 24 | 75.9 | 70.4 | 65.2 | 61.0 | 57.5 |
| 6 | 67.6 | 4.2 | 69.9 | 80.8 | 83 | 26 | 79.4 | 73.7 | 67.7 | 63.1 | 59.2 |
| 7 | 70.4 | 4.3 | 72.7 | 83.7 | 85 | 26 | 81.7 | 76.5 | 70.4 | 65.7 | 61.4 |
| 8 | 66.2 | 5.2 | 70.3 | 83.6 | 87 | 33 | 81.7 | 73.8 | 66.0 | 60.7 | 56.7 |
| 9 | 67.7 | 5.2 | 71.5 | 84.7 | 89 | 34 | 82.5 | 75.3 | 67.8 | 62.0 | 57.9 |
| 10 | 68.5 | 4.9 | 71.9 | 84.5 | 89 | 32 | 82.4 | 75.5 | 68.7 | 62.9 | 59.4 |
| 11 | 70.5 | 4.6 | 73.4 | 85.2 | 89 | 30 | 83.0 | 77.2 | 70.7 | 65.3 | 62.0 |
| 12 | 72.1 | 4.3 | 74.5 | 85.7 | 87 | 26 | 83.8 | 78.5 | 72.3 | 67.3 | 63.9 |
| 13 | 76.3 | 5.6 | 80.2 | 94.4 | 96 | 32 | 91.2 | 83.8 | 77.0 | 69.1 | 66.0 |
| 14 | 76.4 | 5.4 | 80.1 | 94.0 | 95 | 31 | 90.7 | 83.8 | 77.0 | 69.5 | 66.3 |
| 16 | 76.6 | 6.4 | 82.0 | 98.4 | 99 | 35 | 94.1 | 85.5 | 77.1 | 69.1 | 65.5 |
| N= | 4785 | | | | | | | | | | |

12- 2- 75 1404 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.5 | 5.0 | 79.3 | 92.1 | 98 | 35 | 90.5 | 81.6 | 76.2 | 69.6 | 65.4 |
| 2 | 76.7 | 4.3 | 79.7 | 90.8 | 98 | 31 | 90.3 | 82.1 | 77.2 | 71.8 | 68.4 |
| 3 | 59.9 | 2.9 | 61.2 | 68.6 | 74 | 21 | 69.8 | 63.9 | 60.1 | 57.0 | 55.1 |
| 4 | 61.9 | 3.2 | 63.5 | 71.7 | 77 | 24 | 72.2 | 66.6 | 62.1 | 58.7 | 56.4 |
| 5 | 64.1 | 3.4 | 65.7 | 74.4 | 78 | 23 | 74.3 | 69.2 | 64.2 | 60.6 | 58.3 |
| 6 | 66.7 | 3.6 | 68.4 | 77.7 | 82 | 27 | 76.9 | 72.0 | 66.9 | 62.8 | 60.2 |
| 7 | 69.6 | 3.7 | 71.3 | 80.7 | 84 | 26 | 79.9 | 74.9 | 69.9 | 65.4 | 62.6 |
| 8 | 65.4 | 4.7 | 69.1 | 81.0 | 88 | 34 | 80.9 | 71.3 | 65.6 | 60.2 | 56.7 |
| 9 | 67.1 | 4.6 | 70.7 | 82.5 | 91 | 34 | 81.8 | 73.0 | 67.5 | 61.8 | 58.9 |
| 10 | 67.9 | 4.4 | 71.0 | 82.2 | 89 | 32 | 81.7 | 73.5 | 68.3 | 62.8 | 60.0 |
| 11 | 69.9 | 4.0 | 72.5 | 82.8 | 90 | 31 | 82.4 | 75.1 | 70.2 | 65.4 | 62.1 |
| 12 | 71.5 | 3.8 | 73.6 | 83.4 | 90 | 30 | 83.2 | 76.5 | 71.8 | 67.4 | 63.7 |
| 13 | 76.2 | 4.5 | 79.5 | 91.2 | 99 | 36 | 90.6 | 81.9 | 76.6 | 71.3 | 66.9 |
| 14 | 76.3 | 4.3 | 79.2 | 90.2 | 98 | 36 | 90.0 | 81.7 | 76.6 | 71.9 | 66.9 |
| 15 | 73.7 | 5.3 | 77.5 | 91.1 | 95 | 33 | 88.1 | 81.0 | 73.9 | 67.4 | 64.3 |
| N= | 4780 | | | | | | | | | | |

TABLE NO. 61
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; ABSORPTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 3- 75 1306 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.4 | 6.2 | 78.3 | 94.1 | 94 | 37 | 90.2 | 80.7 | 74.3 | 65.8 | 61.1 |
| 2 | 75.3 | 5.2 | 78.9 | 92.0 | 94 | 32 | 90.1 | 81.7 | 75.9 | 69.2 | 64.7 |
| 3 | 57.9 | 2.7 | 58.9 | 65.8 | 71 | 20 | 66.0 | 62.0 | 58.0 | 55.2 | 53.2 |
| 4 | 57.9 | 2.7 | 58.9 | 65.7 | 71 | 20 | 66.0 | 61.9 | 58.1 | 55.2 | 53.2 |
| 5 | 58.6 | 2.6 | 59.5 | 66.1 | 71 | 19 | 66.5 | 62.6 | 58.8 | 56.1 | 54.2 |
| 6 | 59.3 | 2.6 | 60.2 | 66.8 | 69 | 16 | 66.8 | 63.4 | 59.4 | 56.7 | 54.9 |
| 7 | 60.0 | 2.6 | 60.8 | 67.6 | 70 | 16 | 67.2 | 64.1 | 60.2 | 57.2 | 55.3 |
| 8 | 59.7 | 3.6 | 61.8 | 71.1 | 75 | 24 | 72.2 | 64.8 | 59.6 | 56.3 | 53.7 |
| 9 | 61.3 | 3.8 | 63.4 | 73.1 | 76 | 24 | 73.5 | 67.0 | 61.3 | 57.5 | 54.5 |
| 10 | 62.8 | 3.9 | 64.9 | 74.8 | 76 | 22 | 74.0 | 68.8 | 62.9 | 58.6 | 55.3 |
| 11 | 64.4 | 3.9 | 66.3 | 76.4 | 77 | 24 | 75.0 | 70.3 | 64.5 | 60.1 | 56.7 |
| 12 | 65.8 | 4.0 | 67.7 | 77.8 | 77 | 22 | 76.0 | 71.7 | 66.0 | 61.4 | 57.8 |
| 13 | 75.2 | 5.5 | 79.4 | 93.4 | 94 | 31 | 90.6 | 82.4 | 75.7 | 68.9 | 65.0 |
| 14 | 75.7 | 5.0 | 79.2 | 92.1 | 95 | 32 | 90.2 | 82.3 | 76.1 | 70.0 | 65.4 |

N= 4780

12- 3- 75 1326 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.3 | 6.2 | 78.8 | 94.6 | 94 | 37 | 89.6 | 82.7 | 74.9 | 66.7 | 61.6 |
| 2 | 76.1 | 5.3 | 79.5 | 92.9 | 93 | 30 | 89.6 | 83.6 | 76.4 | 70.0 | 65.8 |
| 3 | 58.1 | 2.4 | 58.8 | 65.0 | 70 | 18 | 64.6 | 61.9 | 58.5 | 55.5 | 54.1 |
| 4 | 58.3 | 2.4 | 59.0 | 65.1 | 68 | 16 | 64.6 | 62.0 | 58.8 | 55.7 | 54.1 |
| 5 | 59.0 | 2.4 | 59.7 | 65.9 | 69 | 16 | 65.6 | 62.8 | 59.5 | 56.4 | 55.0 |
| 6 | 59.8 | 2.5 | 60.5 | 66.9 | 70 | 16 | 66.6 | 63.6 | 60.1 | 57.2 | 55.6 |
| 7 | 60.4 | 2.6 | 61.2 | 67.9 | 73 | 19 | 67.7 | 64.4 | 60.6 | 57.7 | 56.1 |
| 8 | 60.1 | 3.3 | 61.5 | 69.8 | 75 | 22 | 69.5 | 65.0 | 60.1 | 56.6 | 54.7 |
| 9 | 61.6 | 3.6 | 63.3 | 72.4 | 73 | 20 | 71.5 | 67.2 | 61.6 | 57.7 | 55.5 |
| 10 | 63.0 | 3.8 | 64.8 | 74.4 | 74 | 20 | 72.5 | 68.9 | 63.1 | 59.0 | 56.3 |
| 11 | 64.8 | 3.8 | 66.5 | 76.2 | 75 | 19 | 73.9 | 70.6 | 65.1 | 60.5 | 57.7 |
| 12 | 66.4 | 3.8 | 68.1 | 77.9 | 77 | 21 | 75.1 | 72.0 | 66.9 | 61.9 | 58.6 |
| 13 | 75.9 | 5.7 | 79.9 | 94.6 | 93 | 32 | 90.8 | 83.4 | 76.6 | 68.7 | 64.1 |
| 14 | 76.5 | 5.3 | 79.9 | 93.4 | 93 | 32 | 90.2 | 83.5 | 77.0 | 70.2 | 65.1 |

N= 4780

TABLE NO. 62
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; ABSORPTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 3- 75 1106 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.8 | 6.8 | 78.9 | 96.3 | 94 | 38 | 90.0 | 82.7 | 75.0 | 64.8 | 59.7 |
| 2 | 75.7 | 5.6 | 79.4 | 93.9 | 93 | 32 | 89.9 | 83.4 | 76.3 | 68.5 | 64.3 |
| 3 | 58.3 | 2.8 | 59.3 | 66.5 | 68 | 17 | 65.6 | 62.7 | 58.7 | 55.1 | 53.0 |
| 4 | 58.8 | 3.0 | 59.9 | 67.5 | 68 | 18 | 66.3 | 63.5 | 59.2 | 55.4 | 53.1 |
| 5 | 60.2 | 3.1 | 61.3 | 69.3 | 71 | 19 | 67.9 | 65.0 | 60.5 | 56.6 | 54.4 |
| 6 | 60.9 | 3.3 | 62.2 | 70.7 | 73 | 20 | 68.9 | 66.1 | 61.2 | 57.1 | 54.9 |
| 7 | 62.5 | 3.6 | 64.0 | 73.1 | 73 | 20 | 71.0 | 68.1 | 62.7 | 58.4 | 56.1 |
| 8 | 61.8 | 4.4 | 64.6 | 75.9 | 80 | 28 | 74.6 | 68.7 | 61.7 | 57.3 | 54.4 |
| 9 | 65.5 | 5.0 | 68.5 | 81.2 | 82 | 29 | 77.7 | 73.0 | 65.6 | 59.7 | 56.1 |
| 10 | 67.4 | 4.9 | 70.1 | 82.6 | 82 | 28 | 78.8 | 74.5 | 67.8 | 61.6 | 57.5 |
| 11 | 69.1 | 4.7 | 71.5 | 83.4 | 83 | 27 | 79.9 | 75.7 | 69.6 | 63.5 | 59.2 |
| 12 | 70.4 | 4.5 | 72.6 | 84.1 | 83 | 25 | 80.8 | 76.7 | 71.1 | 65.0 | 60.7 |
| 13 | 75.2 | 6.1 | 79.5 | 95.1 | 95 | 37 | 90.2 | 83.2 | 75.9 | 67.8 | 61.4 |
| 14 | 75.8 | 5.5 | 79.4 | 93.5 | 96 | 37 | 89.7 | 83.1 | 76.3 | 69.5 | 63.4 |

N= 4785

12- 3- 75 1139 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.8 | 6.1 | 78.0 | 93.5 | 93 | 35 | 89.2 | 81.4 | 74.8 | 65.8 | 61.5 |
| 2 | 75.4 | 5.1 | 78.5 | 91.5 | 93 | 30 | 89.0 | 82.1 | 76.0 | 69.1 | 65.4 |
| 3 | 59.1 | 2.7 | 60.3 | 67.2 | 77 | 25 | 67.6 | 62.9 | 59.4 | 56.4 | 54.3 |
| 4 | 59.3 | 2.6 | 60.2 | 67.0 | 72 | 20 | 67.5 | 63.2 | 59.7 | 56.6 | 54.5 |
| 5 | 60.5 | 2.7 | 61.6 | 68.6 | 73 | 19 | 69.2 | 64.6 | 60.8 | 57.7 | 55.9 |
| 6 | 61.2 | 3.0 | 62.4 | 70.0 | 75 | 22 | 70.3 | 65.7 | 61.3 | 58.2 | 56.2 |
| 7 | 62.8 | 3.4 | 64.4 | 73.1 | 77 | 22 | 73.0 | 68.0 | 62.7 | 59.4 | 57.3 |
| 8 | 62.0 | 3.8 | 64.3 | 74.0 | 80 | 26 | 74.7 | 67.4 | 61.9 | 58.4 | 55.8 |
| 9 | 65.4 | 4.3 | 68.0 | 79.0 | 81 | 27 | 78.0 | 71.4 | 65.7 | 60.6 | 57.5 |
| 10 | 67.3 | 4.3 | 69.6 | 80.5 | 83 | 28 | 78.9 | 73.3 | 67.7 | 62.4 | 58.9 |
| 11 | 69.1 | 4.1 | 71.2 | 81.6 | 83 | 25 | 79.9 | 75.0 | 69.4 | 64.4 | 60.8 |
| 12 | 70.3 | 3.9 | 72.1 | 82.1 | 83 | 24 | 80.7 | 75.9 | 70.6 | 65.9 | 62.1 |
| 13 | 75.1 | 5.4 | 78.7 | 92.6 | 92 | 32 | 89.7 | 82.4 | 75.8 | 68.3 | 64.0 |
| 14 | 75.7 | 4.9 | 78.7 | 91.2 | 93 | 30 | 88.9 | 82.4 | 76.2 | 69.9 | 65.6 |

N= 4780

TABLE NO. 63
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; ABSORPTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 3- 75 1002 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.8 | 6.5 | 80.4 | 97.2 | 100 | 43 | 92.0 | 83.3 | 75.4 | 66.8 | 61.2 |
| 2 | 76.7 | 5.6 | 81.2 | 95.5 | 100 | 39 | 92.1 | 84.1 | 77.0 | 70.1 | 66.0 |
| 3 | 60.6 | 3.6 | 62.8 | 72.0 | 79 | 26 | 73.2 | 65.7 | 60.7 | 57.0 | 54.6 |
| 4 | 61.5 | 3.7 | 63.9 | 73.5 | 83 | 29 | 73.8 | 66.8 | 61.6 | 57.6 | 55.7 |
| 5 | 63.1 | 4.0 | 65.7 | 75.8 | 82 | 27 | 75.9 | 68.9 | 63.2 | 58.8 | 57.0 |
| 6 | 64.8 | 4.3 | 67.9 | 79.1 | 87 | 31 | 78.4 | 71.1 | 64.8 | 60.0 | 57.5 |
| 7 | 67.7 | 4.6 | 70.9 | 82.7 | 89 | 32 | 80.8 | 74.4 | 67.7 | 62.6 | 59.7 |
| 8 | 67.8 | 5.6 | 72.8 | 87.2 | 92 | 36 | 83.9 | 76.4 | 67.5 | 61.8 | 58.7 |
| 9 | 70.7 | 5.3 | 74.8 | 88.4 | 92 | 33 | 85.9 | 78.8 | 70.6 | 64.9 | 61.3 |
| 10 | 71.9 | 5.1 | 75.7 | 88.7 | 93 | 34 | 86.4 | 79.7 | 71.8 | 66.3 | 62.4 |
| 11 | 73.0 | 4.8 | 76.4 | 88.8 | 93 | 32 | 87.2 | 80.3 | 73.0 | 68.0 | 63.8 |
| 12 | 74.4 | 4.6 | 77.5 | 89.3 | 93 | 30 | 87.9 | 81.3 | 74.4 | 69.5 | 65.8 |
| 13 | 76.5 | 5.8 | 81.5 | 96.4 | 101 | 39 | 92.6 | 84.7 | 76.5 | 69.8 | 65.5 |
| 14 | 77.1 | 5.3 | 81.3 | 94.8 | 100 | 36 | 92.4 | 84.5 | 77.0 | 71.2 | 67.2 |

N= 4780

12- 3- 75 1022 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.5 | 5.9 | 78.7 | 93.9 | 94 | 36 | 89.9 | 82.2 | 75.3 | 66.8 | 62.1 |
| 2 | 76.4 | 4.9 | 79.5 | 92.1 | 93 | 31 | 90.0 | 82.9 | 76.9 | 70.4 | 65.8 |
| 3 | 60.2 | 2.7 | 61.1 | 67.9 | 69 | 16 | 67.8 | 64.2 | 60.6 | 57.3 | 55.1 |
| 4 | 61.0 | 2.8 | 61.9 | 69.1 | 70 | 18 | 68.9 | 65.3 | 61.2 | 58.1 | 55.7 |
| 5 | 62.7 | 3.0 | 63.8 | 71.6 | 74 | 20 | 71.1 | 67.3 | 62.9 | 59.5 | 57.0 |
| 6 | 64.4 | 3.4 | 65.9 | 74.6 | 76 | 20 | 73.5 | 69.8 | 64.5 | 60.8 | 58.4 |
| 7 | 67.5 | 3.8 | 69.3 | 79.2 | 81 | 22 | 77.2 | 73.5 | 67.6 | 63.2 | 60.8 |
| 8 | 67.6 | 4.8 | 70.6 | 82.7 | 86 | 33 | 80.6 | 74.0 | 68.1 | 62.1 | 56.5 |
| 9 | 70.2 | 4.7 | 72.8 | 84.8 | 85 | 31 | 82.4 | 76.2 | 71.0 | 64.4 | 58.2 |
| 10 | 71.4 | 4.7 | 73.8 | 85.9 | 88 | 33 | 82.9 | 77.4 | 72.3 | 65.6 | 58.4 |
| 11 | 72.3 | 4.6 | 74.5 | 86.3 | 87 | 31 | 83.1 | 78.2 | 73.2 | 66.8 | 59.3 |
| 12 | 73.6 | 4.5 | 75.7 | 87.3 | 89 | 31 | 83.9 | 79.4 | 74.5 | 68.4 | 60.9 |
| 13 | 75.8 | 5.7 | 79.4 | 94.1 | 95 | 38 | 89.7 | 83.0 | 76.9 | 68.6 | 60.9 |
| 14 | 76.3 | 5.2 | 79.4 | 92.9 | 95 | 36 | 89.3 | 82.9 | 77.2 | 69.9 | 62.6 |

N= 4780

TABLE NO. 64
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; ABSORPTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 3- 75 841 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 78.2 | 5.2 | 81.8 | 95.0 | 97 | 34 | 92.8 | 85.3 | 78.4 | 72.6 | 67.1 |
| 2 | 79.2 | 4.6 | 82.2 | 94.0 | 97 | 30 | 92.7 | 85.8 | 79.2 | 74.2 | 70.0 |
| 3 | 62.6 | 3.2 | 63.8 | 72.1 | 73 | 19 | 70.9 | 67.7 | 62.8 | 58.9 | 56.5 |
| 4 | 63.8 | 3.2 | 65.1 | 73.4 | 74 | 19 | 72.4 | 68.8 | 64.0 | 60.2 | 58.0 |
| 5 | 65.9 | 3.3 | 67.2 | 75.7 | 76 | 18 | 74.8 | 70.9 | 66.2 | 62.1 | 60.1 |
| 6 | 68.2 | 3.6 | 69.8 | 78.8 | 80 | 20 | 77.7 | 73.5 | 68.5 | 64.2 | 61.8 |
| 7 | 70.9 | 3.6 | 72.6 | 81.9 | 82 | 20 | 80.7 | 76.4 | 71.2 | 66.9 | 64.1 |
| 8 | 67.9 | 4.9 | 71.7 | 84.2 | 86 | 30 | 83.2 | 74.9 | 68.0 | 62.7 | 59.4 |
| 9 | 69.5 | 4.8 | 72.9 | 85.2 | 87 | 30 | 83.8 | 76.2 | 69.8 | 64.1 | 60.7 |
| 10 | 70.7 | 4.6 | 73.6 | 85.3 | 89 | 30 | 84.3 | 76.9 | 71.0 | 65.5 | 62.1 |
| 11 | 72.4 | 4.3 | 74.9 | 85.9 | 89 | 30 | 84.9 | 78.6 | 72.7 | 67.7 | 63.6 |
| 12 | 74.0 | 4.0 | 76.0 | 86.2 | 90 | 30 | 85.4 | 79.8 | 74.2 | 69.9 | 65.2 |
| 13 | 78.6 | 4.9 | 82.0 | 94.6 | 97 | 33 | 93.3 | 85.2 | 78.8 | 73.2 | 68.0 |
| 14 | 78.6 | 4.7 | 81.6 | 93.7 | 96 | 31 | 92.3 | 85.0 | 78.9 | 73.5 | 68.2 |

N= 4780

12- 3- 75 901 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.4 | 5.5 | 80.3 | 94.5 | 96 | 36 | 91.7 | 83.4 | 77.2 | 69.7 | 62.7 |
| 2 | 77.7 | 4.9 | 80.9 | 93.4 | 97 | 33 | 91.6 | 84.3 | 78.2 | 72.2 | 66.7 |
| 3 | 60.9 | 3.6 | 62.7 | 72.0 | 75 | 23 | 71.8 | 66.5 | 60.8 | 57.2 | 54.6 |
| 4 | 62.0 | 3.5 | 63.7 | 72.7 | 75 | 22 | 71.5 | 67.7 | 62.0 | 58.4 | 56.0 |
| 5 | 64.0 | 3.7 | 65.8 | 75.2 | 76 | 21 | 74.3 | 69.8 | 63.9 | 60.2 | 57.4 |
| 6 | 66.4 | 4.0 | 68.4 | 78.6 | 81 | 24 | 77.3 | 72.3 | 66.4 | 62.1 | 58.7 |
| 7 | 69.3 | 4.1 | 71.4 | 82.0 | 83 | 26 | 80.2 | 75.5 | 69.6 | 64.6 | 60.7 |
| 8 | 66.2 | 5.1 | 70.0 | 82.9 | 86 | 32 | 81.4 | 73.5 | 66.2 | 60.9 | 56.6 |
| 9 | 67.8 | 4.9 | 71.2 | 83.8 | 87 | 32 | 82.1 | 74.7 | 68.0 | 62.3 | 57.6 |
| 10 | 68.9 | 4.8 | 72.1 | 84.3 | 88 | 32 | 82.7 | 75.5 | 69.2 | 63.7 | 58.9 |
| 11 | 70.7 | 4.4 | 73.3 | 84.7 | 87 | 29 | 83.0 | 77.0 | 70.9 | 66.0 | 61.0 |
| 12 | 72.4 | 4.2 | 74.6 | 85.3 | 88 | 29 | 83.6 | 78.5 | 72.6 | 68.0 | 62.7 |
| 13 | 77.3 | 5.1 | 80.7 | 93.6 | 98 | 37 | 92.0 | 83.8 | 77.8 | 71.6 | 65.4 |
| 14 | 77.6 | 4.8 | 80.5 | 92.7 | 97 | 36 | 91.0 | 83.8 | 78.0 | 72.3 | 66.0 |

N= 4730

TABLE NO. 65
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; ABSORPTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 4- 75 1328 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.4 | 6.3 | 79.1 | 95.2 | 100 | 42 | 90.3 | 81.5 | 74.1 | 65.6 | 60.7 |
| 2 | 75.3 | 5.4 | 79.8 | 93.6 | 100 | 38 | 90.9 | 82.4 | 75.7 | 69.0 | 65.0 |
| 3 | 56.5 | 3.1 | 58.0 | 65.9 | 73 | 24 | 66.9 | 60.8 | 56.8 | 53.4 | 51.2 |
| 4 | 57.7 | 3.2 | 59.3 | 67.6 | 75 | 24 | 68.6 | 62.2 | 57.8 | 54.4 | 52.4 |
| 5 | 58.6 | 3.4 | 60.4 | 69.0 | 76 | 25 | 69.8 | 63.3 | 58.8 | 55.3 | 53.3 |
| 6 | 59.5 | 3.6 | 61.5 | 70.8 | 75 | 23 | 71.2 | 64.6 | 59.6 | 56.0 | 54.1 |
| 7 | 61.7 | 3.9 | 64.0 | 74.0 | 79 | 25 | 73.8 | 67.2 | 61.8 | 57.6 | 55.8 |
| 8 | 62.1 | 4.4 | 64.8 | 76.1 | 78 | 26 | 74.8 | 68.9 | 62.0 | 57.3 | 54.3 |
| 9 | 66.2 | 4.6 | 68.8 | 80.6 | 82 | 27 | 78.5 | 72.8 | 66.7 | 60.7 | 57.6 |
| 10 | 67.1 | 4.4 | 69.4 | 80.7 | 82 | 27 | 78.4 | 73.4 | 67.7 | 61.7 | 58.3 |
| 11 | 68.6 | 4.3 | 70.8 | 81.7 | 83 | 26 | 79.6 | 74.6 | 69.3 | 63.3 | 59.9 |
| 12 | 69.6 | 4.2 | 71.6 | 82.3 | 85 | 27 | 80.2 | 75.4 | 70.1 | 64.4 | 61.1 |
| 13 | | | | | | | 89.0 | 81.9 | | | |
| 14 | | | | | | | 88.7 | 82.0 | | | |

N= 4785

12- 4- 75 1348 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.4 | 5.6 | 77.9 | 92.2 | 94 | 35 | 87.7 | 81.8 | 75.4 | 67.1 | 62.6 |
| 2 | 76.2 | 4.6 | 78.7 | 90.6 | 94 | 30 | 87.8 | 82.3 | 77.0 | 70.3 | 66.5 |
| 3 | 57.6 | 2.7 | 58.4 | 65.4 | 68 | 19 | 64.5 | 61.5 | 58.1 | 54.6 | 51.2 |
| 4 | 58.7 | 2.8 | 59.6 | 66.8 | 68 | 18 | 65.7 | 62.8 | 59.2 | 55.6 | 52.2 |
| 5 | 60.1 | 2.8 | 61.0 | 68.2 | 69 | 18 | 67.3 | 64.1 | 60.6 | 56.9 | 54.1 |
| 6 | 61.5 | 3.0 | 62.6 | 70.2 | 71 | 19 | 68.9 | 66.0 | 62.0 | 58.2 | 55.7 |
| 7 | 64.2 | 3.3 | 65.5 | 73.8 | 73 | 17 | 72.1 | 69.1 | 64.5 | 60.6 | 58.1 |
| 8 | 64.4 | 3.8 | 66.0 | 75.7 | 77 | 23 | 73.2 | 69.9 | 64.8 | 60.2 | 56.2 |
| 9 | 67.6 | 4.0 | 69.4 | 79.6 | 79 | 23 | 76.5 | 73.5 | 68.3 | 63.0 | 58.6 |
| 10 | 68.0 | 3.9 | 69.5 | 79.4 | 78 | 22 | 76.3 | 73.5 | 68.6 | 63.2 | 59.2 |
| 11 | 69.2 | 3.8 | 70.7 | 80.4 | 80 | 23 | 77.4 | 74.6 | 69.8 | 64.3 | 60.4 |
| 12 | 69.9 | 3.7 | 71.3 | 80.8 | 81 | 22 | 77.9 | 75.2 | 70.6 | 65.3 | 61.2 |
| 13 | 5 | | | | | | 87.9 | 82.6 | | | |
| 14 | | | | | | | 87.5 | 82.4 | | | |

N= 4780

TABLE NO. 66
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; ABSORPTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 4- 75 1129 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.6 | 6.8 | 79.0 | 96.4 | 96 | 45 | 90.9 | 82.0 | 74.4 | 65.3 | 55.0 |
| 2 | 75.6 | 5.6 | 79.7 | 94.1 | 95 | 37 | 91.0 | 82.7 | 76.0 | 69.2 | 61.7 |
| 3 | 58.5 | 3.7 | 60.4 | 70.0 | 73 | 24 | 69.5 | 63.8 | 58.7 | 54.4 | 51.2 |
| 4 | 59.4 | 4.0 | 61.6 | 71.8 | 76 | 27 | 71.2 | 65.2 | 59.6 | 55.3 | 51.4 |
| 5 | 61.1 | 4.1 | 63.4 | 73.9 | 78 | 28 | 72.4 | 66.9 | 61.3 | 56.8 | 52.3 |
| 6 | 63.7 | 4.5 | 66.2 | 77.6 | 81 | 30 | 74.8 | 70.1 | 64.0 | 58.9 | 53.3 |
| 7 | 67.1 | 4.8 | 69.7 | 81.9 | 83 | 31 | 78.1 | 73.8 | 67.8 | 61.7 | 54.8 |
| 8 | 67.3 | 5.6 | 71.4 | 85.7 | 87 | 36 | 82.7 | 74.9 | 67.7 | 60.6 | 55.1 |
| 9 | 69.7 | 5.4 | 73.1 | 87.0 | 88 | 36 | 84.0 | 76.8 | 70.2 | 63.1 | 57.1 |
| 10 | 70.6 | 5.2 | 73.7 | 86.9 | 87 | 34 | 84.0 | 77.4 | 71.2 | 64.3 | 57.4 |
| 11 | 71.5 | 4.9 | 74.4 | 86.8 | 89 | 33 | 84.5 | 78.0 | 72.1 | 65.8 | 59.6 |
| 12 | 72.5 | 4.7 | 75.1 | 87.1 | 88 | 32 | 85.2 | 78.6 | 73.1 | 67.2 | 61.5 |
| 13 | 75.0 | 5.9 | 79.4 | 94.6 | 96 | 39 | 90.7 | 82.4 | 75.6 | 67.8 | 60.8 |
| 14 | 75.3 | 5.5 | 79.1 | 93.1 | 95 | 37 | 89.8 | 82.1 | 75.9 | 68.8 | 62.2 |

N= 4780

12- 4- 75 1149 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.5 | 6.4 | 78.5 | 94.9 | 95 | 41 | 90.6 | 81.6 | 74.2 | 65.8 | 58.9 |
| 2 | 75.5 | 5.3 | 79.3 | 92.8 | 94 | 35 | 90.7 | 82.6 | 75.9 | 69.6 | 63.1 |
| 3 | 58.6 | 3.6 | 60.3 | 69.5 | 71 | 23 | 68.8 | 63.9 | 58.8 | 54.9 | 51.3 |
| 4 | 59.6 | 3.8 | 61.5 | 71.2 | 74 | 26 | 70.8 | 65.1 | 59.7 | 55.7 | 51.7 |
| 5 | 61.2 | 4.0 | 63.4 | 73.7 | 77 | 28 | 73.5 | 67.1 | 61.1 | 57.2 | 52.7 |
| 6 | 63.6 | 4.5 | 66.3 | 77.9 | 82 | 32 | 76.2 | 70.4 | 63.3 | 59.2 | 53.6 |
| 7 | 67.0 | 5.0 | 70.0 | 82.7 | 86 | 35 | 79.5 | 74.3 | 66.9 | 62.0 | 55.3 |
| 8 | 66.3 | 6.0 | 70.9 | 86.3 | 85 | 34 | 82.5 | 74.8 | 66.7 | 59.1 | 54.4 |
| 9 | 68.7 | 5.8 | 72.6 | 87.5 | 86 | 35 | 83.4 | 76.6 | 69.1 | 61.8 | 55.5 |
| 10 | 69.8 | 5.7 | 73.5 | 88.0 | 87 | 34 | 83.7 | 77.4 | 70.3 | 63.1 | 56.2 |
| 11 | 70.9 | 5.4 | 74.2 | 88.2 | 88 | 34 | 84.2 | 78.2 | 71.3 | 64.6 | 57.7 |
| 12 | 72.0 | 5.2 | 75.1 | 88.5 | 88 | 32 | 84.8 | 79.0 | 72.3 | 66.2 | 58.6 |
| 13 | 74.1 | 6.4 | 79.0 | 95.4 | 95 | 38 | 90.4 | 82.3 | 75.0 | 66.1 | 59.3 |
| 14 | 74.7 | 5.9 | 78.8 | 93.9 | 95 | 39 | 90.1 | 82.3 | 75.4 | 68.0 | 60.1 |

N= 4780

TABLE NO. 67
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; ABSORPTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 4- 75 1040 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.7 | 6.9 | 79.0 | 96.5 | 95 | 45 | 90.4 | 82.9 | 74.5 | 65.3 | 56.9 |
| 2 | 76.0 | 5.4 | 79.7 | 93.7 | 95 | 45 | 90.4 | 83.5 | 76.4 | 69.6 | 62.9 |
| 3 | 58.3 | 3.9 | 67.2 | 77.2 | 103 | 59 | 69.4 | 64.3 | 58.3 | 54.2 | 51.9 |
| 4 | 59.0 | 4.0 | 61.3 | 71.6 | 74 | 28 | 70.4 | 65.5 | 59.0 | 54.8 | 52.2 |
| 5 | 60.8 | 4.1 | 63.1 | 73.6 | 75 | 33 | 72.6 | 67.1 | 60.7 | 56.5 | 53.5 |
| 6 | 63.4 | 4.3 | 65.8 | 76.8 | 78 | 36 | 75.0 | 69.9 | 63.4 | 58.8 | 55.2 |
| 7 | 67.9 | 4.4 | 70.1 | 81.3 | 82 | 40 | 78.7 | 74.4 | 68.2 | 62.8 | 58.4 |
| 8 | 65.2 | 5.7 | 69.7 | 84.4 | 85 | 43 | 81.4 | 73.4 | 65.3 | 58.7 | 55.5 |
| 9 | 66.7 | 5.7 | 70.8 | 85.3 | 85 | 44 | 81.9 | 74.7 | 67.0 | 59.8 | 56.2 |
| 10 | 67.7 | 5.6 | 71.6 | 85.9 | 87 | 45 | 82.3 | 75.4 | 68.2 | 60.9 | 56.6 |
| 11 | 68.7 | 5.3 | 72.1 | 85.6 | 85 | 43 | 82.6 | 75.9 | 69.1 | 62.4 | 57.6 |
| 12 | 70.3 | 4.9 | 74.0 | 86.6 | 103 | 61 | 82.9 | 77.2 | 70.6 | 64.5 | 59.4 |
| 13 | 75.2 | 5.9 | 79.6 | 94.7 | 95 | 45 | 90.7 | 83.4 | 75.7 | 68.2 | 63.4 |
| 14 | 75.6 | 5.3 | 79.3 | 92.9 | 95 | 45 | 90.3 | 83.0 | 76.0 | 69.5 | 65.0 |

N= 4780

12- 4- 75 1100 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.5 | 6.5 | 78.7 | 95.3 | 96 | 43 | 90.5 | 81.9 | 74.3 | 65.5 | 59.9 |
| 2 | 75.9 | 5.3 | 79.7 | 93.2 | 96 | 35 | 90.7 | 83.3 | 76.1 | 70.0 | 65.3 |
| 3 | 59.8 | 3.8 | 61.6 | 71.3 | 73 | 24 | 70.7 | 65.0 | 60.1 | 55.7 | 52.0 |
| 4 | 60.4 | 4.0 | 62.5 | 72.6 | 74 | 25 | 71.9 | 66.0 | 60.6 | 56.2 | 52.6 |
| 5 | 62.1 | 4.1 | 64.4 | 75.0 | 77 | 27 | 74.2 | 68.0 | 62.2 | 57.7 | 54.3 |
| 6 | 64.6 | 4.6 | 67.3 | 79.0 | 85 | 33 | 77.0 | 71.1 | 64.4 | 59.7 | 55.7 |
| 7 | 68.1 | 4.8 | 70.9 | 83.2 | 83 | 31 | 80.3 | 75.2 | 68.0 | 62.9 | 58.5 |
| 8 | 66.0 | 5.7 | 70.2 | 84.7 | 88 | 37 | 81.4 | 73.5 | 66.5 | 59.1 | 54.0 |
| 9 | 67.2 | 5.6 | 71.0 | 85.3 | 86 | 34 | 82.2 | 74.5 | 68.0 | 60.2 | 54.9 |
| 10 | 68.3 | 5.5 | 71.7 | 85.7 | 87 | 34 | 82.4 | 75.4 | 69.1 | 61.2 | 55.8 |
| 11 | 69.3 | 5.3 | 72.6 | 86.3 | 87 | 33 | 83.0 | 76.1 | 70.0 | 62.5 | 57.0 |
| 12 | 70.9 | 5.2 | 73.9 | 87.1 | 88 | 33 | 83.9 | 77.7 | 71.6 | 64.3 | 58.5 |
| 13 | 75.2 | 6.2 | 79.8 | 95.7 | 97 | 41 | 91.0 | 83.0 | 76.1 | 67.0 | 60.4 |
| 14 | 75.7 | 5.7 | 79.6 | 94.1 | 97 | 40 | 90.3 | 83.2 | 76.4 | 68.7 | 62.5 |

N= 4735

TABLE NO. 68
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; ABSORPTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 4- 75 912 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.3 | 6.2 | 79.7 | 95.7 | 96 | 42 | 91.0 | 83.2 | 76.3 | 68.1 | 57.7 |
| 2 | 76.7 | 5.2 | 80.2 | 93.5 | 95 | 34 | 91.2 | 83.4 | 77.3 | 70.8 | 64.6 |
| 3 | 58.7 | 2.7 | 59.6 | 66.5 | 70 | 19 | 66.5 | 62.6 | 59.1 | 55.8 | 53.2 |
| 4 | 59.0 | 2.7 | 59.9 | 66.8 | 69 | 19 | 66.5 | 63.0 | 59.4 | 56.0 | 53.7 |
| 5 | 59.9 | 2.6 | 60.8 | 67.4 | 69 | 17 | 66.8 | 63.9 | 60.3 | 57.2 | 54.4 |
| 6 | 60.0 | 2.7 | 60.9 | 67.7 | 71 | 20 | 67.2 | 64.0 | 60.4 | 57.1 | 54.5 |
| 7 | 60.9 | 2.7 | 61.8 | 68.7 | 70 | 19 | 68.1 | 65.0 | 61.3 | 57.9 | 55.2 |
| 8 | 61.3 | 3.8 | 63.2 | 72.8 | 74 | 24 | 71.7 | 67.0 | 61.4 | 57.2 | 54.0 |
| 9 | 63.4 | 3.9 | 65.2 | 75.2 | 74 | 23 | 73.5 | 69.3 | 63.6 | 59.0 | 55.7 |
| 10 | 64.9 | 3.9 | 66.7 | 76.8 | 76 | 23 | 74.7 | 70.8 | 65.3 | 60.3 | 57.1 |
| 11 | 66.2 | 3.8 | 67.9 | 77.7 | 78 | 24 | 75.6 | 71.8 | 66.5 | 61.7 | 58.4 |
| 12 | 67.5 | 3.7 | 69.0 | 78.5 | 79 | 24 | 76.5 | 72.9 | 67.9 | 63.2 | 59.8 |
| 13 | 76.6 | 5.3 | 80.2 | 93.8 | 95 | 35 | 90.9 | 83.8 | 77.2 | 70.1 | 65.1 |
| 14 | 76.7 | 4.9 | 79.8 | 92.3 | 95 | 33 | 90.1 | 83.5 | 77.2 | 71.2 | 66.2 |

N= 4785

12- 4- 75 932 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.1 | 5.6 | 79.8 | 94.2 | 95 | 38 | 90.3 | 83.4 | 76.9 | 69.2 | 62.9 |
| 2 | 77.6 | 4.6 | 80.3 | 92.1 | 95 | 30 | 90.0 | 84.0 | 78.1 | 72.4 | 67.7 |
| 3 | 59.8 | 2.9 | 60.8 | 68.2 | 73 | 20 | 67.4 | 64.1 | 60.0 | 56.7 | 54.6 |
| 4 | 60.2 | 2.9 | 61.2 | 68.6 | 72 | 19 | 68.0 | 64.7 | 60.5 | 57.1 | 55.1 |
| 5 | 61.1 | 2.9 | 62.1 | 69.6 | 70 | 17 | 68.6 | 65.6 | 61.4 | 57.9 | 55.9 |
| 6 | 61.6 | 3.0 | 62.7 | 70.3 | 70 | 16 | 69.0 | 66.3 | 62.0 | 58.3 | 56.5 |
| 7 | 62.8 | 3.0 | 63.8 | 71.6 | 70 | 15 | 70.2 | 67.5 | 63.1 | 59.3 | 57.3 |
| 8 | 63.3 | 3.7 | 65.0 | 74.6 | 75 | 21 | 73.0 | 68.8 | 63.6 | 59.1 | 56.1 |
| 9 | 65.2 | 3.8 | 66.8 | 76.5 | 75 | 21 | 74.4 | 70.6 | 65.7 | 60.6 | 57.1 |
| 10 | 66.4 | 3.7 | 67.9 | 77.4 | 79 | 23 | 74.9 | 71.6 | 66.8 | 62.1 | 58.3 |
| 11 | 67.3 | 3.7 | 68.8 | 78.2 | 79 | 22 | 75.8 | 72.6 | 67.7 | 63.1 | 59.3 |
| 12 | 68.4 | 3.6 | 69.8 | 78.9 | 80 | 22 | 76.6 | 73.6 | 68.8 | 64.4 | 60.5 |
| 13 | 77.1 | 5.1 | 80.4 | 93.4 | 95 | 32 | 90.8 | 84.1 | 77.6 | 70.9 | 66.7 |
| 14 | 77.3 | 4.6 | 80.1 | 91.9 | 94 | 29 | 89.7 | 83.9 | 77.7 | 72.1 | 68.0 |

N= 4780

TABLES 69-80. NOISE DATA: TWELVE FOOT REFLECTIVE BARRIER; MICROPHONE CONFIGURATIONS B, C, D, E.

TABLE NO. 69
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 18- 75 916 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.0 | 5.8 | 80.4 | 95.2 | 94 | 32 | 91.7 | 84.0 | 76.4 | 68.9 | 64.8 |
| 2 | 77.6 | 5.1 | 81.0 | 94.0 | 94 | 29 | 91.8 | 84.6 | 77.7 | 71.8 | 67.6 |
| 3 | 60.6 | 3.5 | 62.2 | 71.1 | 71 | 18 | 69.7 | 66.2 | 60.6 | 56.9 | 55.0 |
| 4 | 62.1 | 3.8 | 63.9 | 73.5 | 75 | 21 | 72.0 | 68.1 | 62.1 | 58.1 | 56.1 |
| 5 | 63.4 | 4.0 | 65.5 | 75.9 | 78 | 23 | 74.0 | 69.8 | 63.5 | 59.1 | 56.8 |
| 6 | 65.7 | 4.3 | 68.0 | 78.9 | 80 | 24 | 76.0 | 72.3 | 65.7 | 61.1 | 58.5 |
| 7 | 69.3 | 4.2 | 71.4 | 82.1 | 82 | 25 | 79.0 | 75.9 | 69.4 | 64.8 | 61.7 |
| 8 | 68.7 | 5.6 | 72.4 | 86.8 | 87 | 33 | 82.7 | 76.0 | 69.2 | 61.6 | 57.1 |
| 9 | 71.1 | 5.4 | 74.4 | 88.1 | 87 | 30 | 84.0 | 78.4 | 71.7 | 64.5 | 59.1 |
| 10 | 71.9 | 5.2 | 74.9 | 88.2 | 88 | 31 | 84.3 | 78.9 | 72.6 | 65.6 | 60.2 |
| 11 | 72.8 | 4.9 | 75.5 | 88.0 | 89 | 31 | 84.5 | 79.6 | 73.3 | 67.0 | 61.8 |
| 12 | 73.6 | 4.7 | 76.2 | 88.2 | 89 | 31 | 85.2 | 80.3 | 74.0 | 68.1 | 63.3 |
| 13 | 75.8 | 5.9 | 80.1 | 95.2 | 97 | 38 | 91.4 | 83.3 | 76.6 | 68.5 | 62.6 |
| 14 | 76.3 | 5.3 | 79.8 | 93.3 | 94 | 34 | 90.5 | 83.2 | 76.9 | 70.0 | 65.0 |

N= 4730

11- 18- 75 936 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.4 | 5.6 | 80.8 | 95.1 | 100 | 42 | 92.0 | 83.8 | 76.7 | 70.4 | 63.8 |
| 2 | 77.9 | 5.0 | 81.5 | 94.3 | 99 | 38 | 92.4 | 84.7 | 78.1 | 72.7 | 65.9 |
| 3 | 61.7 | 3.4 | 63.2 | 71.9 | 75 | 22 | 71.5 | 66.8 | 61.9 | 58.1 | 55.1 |
| 4 | 62.9 | 3.7 | 64.8 | 74.2 | 78 | 24 | 74.3 | 68.4 | 63.0 | 59.1 | 56.0 |
| 5 | 64.2 | 3.8 | 66.3 | 76.1 | 81 | 27 | 75.7 | 69.8 | 64.2 | 60.2 | 56.7 |
| 6 | 66.4 | 4.0 | 68.5 | 78.9 | 81 | 26 | 77.9 | 72.3 | 66.5 | 62.3 | 57.6 |
| 7 | 69.9 | 4.1 | 72.0 | 82.4 | 86 | 29 | 80.8 | 75.8 | 70.0 | 65.8 | 60.2 |
| 8 | 69.5 | 5.2 | 73.1 | 86.4 | 92 | 40 | 83.1 | 76.7 | 69.8 | 64.2 | 55.5 |
| 9 | 71.7 | 5.0 | 74.9 | 87.7 | 92 | 37 | 84.7 | 78.5 | 72.1 | 66.7 | 57.4 |
| 10 | 72.6 | 4.9 | 75.6 | 88.1 | 91 | 36 | 85.0 | 79.1 | 73.0 | 67.7 | 59.3 |
| 11 | 73.5 | 4.6 | 76.2 | 88.0 | 92 | 36 | 85.6 | 79.7 | 73.8 | 69.0 | 61.0 |
| 12 | 74.3 | 4.4 | 76.9 | 88.3 | 93 | 35 | 85.9 | 80.3 | 74.6 | 70.0 | 61.7 |
| 13 | 76.5 | 5.4 | 80.6 | 94.3 | 99 | 40 | 91.5 | 83.5 | 76.9 | 70.7 | 61.9 |
| 14 | 77.0 | 5.0 | 80.4 | 93.1 | 98 | 39 | 91.2 | 83.3 | 77.3 | 71.8 | 63.6 |

N= 4780

TABLE NO. 70
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 18- 75 1043 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.3 | 5.6 | 79.2 | 93.6 | 93 | 34 | 90.2 | 82.9 | 75.9 | 68.7 | 62.3 |
| 2 | 76.4 | 4.9 | 79.4 | 91.9 | 92 | 30 | 90.0 | 83.0 | 76.8 | 70.8 | 65.9 |
| 3 | 59.5 | 2.9 | 60.6 | 68.0 | 71 | 19 | 67.9 | 63.9 | 59.7 | 56.5 | 54.5 |
| 4 | 60.6 | 3.0 | 61.8 | 69.4 | 71 | 18 | 68.9 | 65.2 | 60.8 | 57.5 | 55.5 |
| 5 | 61.8 | 3.0 | 62.9 | 70.5 | 72 | 17 | 69.9 | 66.4 | 62.0 | 58.6 | 56.5 |
| 6 | 63.2 | 3.1 | 64.5 | 72.4 | 75 | 19 | 72.0 | 67.9 | 63.5 | 59.8 | 57.4 |
| 7 | 65.1 | 3.4 | 66.5 | 75.1 | 77 | 22 | 74.5 | 69.8 | 65.5 | 61.4 | 58.4 |
| 8 | 65.0 | 3.9 | 66.9 | 76.9 | 76 | 22 | 75.4 | 70.8 | 65.4 | 60.5 | 57.2 |
| 9 | 68.7 | 4.0 | 70.6 | 80.9 | 80 | 22 | 78.6 | 74.7 | 69.1 | 64.0 | 60.6 |
| 10 | 69.5 | 3.9 | 71.2 | 81.2 | 81 | 22 | 78.7 | 75.3 | 70.0 | 65.0 | 61.7 |
| 11 | 70.6 | 3.9 | 72.3 | 82.2 | 83 | 24 | 79.8 | 76.2 | 70.9 | 66.0 | 63.0 |
| 12 | 71.6 | 3.8 | 73.2 | 82.8 | 83 | 22 | 80.4 | 77.1 | 72.0 | 67.2 | 64.4 |
| 13 | 76.1 | 4.9 | 79.2 | 91.8 | 94 | 31 | 89.6 | 83.1 | 76.5 | 70.3 | 66.4 |
| 14 | 76.4 | 4.5 | 79.1 | 90.6 | 93 | 28 | 88.7 | 83.0 | 76.7 | 71.2 | 67.8 |

N= 4780

11- 18- 75 1103 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.9 | 6.0 | 80.1 | 95.5 | 99 | 38 | 92.1 | 83.1 | 75.3 | 67.6 | 63.2 |
| 2 | 76.2 | 5.3 | 80.4 | 94.0 | 98 | 34 | 92.0 | 83.7 | 76.3 | 70.4 | 66.2 |
| 3 | 60.5 | 3.1 | 61.6 | 69.4 | 73 | 20 | 68.8 | 64.9 | 60.9 | 57.0 | 55.2 |
| 4 | 61.3 | 3.4 | 62.8 | 71.4 | 74 | 21 | 70.7 | 66.2 | 61.7 | 57.5 | 55.9 |
| 5 | 62.2 | 3.5 | 63.8 | 72.8 | 76 | 22 | 71.7 | 67.4 | 62.5 | 58.2 | 56.3 |
| 6 | 63.3 | 3.7 | 65.0 | 74.5 | 76 | 21 | 72.9 | 68.8 | 63.5 | 59.2 | 57.2 |
| 7 | 64.9 | 3.9 | 66.9 | 77.0 | 78 | 22 | 75.4 | 71.0 | 64.9 | 60.6 | 58.5 |
| 8 | 64.2 | 4.6 | 67.4 | 79.2 | 81 | 28 | 77.9 | 71.4 | 63.7 | 59.9 | 56.0 |
| 9 | 67.9 | 5.0 | 71.3 | 84.0 | 86 | 31 | 81.8 | 75.2 | 67.7 | 62.9 | 57.7 |
| 10 | 68.9 | 4.9 | 72.1 | 84.6 | 87 | 31 | 82.4 | 76.1 | 68.8 | 64.0 | 58.7 |
| 11 | 70.0 | 4.8 | 73.1 | 85.4 | 89 | 32 | 82.7 | 77.1 | 70.0 | 65.0 | 60.2 |
| 12 | 71.1 | 4.7 | 74.0 | 86.1 | 88 | 31 | 83.4 | 78.1 | 71.1 | 66.1 | 61.8 |
| 13 | 75.2 | 6.0 | 80.3 | 95.6 | 98 | 37 | 92.0 | 83.0 | 75.7 | 68.4 | 63.1 |
| 14 | 75.7 | 5.5 | 80.1 | 94.3 | 98 | 36 | 91.6 | 83.1 | 75.8 | 69.7 | 64.2 |

N= 4785

TABLE NO. 71
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 18- 75 1204 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.2 | 6.4 | 80.0 | 96.5 | 99 | 42 | 91.6 | 83.0 | 74.4 | 67.1 | 60.0 |
| 2 | 75.5 | 5.7 | 80.1 | 94.6 | 98 | 37 | 91.2 | 83.5 | 75.6 | 69.3 | 63.3 |
| 3 | 58.8 | 3.1 | 59.9 | 67.8 | 71 | 22 | 67.3 | 63.0 | 59.3 | 55.2 | 52.4 |
| 4 | 59.4 | 3.1 | 60.6 | 68.6 | 71 | 21 | 68.6 | 63.8 | 59.8 | 55.7 | 53.3 |
| 5 | 59.9 | 3.1 | 61.2 | 69.1 | 72 | 20 | 69.2 | 64.3 | 60.3 | 56.3 | 54.0 |
| 6 | 60.7 | 3.2 | 62.0 | 70.1 | 73 | 20 | 70.1 | 65.2 | 61.0 | 56.9 | 54.6 |
| 7 | 61.4 | 3.2 | 62.7 | 70.9 | 73 | 20 | 70.7 | 66.1 | 61.8 | 57.6 | 55.3 |
| 8 | 60.4 | 4.4 | 62.9 | 74.1 | 77 | 28 | 73.0 | 66.7 | 60.6 | 55.6 | 52.2 |
| 9 | 62.7 | 4.7 | 65.5 | 77.4 | 79 | 28 | 75.9 | 69.5 | 62.8 | 57.6 | 54.0 |
| 10 | 64.3 | 4.7 | 67.1 | 79.3 | 81 | 29 | 77.6 | 71.0 | 64.4 | 58.9 | 54.7 |
| 11 | 66.0 | 4.7 | 68.8 | 80.9 | 83 | 30 | 79.5 | 72.5 | 66.3 | 60.6 | 56.3 |
| 12 | 67.4 | 4.7 | 70.3 | 82.3 | 84 | 29 | 81.1 | 73.8 | 67.8 | 62.1 | 57.4 |
| 13 | 74.8 | 6.1 | 80.2 | 95.8 | 100 | 42 | 90.9 | 83.3 | 75.0 | 67.9 | 62.3 |
| 14 | 75.3 | 5.7 | 79.9 | 94.4 | 100 | 41 | 90.0 | 83.5 | 75.5 | 68.9 | 63.0 |
| 15 | 73.3 | 5.2 | 77.1 | 90.4 | 94 | 33 | 88.7 | 80.7 | 73.6 | 67.2 | 63.2 |
| N= | 4780 | | | | | | | | | | |

11- 18- 75 1224 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.8 | 5.7 | 78.6 | 93.2 | 95 | 36 | 91.2 | 80.7 | 74.1 | 67.5 | 62.3 |
| 2 | 75.3 | 5.0 | 79.1 | 91.9 | 95 | 33 | 90.9 | 81.9 | 75.5 | 69.9 | 65.5 |
| 3 | 59.0 | 3.0 | 60.2 | 68.0 | 73 | 20 | 67.5 | 63.9 | 58.8 | 56.1 | 54.4 |
| 4 | 59.5 | 2.9 | 60.6 | 68.0 | 73 | 19 | 68.2 | 64.1 | 59.4 | 56.8 | 55.3 |
| 5 | 60.1 | 2.9 | 61.2 | 68.5 | 72 | 17 | 68.8 | 64.6 | 60.0 | 57.3 | 56.0 |
| 6 | 60.8 | 2.9 | 62.0 | 69.5 | 73 | 18 | 69.4 | 65.5 | 60.8 | 57.9 | 56.3 |
| 7 | 61.6 | 3.0 | 62.7 | 70.3 | 73 | 18 | 70.3 | 66.1 | 61.6 | 58.5 | 57.1 |
| 8 | 60.9 | 4.3 | 63.8 | 74.8 | 77 | 25 | 74.9 | 67.6 | 60.6 | 56.9 | 54.2 |
| 9 | 62.9 | 4.4 | 65.8 | 77.0 | 80 | 27 | 76.2 | 69.6 | 62.7 | 58.6 | 55.5 |
| 10 | 64.2 | 4.4 | 66.9 | 78.2 | 80 | 26 | 76.8 | 70.9 | 64.0 | 59.8 | 56.5 |
| 11 | 65.7 | 4.4 | 68.3 | 79.5 | 81 | 25 | 77.7 | 72.4 | 65.5 | 61.2 | 58.1 |
| 12 | 67.0 | 4.3 | 69.5 | 80.5 | 82 | 25 | 79.0 | 73.6 | 66.8 | 62.5 | 59.7 |
| 13 | 74.2 | 5.7 | 79.1 | 93.7 | 97 | 37 | 91.5 | 81.5 | 74.3 | 68.1 | 63.6 |
| 14 | 74.8 | 5.2 | 79.0 | 92.2 | 95 | 34 | 90.7 | 81.6 | 74.8 | 69.5 | 64.9 |
| 16 | 75.4 | 5.2 | 79.1 | 92.4 | 94 | 30 | 90.4 | 82.6 | 75.8 | 69.4 | 66.0 |
| N= | 4780 | | | | | | | | | | |

TABLE NO. 72
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 18- 75 1348 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.4 | 5.7 | 79.7 | 94.5 | 94 | 34 | 91.2 | 83.4 | 75.7 | 68.6 | 64.6 |
| 2 | 76.6 | 5.1 | 80.1 | 93.3 | 94 | 32 | 91.0 | 83.8 | 76.7 | 70.9 | 66.7 |
| 3 | 60.0 | 3.7 | 61.8 | 71.3 | 72 | 21 | 70.1 | 65.7 | 60.1 | 56.2 | 53.8 |
| 4 | 60.8 | 4.0 | 62.8 | 73.0 | 75 | 23 | 71.5 | 66.9 | 60.8 | 56.6 | 54.3 |
| 5 | 62.9 | 4.2 | 65.2 | 75.8 | 76 | 23 | 74.0 | 69.4 | 62.8 | 58.5 | 56.3 |
| 6 | 65.8 | 4.3 | 68.2 | 79.3 | 81 | 26 | 77.0 | 72.9 | 65.5 | 61.4 | 58.5 |
| 7 | 69.0 | 4.3 | 71.3 | 82.3 | 82 | 24 | 79.8 | 76.0 | 68.9 | 64.5 | 60.8 |
| 8 | 66.1 | 5.5 | 70.1 | 84.2 | 84 | 31 | 81.4 | 74.0 | 66.1 | 59.8 | 55.5 |
| 9 | 67.2 | 5.4 | 70.9 | 84.7 | 85 | 33 | 81.6 | 75.0 | 67.4 | 60.9 | 56.7 |
| 10 | 67.9 | 5.2 | 71.3 | 84.8 | 85 | 33 | 81.7 | 75.4 | 68.1 | 61.7 | 57.4 |
| 11 | 69.4 | 5.0 | 72.4 | 85.1 | 86 | 32 | 82.2 | 76.6 | 69.5 | 63.8 | 59.1 |
| 12 | 70.7 | 4.7 | 73.4 | 85.5 | 87 | 31 | 82.7 | 77.8 | 70.7 | 65.6 | 60.6 |
| 13 | 76.0 | 5.7 | 79.8 | 94.2 | 94 | 37 | 90.9 | 83.3 | 76.6 | 69.4 | 62.3 |
| 14 | 76.1 | 5.3 | 79.5 | 93.0 | 93 | 36 | 90.0 | 83.4 | 76.5 | 70.2 | 64.1 |
| 16 | 74.4 | 5.9 | 79.4 | 94.5 | 97 | 36 | 91.9 | 82.4 | 74.6 | 67.5 | 63.4 |
| N= | 4780 | | | | | | | | | | |

11- 18- 75 1408 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.9 | 5.5 | 80.7 | 94.8 | 99 | 37 | 92.8 | 83.0 | 76.1 | 69.7 | 65.3 |
| 2 | 77.2 | 5.0 | 81.1 | 93.7 | 98 | 34 | 92.9 | 83.9 | 77.2 | 71.8 | 68.1 |
| 3 | 61.2 | 3.3 | 62.7 | 71.3 | 74 | 20 | 71.4 | 66.2 | 61.3 | 57.7 | 56.0 |
| 4 | 62.1 | 3.7 | 64.3 | 73.9 | 78 | 24 | 74.4 | 67.7 | 62.2 | 58.3 | 56.4 |
| 5 | 63.9 | 3.9 | 66.1 | 76.1 | 79 | 23 | 76.0 | 69.7 | 63.9 | 59.8 | 58.0 |
| 6 | 66.5 | 4.2 | 68.9 | 79.6 | 81 | 24 | 78.3 | 72.8 | 66.5 | 62.1 | 59.8 |
| 7 | 69.8 | 4.2 | 72.2 | 83.0 | 84 | 25 | 81.6 | 76.1 | 69.7 | 65.3 | 62.1 |
| 8 | 67.6 | 4.7 | 71.3 | 83.4 | 91 | 34 | 82.8 | 74.5 | 67.4 | 62.9 | 59.3 |
| 9 | 68.6 | 4.8 | 72.5 | 84.8 | 92 | 35 | 84.6 | 75.2 | 68.6 | 63.2 | 60.0 |
| 10 | 69.1 | 4.8 | 72.7 | 84.9 | 90 | 32 | 85.1 | 75.6 | 69.2 | 63.6 | 60.4 |
| 11 | 70.4 | 4.6 | 73.6 | 85.5 | 91 | 31 | 85.3 | 76.8 | 70.6 | 65.3 | 61.7 |
| 12 | 71.6 | 4.5 | 74.5 | 85.9 | 90 | 31 | 85.1 | 77.9 | 71.7 | 66.9 | 63.2 |
| 13 | 76.3 | 5.3 | 80.8 | 94.5 | 99 | 36 | 93.2 | 83.4 | 76.6 | 70.3 | 65.9 |
| 14 | 76.8 | 5.0 | 80.7 | 93.5 | 99 | 35 | 93.2 | 83.7 | 76.9 | 71.3 | 67.0 |
| 15 | 75.4 | 4.9 | 79.3 | 91.8 | 98 | 34 | 90.8 | 82.5 | 75.5 | 70.0 | 67.0 |
| N= | 4785 | | | | | | | | | | |

TABLE NO. 73
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 19- 75 855 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.9 | 4.7 | 81.0 | 93.0 | 96 | 29 | 91.5 | 84.7 | 77.9 | 72.9 | 69.6 |
| 2 | 78.9 | 4.3 | 81.5 | 92.5 | 97 | 28 | 91.5 | 85.0 | 78.9 | 74.3 | 71.1 |
| 3 | 61.2 | 3.1 | 62.5 | 70.6 | 74 | 20 | 70.2 | 65.9 | 61.4 | 57.9 | 56.2 |
| 4 | 63.8 | 3.4 | 65.3 | 73.9 | 76 | 19 | 72.9 | 68.9 | 64.1 | 60.2 | 58.3 |
| 5 | 65.7 | 3.5 | 67.3 | 76.3 | 79 | 21 | 74.9 | 71.0 | 66.0 | 61.8 | 59.7 |
| 6 | 68.3 | 3.8 | 70.0 | 79.7 | 80 | 20 | 77.9 | 74.1 | 68.5 | 64.2 | 61.5 |
| 7 | 72.0 | 3.8 | 73.7 | 83.6 | 85 | 23 | 81.4 | 77.9 | 72.1 | 67.8 | 64.5 |
| 8 | 67.2 | 5.0 | 70.7 | 83.6 | 87 | 32 | 81.5 | 74.8 | 67.1 | 61.7 | 57.7 |
| 9 | 69.5 | 4.8 | 72.5 | 84.8 | 88 | 31 | 82.7 | 76.4 | 69.6 | 64.2 | 59.8 |
| 10 | 70.8 | 4.4 | 73.4 | 84.8 | 89 | 31 | 83.1 | 77.2 | 70.9 | 65.9 | 61.7 |
| 11 | 71.7 | 4.1 | 73.9 | 84.5 | 88 | 29 | 83.3 | 77.7 | 71.9 | 67.2 | 63.4 |
| 12 | 73.7 | 3.9 | 75.7 | 85.7 | 88 | 27 | 84.2 | 79.4 | 74.0 | 69.3 | 66.2 |
| 13 | 77.3 | 5.0 | 80.5 | 93.3 | 96 | 33 | 90.8 | 84.4 | 77.8 | 71.2 | 67.0 |
| 14 | 77.9 | 4.7 | 80.6 | 92.6 | 96 | 32 | 90.1 | 84.4 | 78.3 | 72.4 | 68.3 |

N= 4780

11- 19- 75 915 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.5 | 5.8 | 80.8 | 95.6 | 98 | 37 | 92.0 | 84.3 | 77.0 | 69.8 | 64.4 |
| 2 | 77.8 | 5.3 | 81.4 | 95.0 | 98 | 34 | 92.2 | 84.9 | 78.2 | 71.7 | 66.7 |
| 3 | 60.6 | 4.1 | 62.8 | 73.4 | 75 | 24 | 71.4 | 66.7 | 60.9 | 55.7 | 53.2 |
| 4 | 62.4 | 4.3 | 64.7 | 75.8 | 77 | 25 | 73.6 | 68.8 | 62.8 | 57.4 | 54.3 |
| 5 | 64.4 | 4.4 | 66.8 | 78.0 | 80 | 27 | 75.7 | 70.7 | 64.8 | 59.4 | 55.6 |
| 6 | 67.1 | 4.5 | 69.5 | 81.1 | 84 | 29 | 78.3 | 73.6 | 67.4 | 62.0 | 57.7 |
| 7 | 71.2 | 4.5 | 73.5 | 84.9 | 86 | 29 | 82.2 | 77.6 | 71.4 | 66.3 | 60.8 |
| 8 | 66.0 | 6.0 | 70.8 | 86.1 | 88 | 37 | 82.3 | 74.5 | 66.3 | 58.9 | 54.6 |
| 9 | 68.4 | 5.7 | 72.4 | 87.0 | 88 | 35 | 83.0 | 76.3 | 69.0 | 61.4 | 56.7 |
| 10 | 69.9 | 5.4 | 73.5 | 87.3 | 89 | 34 | 83.9 | 77.3 | 70.5 | 63.3 | 58.5 |
| 11 | 71.0 | 5.0 | 74.0 | 86.8 | 89 | 33 | 83.9 | 77.9 | 71.4 | 64.9 | 60.1 |
| 12 | 73.3 | 4.6 | 75.8 | 87.5 | 89 | 30 | 85.1 | 79.8 | 73.6 | 68.1 | 63.5 |
| 13 | 76.5 | 5.5 | 80.5 | 94.6 | 97 | 34 | 91.8 | 84.4 | 76.7 | 70.0 | 66.0 |
| 14 | 77.5 | 5.1 | 80.9 | 93.9 | 97 | 31 | 91.4 | 84.6 | 77.6 | 71.4 | 68.2 |

N= 4780

TABLE NO. 74
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 19- 75 1016 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.6 | 5.4 | 78.4 | 92.2 | 94 | 33 | 89.5 | 81.8 | 75.0 | 68.3 | 63.9 |
| 2 | 75.7 | 5.0 | 79.0 | 91.7 | 94 | 31 | 89.5 | 83.0 | 76.0 | 70.1 | 65.8 |
| 3 | 58.2 | 3.9 | 60.1 | 70.0 | 71 | 22 | 69.2 | 63.8 | 58.4 | 54.0 | 51.3 |
| 4 | 60.0 | 4.2 | 62.2 | 72.8 | 74 | 23 | 71.2 | 66.1 | 59.9 | 55.4 | 52.5 |
| 5 | 62.3 | 4.4 | 64.7 | 75.9 | 78 | 25 | 73.7 | 68.8 | 62.2 | 57.6 | 54.6 |
| 6 | 65.4 | 4.5 | 67.9 | 79.4 | 80 | 24 | 76.9 | 72.2 | 65.1 | 60.3 | 57.5 |
| 7 | 69.0 | 4.5 | 71.5 | 83.1 | 83 | 24 | 80.4 | 75.9 | 68.9 | 63.8 | 60.9 |
| 8 | 68.6 | 5.1 | 71.7 | 84.8 | 86 | 32 | 81.8 | 75.7 | 69.0 | 62.7 | 57.0 |
| 9 | 71.0 | 4.8 | 73.8 | 86.2 | 87 | 31 | 83.7 | 77.7 | 71.5 | 65.5 | 59.5 |
| 10 | 71.7 | 4.6 | 74.3 | 86.1 | 89 | 32 | 83.9 | 78.0 | 72.1 | 66.5 | 60.6 |
| 11 | 72.4 | 4.5 | 74.8 | 86.2 | 89 | 30 | 84.2 | 78.6 | 72.8 | 67.5 | 62.1 |
| 12 | 73.3 | 4.3 | 75.5 | 86.4 | 92 | 31 | 84.6 | 79.3 | 73.5 | 68.7 | 64.2 |
| 13 | 75.6 | 5.1 | 79.1 | 92.2 | 95 | 34 | 89.8 | 82.8 | 76.0 | 69.8 | 63.7 |
| 14 | 76.2 | 4.8 | 79.2 | 91.4 | 95 | 33 | 89.6 | 83.1 | 76.5 | 70.9 | 66.0 |

N= 4730

11- 19- 75 1036 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.3 | 5.9 | 81.3 | 96.3 | 100 | 39 | 93.2 | 84.5 | 76.4 | 69.3 | 65.4 |
| 2 | 77.5 | 5.3 | 81.6 | 95.2 | 102 | 37 | 92.9 | 84.8 | 77.6 | 71.3 | 68.0 |
| 3 | 60.5 | 4.4 | 63.2 | 74.6 | 78 | 28 | 73.0 | 67.0 | 60.7 | 55.6 | 52.7 |
| 4 | 62.6 | 4.7 | 65.5 | 77.6 | 79 | 29 | 75.9 | 69.5 | 62.9 | 57.3 | 54.1 |
| 5 | 65.1 | 4.7 | 67.9 | 80.1 | 83 | 30 | 78.1 | 71.8 | 65.5 | 59.5 | 56.3 |
| 6 | 68.1 | 4.8 | 70.9 | 83.2 | 85 | 29 | 80.7 | 74.8 | 68.7 | 62.4 | 58.8 |
| 7 | 71.3 | 4.7 | 73.8 | 85.9 | 88 | 30 | 82.7 | 77.7 | 71.9 | 65.7 | 61.3 |
| 8 | 70.2 | 5.3 | 74.0 | 87.7 | 89 | 32 | 85.0 | 78.1 | 70.1 | 64.1 | 60.2 |
| 9 | 72.6 | 5.0 | 75.9 | 88.7 | 89 | 29 | 86.3 | 79.9 | 72.7 | 66.8 | 63.0 |
| 10 | 73.3 | 4.8 | 76.4 | 88.7 | 90 | 29 | 86.8 | 80.3 | 73.4 | 67.9 | 64.0 |
| 11 | 74.0 | 4.6 | 76.8 | 88.6 | 91 | 29 | 86.7 | 80.8 | 74.1 | 68.9 | 65.1 |
| 12 | 74.8 | 4.4 | 77.4 | 88.8 | 92 | 29 | 87.3 | 81.3 | 75.0 | 70.0 | 66.2 |
| 13 | 77.2 | 5.3 | 81.4 | 95.0 | 97 | 33 | 92.9 | 84.7 | 77.3 | 71.3 | 66.6 |
| 14 | 77.7 | 5.0 | 81.4 | 94.3 | 98 | 33 | 92.4 | 84.7 | 77.7 | 72.2 | 68.0 |

N= 4780

TABLE NO. 75
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 19- 75 1127 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.5 | 5.8 | 80.1 | 95.0 | 101 | 43 | 90.7 | 83.3 | 76.1 | 68.7 | 61.8 |
| 2 | 76.4 | 5.3 | 80.3 | 93.9 | 101 | 40 | 90.5 | 83.5 | 76.9 | 70.4 | 64.2 |
| 3 | 58.4 | 4.0 | 60.5 | 70.9 | 74 | 26 | 69.1 | 64.3 | 58.9 | 53.8 | 50.2 |
| 4 | 59.8 | 4.1 | 62.0 | 72.5 | 75 | 25 | 70.4 | 65.7 | 60.2 | 55.0 | 52.0 |
| 5 | 61.6 | 4.1 | 63.6 | 74.1 | 76 | 25 | 71.9 | 67.5 | 61.9 | 56.8 | 53.8 |
| 6 | 63.4 | 4.2 | 65.5 | 76.1 | 78 | 25 | 73.7 | 69.5 | 63.7 | 58.7 | 55.0 |
| 7 | 66.3 | 4.3 | 68.4 | 79.3 | 82 | 27 | 76.0 | 72.5 | 66.5 | 61.5 | 56.9 |
| 8 | 63.2 | 5.5 | 66.7 | 80.7 | 82 | 35 | 76.0 | 71.1 | 63.3 | 57.2 | 50.6 |
| 9 | 67.9 | 5.3 | 71.2 | 84.8 | 88 | 38 | 79.0 | 75.6 | 68.4 | 62.0 | 54.8 |
| 10 | 69.5 | 4.9 | 72.4 | 85.0 | 88 | 35 | 80.6 | 76.4 | 69.9 | 64.1 | 57.4 |
| 11 | 70.3 | 4.7 | 73.0 | 85.2 | 89 | 34 | 81.5 | 77.0 | 70.7 | 65.0 | 58.9 |
| 12 | 71.6 | 4.5 | 74.1 | 85.7 | 89 | 32 | 81.9 | 78.1 | 71.9 | 66.5 | 60.9 |
| 13 | 75.8 | 5.6 | 80.2 | 94.5 | 102 | 43 | 90.0 | 83.4 | 76.3 | 69.2 | 63.2 |
| 14 | 76.3 | 5.3 | 80.0 | 93.5 | 100 | 39 | 89.7 | 83.6 | 76.8 | 70.3 | 64.0 |

N= 4780

11- 19- 75 1147 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 73.5 | 6.4 | 78.7 | 94.9 | 96 | 39 | 90.5 | 81.8 | 74.2 | 65.8 | 60.1 |
| 2 | 74.6 | 5.8 | 78.9 | 93.7 | 96 | 36 | 90.4 | 81.9 | 75.2 | 67.7 | 62.2 |
| 3 | 57.0 | 4.1 | 59.1 | 69.5 | 71 | 24 | 68.1 | 63.0 | 57.0 | 52.5 | 49.6 |
| 4 | 58.2 | 4.2 | 60.4 | 71.2 | 71 | 22 | 69.2 | 64.7 | 58.2 | 53.5 | 51.0 |
| 5 | 59.9 | 4.2 | 62.2 | 73.0 | 73 | 22 | 71.0 | 66.3 | 59.9 | 55.2 | 52.9 |
| 6 | 61.6 | 4.4 | 64.0 | 75.1 | 75 | 22 | 72.7 | 68.2 | 61.6 | 56.7 | 54.2 |
| 7 | 64.3 | 4.5 | 66.7 | 78.3 | 78 | 24 | 75.4 | 70.9 | 64.3 | 59.2 | 56.1 |
| 8 | 62.2 | 5.1 | 65.7 | 78.7 | 82 | 32 | 75.9 | 69.9 | 62.1 | 56.6 | 53.0 |
| 9 | 66.8 | 5.0 | 70.0 | 82.8 | 84 | 31 | 79.7 | 74.2 | 66.8 | 61.2 | 56.5 |
| 10 | 68.4 | 4.7 | 71.2 | 83.3 | 84 | 28 | 80.2 | 75.4 | 68.4 | 63.1 | 58.7 |
| 11 | 69.3 | 4.5 | 71.9 | 83.5 | 84 | 27 | 80.8 | 75.9 | 69.3 | 64.1 | 60.4 |
| 12 | 70.6 | 4.3 | 72.9 | 84.0 | 85 | 25 | 81.8 | 76.9 | 70.5 | 65.7 | 62.1 |
| 13 | 74.5 | 5.7 | 78.9 | 93.5 | 95 | 36 | 90.6 | 82.2 | 74.8 | 67.9 | 62.4 |
| 14 | 75.2 | 5.3 | 79.0 | 92.5 | 96 | 35 | 90.2 | 82.4 | 75.4 | 69.2 | 64.3 |

N= 4785

TABLE NO. 76
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 19- 75 1313 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.4 | 5.5 | 77.9 | 91.9 | 93 | 36 | 88.8 | 81.1 | 75.3 | 67.3 | 60.7 |
| 2 | 75.3 | 5.0 | 78.2 | 91.0 | 94 | 35 | 88.3 | 81.7 | 76.0 | 69.0 | 62.8 |
| 3 | 57.2 | 2.8 | 58.2 | 65.4 | 69 | 20 | 65.2 | 61.1 | 57.7 | 54.0 | 51.3 |
| 4 | 58.1 | 2.8 | 59.0 | 66.2 | 68 | 19 | 65.7 | 62.0 | 58.7 | 54.8 | 52.0 |
| 5 | 58.8 | 2.9 | 59.8 | 67.2 | 68 | 18 | 65.9 | 63.0 | 59.4 | 55.5 | 52.6 |
| 6 | 59.6 | 2.9 | 60.6 | 68.0 | 70 | 20 | 67.0 | 63.8 | 60.1 | 56.3 | 53.4 |
| 7 | 60.9 | 3.0 | 61.9 | 69.7 | 75 | 23 | 68.7 | 65.3 | 61.3 | 57.4 | 54.5 |
| 8 | 57.4 | 4.1 | 59.8 | 70.3 | 75 | 27 | 70.7 | 63.1 | 57.3 | 53.0 | 50.2 |
| 9 | 59.8 | 4.1 | 62.2 | 72.7 | 75 | 25 | 71.7 | 66.0 | 59.8 | 55.4 | 52.1 |
| 10 | 62.1 | 4.0 | 64.1 | 74.4 | 76 | 24 | 72.6 | 68.2 | 62.2 | 57.7 | 54.1 |
| 11 | 64.4 | 3.9 | 66.1 | 76.1 | 77 | 23 | 74.1 | 70.3 | 64.5 | 60.1 | 56.7 |
| 12 | 66.0 | 3.7 | 67.7 | 77.3 | 77 | 21 | 75.3 | 71.6 | 66.3 | 61.9 | 58.7 |
| 13 | 74.3 | 5.4 | 77.8 | 91.5 | 94 | 34 | 88.4 | 81.5 | 75.0 | 67.8 | 62.5 |
| 14 | 75.1 | 4.9 | 78.1 | 90.8 | 93 | 31 | 87.8 | 81.9 | 75.6 | 69.3 | 64.5 |

N= 4780

11- 19- 75 1333 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.5 | 5.8 | 80.5 | 95.3 | 101 | 43 | 91.4 | 84.0 | 75.6 | 69.1 | 64.3 |
| 2 | 76.3 | 5.3 | 80.5 | 94.1 | 100 | 40 | 91.3 | 84.1 | 76.4 | 70.7 | 65.4 |
| 3 | 56.3 | 3.5 | 57.9 | 66.9 | 71 | 24 | 66.8 | 61.2 | 56.6 | 52.3 | 49.9 |
| 4 | 57.0 | 3.7 | 58.7 | 68.2 | 72 | 23 | 67.6 | 62.3 | 57.2 | 52.8 | 50.5 |
| 5 | 57.7 | 3.6 | 59.4 | 68.6 | 71 | 22 | 67.7 | 62.9 | 58.1 | 53.6 | 51.4 |
| 6 | 58.6 | 3.6 | 60.3 | 69.7 | 71 | 21 | 68.7 | 63.8 | 59.0 | 54.4 | 52.3 |
| 7 | 60.1 | 3.7 | 61.8 | 71.1 | 72 | 20 | 69.7 | 65.4 | 60.5 | 55.8 | 53.6 |
| 8 | 58.3 | 4.8 | 61.3 | 73.5 | 77 | 30 | 71.4 | 65.4 | 58.2 | 52.9 | 49.8 |
| 9 | 61.0 | 4.8 | 64.0 | 76.4 | 79 | 29 | 74.2 | 68.2 | 61.1 | 55.5 | 51.6 |
| 10 | 63.3 | 4.7 | 66.0 | 78.0 | 80 | 29 | 75.5 | 70.1 | 63.4 | 58.0 | 53.6 |
| 11 | 65.5 | 4.5 | 68.0 | 79.6 | 82 | 28 | 77.0 | 71.9 | 65.6 | 60.3 | 56.3 |
| 12 | 67.1 | 4.3 | 69.5 | 80.6 | 84 | 28 | 78.2 | 73.3 | 67.3 | 62.2 | 58.4 |
| 13 | 75.5 | 5.9 | 80.4 | 95.5 | 101 | 42 | 91.0 | 83.9 | 75.9 | 68.9 | 63.2 |
| 14 | 76.3 | 5.4 | 80.3 | 94.0 | 99 | 37 | 91.1 | 83.8 | 76.6 | 70.2 | 65.1 |

N= 4780

TABLE NO. 77
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 20- 75 848 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.6 | 5.1 | 80.2 | 93.2 | 99 | 38 | 91.5 | 82.9 | 77.2 | 70.7 | 64.3 |
| 2 | 77.6 | 4.6 | 80.6 | 92.4 | 98 | 34 | 91.4 | 83.5 | 78.1 | 72.4 | 67.2 |
| 3 | 60.3 | 2.8 | 61.4 | 68.5 | 72 | 19 | 69.0 | 64.6 | 60.5 | 57.5 | 55.6 |
| 4 | 61.2 | 2.8 | 62.3 | 69.4 | 72 | 18 | 69.6 | 65.7 | 61.4 | 58.4 | 56.6 |
| 5 | 61.6 | 2.8 | 62.6 | 69.9 | 73 | 18 | 70.0 | 66.1 | 61.7 | 58.8 | 57.1 |
| 6 | 62.1 | 2.9 | 63.2 | 70.6 | 73 | 17 | 70.8 | 66.7 | 62.2 | 59.2 | 57.3 |
| 7 | 63.6 | 3.0 | 64.7 | 72.3 | 75 | 19 | 72.5 | 68.3 | 63.7 | 60.6 | 58.3 |
| 8 | 62.8 | 3.7 | 65.1 | 74.4 | 81 | 26 | 75.0 | 68.1 | 62.7 | 59.3 | 57.1 |
| 9 | 65.2 | 3.5 | 67.1 | 76.2 | 81 | 24 | 77.0 | 70.4 | 65.2 | 61.7 | 59.4 |
| 10 | 67.0 | 3.4 | 68.7 | 77.5 | 82 | 23 | 78.2 | 72.0 | 67.1 | 63.5 | 61.3 |
| 11 | 68.0 | 3.4 | 69.6 | 78.3 | 82 | 23 | 78.6 | 73.1 | 68.1 | 64.4 | 62.3 |
| 12 | 69.2 | 3.4 | 70.7 | 79.3 | 83 | 21 | 80.0 | 74.2 | 69.2 | 65.7 | 63.5 |
| 13 | 76.7 | 4.8 | 80.3 | 92.5 | 101 | 36 | 91.2 | 82.7 | 77.1 | 71.2 | 67.8 |
| 14 | 76.9 | 4.4 | 80.0 | 91.4 | 98 | 32 | 90.3 | 82.7 | 77.2 | 71.9 | 68.4 |

N= 4780

11- 20- 75 908 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.7 | 4.6 | 79.8 | 91.6 | 95 | 30 | 90.8 | 83.1 | 76.8 | 71.6 | 67.3 |
| 2 | 77.6 | 4.4 | 80.3 | 91.4 | 95 | 29 | 90.6 | 83.7 | 77.6 | 72.9 | 69.1 |
| 3 | 58.4 | 2.4 | 59.1 | 65.2 | 68 | 15 | 66.4 | 61.9 | 58.6 | 56.1 | 54.6 |
| 4 | 59.6 | 2.4 | 60.4 | 66.4 | 70 | 16 | 67.3 | 63.1 | 59.9 | 57.3 | 55.6 |
| 5 | 60.2 | 2.3 | 60.9 | 66.8 | 71 | 17 | 67.6 | 63.6 | 60.4 | 57.9 | 56.2 |
| 6 | 60.6 | 2.4 | 61.4 | 67.5 | 72 | 18 | 68.5 | 64.3 | 60.8 | 58.4 | 56.6 |
| 7 | 62.1 | 2.4 | 62.9 | 69.1 | 73 | 17 | 69.6 | 65.9 | 62.2 | 59.7 | 58.0 |
| 8 | 59.8 | 3.7 | 61.8 | 71.3 | 75 | 23 | 71.1 | 65.5 | 59.5 | 56.3 | 54.1 |
| 9 | 62.5 | 3.8 | 64.5 | 74.1 | 78 | 25 | 73.6 | 68.3 | 62.3 | 58.9 | 56.0 |
| 10 | 65.1 | 3.7 | 66.9 | 76.3 | 79 | 24 | 75.7 | 70.7 | 65.1 | 61.4 | 58.5 |
| 11 | 66.8 | 3.6 | 68.4 | 77.6 | 80 | 24 | 76.9 | 71.9 | 66.9 | 63.0 | 60.2 |
| 12 | 68.1 | 3.5 | 69.6 | 78.6 | 80 | 22 | 77.8 | 73.3 | 68.3 | 64.4 | 61.4 |
| 13 | 76.6 | 4.7 | 79.6 | 91.6 | 94 | 30 | 89.9 | 83.1 | 76.8 | 71.2 | 66.9 |
| 14 | 76.9 | 4.4 | 79.5 | 90.7 | 93 | 28 | 89.3 | 83.2 | 76.9 | 72.2 | 67.5 |

N= 4785

TABLE NO. 78
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 20- 75 1007 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.5 | 5.5 | 79.4 | 93.6 | 95 | 37 | 90.4 | 83.2 | 75.8 | 69.0 | 63.1 |
| 2 | 76.4 | 5.3 | 79.8 | 93.4 | 94 | 34 | 90.3 | 83.7 | 76.8 | 70.3 | 63.0 |
| 3 | 59.5 | 4.2 | 61.5 | 72.2 | 72 | 22 | 70.1 | 65.6 | 59.9 | 54.3 | 51.7 |
| 4 | 61.1 | 4.2 | 63.2 | 73.9 | 75 | 24 | 71.7 | 67.3 | 61.5 | 55.9 | 53.4 |
| 5 | 62.8 | 4.3 | 65.0 | 76.0 | 78 | 25 | 73.7 | 69.1 | 63.2 | 57.6 | 55.0 |
| 6 | 65.5 | 4.5 | 67.8 | 79.3 | 79 | 24 | 76.6 | 72.0 | 66.0 | 60.2 | 56.9 |
| 7 | 68.7 | 4.6 | 71.1 | 82.9 | 82 | 26 | 79.9 | 75.3 | 69.2 | 63.2 | 59.1 |
| 8 | 65.0 | 5.7 | 69.4 | 84.1 | 84 | 33 | 80.5 | 73.5 | 65.0 | 58.6 | 54.2 |
| 9 | 66.9 | 5.5 | 70.7 | 84.8 | 84 | 30 | 81.2 | 75.2 | 67.1 | 60.4 | 56.4 |
| 10 | 68.1 | 5.2 | 71.5 | 84.7 | 84 | 30 | 81.6 | 75.8 | 68.5 | 62.0 | 58.0 |
| 11 | 70.0 | 4.7 | 72.8 | 84.8 | 85 | 27 | 82.2 | 77.0 | 70.1 | 64.7 | 60.7 |
| 12 | 71.7 | 4.3 | 74.0 | 85.1 | 86 | 26 | 82.7 | 78.4 | 71.8 | 67.0 | 63.1 |
| 13 | 75.6 | 5.5 | 79.5 | 93.7 | 93 | 31 | 90.1 | 83.6 | 76.0 | 69.2 | 64.2 |
| 14 | 76.3 | 5.1 | 79.6 | 92.8 | 93 | 31 | 89.7 | 83.8 | 76.6 | 70.7 | 65.1 |

N= 4780

11- 20- 75 1027 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.2 | 5.7 | 80.0 | 94.6 | 98 | 36 | 91.7 | 83.3 | 75.5 | 68.7 | 64.7 |
| 2 | 76.5 | 5.1 | 80.2 | 93.2 | 96 | 31 | 91.4 | 83.6 | 76.9 | 70.7 | 67.4 |
| 3 | 59.9 | 4.0 | 62.1 | 72.3 | 74 | 22 | 71.6 | 65.9 | 60.1 | 55.5 | 53.5 |
| 4 | 61.7 | 4.1 | 64.3 | 74.8 | 81 | 28 | 73.7 | 67.7 | 61.9 | 57.1 | 55.1 |
| 5 | 63.5 | 4.1 | 65.9 | 76.5 | 83 | 28 | 75.9 | 69.3 | 63.8 | 58.8 | 56.6 |
| 6 | 66.2 | 4.2 | 68.7 | 79.5 | 84 | 27 | 78.4 | 72.0 | 66.6 | 61.6 | 59.1 |
| 7 | 69.7 | 4.2 | 71.9 | 82.5 | 84 | 25 | 81.0 | 75.6 | 70.0 | 65.1 | 62.1 |
| 8 | 64.8 | 5.9 | 70.2 | 85.2 | 89 | 38 | 82.2 | 72.9 | 64.8 | 58.5 | 53.8 |
| 9 | 66.7 | 5.7 | 71.3 | 85.9 | 89 | 38 | 83.0 | 74.6 | 66.7 | 60.5 | 55.4 |
| 10 | 68.0 | 5.3 | 71.9 | 85.6 | 89 | 37 | 83.3 | 75.3 | 68.2 | 62.2 | 56.5 |
| 11 | 70.0 | 4.9 | 73.2 | 85.8 | 88 | 34 | 83.8 | 76.7 | 70.2 | 64.7 | 59.2 |
| 12 | 71.8 | 4.4 | 74.5 | 85.8 | 89 | 32 | 84.1 | 78.1 | 71.9 | 67.1 | 62.2 |
| 13 | 75.4 | 5.5 | 79.9 | 94.0 | 99 | 38 | 92.0 | 82.9 | 75.6 | 69.0 | 63.9 |
| 14 | 76.4 | 4.9 | 79.9 | 92.4 | 96 | 33 | 91.3 | 83.1 | 76.6 | 71.1 | 66.5 |

N= 4780

TABLE NO. 79
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 20- 75 1112 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.7 | 4.8 | 78.9 | 91.3 | 94 | 31 | 89.9 | 82.2 | 76.0 | 70.1 | 66.0 |
| 2 | 76.6 | 4.5 | 79.4 | 90.9 | 93 | 28 | 89.7 | 82.8 | 76.8 | 71.6 | 67.6 |
| 3 | 61.5 | 3.1 | 62.8 | 70.8 | 72 | 18 | 70.5 | 66.3 | 61.6 | 58.4 | 55.9 |
| 4 | 63.2 | 3.2 | 64.6 | 72.9 | 75 | 20 | 72.0 | 68.5 | 63.3 | 60.1 | 57.1 |
| 5 | 64.6 | 3.5 | 66.2 | 75.1 | 76 | 20 | 74.3 | 70.0 | 64.6 | 61.1 | 58.5 |
| 6 | 67.3 | 3.9 | 69.3 | 79.3 | 79 | 21 | 78.0 | 73.3 | 67.4 | 63.1 | 61.0 |
| 7 | 70.2 | 4.1 | 72.4 | 83.0 | 84 | 24 | 81.5 | 76.3 | 70.4 | 65.7 | 63.1 |
| 8 | 68.8 | 4.7 | 71.6 | 83.7 | 85 | 29 | 81.7 | 75.0 | 69.4 | 63.0 | 58.7 |
| 9 | 71.4 | 4.3 | 73.6 | 84.7 | 86 | 27 | 82.7 | 77.3 | 72.0 | 66.3 | 61.7 |
| 10 | 72.1 | 4.2 | 74.3 | 85.2 | 87 | 28 | 83.1 | 77.9 | 72.7 | 67.1 | 62.3 |
| 11 | 73.0 | 4.2 | 75.0 | 85.6 | 87 | 27 | 83.6 | 78.7 | 73.5 | 68.1 | 63.6 |
| 12 | 73.8 | 4.0 | 75.7 | 86.1 | 87 | 25 | 83.9 | 79.4 | 74.3 | 69.2 | 64.6 |
| 13 | 75.7 | 4.9 | 78.8 | 91.3 | 94 | 32 | 89.8 | 82.2 | 76.2 | 70.1 | 64.9 |
| 14 | 76.3 | 4.7 | 79.1 | 91.1 | 94 | 31 | 89.5 | 82.6 | 76.8 | 70.8 | 66.1 |

N= 4730

11- 20- 75 1132 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.6 | 5.4 | 78.6 | 92.4 | 95 | 32 | 90.0 | 81.9 | 75.1 | 68.1 | 65.2 |
| 2 | 75.7 | 5.0 | 79.1 | 91.8 | 93 | 29 | 89.7 | 82.9 | 76.0 | 70.1 | 67.0 |
| 3 | 60.1 | 3.5 | 61.6 | 70.4 | 73 | 21 | 69.9 | 65.1 | 60.3 | 56.2 | 53.9 |
| 4 | 61.7 | 3.7 | 63.4 | 72.7 | 74 | 21 | 71.8 | 67.0 | 62.1 | 57.5 | 55.0 |
| 5 | 62.9 | 3.9 | 64.8 | 74.7 | 76 | 23 | 73.7 | 68.7 | 63.0 | 58.7 | 56.0 |
| 6 | 65.4 | 4.1 | 67.6 | 78.2 | 80 | 26 | 76.4 | 71.7 | 65.4 | 61.0 | 57.8 |
| 7 | 68.7 | 4.3 | 71.0 | 82.0 | 83 | 26 | 79.8 | 75.4 | 68.7 | 64.2 | 60.4 |
| 8 | 66.6 | 5.6 | 70.8 | 85.0 | 86 | 32 | 81.9 | 74.5 | 66.7 | 60.0 | 57.0 |
| 9 | 69.9 | 5.2 | 73.1 | 86.5 | 86 | 31 | 83.3 | 77.1 | 70.2 | 63.5 | 58.9 |
| 10 | 71.0 | 4.9 | 73.9 | 86.5 | 87 | 29 | 83.7 | 78.0 | 71.3 | 65.3 | 60.2 |
| 11 | 72.0 | 4.7 | 74.6 | 86.6 | 86 | 28 | 84.0 | 78.6 | 72.2 | 67.0 | 61.4 |
| 12 | 73.2 | 4.4 | 75.6 | 86.9 | 87 | 28 | 84.9 | 79.5 | 73.4 | 68.5 | 63.0 |
| 13 | 74.7 | 5.6 | 78.8 | 93.2 | 93 | 34 | 90.3 | 82.0 | 75.1 | 68.3 | 61.8 |
| 14 | 75.7 | 5.2 | 79.1 | 92.3 | 94 | 34 | 89.9 | 82.7 | 75.9 | 70.2 | 63.2 |

N= 4780

TABLE NO. 80
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 12 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

11- 20- 75 1253 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.3 | 6.1 | 79.5 | 95.1 | 97 | 36 | 91.3 | 82.6 | 74.5 | 67.2 | 63.2 |
| 2 | 75.3 | 5.5 | 79.7 | 93.8 | 98 | 36 | 91.1 | 82.9 | 75.3 | 69.0 | 65.2 |
| 3 | 58.0 | 3.9 | 59.9 | 70.0 | 73 | 23 | 68.1 | 64.0 | 58.0 | 53.6 | 51.7 |
| 4 | 58.8 | 4.1 | 61.0 | 71.6 | 74 | 23 | 69.7 | 65.1 | 58.8 | 54.1 | 52.4 |
| 5 | 60.0 | 4.2 | 62.2 | 73.0 | 74 | 22 | 71.0 | 66.3 | 59.9 | 55.3 | 53.3 |
| 6 | 61.6 | 4.3 | 63.9 | 74.9 | 75 | 22 | 72.7 | 68.3 | 61.4 | 56.8 | 54.8 |
| 7 | 64.1 | 4.4 | 66.6 | 77.9 | 80 | 25 | 75.5 | 71.1 | 63.8 | 59.3 | 57.1 |
| 8 | 60.8 | 5.1 | 64.9 | 78.1 | 82 | 31 | 75.9 | 68.9 | 60.3 | 55.5 | 53.1 |
| 9 | 65.0 | 5.7 | 69.3 | 83.9 | 84 | 32 | 80.8 | 73.6 | 64.8 | 58.7 | 54.8 |
| 10 | 67.3 | 5.4 | 70.9 | 84.6 | 85 | 30 | 81.2 | 75.3 | 67.2 | 61.4 | 57.1 |
| 11 | 69.1 | 5.0 | 72.2 | 84.9 | 85 | 28 | 82.0 | 76.5 | 69.0 | 63.6 | 59.5 |
| 12 | 70.4 | 4.7 | 73.2 | 85.3 | 85 | 27 | 82.5 | 77.5 | 70.3 | 65.3 | 61.2 |
| 13 | 74.3 | 6.1 | 79.7 | 95.4 | 98 | 38 | 91.4 | 83.0 | 74.4 | 67.5 | 63.5 |
| 14 | 75.3 | 5.5 | 79.6 | 93.8 | 97 | 35 | 90.8 | 83.1 | 75.2 | 69.3 | 65.2 |

N= 4780

11- 20- 75 1313 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.7 | 5.4 | 78.2 | 91.9 | 92 | 32 | 88.8 | 81.6 | 75.4 | 68.1 | 63.4 |
| 2 | 75.6 | 5.0 | 78.7 | 91.5 | 92 | 31 | 88.7 | 82.3 | 76.3 | 69.5 | 64.5 |
| 3 | 58.2 | 3.2 | 59.6 | 67.7 | 75 | 23 | 67.3 | 63.3 | 58.2 | 54.9 | 53.2 |
| 4 | 59.1 | 3.2 | 60.4 | 68.5 | 77 | 25 | 67.6 | 64.1 | 59.3 | 55.8 | 53.8 |
| 5 | 60.2 | 3.1 | 61.4 | 69.5 | 73 | 20 | 68.6 | 65.0 | 60.5 | 56.9 | 54.6 |
| 6 | 61.7 | 3.2 | 62.9 | 71.2 | 74 | 20 | 70.0 | 66.5 | 62.1 | 58.2 | 55.6 |
| 7 | 64.2 | 3.4 | 65.6 | 74.4 | 74 | 19 | 72.7 | 69.3 | 64.6 | 60.4 | 57.5 |
| 8 | 61.2 | 4.4 | 63.7 | 75.0 | 74 | 23 | 72.8 | 67.7 | 61.6 | 56.1 | 53.1 |
| 9 | 65.6 | 4.9 | 68.3 | 80.8 | 79 | 26 | 77.2 | 72.7 | 66.2 | 59.8 | 54.9 |
| 10 | 67.7 | 4.4 | 69.9 | 81.3 | 80 | 26 | 78.0 | 74.2 | 68.3 | 62.6 | 57.1 |
| 11 | 69.4 | 4.2 | 71.3 | 82.0 | 81 | 24 | 78.9 | 75.4 | 70.0 | 64.4 | 60.0 |
| 12 | 70.6 | 4.0 | 72.4 | 82.5 | 81 | 22 | 79.8 | 76.3 | 71.2 | 66.0 | 61.7 |
| 13 | 75.0 | 5.4 | 78.6 | 92.4 | 93 | 33 | 89.3 | 82.0 | 75.8 | 68.5 | 63.4 |
| 14 | 75.8 | 4.9 | 78.8 | 91.4 | 93 | 32 | 88.9 | 82.5 | 76.4 | 70.2 | 65.4 |

N= 4780

TABLES 81-91. NOISE DATA: SIXTEEN FOOT ABSORPTIVE BARRIER; MICROPHONE CONFIGURATIONS B, C, D, E.

TABLE NO. 81
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; ABSORPTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 9- 75 909 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.2 | 4.4 | 79.6 | 90.8 | 93 | 30 | 88.8 | 82.9 | 77.8 | 72.0 | 67.2 |
| 2 | 78.7 | 3.7 | 80.5 | 90.0 | 94 | 28 | 88.9 | 83.8 | 79.1 | 74.5 | 70.7 |
| 3 | 59.7 | 2.2 | 60.3 | 65.9 | 69 | 16 | 66.0 | 63.1 | 60.1 | 57.4 | 55.3 |
| 4 | 61.0 | 2.4 | 61.8 | 67.8 | 72 | 18 | 68.3 | 64.6 | 61.4 | 58.6 | 56.4 |
| 5 | 62.5 | 2.4 | 63.3 | 69.5 | 73 | 17 | 69.7 | 66.0 | 63.0 | 59.9 | 57.9 |
| 6 | 65.4 | 2.6 | 66.2 | 72.9 | 74 | 16 | 72.5 | 69.3 | 65.9 | 62.5 | 60.5 |
| 7 | 68.7 | 3.0 | 69.7 | 77.5 | 78 | 17 | 75.9 | 73.2 | 69.1 | 65.2 | 62.4 |
| 8 | 71.1 | 3.8 | 72.8 | 82.5 | 84 | 23 | 81.9 | 76.4 | 71.4 | 66.6 | 63.5 |
| 9 | 73.1 | 3.7 | 74.7 | 84.1 | 85 | 22 | 83.0 | 78.2 | 73.6 | 68.8 | 65.3 |
| 10 | 73.4 | 3.5 | 74.9 | 83.8 | 85 | 22 | 82.8 | 78.3 | 73.9 | 69.4 | 66.2 |
| 11 | 74.2 | 3.3 | 75.5 | 83.8 | 86 | 21 | 83.2 | 78.9 | 74.6 | 70.5 | 67.6 |
| 12 | 75.1 | 3.1 | 76.3 | 84.2 | 86 | 19 | 83.7 | 79.6 | 75.5 | 71.7 | 69.2 |
| 13 | 78.0 | 4.0 | 80.0 | 90.2 | 92 | 25 | 89.2 | 83.5 | 78.4 | 73.4 | 69.7 |
| 14 | 77.7 | 3.9 | 79.6 | 89.6 | 92 | 25 | 88.7 | 83.0 | 78.1 | 73.2 | 69.4 |

N= 4780

12- 9- 75 1035 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 78.1 | 5.1 | 81.4 | 94.5 | 96 | 32 | 91.5 | 85.2 | 78.6 | 72.1 | 67.5 |
| 2 | 79.1 | 4.7 | 83.2 | 95.2 | 107 | 54 | 91.5 | 85.5 | 79.3 | 74.2 | 69.8 |
| 3 | 62.1 | 2.9 | 63.2 | 70.6 | 76 | 22 | 70.3 | 66.4 | 62.5 | 59.0 | 56.5 |
| 4 | 63.8 | 3.0 | 64.9 | 72.6 | 75 | 18 | 72.0 | 68.5 | 64.0 | 60.4 | 58.3 |
| 5 | 64.9 | 3.2 | 66.2 | 74.4 | 77 | 20 | 73.6 | 70.0 | 65.0 | 61.5 | 59.3 |
| 6 | 67.5 | 3.3 | 69.0 | 77.4 | 78 | 19 | 76.8 | 72.7 | 67.7 | 64.1 | 61.6 |
| 7 | 69.9 | 3.7 | 71.7 | 81.1 | 83 | 24 | 80.2 | 75.4 | 70.1 | 66.1 | 62.8 |
| 8 | 72.1 | 4.5 | 74.6 | 86.1 | 87 | 28 | 83.9 | 78.7 | 72.2 | 67.0 | 63.5 |
| 9 | 74.2 | 4.2 | 76.4 | 87.3 | 88 | 26 | 85.5 | 80.3 | 74.5 | 69.3 | 65.8 |
| 10 | 74.5 | 4.1 | 76.6 | 87.0 | 88 | 24 | 85.8 | 80.5 | 74.8 | 70.0 | 66.6 |
| 11 | 75.3 | 3.9 | 77.3 | 87.3 | 89 | 25 | 86.3 | 81.2 | 75.5 | 71.2 | 67.4 |
| 12 | 76.0 | 3.9 | 78.0 | 88.0 | 89 | 24 | 87.0 | 81.9 | 76.1 | 71.7 | 68.2 |
| 13 | 78.7 | 4.9 | 82.0 | 94.5 | 96 | 32 | 92.5 | 85.9 | 78.8 | 73.5 | 68.4 |
| 14 | 78.4 | 4.7 | 81.4 | 93.5 | 96 | 30 | 91.9 | 85.3 | 78.4 | 73.3 | 68.7 |

N= 4780

TABLE NO. 82
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; ABSORPTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 9- 75 1050 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 78.4 | 5.4 | 82.1 | 95.8 | 98 | 35 | 93.3 | 85.5 | 79.0 | 72.0 | 65.7 |
| 2 | 79.3 | 4.9 | 83.5 | 95.9 | 97 | 52 | 94.1 | 85.5 | 79.8 | 74.0 | 69.5 |
| 3 | 62.1 | 3.0 | 63.3 | 71.0 | 75 | 21 | 71.0 | 66.6 | 62.4 | 59.0 | 56.4 |
| 4 | 63.8 | 3.2 | 65.1 | 73.3 | 75 | 20 | 72.8 | 68.8 | 64.1 | 60.3 | 58.1 |
| 5 | 65.0 | 3.3 | 66.3 | 74.7 | 78 | 21 | 74.1 | 69.7 | 65.3 | 61.4 | 59.1 |
| 6 | 67.9 | 3.2 | 69.2 | 77.4 | 81 | 21 | 76.7 | 72.5 | 68.4 | 64.3 | 61.7 |
| 7 | 70.1 | 3.9 | 71.8 | 81.8 | 83 | 23 | 79.6 | 75.6 | 70.6 | 65.2 | 62.1 |
| 8 | 71.6 | 4.7 | 74.5 | 86.6 | 89 | 31 | 85.2 | 77.9 | 72.0 | 66.1 | 62.3 |
| 9 | 73.9 | 4.6 | 76.5 | 88.2 | 91 | 29 | 87.2 | 79.9 | 74.4 | 68.5 | 64.6 |
| 10 | 74.4 | 4.3 | 76.8 | 88.0 | 92 | 29 | 87.3 | 80.0 | 74.9 | 69.3 | 66.0 |
| 11 | 75.3 | 4.2 | 77.6 | 88.3 | 92 | 26 | 87.9 | 80.9 | 75.7 | 70.4 | 67.5 |
| 12 | 76.0 | 4.1 | 78.3 | 88.8 | 93 | 28 | 88.3 | 81.6 | 76.5 | 71.2 | 68.3 |
| 13 | 78.6 | 4.9 | 81.9 | 94.5 | 99 | 32 | 92.3 | 85.4 | 79.0 | 72.6 | 69.6 |
| 14 | 78.3 | 4.9 | 81.4 | 93.9 | 97 | 30 | 91.7 | 84.9 | 78.7 | 72.4 | 69.3 |

N= 4785

TABLE NO. 83
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; ABSORPTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 9- 75 1145 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.4 | 5.2 | 81.1 | 94.5 | 102 | 40 | 91.4 | 84.0 | 77.9 | 71.2 | 66.0 |
| 2 | 78.9 | 4.5 | 82.0 | 93.6 | 102 | 40 | 91.8 | 84.8 | 79.0 | 74.0 | 70.0 |
| 3 | 60.2 | 3.0 | 63.4 | 71.1 | 93 | 40 | 68.4 | 64.6 | 60.5 | 57.1 | 55.1 |
| 4 | 61.5 | 3.0 | 63.3 | 71.0 | 90 | 37 | 69.8 | 66.0 | 61.8 | 58.4 | 56.0 |
| 5 | 61.8 | 2.9 | 63.8 | 71.3 | 93 | 38 | 69.7 | 66.3 | 62.1 | 58.8 | 56.8 |
| 6 | 65.0 | 2.4 | 66.1 | 72.4 | 93 | 34 | 71.7 | 68.7 | 65.4 | 62.4 | 60.6 |
| 7 | 63.4 | 3.1 | 65.2 | 73.2 | 93 | 37 | 71.8 | 68.2 | 63.7 | 60.1 | 58.2 |
| 8 | 65.3 | 4.0 | 67.7 | 78.0 | 93 | 37 | 76.0 | 71.0 | 65.5 | 60.7 | 57.9 |
| 9 | 67.1 | 4.0 | 69.4 | 79.7 | 95 | 39 | 77.7 | 72.8 | 67.4 | 62.5 | 58.9 |
| 10 | 67.5 | 4.0 | 69.7 | 80.0 | 93 | 37 | 78.8 | 73.2 | 68.0 | 63.0 | 59.0 |
| 11 | 68.5 | 4.1 | 70.8 | 81.2 | 96 | 39 | 79.8 | 74.0 | 68.9 | 63.8 | 60.0 |
| 12 | 69.7 | 3.9 | 71.9 | 81.9 | 97 | 39 | 81.0 | 75.1 | 70.1 | 65.3 | 61.3 |
| 13 | 78.0 | 5.3 | 82.9 | 96.5 | 111 | 49 | 91.6 | 84.8 | 78.4 | 71.6 | 67.3 |
| 14 | 77.6 | 5.2 | 81.2 | 94.4 | 105 | 42 | 90.9 | 84.5 | 78.0 | 71.4 | 67.1 |

N= 4780

12- 9 75 1200 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.4 | 4.4 | 79.7 | 90.9 | 91 | 30 | 89.4 | 83.0 | 78.1 | 72.3 | 67.5 |
| 2 | 78.8 | 3.8 | 81.3 | 90.9 | 93 | 34 | 89.5 | 83.7 | 79.2 | 74.5 | 72.0 |
| 3 | 60.6 | 2.5 | 61.4 | 67.8 | 71 | 19 | 67.6 | 64.4 | 61.0 | 58.1 | 54.9 |
| 4 | 62.0 | 2.5 | 62.8 | 69.2 | 72 | 18 | 68.9 | 65.8 | 62.5 | 59.4 | 56.6 |
| 5 | 62.4 | 2.5 | 63.2 | 69.5 | 73 | 19 | 69.6 | 66.0 | 62.8 | 59.9 | 56.9 |
| 6 | 65.2 | 2.0 | 65.7 | 70.8 | 74 | 15 | 70.9 | 68.4 | 65.6 | 63.2 | 61.2 |
| 7 | 64.2 | 2.5 | 64.9 | 71.3 | 74 | 18 | 70.8 | 67.9 | 64.6 | 61.6 | 58.7 |
| 8 | 65.1 | 3.1 | 66.2 | 74.0 | 75 | 18 | 72.7 | 69.7 | 65.5 | 61.7 | 59.2 |
| 9 | 66.9 | 3.1 | 68.1 | 76.1 | 76 | 18 | 74.5 | 71.7 | 67.4 | 63.4 | 60.4 |
| 10 | 67.4 | 3.2 | 68.5 | 76.7 | 77 | 18 | 74.9 | 72.0 | 67.8 | 63.8 | 60.8 |
| 11 | 68.3 | 3.1 | 69.4 | 77.5 | 78 | 19 | 75.7 | 73.0 | 68.8 | 64.8 | 62.0 |
| 12 | 69.6 | 3.1 | 70.7 | 78.7 | 79 | 19 | 76.8 | 74.3 | 70.1 | 66.1 | 63.0 |
| 13 | | | | N O | | D A T A | | | | | |
| 14 | 77.5 | 4.3 | 79.7 | 90.8 | 91 | 27 | 89.3 | 83.0 | 77.9 | 72.5 | 66.9 |

N= 4780

TABLE NO. 84
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; ABSORPTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 11- 75 947 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.6 | 5.7 | 80.2 | 94.7 | 99 | 41 | 92.0 | 83.3 | 75.9 | 69.1 | 64.0 |
| 2 | 78.1 | 4.9 | 81.7 | 94.3 | 98 | 35 | 92.4 | 85.0 | 78.3 | 72.7 | 68.5 |
| 3 | 59.6 | 2.9 | 60.8 | 68.2 | 76 | 23 | 68.8 | 63.9 | 59.7 | 57.0 | 55.0 |
| 4 | 60.3 | 2.8 | 61.4 | 68.5 | 74 | 21 | 68.6 | 64.7 | 60.4 | 57.7 | 55.5 |
| 5 | 61.0 | 2.7 | 61.9 | 68.8 | 73 | 19 | 68.9 | 65.2 | 61.2 | 58.3 | 56.3 |
| 6 | 60.8 | 2.7 | 61.8 | 68.7 | 73 | 20 | 68.7 | 64.9 | 61.0 | 58.0 | 56.0 |
| 7 | | | | | N O | | D A T A | | | | |
| 8 | 62.2 | 3.9 | 64.2 | 74.1 | 76 | 22 | 72.8 | 68.3 | 62.4 | 57.9 | 55.7 |
| 9 | 64.3 | 4.0 | 66.4 | 76.7 | 77 | 22 | 74.8 | 70.6 | 64.5 | 59.8 | 57.3 |
| 10 | 65.9 | 4.1 | 67.9 | 78.4 | 80 | 23 | 76.1 | 72.0 | 66.1 | 61.3 | 58.8 |
| 11 | 67.5 | 4.0 | 69.5 | 79.8 | 80 | 24 | 77.9 | 73.6 | 67.8 | 63.0 | 60.3 |
| 12 | 69.0 | 3.9 | 70.9 | 80.9 | 82 | 24 | 79.3 | 74.9 | 69.3 | 64.5 | 61.8 |
| 13 | 77.6 | 5.2 | 81.3 | 94.6 | 97 | 32 | 92.3 | 84.8 | 77.8 | 71.5 | 67.7 |
| 14 | | | | | N O | | D A T A | | | | |

N= 4730

12- 11- 75 1007 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.3 | 5.6 | 79.4 | 93.6 | 101 | 41 | 89.7 | 81.3 | 74.7 | 67.9 | 62.5 |
| 2 | 77.2 | 4.8 | 81.1 | 93.5 | 101 | 37 | 92.3 | 83.6 | 77.5 | 71.7 | 67.2 |
| 3 | 59.7 | 3.3 | 61.4 | 69.7 | 75 | 22 | 71.3 | 64.3 | 59.7 | 56.6 | 54.5 |
| 4 | 60.4 | 3.1 | 61.9 | 69.9 | 76 | 23 | 71.1 | 64.8 | 60.4 | 57.3 | 55.4 |
| 5 | 61.3 | 3.0 | 62.7 | 70.3 | 79 | 25 | 71.0 | 65.5 | 61.3 | 58.4 | 56.4 |
| 6 | 60.5 | 3.1 | 62.1 | 70.0 | 78 | 25 | 70.1 | 65.0 | 60.6 | 57.4 | 55.7 |
| 7 | | | | | N O | | D A T A | | | | |
| 8 | 61.7 | 4.0 | 64.3 | 74.4 | 79 | 27 | 75.5 | 67.5 | 61.6 | 58.0 | 55.1 |
| 9 | 63.5 | 4.2 | 66.3 | 77.1 | 81 | 27 | 77.6 | 69.4 | 63.3 | 59.3 | 56.4 |
| 10 | 64.8 | 4.3 | 67.6 | 78.5 | 82 | 27 | 79.1 | 70.7 | 65.0 | 60.4 | 57.3 |
| 11 | 66.3 | 4.2 | 69.0 | 79.8 | 86 | 30 | 80.1 | 71.9 | 66.4 | 61.9 | 58.3 |
| 12 | 67.6 | 4.2 | 70.2 | 80.9 | 85 | 28 | 81.3 | 73.2 | 67.9 | 63.1 | 59.8 |
| 13 | 76.4 | 5.2 | 80.4 | 93.8 | 100 | 39 | 91.5 | 83.2 | 76.8 | 70.3 | 65.3 |
| 14 | | | | | N O | | D A T A | | | | |

N= 4780

TABLE NO. 85
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; ABSORPTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 11- 75 1143 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.0 | 6.0 | 80.5 | 95.8 | 97 | 36 | 91.7 | 84.0 | 76.7 | 68.8 | 63.7 |
| 2 | 75.7 | 5.2 | 79.1 | 92.3 | 94 | 32 | 89.1 | 82.8 | 76.3 | 69.5 | 65.6 |
| 3 | 59.0 | 2.7 | 59.9 | 66.8 | 70 | 18 | 66.6 | 63.1 | 59.3 | 56.1 | 54.2 |
| 4 | 60.1 | 2.6 | 60.9 | 67.6 | 71 | 18 | 67.6 | 64.0 | 60.4 | 57.3 | 55.3 |
| 5 | 61.5 | 2.7 | 62.7 | 69.6 | 87 | 33 | 69.0 | 65.5 | 61.8 | 58.7 | 56.7 |
| 6 | 61.4 | 2.9 | 62.4 | 69.9 | 72 | 19 | 69.6 | 66.1 | 61.6 | 58.3 | 56.1 |
| 7 | 64.2 | 3.3 | 65.6 | 74.0 | 76 | 21 | 73.6 | 69.3 | 64.2 | 60.7 | 58.2 |
| 8 | 66.7 | 5.2 | 70.4 | 83.7 | 85 | 29 | 81.1 | 74.1 | 66.9 | 60.7 | 57.9 |
| 9 | 67.7 | 5.3 | 71.2 | 84.7 | 86 | 31 | 81.6 | 75.2 | 68.2 | 61.5 | 58.3 |
| 10 | 68.1 | 5.3 | 71.6 | 85.1 | 86 | 31 | 81.8 | 75.5 | 68.7 | 61.7 | 58.4 |
| 11 | 68.7 | 5.1 | 71.9 | 85.1 | 86 | 30 | 81.9 | 75.9 | 69.2 | 62.5 | 58.9 |
| 12 | 69.9 | 5.0 | 72.9 | 85.6 | 86 | 29 | 82.5 | 77.0 | 70.2 | 63.9 | 60.1 |
| 13 | 75.5 | 5.6 | 79.1 | 93.4 | 95 | 35 | 89.6 | 82.7 | 76.3 | 68.4 | 63.2 |
| 14 | | | | N O | D A T A | | | | | | |

N= 4780

12- 11- 75 1203 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.9 | 6.0 | 81.0 | 96.3 | 100 | 41 | 92.6 | 84.0 | 76.2 | 69.0 | 64.5 |
| 2 | 75.6 | 5.1 | 79.5 | 92.6 | 98 | 37 | 90.6 | 82.6 | 75.8 | 70.0 | 66.3 |
| 3 | 58.8 | 3.1 | 60.2 | 68.2 | 74 | 22 | 68.7 | 63.5 | 59.0 | 55.6 | 53.5 |
| 4 | 60.0 | 3.1 | 61.3 | 69.2 | 73 | 21 | 69.7 | 64.7 | 60.1 | 56.9 | 54.6 |
| 5 | 66.1 | 5.3 | 72.9 | 86.4 | 96 | 46 | 86.1 | 73.1 | 65.5 | 61.3 | 58.4 |
| 6 | 61.4 | 3.4 | 63.1 | 71.9 | 77 | 24 | 72.6 | 66.5 | 61.3 | 58.0 | 56.0 |
| 7 | 63.9 | 3.8 | 66.0 | 75.6 | 80 | 26 | 75.5 | 69.6 | 63.8 | 60.1 | 57.9 |
| 8 | 66.2 | 5.4 | 70.7 | 84.4 | 92 | 37 | 81.9 | 73.7 | 66.2 | 60.5 | 57.0 |
| 9 | 67.5 | 5.3 | 71.6 | 85.2 | 90 | 34 | 82.3 | 74.8 | 67.7 | 61.7 | 58.2 |
| 10 | 68.1 | 5.2 | 72.0 | 85.3 | 89 | 33 | 82.8 | 75.2 | 68.4 | 62.4 | 58.3 |
| 11 | 68.8 | 5.0 | 72.5 | 85.4 | 90 | 33 | 83.2 | 75.7 | 69.0 | 63.2 | 59.3 |
| 12 | 70.0 | 4.8 | 73.4 | 85.8 | 91 | 33 | 84.2 | 76.5 | 70.3 | 64.8 | 60.6 |
| 13 | 75.4 | 5.5 | 79.6 | 93.6 | 99 | 37 | 90.2 | 82.5 | 75.8 | 69.0 | 64.2 |

N= 4785

TABLE NO. 86
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; ABSORPTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 11- 75 1244 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.6 | 5.6 | 80.1 | 94.6 | 96 | 35 | 91.4 | 83.4 | 75.7 | 69.2 | 65.1 |
| 2 | 76.4 | 5.0 | 80.0 | 92.7 | 96 | 33 | 90.7 | 83.6 | 76.4 | 71.1 | 67.5 |
| 3 | 59.4 | 3.1 | 60.7 | 68.6 | 75 | 23 | 68.2 | 64.0 | 59.7 | 56.1 | 54.0 |
| 4 | 60.6 | 3.1 | 61.8 | 69.7 | 75 | 21 | 69.0 | 65.2 | 60.9 | 57.3 | 55.3 |
| 5 | 62.0 | 3.1 | 63.3 | 71.2 | 76 | 22 | 71.0 | 66.5 | 62.2 | 58.7 | 56.6 |
| 6 | 62.0 | 3.3 | 63.5 | 71.8 | 76 | 22 | 71.6 | 66.8 | 62.2 | 58.6 | 56.6 |
| 7 | 64.5 | 3.7 | 66.3 | 75.7 | 78 | 23 | 74.9 | 70.1 | 64.7 | 60.6 | 58.6 |
| 8 | 68.7 | 4.9 | 71.9 | 84.5 | 85 | 31 | 81.8 | 76.0 | 68.9 | 63.3 | 58.9 |
| 9 | 71.2 | 4.7 | 74.0 | 86.0 | 87 | 30 | 83.1 | 78.2 | 71.4 | 66.1 | 61.3 |
| 10 | 72.1 | 4.6 | 74.8 | 86.5 | 88 | 30 | 83.9 | 79.0 | 72.3 | 67.1 | 62.4 |
| 11 | 72.6 | 4.4 | 75.1 | 86.5 | 88 | 29 | 84.1 | 79.4 | 72.7 | 67.9 | 63.2 |
| 12 | 73.5 | 4.3 | 75.9 | 86.8 | 88 | 28 | 84.9 | 80.0 | 73.7 | 68.9 | 64.1 |
| 13 | 76.1 | 5.2 | 79.7 | 93.1 | 96 | 34 | 90.2 | 83.3 | 76.5 | 70.1 | 65.5 |
| 14 | | | | N O | D A T A | | | | | | |
| 15 | 75.2 | 5.3 | 78.7 | 92.3 | 93 | 29 | 88.5 | 82.7 | 75.4 | 69.0 | 66.1 |
| N= | 4780 | | | | | | | | | | |

12- 11- 75 1305 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.8 | 5.9 | 79.3 | 94.4 | 94 | 34 | 90.8 | 82.6 | 75.2 | 67.7 | 63.9 |
| 2 | 75.7 | 5.3 | 79.3 | 92.9 | 93 | 31 | 90.0 | 82.8 | 76.1 | 69.6 | 65.4 |
| 3 | 59.1 | 2.7 | 60.0 | 67.0 | 70 | 17 | 66.7 | 63.4 | 59.4 | 56.3 | 54.3 |
| 4 | 60.2 | 2.8 | 61.2 | 68.2 | 72 | 18 | 68.1 | 64.4 | 60.4 | 57.3 | 55.3 |
| 5 | 60.9 | 2.9 | 62.1 | 69.4 | 80 | 26 | 69.6 | 65.3 | 61.1 | 58.1 | 56.1 |
| 6 | 61.6 | 3.0 | 62.8 | 70.6 | 74 | 20 | 70.3 | 66.4 | 61.7 | 58.4 | 56.4 |
| 7 | 64.1 | 3.4 | 65.7 | 74.5 | 75 | 21 | 73.6 | 69.6 | 64.1 | 60.6 | 57.9 |
| 8 | 67.8 | 5.5 | 71.6 | 85.7 | 84 | 29 | 81.8 | 76.3 | 67.9 | 61.6 | 57.7 |
| 9 | 70.6 | 5.2 | 73.8 | 87.3 | 85 | 27 | 83.2 | 78.6 | 70.8 | 64.3 | 60.3 |
| 10 | 71.7 | 5.1 | 74.7 | 87.9 | 86 | 28 | 83.8 | 79.4 | 72.0 | 65.5 | 61.3 |
| 11 | 72.4 | 4.9 | 75.1 | 87.7 | 87 | 29 | 83.8 | 79.7 | 72.7 | 66.4 | 61.8 |
| 12 | 73.4 | 4.8 | 76.0 | 88.2 | 87 | 28 | 84.6 | 80.5 | 73.8 | 67.9 | 62.4 |
| 13 | 75.9 | 5.7 | 79.7 | 94.2 | 93 | 32 | 90.2 | 83.5 | 76.4 | 69.0 | 63.7 |
| 16 | 76.9 | 5.3 | 80.6 | 94.2 | 96 | 41 | 91.4 | 84.3 | 77.1 | 70.9 | 66.8 |
| N= | 4780 | | | | | | | | | | |

TABLE NO. 87
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; ABSORPTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 11- 75 1427 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.6 | 5.6 | 82.0 | 96.2 | 101 | 40 | 93.9 | 84.5 | 78.2 | 71.0 | 64.3 |
| 2 | 77.2 | 5.0 | 80.7 | 93.4 | 98 | 35 | 91.7 | 83.5 | 77.7 | 71.4 | 65.6 |
| 3 | 59.1 | 2.8 | 60.0 | 67.1 | 70 | 18 | 66.7 | 63.2 | 59.5 | 56.3 | 53.5 |
| 4 | 60.0 | 2.9 | 61.0 | 68.4 | 74 | 21 | 67.9 | 64.3 | 60.2 | 57.1 | 54.4 |
| 5 | | | | | N O | | D A T A | | | | |
| 6 | 61.5 | 2.9 | 62.5 | 70.0 | 73 | 19 | 69.3 | 65.8 | 61.8 | 58.4 | 55.6 |
| 7 | 62.8 | 3.0 | 63.9 | 71.6 | 73 | 19 | 70.4 | 67.3 | 63.2 | 59.6 | 56.3 |
| 8 | 64.9 | 4.0 | 67.0 | 77.2 | 80 | 25 | 76.6 | 70.7 | 65.0 | 60.6 | 57.5 |
| 9 | 68.5 | 4.3 | 70.9 | 81.9 | 83 | 26 | 80.2 | 74.8 | 68.7 | 63.7 | 60.1 |
| 10 | 69.8 | 4.3 | 72.2 | 83.2 | 87 | 31 | 81.5 | 76.2 | 69.8 | 65.2 | 61.6 |
| 11 | 70.9 | 4.3 | 73.3 | 84.2 | 89 | 31 | 82.3 | 77.3 | 70.9 | 66.4 | 62.5 |
| 12 | 72.4 | 4.2 | 74.6 | 85.3 | 89 | 30 | 83.7 | 78.5 | 72.5 | 68.0 | 63.9 |
| 13 | 76.5 | 5.1 | 80.3 | 93.3 | 99 | 38 | 91.6 | 83.4 | 76.8 | 71.0 | 65.1 |
| 14 | | | | | N O | | D A T A | | | | |
| 16 | 77.8 | 5.5 | 81.6 | 95.7 | 99 | 35 | 92.3 | 85.4 | 78.4 | 71.3 | 66.5 |
| N= | 4785 | | | | | | | | | | |

12- 11- 75 1447 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 78.8 | 5.1 | 82.5 | 95.7 | 100 | 35 | 93.0 | 86.0 | 79.2 | 72.9 | 68.5 |
| 2 | 78.4 | 4.6 | 81.4 | 93.2 | 98 | 31 | 91.6 | 84.8 | 78.8 | 73.2 | 69.3 |
| 3 | 59.8 | 2.5 | 60.6 | 67.0 | 70 | 17 | 66.7 | 63.7 | 60.1 | 57.1 | 55.3 |
| 4 | 60.2 | 2.6 | 61.1 | 67.7 | 72 | 18 | 67.4 | 64.1 | 60.6 | 57.3 | 55.4 |
| 5 | | | | N O | | D A T A | | | | | |
| 6 | 61.5 | 2.6 | 62.4 | 69.0 | 74 | 19 | 69.1 | 65.5 | 61.9 | 58.8 | 57.0 |
| 7 | 62.8 | 2.5 | 63.7 | 70.4 | 75 | 19 | 70.2 | 66.7 | 63.1 | 60.0 | 57.9 |
| 8 | 65.1 | 3.9 | 67.3 | 77.4 | 81 | 24 | 76.4 | 71.4 | 64.9 | 61.1 | 59.2 |
| 9 | 69.0 | 4.2 | 71.4 | 82.1 | 86 | 27 | 81.1 | 75.4 | 69.0 | 64.5 | 61.7 |
| 10 | 70.3 | 4.1 | 72.5 | 83.0 | 86 | 26 | 81.8 | 76.4 | 70.3 | 65.9 | 62.8 |
| 11 | 71.6 | 4.0 | 73.7 | 84.0 | 87 | 25 | 83.0 | 77.6 | 71.7 | 67.3 | 64.5 |
| 12 | 73.0 | 3.9 | 75.0 | 85.0 | 87 | 24 | 84.0 | 78.8 | 73.2 | 68.8 | 66.0 |
| 13 | 77.5 | 4.9 | 80.8 | 93.4 | 98 | 33 | 90.7 | 84.3 | 77.8 | 71.7 | 68.3 |
| 14 | | | | N O | D | T A | | | | | |
| 16 | 77.3 | 4.4 | 79.7 | 91.0 | 92 | 28 | 89.0 | 83.6 | 77.5 | 72.5 | 68.1 |
| N= | 4780 | | | | | | | | | | |

TABLE NO. 88
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; ABSORPTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 12- 75 854 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.1 | 5.0 | 80.0 | 92.8 | 94 | 33 | 89.8 | 83.8 | 77.6 | 71.3 | 65.2 |
| 2 | 78.3 | 4.3 | 80.6 | 91.7 | 93 | 27 | 89.8 | 84.3 | 78.6 | 73.5 | 68.9 |
| 3 | 57.7 | 3.0 | 58.9 | 66.6 | 70 | 21 | 65.8 | 62.3 | 57.9 | 54.5 | 52.4 |
| 4 | 59.0 | 3.1 | 60.1 | 67.9 | 70 | 20 | 66.8 | 63.6 | 59.3 | 55.7 | 53.3 |
| 5 | 60.3 | 3.2 | 61.5 | 69.7 | 71 | 20 | 68.1 | 65.2 | 60.6 | 56.9 | 54.3 |
| 6 | 62.9 | 3.9 | 76.5 | 86.4 | 103 | 50 | 71.2 | 68.1 | 62.9 | 59.1 | 56.5 |
| 7 | 66.9 | 4.3 | 78.4 | 89.4 | 103 | 45 | 76.3 | 72.5 | 66.9 | 62.4 | 59.9 |
| 8 | 67.3 | 5.2 | 70.6 | 84.0 | 84 | 32 | 81.1 | 74.4 | 68.0 | 60.9 | 56.6 |
| 9 | 68.7 | 5.3 | 71.8 | 85.5 | 85 | 31 | 81.8 | 75.8 | 69.5 | 61.8 | 57.4 |
| 10 | 68.9 | 5.1 | 71.8 | 85.0 | 84 | 30 | 81.7 | 75.8 | 69.7 | 62.3 | 57.9 |
| 11 | 70.2 | 4.8 | 72.8 | 85.1 | 84 | 27 | 82.0 | 76.8 | 70.8 | 64.2 | 59.8 |
| 12 | 71.4 | 4.3 | 73.6 | 84.7 | 86 | 27 | 82.7 | 77.5 | 72.0 | 66.4 | 62.3 |
| 13 | 77.5 | 4.6 | 80.1 | 91.8 | 94 | 31 | 90.1 | 83.7 | 78.1 | 72.1 | 68.4 |
| 14 | 77.3 | 4.5 | 79.6 | 91.0 | 92 | 30 | 89.2 | 83.3 | 77.9 | 72.0 | 67.9 |

N= 4785

12- 12- 75 914 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.5 | 6.2 | 79.8 | 95.7 | 96 | 42 | 91.2 | 83.2 | 76.4 | 68.1 | 60.1 |
| 2 | 77.0 | 5.3 | 80.5 | 94.0 | 96 | 36 | 91.2 | 84.1 | 77.4 | 71.0 | 64.8 |
| 3 | 57.0 | 3.7 | 58.9 | 68.3 | 73 | 27 | 67.5 | 62.5 | 57.0 | 53.2 | 50.1 |
| 4 | 58.2 | 3.7 | 60.1 | 69.7 | 74 | 27 | 69.0 | 63.6 | 58.2 | 54.4 | 51.3 |
| 5 | 59.6 | 3.9 | 61.7 | 71.6 | 75 | 27 | 70.8 | 65.4 | 59.5 | 55.7 | 52.2 |
| 6 | 61.9 | 4.0 | 64.1 | 74.3 | 77 | 28 | 73.0 | 68.1 | 61.8 | 57.9 | 54.3 |
| 7 | 65.4 | 4.2 | 67.8 | 78.6 | 80 | 28 | 77.0 | 71.8 | 65.5 | 61.0 | 57.0 |
| 8 | 66.0 | 5.9 | 70.5 | 85.7 | 86 | 36 | 82.0 | 74.2 | 66.6 | 58.7 | 54.1 |
| 9 | 67.3 | 6.1 | 71.7 | 87.2 | 87 | 37 | 82.7 | 75.4 | 68.4 | 59.6 | 54.0 |
| 10 | 67.6 | 5.8 | 71.6 | 86.4 | 87 | 37 | 82.6 | 75.3 | 68.4 | 60.2 | 55.0 |
| 11 | 69.2 | 5.4 | 72.7 | 86.5 | 87 | 35 | 83.3 | 76.3 | 69.8 | 62.5 | 57.5 |
| 12 | 70.2 | 4.9 | 73.1 | 85.7 | 87 | 33 | 83.0 | 77.0 | 70.6 | 64.3 | 58.6 |
| 13 | 76.4 | 5.2 | 80.1 | 93.4 | 95 | 31 | 90.9 | 83.8 | 76.7 | 70.3 | 66.6 |
| 14 | 76.2 | 5.2 | 79.6 | 92.8 | 94 | 31 | 90.2 | 83.4 | 76.6 | 70.0 | 66.3 |

N= 4730

TABLE NO. 89
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; ABSORPTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 12- 75 1012 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.0 | 6.0 | 82.1 | 97.5 | 100 | 42 | 93.8 | 85.2 | 77.3 | 70.0 | 63.8 |
| 2 | 78.7 | 5.4 | 82.9 | 96.8 | 100 | 39 | 94.3 | 86.3 | 78.9 | 72.6 | 67.7 |
| 3 | 59.3 | 4.1 | 61.8 | 72.3 | 78 | 29 | 71.6 | 64.9 | 59.5 | 55.1 | 50.7 |
| 4 | 60.3 | 4.1 | 62.8 | 73.2 | 79 | 29 | 72.8 | 66.0 | 60.5 | 56.1 | 52.4 |
| 5 | 61.9 | 4.1 | 64.3 | 74.7 | 78 | 27 | 73.9 | 67.7 | 62.1 | 57.5 | 53.9 |
| 6 | 63.9 | 4.1 | 66.1 | 76.7 | 80 | 27 | 75.4 | 69.9 | 64.1 | 59.4 | 56.1 |
| 7 | 67.3 | 4.2 | 69.5 | 80.3 | 83 | 28 | 78.3 | 73.5 | 67.5 | 62.5 | 59.1 |
| 8 | 70.7 | 5.8 | 75.0 | 90.0 | 91 | 38 | 86.0 | 78.5 | 71.0 | 63.7 | 57.7 |
| 9 | 73.1 | 5.4 | 76.9 | 90.8 | 93 | 37 | 87.8 | 79.9 | 73.5 | 66.8 | 60.4 |
| 10 | 73.7 | 5.2 | 77.1 | 90.5 | 93 | 36 | 87.9 | 80.4 | 74.1 | 68.0 | 61.2 |
| 11 | 75.2 | 4.9 | 78.4 | 91.0 | 95 | 37 | 88.8 | 81.4 | 75.6 | 69.8 | 63.4 |
| 12 | 75.0 | 4.7 | 78.0 | 90.2 | 94 | 35 | 88.2 | 81.2 | 75.4 | 70.0 | 63.8 |
| 13 | 78.1 | 5.3 | 82.5 | 96.1 | 101 | 36 | 94.1 | 85.4 | 78.1 | 72.2 | 68.1 |
| 14 | 78.2 | 5.2 | 82.2 | 95.4 | 99 | 34 | 93.7 | 85.2 | 78.5 | 72.4 | 67.8 |

N= 4780

12- 12- 75 1032 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.3 | 5.6 | 80.6 | 94.9 | 99 | 41 | 92.1 | 83.4 | 77.0 | 70.1 | 62.2 |
| 2 | 77.8 | 5.0 | 81.3 | 94.2 | 98 | 37 | 92.3 | 84.2 | 78.2 | 72.3 | 66.0 |
| 3 | 58.8 | 3.4 | 60.4 | 69.1 | 76 | 26 | 69.2 | 63.6 | 59.0 | 55.4 | 52.5 |
| 4 | 59.9 | 3.4 | 61.4 | 70.1 | 74 | 23 | 69.8 | 64.8 | 60.1 | 56.4 | 53.6 |
| 5 | 61.3 | 3.3 | 62.9 | 71.4 | 80 | 27 | 71.6 | 66.1 | 61.5 | 57.9 | 55.1 |
| 6 | 63.2 | 3.5 | 64.7 | 73.6 | 78 | 25 | 73.0 | 68.2 | 63.4 | 59.5 | 56.3 |
| 7 | 66.7 | 3.7 | 68.3 | 77.9 | 81 | 27 | 75.9 | 72.0 | 67.0 | 62.7 | 57.9 |
| 8 | 69.6 | 5.3 | 73.2 | 86.8 | 91 | 35 | 83.0 | 77.3 | 69.7 | 63.2 | 58.7 |
| 9 | 72.3 | 4.9 | 75.3 | 87.8 | 90 | 32 | 85.3 | 79.2 | 72.5 | 66.5 | 62.2 |
| 10 | 72.9 | 4.7 | 75.7 | 87.7 | 90 | 30 | 85.3 | 79.4 | 73.1 | 67.6 | 63.0 |
| 11 | 74.1 | 4.4 | 76.6 | 87.9 | 89 | 27 | 86.3 | 80.5 | 74.3 | 69.1 | 65.5 |
| 12 | 74.3 | 4.2 | 76.6 | 87.5 | 90 | 27 | 86.2 | 80.5 | 74.3 | 69.6 | 66.1 |
| 13 | 77.1 | 5.1 | 81.0 | 94.1 | 100 | 35 | 91.7 | 84.2 | 77.3 | 71.2 | 67.4 |
| 14 | 77.3 | 5.0 | 80.7 | 93.4 | 98 | 34 | 91.1 | 84.1 | 77.5 | 71.6 | 67.3 |

N= 4780

TABLE NO. 90
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; ABSORPTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 12- 75 1117 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.0 | 5.7 | 79.6 | 94.1 | 92 | 38 | 89.9 | 83.2 | 76.9 | 68.8 | 61.5 |
| 2 | 77.1 | 5.1 | 80.0 | 93.0 | 91 | 33 | 89.8 | 83.6 | 77.8 | 70.7 | 64.9 |
| 3 | 57.2 | 3.3 | 58.8 | 67.3 | 72 | 24 | 67.9 | 62.0 | 57.4 | 53.8 | 50.6 |
| 4 | 58.2 | 3.3 | 59.6 | 68.0 | 73 | 24 | 68.8 | 62.8 | 58.4 | 54.8 | 51.7 |
| 5 | 59.3 | 3.2 | 60.8 | 69.0 | 74 | 24 | 69.6 | 64.0 | 59.5 | 56.1 | 53.1 |
| 6 | 60.4 | 3.3 | 62.0 | 70.4 | 75 | 23 | 70.8 | 65.3 | 60.6 | 57.1 | 54.3 |
| 7 | 62.3 | 3.4 | 64.0 | 72.8 | 78 | 24 | 72.6 | 67.3 | 62.6 | 58.6 | 56.3 |
| 8 | 65.4 | 4.6 | 67.9 | 79.7 | 82 | 29 | 76.8 | 71.9 | 65.7 | 60.0 | 55.4 |
| 9 | 69.7 | 4.4 | 71.8 | 83.1 | 85 | 29 | 79.7 | 75.7 | 70.4 | 64.3 | 59.2 |
| 10 | 70.3 | 4.2 | 72.2 | 82.9 | 84 | 27 | 80.1 | 75.8 | 70.9 | 65.2 | 60.3 |
| 11 | 71.7 | 4.0 | 73.6 | 83.9 | 86 | 27 | 81.1 | 77.1 | 72.4 | 66.9 | 62.0 |
| 12 | 72.3 | 3.9 | 73.9 | 83.8 | 85 | 25 | 81.0 | 77.5 | 72.9 | 67.8 | 62.7 |
| 13 | 77.1 | 5.0 | 80.0 | 92.9 | 92 | 30 | 89.7 | 84.1 | 77.6 | 70.8 | 66.2 |
| 14 | 77.3 | 4.8 | 80.0 | 92.2 | 92 | 28 | 89.1 | 84.0 | 78.0 | 71.2 | 66.8 |

N= 4785

12- 12- 75 1137 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.8 | 6.5 | 80.0 | 96.7 | 101 | 49 | 91.6 | 82.1 | 76.0 | 66.9 | 56.8 |
| 2 | 75.8 | 5.9 | 80.4 | 95.5 | 100 | 43 | 91.9 | 82.7 | 76.8 | 68.4 | 60.7 |
| 3 | 56.0 | 3.6 | 57.7 | 67.0 | 72 | 24 | 66.4 | 61.4 | 56.2 | 52.0 | 49.7 |
| 4 | 57.1 | 3.5 | 58.8 | 67.9 | 72 | 23 | 67.3 | 62.7 | 57.2 | 53.3 | 51.2 |
| 5 | 58.5 | 3.4 | 60.1 | 68.8 | 72 | 21 | 68.5 | 63.8 | 58.6 | 54.9 | 53.0 |
| 6 | 59.2 | 3.3 | 60.7 | 69.2 | 74 | 22 | 68.9 | 64.2 | 59.3 | 55.7 | 53.7 |
| 7 | 61.0 | 3.4 | 62.6 | 71.4 | 74 | 21 | 71.1 | 66.1 | 61.1 | 57.5 | 55.0 |
| 8 | 63.0 | 5.2 | 66.9 | 80.2 | 84 | 35 | 78.1 | 70.4 | 63.1 | 57.2 | 53.0 |
| 9 | 67.9 | 5.2 | 71.5 | 84.7 | 89 | 36 | 81.8 | 74.9 | 68.4 | 61.9 | 57.1 |
| 10 | 68.7 | 5.0 | 72.0 | 84.7 | 90 | 37 | 82.3 | 75.5 | 69.1 | 63.0 | 58.5 |
| 11 | 70.1 | 4.7 | 73.2 | 85.3 | 90 | 34 | 83.1 | 76.5 | 70.5 | 64.7 | 60.5 |
| 12 | 71.0 | 4.6 | 73.8 | 85.5 | 92 | 34 | 83.5 | 77.2 | 71.4 | 65.8 | 61.5 |
| 13 | 75.6 | 5.6 | 80.4 | 94.6 | 102 | 41 | 91.9 | 82.8 | 76.1 | 69.2 | 64.3 |
| 14 | 76.1 | 5.3 | 80.2 | 93.8 | 100 | 39 | 91.0 | 82.7 | 76.6 | 69.9 | 64.4 |

N= 4780

TABLE NO. 91
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; ABSORPTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 12- 75 1309 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.7 | 5.2 | 79.2 | 92.4 | 92 | 31 | 90.2 | 82.3 | 76.2 | 69.6 | 65.2 |
| 2 | 66.7 | 4.6 | 69.7 | 81.4 | 84 | 28 | 80.2 | 72.9 | 67.1 | 61.5 | 58.3 |
| 3 | 56.2 | 2.5 | 57.1 | 63.6 | 69 | 19 | 63.6 | 60.1 | 56.3 | 53.7 | 52.2 |
| 4 | 55.9 | 3.1 | 57.1 | 65.1 | 68 | 20 | 64.5 | 60.5 | 56.2 | 52.3 | 50.3 |
| 5 | 56.2 | 3.1 | 57.3 | 65.1 | 68 | 20 | 64.4 | 60.7 | 56.5 | 52.6 | 50.5 |
| 6 | 57.1 | 3.0 | 58.1 | 65.8 | 69 | 20 | 64.9 | 61.6 | 57.4 | 53.7 | 51.5 |
| 7 | 57.9 | 3.0 | 59.0 | 66.6 | 70 | 20 | 65.5 | 62.5 | 58.3 | 54.6 | 52.4 |
| 8 | 58.9 | 4.4 | 61.4 | 72.8 | 73 | 28 | 70.1 | 66.1 | 58.6 | 54.4 | 49.5 |
| 9 | 60.0 | 4.4 | 62.4 | 73.8 | 74 | 28 | 71.1 | 67.1 | 59.8 | 55.5 | 49.8 |
| 10 | 63.6 | 4.3 | 65.9 | 77.0 | 76 | 28 | 74.1 | 70.5 | 63.7 | 59.1 | 53.5 |
| 11 | 65.5 | 4.2 | 67.6 | 78.3 | 78 | 28 | 75.6 | 71.8 | 65.7 | 61.0 | 55.5 |
| 12 | 66.9 | 4.1 | 68.8 | 79.3 | 79 | 27 | 76.8 | 73.1 | 67.2 | 62.5 | 57.6 |
| 13 | 74.9 | 5.4 | 78.7 | 92.7 | 96 | 37 | 90.0 | 82.0 | 75.5 | 68.2 | 63.7 |
| 14 | 75.8 | 5.3 | 79.3 | 92.8 | 94 | 34 | 90.1 | 82.5 | 76.6 | 69.1 | 65.1 |

N= 4780

12- 12- 75 1329 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.0 | 5.7 | 80.6 | 95.3 | 101 | 41 | 91.4 | 83.6 | 76.7 | 69.1 | 63.1 |
| 2 | 77.4 | 5.1 | 81.3 | 94.3 | 102 | 38 | 91.7 | 84.6 | 77.7 | 71.7 | 67.0 |
| 3 | 57.9 | 2.4 | 58.7 | 64.8 | 72 | 21 | 65.4 | 61.4 | 58.3 | 55.7 | 53.4 |
| 4 | 58.2 | 2.7 | 59.2 | 66.1 | 74 | 24 | 66.0 | 61.9 | 58.6 | 55.4 | 52.8 |
| 5 | 58.4 | 2.7 | 59.3 | 66.1 | 72 | 21 | 66.1 | 62.2 | 58.9 | 55.7 | 53.1 |
| 6 | 59.1 | 2.5 | 59.9 | 66.4 | 70 | 18 | 66.1 | 62.9 | 59.5 | 56.4 | 54.2 |
| 7 | 60.0 | 2.5 | 60.7 | 67.1 | 72 | 19 | 66.8 | 63.7 | 60.4 | 57.3 | 55.4 |
| 8 | 61.8 | 3.9 | 63.8 | 73.6 | 78 | 27 | 72.8 | 67.2 | 62.1 | 57.5 | 54.4 |
| 9 | 62.5 | 3.9 | 64.7 | 74.6 | 79 | 26 | 74.5 | 68.0 | 62.9 | 58.2 | 55.3 |
| 10 | 65.5 | 3.9 | 67.6 | 77.6 | 82 | 27 | 77.4 | 71.0 | 66.0 | 61.1 | 58.2 |
| 11 | 67.3 | 3.9 | 69.3 | 79.3 | 84 | 27 | 78.8 | 72.8 | 67.7 | 62.8 | 59.8 |
| 12 | 68.4 | 3.9 | 70.4 | 80.4 | 84 | 27 | 80.4 | 73.8 | 68.8 | 63.9 | 60.9 |
| 13 | 76.2 | 5.2 | 80.3 | 93.7 | 101 | 40 | 90.3 | 83.2 | 76.5 | 70.3 | 65.3 |
| 14 | 76.7 | 5.0 | 80.3 | 93.2 | 100 | 37 | 90.4 | 83.5 | 77.0 | 71.0 | 65.9 |

N= 4780

TABLES 92-123. NOISE DATA: SIXTEEN FOOT REFLECTIVE BARRIER; MICROPHONE CONFIGURATIONS B, C, D, E.

TABLE NO. 92
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 16- 75 906 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.0 | 4.8 | 80.6 | 92.8 | 100 | 37 | 90.6 | 83.3 | 77.4 | 71.7 | 66.8 |
| 2 | 77.6 | 4.5 | 80.8 | 92.3 | 100 | 35 | 90.8 | 83.6 | 77.9 | 72.8 | 68.0 |
| 3 | 59.4 | 3.2 | 61.1 | 69.3 | 77 | 25 | 70.0 | 63.9 | 59.5 | 56.2 | 54.3 |
| 4 | 60.6 | 3.3 | 62.4 | 70.8 | 79 | 27 | 71.6 | 65.2 | 60.7 | 57.3 | 55.0 |
| 5 | 61.7 | 3.4 | 63.7 | 72.3 | 81 | 27 | 73.1 | 66.6 | 61.7 | 58.5 | 56.0 |
| 6 | 63.7 | 3.4 | 65.6 | 74.4 | 81 | 26 | 73.9 | 68.7 | 63.6 | 60.3 | 57.5 |
| 7 | 67.2 | 3.7 | 69.1 | 78.5 | 84 | 28 | 77.7 | 72.7 | 67.2 | 63.4 | 60.1 |
| 8 | 70.6 | 4.9 | 74.1 | 86.7 | 91 | 36 | 84.7 | 77.2 | 70.8 | 65.3 | 59.1 |
| 9 | 72.3 | 4.7 | 75.3 | 87.3 | 93 | 36 | 85.7 | 78.5 | 72.5 | 67.3 | 61.1 |
| 10 | 73.0 | 4.5 | 75.9 | 87.5 | 93 | 35 | 85.6 | 79.0 | 73.3 | 68.4 | 61.8 |
| 11 | 73.7 | 4.2 | 76.1 | 86.9 | 93 | 33 | 85.3 | 79.5 | 73.9 | 69.4 | 63.4 |
| 12 | 74.8 | 4.0 | 77.0 | 87.3 | 92 | 30 | 85.8 | 80.5 | 74.9 | 70.8 | 65.3 |
| 13 | 76.6 | 5.1 | 80.5 | 93.5 | 102 | 41 | 90.8 | 83.4 | 76.9 | 71.1 | 64.6 |
| 14 | 77.1 | 4.9 | 80.4 | 92.9 | 100 | 39 | 90.5 | 83.4 | 77.5 | 71.8 | 65.1 |

N= 4785

12- 16- 75 926 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.9 | 4.5 | 80.5 | 91.9 | 93 | 28 | 90.7 | 83.9 | 78.0 | 73.0 | 69.0 |
| 2 | 78.6 | 4.1 | 80.9 | 91.3 | 94 | 28 | 90.8 | 84.3 | 78.7 | 74.2 | 70.8 |
| 3 | 60.8 | 2.7 | 61.7 | 68.5 | 70 | 16 | 68.5 | 65.1 | 61.0 | 58.2 | 56.0 |
| 4 | 61.9 | 2.5 | 62.7 | 69.2 | 72 | 16 | 68.8 | 65.9 | 62.2 | 59.3 | 57.2 |
| 5 | 63.0 | 2.7 | 63.9 | 70.9 | 76 | 19 | 70.2 | 67.3 | 63.1 | 60.3 | 58.2 |
| 6 | 64.8 | 2.9 | 65.8 | 73.2 | 75 | 17 | 72.7 | 69.4 | 65.0 | 61.8 | 60.1 |
| 7 | 68.1 | 3.1 | 69.4 | 77.4 | 80 | 22 | 77.0 | 72.9 | 68.5 | 64.9 | 62.2 |
| 8 | 71.4 | 4.2 | 73.5 | 84.1 | 85 | 25 | 82.4 | 77.3 | 71.8 | 66.5 | 63.0 |
| 9 | 72.9 | 4.0 | 74.8 | 85.1 | 85 | 24 | 83.0 | 78.6 | 73.4 | 68.1 | 64.1 |
| 10 | 73.7 | 3.9 | 75.4 | 85.4 | 85 | 23 | 83.4 | 79.3 | 74.2 | 69.1 | 65.2 |
| 11 | 74.4 | 3.7 | 75.9 | 85.3 | 85 | 23 | 83.4 | 79.8 | 74.8 | 70.0 | 66.6 |
| 12 | 75.4 | 3.5 | 76.8 | 85.9 | 86 | 21 | 84.2 | 80.7 | 75.7 | 71.2 | 68.3 |
| 13 | 77.3 | 4.4 | 79.9 | 91.2 | 92 | 26 | 89.9 | 83.4 | 77.7 | 72.1 | 68.7 |
| 14 | 77.9 | 4.2 | 80.2 | 91.0 | 92 | 25 | 89.9 | 83.8 | 78.3 | 73.1 | 69.4 |

N= 4780

TABLE NO. 93
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 16- 75 1002 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.5 | 5.4 | 80.7 | 94.4 | 96 | 34 | 92.5 | 83.2 | 76.7 | 70.3 | 66.1 |
| 2 | 77.4 | 5.0 | 81.1 | 94.0 | 96 | 32 | 92.8 | 83.8 | 77.6 | 71.7 | 67.7 |
| 3 | 60.0 | 2.7 | 61.0 | 68.0 | 72 | 19 | 68.6 | 64.0 | 60.2 | 57.2 | 55.4 |
| 4 | 60.8 | 2.9 | 61.9 | 69.4 | 74 | 20 | 69.8 | 64.9 | 61.0 | 57.8 | 56.1 |
| 5 | 61.5 | 3.1 | 62.8 | 70.7 | 74 | 20 | 70.9 | 66.1 | 61.6 | 58.4 | 56.5 |
| 6 | 62.2 | 3.3 | 63.7 | 72.1 | 75 | 20 | 71.8 | 67.1 | 62.3 | 59.0 | 57.0 |
| 7 | 63.7 | 3.5 | 65.3 | 74.2 | 76 | 20 | 73.4 | 69.0 | 63.7 | 60.0 | 58.2 |
| 8 | 66.7 | 4.2 | 69.3 | 80.1 | 83 | 29 | 79.3 | 72.7 | 66.8 | 62.2 | 59.1 |
| 9 | 69.8 | 4.3 | 72.4 | 83.4 | 84 | 27 | 82.3 | 75.9 | 70.0 | 65.3 | 61.3 |
| 10 | 70.5 | 4.1 | 72.9 | 83.4 | 85 | 26 | 82.5 | 76.3 | 70.7 | 66.2 | 62.6 |
| 11 | 71.8 | 4.1 | 74.1 | 84.5 | 86 | 25 | 83.8 | 77.6 | 71.9 | 67.5 | 64.1 |
| 12 | 73.0 | 4.0 | 75.1 | 85.3 | 86 | 25 | 84.5 | 78.6 | 73.1 | 68.8 | 65.5 |
| 13 | 76.5 | 5.2 | 80.5 | 93.9 | 97 | 35 | 92.0 | 83.4 | 76.6 | 71.0 | 65.6 |
| 14 | 77.3 | 5.0 | 80.8 | 93.6 | 95 | 32 | 91.7 | 83.9 | 77.5 | 71.8 | 66.3 |

N= 4780

12- 16- 75 1042 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.9 | 6.1 | 81.8 | 97.5 | 99 | 38 | 93.4 | 85.2 | 77.7 | 69.1 | 64.1 |
| 2 | 78.0 | 5.7 | 82.3 | 96.9 | 99 | 36 | 93.6 | 85.7 | 78.6 | 70.9 | 65.7 |
| 3 | 60.7 | 3.1 | 62.0 | 69.9 | 74 | 21 | 69.6 | 65.2 | 61.1 | 57.3 | 55.1 |
| 4 | 61.8 | 3.2 | 63.1 | 71.4 | 74 | 21 | 71.0 | 66.5 | 62.1 | 58.1 | 56.1 |
| 5 | 62.6 | 3.3 | 64.0 | 72.4 | 74 | 20 | 71.8 | 67.4 | 62.9 | 58.9 | 56.4 |
| 6 | 63.4 | 3.4 | 64.9 | 73.5 | 76 | 20 | 72.9 | 68.4 | 63.8 | 59.5 | 57.3 |
| 7 | 65.0 | 3.6 | 66.6 | 75.9 | 77 | 20 | 74.6 | 70.3 | 65.4 | 60.7 | 58.4 |
| 8 | 67.5 | 4.7 | 70.5 | 82.4 | 86 | 29 | 80.5 | 74.4 | 67.5 | 62.3 | 59.5 |
| 9 | 70.3 | 4.9 | 73.4 | 85.9 | 88 | 29 | 83.8 | 77.3 | 70.6 | 64.5 | 61.5 |
| 10 | 71.0 | 4.9 | 74.0 | 86.5 | 88 | 28 | 84.2 | 77.9 | 71.4 | 65.1 | 62.1 |
| 11 | 72.4 | 4.8 | 75.4 | 87.6 | 91 | 30 | 85.7 | 79.1 | 72.7 | 66.6 | 63.8 |
| 12 | 73.7 | 4.6 | 76.4 | 88.1 | 90 | 27 | 86.2 | 80.0 | 74.0 | 68.3 | 65.3 |
| 13 | 77.2 | 5.5 | 81.7 | 95.7 | 100 | 35 | 93.2 | 84.9 | 77.4 | 70.7 | 67.4 |
| 14 | 78.0 | 5.2 | 81.9 | 95.2 | 99 | 35 | 93.1 | 85.3 | 78.2 | 71.9 | 68.3 |

N= 4730

TABLE NO. 94
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 16- 75 1122 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.6 | 5.0 | 80.1 | 93.0 | 99 | 35 | 90.0 | 83.4 | 77.2 | 70.6 | 67.2 |
| 2 | 77.5 | 4.7 | 80.5 | 92.5 | 99 | 32 | 90.1 | 83.9 | 77.8 | 72.0 | 68.9 |
| 3 | 60.5 | 2.5 | 61.4 | 67.8 | 74 | 20 | 68.4 | 64.1 | 60.8 | 58.0 | 55.9 |
| 4 | 61.4 | 2.6 | 62.3 | 68.9 | 73 | 18 | 69.7 | 65.1 | 61.7 | 58.6 | 56.6 |
| 5 | 61.9 | 2.7 | 62.8 | 69.7 | 75 | 20 | 70.1 | 65.7 | 62.3 | 59.0 | 57.1 |
| 6 | 62.0 | 2.6 | 62.8 | 69.4 | 72 | 17 | 69.6 | 65.8 | 62.4 | 59.2 | 57.3 |
| 7 | 62.7 | 2.5 | 63.5 | 69.9 | 71 | 15 | 69.6 | 66.5 | 63.1 | 59.9 | 58.1 |
| 8 | 63.1 | 3.4 | 64.5 | 73.3 | 77 | 22 | 71.7 | 68.2 | 63.4 | 59.2 | 56.5 |
| 9 | 64.5 | 3.6 | 66.1 | 75.3 | 79 | 24 | 73.1 | 69.8 | 65.0 | 60.4 | 57.4 |
| 10 | 65.7 | 3.8 | 67.4 | 77.2 | 80 | 25 | 74.9 | 71.0 | 66.2 | 61.2 | 57.6 |
| 11 | 67.5 | 4.0 | 69.3 | 79.4 | 83 | 26 | 76.3 | 72.8 | 68.1 | 62.7 | 58.7 |
| 12 | 69.0 | 3.9 | 70.7 | 80.8 | 84 | 27 | 77.8 | 74.3 | 69.6 | 64.3 | 59.9 |
| 13 | 77.2 | 5.2 | 80.7 | 93.9 | 101 | 40 | 90.0 | 84.2 | 77.8 | 71.1 | 66.0 |
| 15 | 77.1 | 5.1 | 80.8 | 93.9 | 94 | 27 | 91.7 | 84.6 | 77.1 | 71.4 | 68.6 |

N= 4780

12- 16- 75 1142 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.3 | 5.7 | 81.4 | 96.1 | 100 | 40 | 93.3 | 84.0 | 76.5 | 70.1 | 64.6 |
| 2 | 77.2 | 5.3 | 81.6 | 95.3 | 99 | 37 | 93.3 | 84.4 | 77.2 | 71.3 | 66.2 |
| 3 | 60.1 | 2.8 | 61.2 | 68.4 | 78 | 25 | 68.9 | 64.2 | 60.2 | 57.4 | 55.3 |
| 4 | 60.8 | 2.8 | 61.9 | 69.1 | 73 | 19 | 69.8 | 65.0 | 60.9 | 58.1 | 55.9 |
| 5 | 61.2 | 2.8 | 62.3 | 69.3 | 75 | 21 | 69.6 | 65.4 | 61.4 | 58.4 | 56.3 |
| 6 | 61.2 | 2.7 | 62.2 | 69.1 | 73 | 18 | 69.6 | 65.3 | 61.5 | 58.5 | 56.5 |
| 7 | 61.6 | 2.7 | 62.6 | 69.4 | 74 | 20 | 69.6 | 65.6 | 61.9 | 58.9 | 56.9 |
| 8 | 62.8 | 3.9 | 65.0 | 75.0 | 78 | 23 | 74.6 | 69.0 | 62.5 | 59.1 | 57.0 |
| 9 | 64.2 | 4.1 | 66.7 | 77.3 | 82 | 27 | 76.8 | 70.3 | 63.9 | 60.0 | 57.7 |
| 10 | 65.3 | 4.3 | 67.9 | 79.1 | 83 | 27 | 78.0 | 71.7 | 65.3 | 60.6 | 58.3 |
| 11 | 67.0 | 4.4 | 69.7 | 80.9 | 84 | 26 | 79.7 | 73.4 | 67.1 | 62.3 | 59.7 |
| 12 | 68.4 | 4.4 | 71.2 | 82.5 | 87 | 28 | 81.4 | 74.8 | 68.5 | 63.6 | 61.0 |
| 13 | 76.5 | 6.1 | 82.1 | 97.8 | 100 | 37 | 94.2 | 84.8 | 76.7 | 69.2 | 65.5 |
| 14 | 76.7 | 5.9 | 81.6 | 96.8 | 99 | 37 | 93.4 | 84.5 | 77.0 | 69.8 | 65.1 |
| 16 | 77.1 | 5.2 | 80.8 | 94.1 | 99 | 34 | 91.0 | 84.4 | 77.2 | 71.0 | 67.9 |

N= 4780

TABLE NO. 95
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 16- 75 1303 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.8 | 5.6 | 79.1 | 93.4 | 95 | 36 | 91.1 | 82.0 | 75.4 | 68.2 | 63.3 |
| 2 | 75.8 | 5.2 | 79.5 | 92.7 | 94 | 32 | 91.2 | 82.4 | 76.3 | 70.2 | 65.3 |
| 3 | 59.3 | 3.0 | 60.4 | 68.1 | 71 | 19 | 68.4 | 63.6 | 59.6 | 56.1 | 53.7 |
| 4 | 60.2 | 2.9 | 61.3 | 68.8 | 71 | 19 | 69.0 | 64.4 | 60.6 | 57.0 | 54.6 |
| 5 | 61.1 | 3.0 | 62.3 | 70.0 | 72 | 19 | 70.4 | 65.3 | 61.4 | 57.8 | 55.2 |
| 6 | 62.4 | 3.1 | 63.7 | 71.6 | 75 | 21 | 71.9 | 66.7 | 62.7 | 59.1 | 56.3 |
| 7 | 64.3 | 3.3 | 65.7 | 74.2 | 77 | 22 | 73.9 | 68.9 | 64.6 | 60.7 | 57.9 |
| 8 | 66.8 | 4.9 | 70.3 | 82.8 | 87 | 31 | 81.4 | 73.5 | 66.9 | 61.4 | 58.4 |
| 9 | 67.8 | 5.0 | 71.2 | 84.0 | 88 | 32 | 82.2 | 74.6 | 68.2 | 62.1 | 58.8 |
| 10 | 68.3 | 5.1 | 71.7 | 84.7 | 88 | 31 | 82.0 | 75.1 | 68.9 | 62.3 | 59.2 |
| 11 | 69.1 | 5.0 | 72.4 | 85.2 | 87 | 30 | 83.1 | 75.7 | 69.7 | 63.2 | 59.7 |
| 12 | 70.1 | 4.8 | 73.2 | 85.5 | 88 | 29 | 83.7 | 76.6 | 70.6 | 64.4 | 60.7 |
| 13 | 75.7 | 5.6 | 79.8 | 94.0 | 96 | 35 | 91.4 | 82.8 | 76.3 | 68.9 | 64.1 |
| 14 | 75.7 | 5.4 | 79.4 | 93.1 | 96 | 34 | 91.0 | 82.4 | 76.4 | 69.1 | 64.4 |
| 16 | 76.7 | 5.5 | 80.4 | 94.5 | 95 | 32 | 91.2 | 84.2 | 77.3 | 69.9 | 66.2 |
| N= | 4785 | | | | | | | | | | |

12- 16- 75 1323 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.7 | 5.3 | 78.1 | 91.7 | 92 | 33 | 88.4 | 82.1 | 75.3 | 68.3 | 63.3 |
| 2 | 75.7 | 4.9 | 78.7 | 91.2 | 92 | 31 | 88.8 | 82.5 | 76.2 | 70.0 | 65.3 |
| 3 | 59.1 | 2.3 | 59.7 | 65.5 | 68 | 17 | 65.8 | 62.5 | 59.5 | 56.9 | 54.5 |
| 4 | 60.1 | 2.3 | 60.7 | 66.6 | 71 | 18 | 66.7 | 63.6 | 60.4 | 57.8 | 55.2 |
| 5 | 60.9 | 2.5 | 61.7 | 68.2 | 74 | 22 | 68.2 | 64.8 | 61.2 | 58.4 | 55.6 |
| 6 | 62.0 | 2.6 | 62.8 | 69.6 | 71 | 18 | 69.5 | 65.9 | 62.4 | 59.3 | 56.2 |
| 7 | 63.7 | 2.9 | 64.7 | 72.0 | 74 | 20 | 71.8 | 67.9 | 64.0 | 60.6 | 57.6 |
| 8 | 67.0 | 4.6 | 69.8 | 81.6 | 83 | 27 | 80.1 | 73.6 | 67.2 | 61.7 | 58.4 |
| 9 | 67.8 | 4.7 | 70.6 | 82.6 | 84 | 27 | 80.7 | 74.5 | 68.1 | 62.2 | 59.1 |
| 10 | 68.2 | 4.7 | 71.0 | 83.1 | 85 | 28 | 81.0 | 74.9 | 68.6 | 62.5 | 59.3 |
| 11 | 68.9 | 4.6 | 71.5 | 83.3 | 84 | 26 | 81.1 | 75.4 | 69.3 | 63.2 | 60.1 |
| 12 | 69.8 | 4.5 | 72.3 | 83.7 | 84 | 26 | 81.8 | 76.2 | 70.2 | 64.5 | 61.2 |
| 13 | 75.5 | 5.4 | 78.9 | 92.7 | 93 | 32 | 89.0 | 82.7 | 76.1 | 68.9 | 64.3 |
| 14 | 75.4 | 5.2 | 78.5 | 92.0 | 92 | 32 | 88.3 | 82.5 | 76.2 | 69.1 | 63.4 |
| 15 | 75.4 | 5.0 | 79.1 | 91.9 | 95 | 33 | 89.8 | 82.6 | 75.6 | 69.8 | 65.8 |
| N= | 4780 | | | | | | | | | | |

TABLE NO. 96
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 17- 75 925 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.6 | 4.6 | 80.5 | 92.4 | 96 | 31 | 91.1 | 83.5 | 78.0 | 72.1 | 68.1 |
| 2 | 78.0 | 4.4 | 80.6 | 91.9 | 96 | 29 | 90.9 | 83.7 | 78.4 | 72.9 | 69.3 |
| 3 | 56.9 | 2.8 | 57.8 | 65.0 | 66 | 17 | 64.0 | 61.1 | 57.3 | 53.8 | 51.6 |
| 4 | 58.7 | 2.6 | 59.5 | 66.3 | 66 | 15 | 65.3 | 62.7 | 59.0 | 55.8 | 53.9 |
| 5 | 59.4 | 2.4 | 60.1 | 66.3 | 68 | 15 | 65.7 | 63.2 | 59.8 | 56.7 | 55.1 |
| 6 | 60.5 | 2.3 | 61.2 | 67.1 | 69 | 15 | 66.6 | 64.1 | 60.9 | 58.0 | 56.3 |
| 7 | 61.2 | 2.4 | 61.9 | 68.0 | 69 | 16 | 67.5 | 65.0 | 61.6 | 58.8 | 56.7 |
| 8 | 63.4 | 3.6 | 65.0 | 74.1 | 76 | 25 | 72.6 | 68.9 | 63.6 | 59.7 | 55.4 |
| 9 | 65.9 | 3.4 | 67.3 | 76.0 | 76 | 22 | 74.7 | 71.1 | 66.1 | 62.4 | 58.1 |
| 10 | 67.4 | 3.3 | 68.7 | 77.3 | 79 | 23 | 75.9 | 72.5 | 67.7 | 64.0 | 59.7 |
| 11 | 68.4 | 3.3 | 69.7 | 78.2 | 80 | 23 | 77.2 | 73.4 | 68.7 | 65.1 | 61.0 |
| 12 | 69.7 | 3.2 | 71.0 | 79.2 | 81 | 22 | 78.1 | 74.6 | 69.9 | 66.4 | 62.4 |
| 13 | 77.6 | 4.8 | 80.7 | 93.1 | 95 | 34 | 91.2 | 84.1 | 77.9 | 72.4 | 66.7 |
| 14 | 76.9 | 4.7 | 79.8 | 91.8 | 95 | 36 | 89.9 | 83.2 | 77.2 | 71.7 | 65.8 |

N= 4780

12- 17- 75 945 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.0 | 5.1 | 80.3 | 93.4 | 95 | 33 | 91.0 | 83.5 | 77.5 | 70.6 | 66.4 |
| 2 | 77.5 | 4.8 | 80.4 | 92.6 | 94 | 30 | 91.1 | 83.6 | 78.0 | 71.7 | 67.6 |
| 3 | 56.9 | 2.6 | 57.7 | 64.4 | 65 | 16 | 63.5 | 61.0 | 57.2 | 54.2 | 51.6 |
| 4 | 58.7 | 2.5 | 59.4 | 65.7 | 66 | 15 | 65.0 | 62.5 | 59.0 | 56.0 | 54.0 |
| 5 | 59.3 | 2.4 | 60.0 | 66.1 | 66 | 13 | 65.3 | 63.0 | 59.7 | 56.6 | 55.0 |
| 6 | 60.0 | 2.4 | 60.7 | 66.8 | 67 | 14 | 65.9 | 63.7 | 60.5 | 57.3 | 55.7 |
| 7 | 61.2 | 2.5 | 61.9 | 68.3 | 68 | 14 | 67.4 | 65.1 | 61.7 | 58.3 | 56.6 |
| 8 | 62.8 | 3.9 | 64.6 | 74.5 | 73 | 22 | 72.0 | 68.7 | 63.0 | 58.6 | 54.3 |
| 9 | 65.2 | 3.7 | 66.8 | 76.3 | 75 | 21 | 73.9 | 70.8 | 65.7 | 61.1 | 56.8 |
| 10 | 66.7 | 3.6 | 68.2 | 77.5 | 77 | 21 | 75.1 | 71.9 | 67.3 | 62.7 | 58.5 |
| 11 | 67.4 | 3.6 | 68.9 | 78.0 | 77 | 21 | 75.7 | 72.7 | 68.0 | 63.3 | 59.4 |
| 12 | 68.9 | 3.4 | 70.2 | 78.9 | 79 | 21 | 76.7 | 74.0 | 69.4 | 65.0 | 61.0 |
| 13 | 77.2 | 4.8 | 80.3 | 92.7 | 95 | 31 | 91.1 | 83.5 | 77.7 | 71.8 | 66.9 |
| 14 | 77.0 | 4.7 | 79.8 | 91.8 | 94 | 31 | 90.3 | 83.0 | 77.6 | 71.6 | 66.6 |

N= 4780

TABLE NO. 97
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 17- 75 1054 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.9 | 5.2 | 79.2 | 92.4 | 95 | 34 | 89.9 | 82.7 | 76.8 | 69.8 | 64.2 |
| 2 | 77.4 | 4.1 | 79.8 | 90.4 | 96 | 28 | 89.7 | 83.2 | 77.7 | 72.7 | 70.0 |
| 3 | 59.0 | 3.3 | 60.3 | 68.8 | 72 | 20 | 67.5 | 63.9 | 59.2 | 55.3 | 53.2 |
| 4 | 60.5 | 3.3 | 61.8 | 70.1 | 73 | 20 | 68.7 | 65.4 | 60.8 | 56.7 | 55.0 |
| 5 | 62.1 | 3.4 | 63.5 | 72.2 | 75 | 22 | 70.5 | 67.2 | 62.4 | 58.2 | 56.1 |
| 6 | 64.0 | 3.7 | 65.6 | 75.0 | 76 | 22 | 72.7 | 69.5 | 64.3 | 59.8 | 57.0 |
| 7 | 67.6 | 4.0 | 69.4 | 79.6 | 79 | 23 | 76.9 | 73.5 | 67.9 | 63.1 | 59.2 |
| 8 | 64.7 | 5.5 | 68.9 | 83.1 | 87 | 35 | 80.5 | 72.0 | 65.3 | 58.2 | 54.6 |
| 9 | 66.4 | 5.4 | 70.1 | 84.0 | 87 | 34 | 80.9 | 73.5 | 67.1 | 60.0 | 55.5 |
| 10 | 67.6 | 5.1 | 70.9 | 83.9 | 88 | 34 | 81.2 | 74.3 | 68.4 | 61.4 | 57.1 |
| 11 | 69.2 | 4.7 | 71.9 | 83.8 | 88 | 33 | 81.7 | 75.3 | 69.9 | 63.7 | 59.2 |
| 12 | 71.8 | 4.3 | 73.9 | 84.9 | 87 | 29 | 82.7 | 77.5 | 72.3 | 66.9 | 61.9 |
| 13 | 75.9 | 5.1 | 79.1 | 92.0 | 95 | 35 | 89.2 | 82.6 | 76.5 | 69.8 | 65.5 |
| 14 | 76.1 | 4.9 | 79.1 | 91.7 | 95 | 36 | 88.9 | 82.8 | 76.8 | 70.2 | 65.8 |

N= 4785

12- 17- 75 1133 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.4 | 4.9 | 79.5 | 92.0 | 97 | 33 | 89.8 | 82.9 | 76.9 | 70.4 | 66.4 |
| 2 | 76.9 | 4.5 | 79.5 | 90.9 | 96 | 31 | 89.5 | 82.9 | 77.3 | 71.5 | 67.8 |
| 3 | 59.8 | 2.9 | 60.7 | 68.1 | 71 | 20 | 66.9 | 64.0 | 60.3 | 56.4 | 53.5 |
| 4 | 60.7 | 2.8 | 61.6 | 68.8 | 73 | 20 | 67.6 | 64.7 | 61.4 | 57.3 | 55.0 |
| 5 | 61.9 | 2.9 | 62.8 | 70.1 | 72 | 17 | 68.6 | 65.9 | 62.5 | 58.3 | 56.3 |
| 6 | 63.2 | 3.1 | 64.3 | 72.1 | 73 | 17 | 70.6 | 67.7 | 63.7 | 59.5 | 57.5 |
| 7 | 66.4 | 3.5 | 67.8 | 76.7 | 77 | 20 | 74.9 | 71.6 | 66.8 | 62.3 | 59.7 |
| 8 | 64.8 | 5.0 | 68.4 | 81.2 | 84 | 32 | 79.8 | 71.8 | 64.7 | 59.4 | 55.3 |
| 9 | 66.1 | 5.2 | 69.6 | 83.0 | 85 | 33 | 80.5 | 73.4 | 66.2 | 60.5 | 55.8 |
| 10 | 66.8 | 5.1 | 70.0 | 82.9 | 83 | 30 | 80.3 | 74.0 | 67.2 | 61.2 | 57.0 |
| 11 | 68.3 | 4.7 | 71.0 | 83.0 | 84 | 30 | 80.9 | 74.8 | 68.8 | 62.9 | 58.5 |
| 12 | 70.9 | 4.4 | 73.1 | 84.2 | 86 | 29 | 81.9 | 76.9 | 71.5 | 65.6 | 61.5 |
| 13 | 76.0 | 4.8 | 78.9 | 91.3 | 92 | 29 | 89.1 | 82.5 | 76.4 | 70.3 | 65.8 |
| 14 | 76.3 | 4.7 | 79.0 | 91.0 | 92 | 29 | 88.9 | 82.8 | 76.8 | 70.8 | 65.8 |

N= 4780

TABLE NO. 98
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

**NOISE LEVEL - DBA RE 20 MICROPASCAL**

12- 17- 75 1209 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.8 | 5.6 | 80.8 | 95.1 | 96 | 37 | 91.8 | 84.1 | 77.3 | 70.2 | 64.1 |
| 2 | 77.4 | 5.3 | 80.9 | 94.4 | 97 | 37 | 91.4 | 84.3 | 77.8 | 71.3 | 65.4 |
| 3 | 61.4 | 3.3 | 62.7 | 71.2 | 73 | 21 | 70.5 | 66.3 | 61.6 | 58.0 | 54.7 |
| 4 | 62.9 | 3.3 | 64.3 | 72.8 | 77 | 23 | 71.9 | 67.9 | 63.1 | 59.5 | 56.1 |
| 5 | 64.1 | 3.5 | 65.6 | 74.4 | 77 | 23 | 73.0 | 69.3 | 64.3 | 60.3 | 57.4 |
| 6 | 65.2 | 3.8 | 66.9 | 76.6 | 78 | 24 | 74.7 | 70.8 | 65.4 | 61.0 | 57.4 |
| 7 | 68.3 | 4.2 | 70.3 | 81.0 | 81 | 26 | 78.0 | 74.5 | 68.6 | 63.5 | 59.2 |
| 8 | 70.6 | 4.9 | 73.5 | 86.1 | 87 | 31 | 83.6 | 77.2 | 71.0 | 65.1 | 58.8 |
| 9 | 72.3 | 4.8 | 75.1 | 87.3 | 90 | 33 | 84.7 | 79.0 | 72.8 | 66.9 | 61.2 |
| 10 | 72.5 | 4.8 | 75.3 | 87.7 | 90 | 32 | 84.6 | 79.2 | 73.0 | 67.1 | 61.4 |
| 11 | 73.1 | 4.7 | 75.8 | 88.0 | 91 | 33 | 84.9 | 79.7 | 73.6 | 67.6 | 62.8 |
| 12 | 74.5 | 4.6 | 77.0 | 88.8 | 92 | 31 | 86.0 | 81.0 | 75.0 | 69.0 | 64.4 |
| 13 | 77.0 | 5.5 | 80.9 | 94.9 | 98 | 37 | 91.8 | 84.1 | 77.7 | 70.2 | 65.3 |
| 14 | 76.9 | 5.3 | 80.5 | 94.2 | 96 | 35 | 91.2 | 83.9 | 77.6 | 70.2 | 65.4 |

N= 4780

12- 17- 75 1229 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.9 | 5.5 | 80.6 | 94.7 | 94 | 32 | 91.3 | 84.6 | 77.4 | 70.1 | 65.5 |
| 2 | 77.6 | 5.2 | 80.9 | 94.1 | 94 | 29 | 91.0 | 85.0 | 78.1 | 71.4 | 67.6 |
| 3 | 60.5 | 3.3 | 61.9 | 70.4 | 72 | 19 | 69.7 | 65.5 | 60.7 | 57.0 | 55.0 |
| 4 | 61.9 | 3.1 | 63.2 | 71.2 | 71 | 17 | 70.2 | 66.8 | 62.1 | 58.6 | 56.6 |
| 5 | 63.2 | 3.1 | 64.4 | 72.4 | 73 | 18 | 71.5 | 68.2 | 63.3 | 60.0 | 57.6 |
| 6 | 64.2 | 3.4 | 65.7 | 74.4 | 76 | 20 | 73.3 | 69.5 | 64.2 | 60.7 | 58.0 |
| 7 | 67.3 | 3.9 | 69.3 | 79.3 | 81 | 24 | 77.8 | 73.5 | 67.3 | 63.2 | 60.1 |
| 8 | 70.4 | 4.6 | 73.0 | 84.9 | 84 | 25 | 82.1 | 77.2 | 70.5 | 65.0 | 62.0 |
| 9 | 72.1 | 4.6 | 74.6 | 86.5 | 85 | 25 | 83.1 | 79.0 | 72.5 | 66.6 | 62.9 |
| 10 | 72.2 | 4.8 | 74.7 | 86.9 | 85 | 26 | 83.0 | 79.1 | 72.6 | 66.4 | 62.3 |
| 11 | 72.9 | 4.7 | 75.4 | 87.5 | 85 | 25 | 83.7 | 79.9 | 73.2 | 67.2 | 63.0 |
| 12 | 74.3 | 4.6 | 76.7 | 88.5 | 86 | 25 | 84.8 | 81.2 | 74.6 | 69.0 | 64.4 |
| 13 | 76.6 | 5.6 | 80.5 | 94.8 | 93 | 31 | 91.2 | 84.6 | 77.1 | 70.0 | 65.9 |
| 14 | 76.7 | 5.5 | 80.3 | 94.4 | 93 | 33 | 90.5 | 84.6 | 77.2 | 70.2 | 65.3 |

N= 4730

TABLE NO. 99
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 17- 75 1345 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.5 | 4.8 | 79.6 | 91.8 | 94 | 32 | 90.8 | 82.6 | 77.0 | 70.8 | 67.0 |
| 2 | 77.8 | 4.4 | 80.5 | 91.8 | 95 | 30 | 91.4 | 83.5 | 78.3 | 72.7 | 69.2 |
| 3 | 61.1 | 2.6 | 61.8 | 68.4 | 73 | 19 | 67.6 | 64.9 | 61.6 | 58.3 | 55.6 |
| 4 | 62.2 | 2.7 | 63.0 | 69.8 | 73 | 19 | 68.9 | 66.2 | 62.7 | 59.3 | 56.6 |
| 5 | 63.2 | 2.7 | 64.0 | 70.9 | 73 | 18 | 70.0 | 67.2 | 63.6 | 60.2 | 57.7 |
| 6 | 63.9 | 2.8 | 64.8 | 71.9 | 73 | 18 | 71.0 | 68.1 | 64.2 | 60.8 | 58.5 |
| 7 | 65.4 | 3.0 | 66.4 | 74.1 | 76 | 18 | 72.9 | 69.9 | 65.7 | 62.0 | 59.4 |
| 8 | 67.9 | 3.7 | 69.6 | 79.0 | 80 | 23 | 77.9 | 73.5 | 68.1 | 64.1 | 59.5 |
| 9 | 70.0 | 3.8 | 71.7 | 81.4 | 81 | 23 | 79.8 | 75.6 | 70.3 | 66.1 | 61.5 |
| 10 | 70.1 | 3.8 | 71.8 | 81.7 | 82 | 26 | 79.8 | 75.7 | 70.5 | 66.1 | 61.1 |
| 11 | 71.0 | 3.8 | 72.8 | 82.6 | 82 | 25 | 80.6 | 76.5 | 71.4 | 67.0 | 61.6 |
| 12 | 71.8 | 3.8 | 73.5 | 83.3 | 84 | 26 | 81.5 | 77.3 | 72.2 | 67.7 | 62.4 |
| 13 | 76.3 | 4.9 | 79.4 | 91.9 | 95 | 36 | 90.4 | 82.7 | 76.8 | 70.9 | 63.9 |
| 14 | 76.8 | 4.8 | 79.7 | 92.0 | 95 | 36 | 90.1 | 83.1 | 77.4 | 71.4 | 64.5 |

N= 4780

12- 17- 75 1405 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.6 | 5.0 | 80.8 | 93.4 | 97 | 36 | 90.9 | 84.4 | 78.0 | 71.9 | 66.4 |
| 2 | 78.6 | 4.5 | 81.3 | 92.9 | 97 | 31 | 91.0 | 85.0 | 78.9 | 73.6 | 68.9 |
| 3 | 60.6 | 2.5 | 61.3 | 67.8 | 70 | 16 | 67.0 | 64.2 | 61.1 | 57.6 | 55.5 |
| 4 | 62.0 | 2.6 | 62.8 | 69.5 | 73 | 18 | 69.3 | 65.8 | 62.5 | 59.0 | 57.1 |
| 5 | 63.2 | 2.6 | 64.0 | 70.6 | 72 | 17 | 70.5 | 66.9 | 63.7 | 60.2 | 58.2 |
| 6 | 63.6 | 2.6 | 64.5 | 71.2 | 73 | 17 | 71.1 | 67.4 | 64.0 | 60.7 | 58.6 |
| 7 | 64.9 | 2.8 | 65.9 | 73.2 | 76 | 19 | 73.5 | 68.9 | 65.4 | 62.0 | 59.3 |
| 8 | 68.0 | 4.0 | 70.0 | 80.1 | 83 | 25 | 78.6 | 74.2 | 67.9 | 63.6 | 61.0 |
| 9 | 70.5 | 4.0 | 72.5 | 82.7 | 84 | 24 | 80.9 | 76.6 | 70.7 | 66.2 | 62.7 |
| 10 | 70.8 | 4.0 | 72.8 | 83.0 | 84 | 23 | 81.3 | 76.8 | 71.1 | 66.3 | 62.9 |
| 11 | 72.1 | 4.0 | 74.1 | 84.2 | 86 | 25 | 82.8 | 78.0 | 72.3 | 67.6 | 64.0 |
| 12 | 72.8 | 3.9 | 74.7 | 84.5 | 87 | 24 | 83.4 | 78.5 | 73.1 | 68.4 | 65.2 |
| 13 | 77.4 | 4.9 | 80.8 | 93.4 | 97 | 31 | 90.9 | 84.1 | 77.7 | 71.5 | 68.5 |
| 14 | 78.0 | 4.8 | 81.1 | 93.4 | 97 | 31 | 91.2 | 84.5 | 78.4 | 72.3 | 68.8 |

N= 4780

TABLE NO. 100
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 18- 75 947 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.7 | 5.1 | 80.9 | 94.1 | 99 | 35 | 92.6 | 83.1 | 77.2 | 70.7 | 66.8 |
| 2 | 77.7 | 4.8 | 81.3 | 93.6 | 99 | 34 | 92.6 | 83.7 | 78.0 | 72.3 | 68.5 |
| 3 | 59.9 | 3.4 | 61.5 | 70.2 | 78 | 26 | 70.5 | 64.4 | 60.2 | 56.3 | 54.2 |
| 4 | 60.8 | 3.3 | 62.3 | 70.7 | 76 | 23 | 70.6 | 65.5 | 61.2 | 57.3 | 55.0 |
| 5 | 62.3 | 3.3 | 63.8 | 72.2 | 77 | 23 | 72.3 | 66.9 | 62.6 | 58.9 | 56.7 |
| 6 | 63.4 | 3.4 | 64.9 | 73.5 | 79 | 24 | 73.8 | 68.2 | 63.5 | 59.9 | 57.5 |
| 7 | 66.0 | 3.5 | 67.6 | 76.5 | 83 | 26 | 76.3 | 71.1 | 66.0 | 62.4 | 59.9 |
| 8 | 68.3 | 4.9 | 71.5 | 84.2 | 87 | 32 | 82.0 | 74.8 | 68.8 | 62.3 | 58.1 |
| 9 | 69.2 | 5.2 | 72.7 | 85.9 | 90 | 35 | 83.5 | 75.9 | 69.9 | 62.7 | 59.0 |
| 10 | 69.8 | 5.2 | 73.3 | 86.7 | 89 | 34 | 84.6 | 76.3 | 70.4 | 63.1 | 58.9 |
| 11 | 70.3 | 5.0 | 73.7 | 86.4 | 90 | 33 | 85.2 | 76.4 | 70.8 | 64.4 | 59.9 |
| 12 | 71.4 | 4.5 | 74.4 | 86.0 | 91 | 33 | 85.5 | 77.0 | 71.8 | 66.3 | 61.9 |
| 13 | 77.1 | 5.3 | 81.3 | 94.8 | 100 | 38 | 92.6 | 83.9 | 77.5 | 71.2 | 66.0 |
| 14 | 77.4 | 5.0 | 81.0 | 93.8 | 98 | 35 | 92.1 | 83.8 | 77.8 | 72.0 | 66.3 |

N= 4785

12- 18- 75 1007 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.8 | 4.9 | 80.9 | 93.6 | 100 | 35 | 92.6 | 83.2 | 77.0 | 71.4 | 67.5 |
| 2 | 77.8 | 4.6 | 81.4 | 93.0 | 100 | 34 | 92.8 | 83.8 | 77.9 | 73.1 | 69.4 |
| 3 | 60.6 | 3.0 | 62.0 | 69.6 | 77 | 23 | 70.2 | 65.0 | 60.8 | 57.6 | 56.0 |
| 4 | 61.4 | 2.9 | 62.7 | 70.2 | 79 | 24 | 70.9 | 65.6 | 61.6 | 58.5 | 56.7 |
| 5 | 62.8 | 2.9 | 64.0 | 71.5 | 77 | 21 | 72.8 | 67.0 | 63.0 | 59.9 | 58.1 |
| 6 | 63.6 | 3.0 | 65.0 | 72.8 | 80 | 24 | 74.3 | 67.9 | 63.8 | 60.6 | 58.5 |
| 7 | 66.0 | 3.3 | 67.6 | 76.0 | 81 | 24 | 77.2 | 70.7 | 66.2 | 62.8 | 60.5 |
| 8 | 68.1 | 4.8 | 71.6 | 83.9 | 91 | 36 | 82.8 | 74.3 | 68.5 | 62.2 | 58.8 |
| 9 | 69.2 | 4.9 | 72.9 | 85.5 | 93 | 37 | 83.6 | 75.4 | 69.7 | 63.1 | 59.2 |
| 10 | 69.8 | 5.0 | 73.5 | 86.2 | 93 | 37 | 84.2 | 75.9 | 70.4 | 63.7 | 59.5 |
| 11 | 70.4 | 4.8 | 74.1 | 86.2 | 94 | 36 | 84.5 | 76.4 | 70.9 | 64.7 | 60.8 |
| 12 | 71.5 | 4.5 | 74.9 | 86.5 | 95 | 35 | 86.1 | 77.3 | 71.9 | 66.5 | 62.5 |
| 13 | 76.8 | 5.2 | 81.2 | 94.6 | 101 | 38 | 92.4 | 83.6 | 77.2 | 70.9 | 66.1 |
| 14 | 77.2 | 5.0 | 81.1 | 93.9 | 99 | 36 | 92.2 | 83.7 | 77.6 | 71.4 | 66.8 |

N= 4780

TABLE NO. 101
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 18- 75 1058 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.5 | 5.3 | 80.7 | 94.2 | 98 | 36 | 92.4 | 83.5 | 76.9 | 70.5 | 65.7 |
| 2 | 77.3 | 5.0 | 81.1 | 93.9 | 97 | 34 | 92.5 | 83.8 | 77.6 | 71.9 | 66.8 |
| 3 | 60.0 | 3.4 | 61.5 | 70.1 | 74 | 24 | 69.9 | 64.6 | 60.4 | 56.3 | 52.9 |
| 4 | 61.1 | 3.4 | 62.6 | 71.2 | 75 | 24 | 70.6 | 65.9 | 61.4 | 57.4 | 53.8 |
| 5 | 62.5 | 3.4 | 64.0 | 72.6 | 76 | 24 | 72.2 | 67.3 | 62.8 | 59.0 | 55.4 |
| 6 | 63.5 | 3.4 | 65.0 | 73.8 | 75 | 22 | 73.7 | 68.6 | 63.6 | 60.0 | 56.0 |
| 7 | 66.1 | 3.6 | 67.8 | 77.1 | 79 | 24 | 76.6 | 71.5 | 66.2 | 62.5 | 58.3 |
| 8 | 68.4 | 5.5 | 72.4 | 86.4 | 89 | 35 | 83.2 | 76.1 | 68.7 | 62.1 | 56.8 |
| 9 | 71.2 | 5.5 | 75.1 | 89.2 | 92 | 37 | 86.1 | 78.8 | 71.6 | 64.8 | 58.9 |
| 10 | 72.2 | 5.3 | 75.9 | 89.6 | 92 | 37 | 87.2 | 79.7 | 72.6 | 66.0 | 60.0 |
| 11 | 73.4 | 5.0 | 76.7 | 89.5 | 93 | 38 | 87.6 | 80.4 | 73.8 | 68.0 | 61.3 |
| 12 | 74.6 | 4.8 | 77.6 | 89.8 | 93 | 35 | 88.1 | 81.4 | 75.0 | 69.5 | 63.0 |
| 13 | 76.5 | 5.6 | 81.1 | 95.5 | 101 | 42 | 92.1 | 83.9 | 76.9 | 69.9 | 64.9 |
| 14 | 77.2 | 5.3 | 81.1 | 94.7 | 99 | 38 | 91.9 | 84.1 | 77.7 | 71.0 | 65.4 |

N= 4780

12- 18- 75 1118 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.6 | 5.2 | 79.3 | 92.6 | 94 | 33 | 90.0 | 82.4 | 76.2 | 69.4 | 64.8 |
| 2 | 76.6 | 4.7 | 79.7 | 91.8 | 95 | 30 | 90.4 | 82.8 | 77.0 | 71.0 | 67.3 |
| 3 | 59.8 | 2.9 | 61.0 | 68.5 | 72 | 20 | 68.9 | 64.3 | 60.0 | 57.0 | 54.9 |
| 4 | 60.8 | 2.9 | 61.9 | 69.2 | 72 | 18 | 69.4 | 65.3 | 60.8 | 57.9 | 56.2 |
| 5 | 62.1 | 2.9 | 63.3 | 70.8 | 74 | 18 | 71.3 | 66.6 | 62.3 | 59.2 | 57.2 |
| 6 | 62.9 | 3.0 | 64.2 | 71.9 | 76 | 21 | 72.0 | 67.5 | 63.1 | 59.8 | 57.4 |
| 7 | 65.4 | 3.3 | 66.8 | 75.3 | 78 | 21 | 74.7 | 70.3 | 65.7 | 62.0 | 59.2 |
| 8 | 67.8 | 4.9 | 70.9 | 83.5 | 85 | 31 | 80.6 | 74.9 | 68.1 | 62.2 | 57.6 |
| 9 | 70.4 | 4.9 | 73.3 | 85.9 | 86 | 31 | 82.7 | 77.4 | 70.9 | 64.8 | 58.7 |
| 10 | 71.2 | 4.9 | 74.0 | 86.6 | 86 | 31 | 83.0 | 78.2 | 71.7 | 65.6 | 58.6 |
| 11 | 72.6 | 4.7 | 75.1 | 87.1 | 87 | 31 | 84.2 | 79.1 | 73.2 | 67.5 | 60.1 |
| 12 | 73.9 | 4.5 | 76.3 | 87.9 | 88 | 30 | 85.2 | 80.4 | 74.3 | 69.0 | 61.4 |
| 13 | 76.1 | 5.5 | 80.0 | 94.0 | 96 | 39 | 90.8 | 83.4 | 76.7 | 70.0 | 64.0 |
| 14 | 76.5 | 5.2 | 79.8 | 93.0 | 95 | 37 | 90.4 | 83.2 | 77.0 | 70.6 | 64.3 |

N= 4780

TABLE NO. 102
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 18- 75 1201 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.7 | 5.6 | 80.9 | 95.2 | 101 | 38 | 93.1 | 83.0 | 76.0 | 69.3 | 64.9 |
| 2 | 76.0 | 5.3 | 80.7 | 94.2 | 100 | 38 | 92.5 | 83.1 | 76.2 | 70.1 | 65.8 |
| 3 | 59.6 | 3.1 | 61.0 | 68.9 | 76 | 23 | 70.0 | 63.9 | 59.6 | 56.7 | 55.0 |
| 4 | 59.8 | 3.0 | 61.2 | 68.9 | 74 | 21 | 70.4 | 64.2 | 59.8 | 57.1 | 55.5 |
| 5 | 60.6 | 3.0 | 62.0 | 69.6 | 75 | 21 | 71.3 | 64.9 | 60.6 | 58.0 | 56.4 |
| 6 | 60.9 | 3.0 | 62.3 | 69.9 | 76 | 22 | 71.7 | 65.0 | 60.9 | 58.3 | 56.5 |
| 7 | 62.3 | 3.0 | 63.8 | 71.6 | 79 | 23 | 73.4 | 66.6 | 62.2 | 59.5 | 57.7 |
| 8 | 63.6 | 4.6 | 67.2 | 78.9 | 82 | 30 | 79.5 | 70.4 | 63.4 | 59.3 | 54.9 |
| 9 | 67.8 | 5.0 | 71.6 | 84.3 | 87 | 34 | 83.8 | 74.9 | 67.9 | 62.8 | 56.6 |
| 10 | 68.8 | 4.9 | 72.5 | 85.0 | 89 | 35 | 84.5 | 75.4 | 69.0 | 63.8 | 57.3 |
| 11 | 70.1 | 4.8 | 73.6 | 85.9 | 89 | 34 | 86.0 | 76.5 | 70.3 | 65.4 | 58.2 |
| 12 | 71.6 | 4.7 | 74.9 | 86.9 | 90 | 35 | 86.7 | 77.7 | 71.8 | 67.1 | 60.0 |
| 13 | 75.7 | 5.7 | 81.0 | 95.6 | 102 | 43 | 92.9 | 83.3 | 75.9 | 69.7 | 63.1 |
| 14 | 76.4 | 5.4 | 81.0 | 94.9 | 100 | 42 | 93.2 | 83.6 | 76.7 | 70.8 | 63.0 |

N= 4785

12- 18- 75 1221 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.1 | 5.4 | 79.2 | 93.1 | 97 | 38 | 90.4 | 81.8 | 75.7 | 68.6 | 62.9 |
| 2 | 75.4 | 5.0 | 79.1 | 91.9 | 98 | 37 | 90.1 | 81.8 | 76.0 | 69.6 | 64.9 |
| 3 | 60.1 | 2.6 | 61.2 | 68.0 | 75 | 22 | 69.4 | 63.9 | 60.4 | 57.5 | 55.4 |
| 4 | 60.3 | 2.5 | 61.2 | 67.5 | 74 | 20 | 68.8 | 63.9 | 60.6 | 57.8 | 55.9 |
| 5 | 61.1 | 2.4 | 61.9 | 68.2 | 73 | 19 | 69.4 | 64.7 | 61.3 | 58.8 | 56.6 |
| 6 | 61.2 | 2.5 | 62.0 | 68.3 | 72 | 18 | 69.1 | 65.1 | 61.5 | 59.0 | 56.7 |
| 7 | 62.5 | 2.7 | 63.5 | 70.5 | 75 | 20 | 70.8 | 66.7 | 62.6 | 59.9 | 57.2 |
| 8 | 63.8 | 3.8 | 65.9 | 75.6 | 80 | 27 | 76.1 | 68.9 | 63.9 | 59.9 | 56.7 |
| 9 | 67.5 | 4.4 | 70.1 | 81.4 | 85 | 30 | 80.2 | 73.3 | 67.9 | 62.5 | 58.4 |
| 10 | 68.3 | 4.4 | 70.9 | 82.2 | 87 | 32 | 80.9 | 74.2 | 68.7 | 63.3 | 58.5 |
| 11 | 69.7 | 4.3 | 72.1 | 83.1 | 87 | 30 | 81.8 | 75.3 | 70.2 | 64.7 | 60.1 |
| 12 | 71.1 | 4.3 | 73.5 | 84.5 | 88 | 30 | 83.5 | 76.7 | 71.7 | 66.1 | 61.0 |
| 13 | 75.6 | 5.3 | 79.7 | 93.2 | 100 | 39 | 90.5 | 82.2 | 76.3 | 69.0 | 64.3 |
| 14 | 76.1 | 5.1 | 79.7 | 92.8 | 99 | 38 | 90.3 | 82.6 | 76.9 | 69.9 | 64.8 |

N= 4780

TABLE NO. 103
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

12- 18- 75 1345 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.9 | 5.1 | 79.1 | 92.3 | 93 | 31 | 88.9 | 83.2 | 76.5 | 69.7 | 65.6 |
| 2 | 77.0 | 4.7 | 79.7 | 91.9 | 94 | 30 | 89.2 | 83.7 | 77.6 | 71.3 | 67.4 |
| 3 | 58.9 | 2.5 | 59.8 | 66.1 | 71 | 18 | 67.3 | 62.6 | 59.2 | 56.5 | 54.7 |
| 4 | 59.4 | 2.3 | 60.1 | 65.9 | 76 | 23 | 66.7 | 62.7 | 59.7 | 57.2 | 55.3 |
| 5 | 59.8 | 2.3 | 60.5 | 66.3 | 71 | 18 | 67.1 | 63.1 | 60.1 | 57.6 | 55.6 |
| 6 | 59.6 | 2.2 | 60.2 | 65.7 | 70 | 17 | 66.0 | 62.8 | 60.0 | 57.4 | 55.4 |
| 7 | 60.3 | 2.3 | 61.0 | 66.8 | 72 | 19 | 67.3 | 63.6 | 60.7 | 58.1 | 56.1 |
| 8 | 60.2 | 3.2 | 61.4 | 69.5 | 70 | 19 | 68.6 | 64.9 | 60.5 | 56.6 | 54.3 |
| 9 | 62.1 | 3.5 | 63.5 | 72.3 | 74 | 22 | 70.9 | 67.2 | 62.6 | 57.8 | 55.2 |
| 10 | 63.5 | 3.6 | 65.1 | 74.4 | 75 | 22 | 72.8 | 68.7 | 64.2 | 58.9 | 56.0 |
| 11 | 65.4 | 3.8 | 67.0 | 76.6 | 77 | 22 | 74.4 | 70.6 | 66.1 | 60.6 | 57.1 |
| 12 | 66.7 | 3.7 | 68.2 | 77.8 | 78 | 24 | 75.3 | 71.9 | 67.4 | 62.2 | 57.8 |
| 13 | 76.4 | 5.2 | 79.6 | 92.8 | 93 | 32 | 89.3 | 83.7 | 77.0 | 70.2 | 65.0 |
| 14 | 76.8 | 4.9 | 79.5 | 92.1 | 92 | 31 | 88.9 | 83.5 | 77.4 | 70.7 | 65.0 |

N= 4780

12- 18- 75 1406 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.0 | 5.3 | 80.3 | 93.8 | 99 | 37 | 91.1 | 83.3 | 76.3 | 70.1 | 65.5 |
| 2 | 77.1 | 5.0 | 81.0 | 93.9 | 101 | 37 | 91.7 | 83.9 | 77.4 | 71.4 | 67.2 |
| 3 | 59.0 | 3.1 | 60.6 | 68.5 | 77 | 25 | 69.4 | 63.4 | 59.1 | 56.1 | 54.6 |
| 4 | 59.9 | 2.9 | 61.2 | 68.5 | 76 | 23 | 69.2 | 64.0 | 59.9 | 57.1 | 55.3 |
| 5 | 59.8 | 2.8 | 61.1 | 68.4 | 75 | 22 | 69.4 | 64.0 | 59.9 | 57.2 | 55.5 |
| 6 | 59.7 | 2.7 | 60.8 | 67.8 | 74 | 21 | 68.6 | 63.8 | 59.7 | 57.1 | 55.3 |
| 7 | 60.5 | 2.8 | 61.6 | 68.7 | 72 | 18 | 69.6 | 64.7 | 60.5 | 57.9 | 56.1 |
| 8 | 61.3 | 3.7 | 63.4 | 72.9 | 81 | 27 | 73.0 | 66.8 | 61.2 | 57.5 | 55.3 |
| 9 | 62.7 | 3.9 | 65.0 | 75.0 | 79 | 25 | 75.2 | 68.7 | 62.6 | 58.7 | 56.3 |
| 10 | 63.8 | 4.1 | 66.3 | 76.7 | 82 | 28 | 76.0 | 69.9 | 63.8 | 59.7 | 57.1 |
| 11 | 65.5 | 4.1 | 67.9 | 78.2 | 84 | 28 | 77.8 | 71.4 | 65.5 | 61.2 | 58.3 |
| 12 | 66.5 | 4.2 | 69.0 | 79.7 | 84 | 27 | 78.8 | 72.6 | 66.6 | 62.0 | 59.3 |
| 13 | 76.3 | 5.3 | 80.8 | 94.4 | 102 | 39 | 91.6 | 83.3 | 76.7 | 70.0 | 66.9 |
| 14 | 76.8 | 5.0 | 80.7 | 93.5 | 101 | 37 | 91.3 | 83.3 | 77.3 | 70.9 | 67.6 |

N= 4730

TABLE NO. 104
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.

BARRIER HGT 16 FT ; REFLECTIVE ; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

4- 27- 76 1005 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 79.8 | 5.0 | 83.5 | 96.3 | 101 | 51 | 94.8 | 86.8 | 79.7 | 74.6 | 70.4 |
| 2 | 77.0 | 5.3 | 81.4 | 94.8 | 99 | 59 | 93.5 | 84.0 | 77.1 | 71.5 | 67.0 |
| 3 | 61.0 | 3.5 | 66.6 | 75.4 | 101 | 61 | 72.3 | 66.4 | 60.7 | 58.0 | 56.1 |
| 4 | 62.0 | 3.5 | 64.0 | 73.0 | 86 | 46 | 73.5 | 67.5 | 61.6 | 58.9 | 57.1 |
| 5 | 63.3 | 3.6 | 65.3 | 74.4 | 79 | 39 | 75.1 | 68.9 | 62.9 | 60.1 | 58.2 |
| 6 | 63.8 | 3.7 | 66.0 | 75.6 | 82 | 42 | 76.1 | 69.6 | 63.4 | 60.5 | 58.6 |
| 7 | 66.0 | 4.0 | 68.5 | 78.6 | 85 | 45 | 78.5 | 72.0 | 65.7 | 62.2 | 60.3 |
| 8 | 69.7 | 5.3 | 74.0 | 87.6 | 88 | 48 | 86.0 | 77.5 | 69.5 | 64.0 | 61.1 |
| 9 | 72.2 | 5.1 | 76.1 | 89.3 | 91 | 51 | 87.6 | 79.7 | 72.1 | 66.9 | 63.1 |
| 10 | 73.7 | 5.1 | 77.5 | 90.6 | 93 | 53 | 88.9 | 81.2 | 73.5 | 68.4 | 64.2 |
| 11 | 73.7 | 4.8 | 77.2 | 89.5 | 92 | 52 | 88.3 | 80.8 | 73.4 | 69.0 | 64.5 |
| 12 | 74.6 | 4.6 | 77.9 | 89.8 | 101 | 61 | 88.5 | 81.6 | 74.4 | 70.1 | 65.5 |
| 13 | 75.7 | 5.7 | 80.6 | 95.3 | 99 | 49 | 92.6 | 83.5 | 75.9 | 69.4 | 64.4 |
| 14 | 78.0 | 5.3 | 82.3 | 95.8 | 100 | 60 | 94.2 | 85.4 | 78.0 | 72.6 | 67.3 |

N= 4780

4- 27- 76 1025 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 79.8 | 4.8 | 82.7 | 94.9 | 97 | 33 | 92.4 | 86.4 | 80.2 | 74.5 | 68.2 |
| 2 | 76.9 | 5.0 | 80.1 | 93.0 | 93 | 33 | 90.5 | 83.5 | 77.5 | 71.3 | 64.8 |
| 3 | 60.5 | 2.9 | 61.5 | 68.9 | 69 | 18 | 67.7 | 64.8 | 61.0 | 57.5 | 53.0 |
| 4 | 61.5 | 3.0 | 62.5 | 70.2 | 71 | 20 | 69.2 | 65.8 | 62.0 | 58.3 | 53.7 |
| 5 | 62.9 | 3.1 | 63.9 | 71.8 | 73 | 21 | 70.6 | 67.2 | 63.4 | 59.6 | 54.8 |
| 6 | 63.4 | 3.2 | 64.5 | 72.6 | 74 | 21 | 71.4 | 67.9 | 63.8 | 60.0 | 55.3 |
| 7 | 65.5 | 3.4 | 66.8 | 75.4 | 76 | 22 | 74.0 | 70.3 | 65.9 | 61.8 | 57.2 |
| 8 | 69.2 | 4.7 | 72.1 | 84.2 | 85 | 29 | 81.9 | 76.3 | 69.3 | 64.1 | 59.5 |
| 9 | 71.6 | 4.7 | 74.2 | 86.3 | 87 | 30 | 83.0 | 78.4 | 72.1 | 66.2 | 60.2 |
| 10 | 73.1 | 4.8 | 75.6 | 87.8 | 88 | 32 | 84.4 | 79.9 | 73.6 | 67.6 | 60.3 |
| 11 | 73.1 | 4.6 | 75.5 | 87.4 | 88 | 31 | 84.0 | 79.8 | 73.6 | 67.8 | 60.0 |
| 12 | 74.0 | 4.5 | 76.2 | 87.6 | 88 | 30 | 84.5 | 80.4 | 74.3 | 69.1 | 61.6 |
| 13 | 75.2 | 5.6 | 79.0 | 93.4 | 93 | 36 | 89.8 | 82.7 | 75.9 | 68.3 | 62.0 |
| 14 | 77.5 | 5.1 | 80.7 | 93.7 | 93 | 33 | 91.1 | 84.3 | 78.0 | 71.8 | 64.3 |

N= 4780

TABLE NO. 105
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.

BARRIER HGT 16 FT ; REFLECTIVE ; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

4- 27- 76 1150 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 78.8 | 4.5 | 81.4 | 93.1 | 95 | 29 | 91.5 | 85.1 | 79.1 | 73.4 | 70.3 |
| 2 | 75.4 | 4.8 | 78.5 | 90.8 | 95 | 32 | 89.2 | 81.6 | 75.9 | 69.8 | 66.2 |
| 3 | 59.4 | 2.8 | 60.3 | 67.4 | 70 | 18 | 66.7 | 63.6 | 59.9 | 56.2 | 54.2 |
| 4 | 60.4 | 2.7 | 61.3 | 68.3 | 71 | 17 | 67.4 | 64.5 | 61.0 | 57.2 | 55.2 |
| 5 | 61.9 | 2.9 | 62.9 | 70.4 | 72 | 17 | 69.7 | 66.1 | 62.3 | 58.4 | 56.4 |
| 6 | 61.8 | 2.8 | 62.7 | 70.0 | 73 | 18 | 69.0 | 66.0 | 62.3 | 58.4 | 56.4 |
| 7 | 63.7 | 3.3 | 64.9 | 73.3 | 76 | 21 | 71.8 | 68.6 | 64.2 | 59.9 | 57.6 |
| 8 | 64.1 | 3.8 | 66.2 | 75.8 | 82 | 26 | 74.5 | 69.7 | 64.2 | 60.2 | 57.8 |
| 9 | 67.1 | 4.1 | 69.3 | 79.8 | 82 | 26 | 78.3 | 73.2 | 67.4 | 62.6 | 59.1 |
| 10 | 68.7 | 4.2 | 70.8 | 81.5 | 82 | 25 | 79.5 | 74.7 | 69.0 | 64.0 | 60.0 |
| 11 | 69.3 | 4.2 | 71.4 | 82.0 | 83 | 26 | 79.9 | 75.2 | 69.7 | 64.6 | 60.3 |
| 12 | 70.6 | 4.1 | 72.6 | 83.0 | 84 | 27 | 80.9 | 76.5 | 70.9 | 66.1 | 61.9 |
| 13 | 73.7 | 5.5 | 77.4 | 91.4 | 93 | 35 | 88.9 | 80.7 | 74.2 | 67.2 | 61.6 |
| 14 | 75.5 | 5.0 | 78.7 | 91.6 | 95 | 36 | 89.4 | 82.2 | 75.8 | 69.8 | 63.3 |

N= 4785

4- 27- 76 1210 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 80.0 | 4.8 | 83.2 | 95.6 | 101 | 35 | 93.3 | 86.9 | 80.1 | 74.7 | 69.8 |
| 2 | 77.1 | 5.4 | 81.0 | 94.9 | 99 | 37 | 91.9 | 84.5 | 77.6 | 70.6 | 65.6 |
| 3 | 60.6 | 2.5 | 61.4 | 67.9 | 75 | 21 | 68.2 | 64.3 | 61.0 | 58.0 | 56.2 |
| 4 | 61.7 | 2.5 | 62.5 | 69.0 | 78 | 23 | 69.0 | 65.4 | 62.1 | 59.0 | 57.1 |
| 5 | 63.0 | 2.5 | 63.8 | 70.3 | 77 | 20 | 70.4 | 66.7 | 63.4 | 60.3 | 58.3 |
| 6 | 62.9 | 2.6 | 63.8 | 70.6 | 80 | 24 | 69.9 | 66.9 | 63.3 | 60.1 | 58.2 |
| 7 | 64.4 | 2.7 | 65.2 | 72.1 | 79 | 22 | 71.8 | 68.2 | 64.8 | 61.3 | 59.3 |
| 8 | 65.8 | 4.0 | 67.9 | 78.1 | 82 | 25 | 77.4 | 71.8 | 65.7 | 61.6 | 58.9 |
| 9 | 69.0 | 4.4 | 71.6 | 82.8 | 84 | 25 | 81.1 | 75.8 | 69.0 | 64.2 | 60.7 |
| 10 | 70.6 | 4.4 | 73.1 | 84.2 | 85 | 25 | 82.3 | 77.1 | 70.7 | 65.7 | 62.2 |
| 11 | 71.3 | 4.3 | 73.6 | 84.6 | 87 | 28 | 82.7 | 77.6 | 71.4 | 66.4 | 62.8 |
| 12 | 72.6 | 4.2 | 74.9 | 85.7 | 89 | 27 | 83.8 | 78.7 | 72.9 | 67.9 | 64.2 |
| 13 | 75.9 | 5.7 | 80.4 | 95.1 | 98 | 37 | 91.3 | 84.0 | 76.4 | 69.3 | 64.2 |
| 14 | 77.6 | 5.3 | 81.4 | 95.0 | 98 | 42 | 91.9 | 84.9 | 77.9 | 71.5 | 66.4 |

N= 4780

TABLE NO. 106
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.

BARRIER HGT 16 FT ; REFLECTIVE ; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

4- 27- 76 1258 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.9 | 4.9 | 80.9 | 93.5 | 94 | 28 | 91.3 | 84.3 | 78.5 | 71.8 | 68.2 |
| 2 | 77.3 | 4.7 | 79.8 | 91.9 | 93 | 31 | 89.4 | 83.4 | 78.2 | 71.4 | 66.4 |
| 3 | 58.3 | 2.8 | 59.4 | 66.7 | 72 | 21 | 67.2 | 62.3 | 58.6 | 55.3 | 53.0 |
| 4 | 59.1 | 2.8 | 60.2 | 67.5 | 73 | 21 | 68.0 | 63.2 | 59.3 | 56.2 | 53.7 |
| 5 | 60.0 | 2.8 | 61.1 | 68.4 | 73 | 20 | 68.7 | 64.1 | 60.3 | 57.2 | 54.6 |
| 6 | 59.7 | 2.8 | 60.7 | 67.9 | 73 | 21 | 67.8 | 63.9 | 60.1 | 56.7 | 54.3 |
| 7 | 60.5 | 2.9 | 61.6 | 68.9 | 73 | 20 | 68.6 | 64.8 | 60.9 | 57.4 | 55.1 |
| 8 | 61.2 | 3.3 | 62.5 | 70.9 | 72 | 19 | 69.7 | 66.4 | 61.4 | 57.7 | 55.1 |
| 9 | 63.2 | 3.6 | 64.8 | 74.1 | 74 | 20 | 72.3 | 68.8 | 63.4 | 59.2 | 56.2 |
| 10 | 65.0 | 3.9 | 66.7 | 76.6 | 76 | 21 | 74.4 | 70.8 | 65.4 | 60.4 | 57.2 |
| 11 | 66.0 | 3.9 | 67.7 | 77.7 | 78 | 22 | 75.6 | 71.8 | 66.5 | 61.4 | 58.1 |
| 12 | 67.4 | 3.8 | 69.0 | 78.7 | 78 | 22 | 76.2 | 73.0 | 68.0 | 62.9 | 59.4 |
| 13 | 74.8 | 5.4 | 78.3 | 92.2 | 94 | 34 | 89.0 | 81.8 | 75.5 | 68.1 | 63.3 |
| 14 | 76.6 | 4.9 | 79.5 | 92.0 | 94 | 36 | 89.4 | 83.0 | 77.0 | 71.0 | 65.4 |

N= 4780

4- 27- 76 1318 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 79.1 | 5.1 | 82.9 | 96.0 | 98 | 30 | 94.0 | 86.6 | 79.0 | 73.5 | 70.1 |
| 2 | ~~40.0~~ | ~~.1~~ | ~~40.0~~ | ~~40.3~~ | ~~43~~ | ~~3~~ | ~~41.0~~ | ~~40.9~~ | ~~40.5~~ | ~~40.1~~ | ~~40.0~~ |
| 3 | 59.2 | 2.7 | 60.2 | 67.1 | 73 | 21 | 67.3 | 63.3 | 59.4 | 56.5 | 54.2 |
| 4 | 60.0 | 2.8 | 61.1 | 68.2 | 71 | 18 | 68.5 | 64.3 | 60.2 | 57.3 | 55.1 |
| 5 | 61.1 | 2.8 | 62.1 | 69.2 | 73 | 19 | 69.5 | 65.4 | 61.2 | 58.3 | 56.2 |
| 6 | 60.7 | 2.6 | 61.7 | 68.4 | 75 | 21 | 68.8 | 64.7 | 60.9 | 58.1 | 56.0 |
| 7 | 61.7 | 2.7 | 62.7 | 69.6 | 75 | 20 | 69.7 | 65.9 | 61.9 | 59.0 | 56.8 |
| 8 | 61.5 | 4.2 | 63.9 | 74.6 | 75 | 22 | 73.1 | 68.2 | 61.3 | 57.1 | 54.7 |
| 9 | 63.5 | 4.4 | 66.0 | 77.4 | 78 | 24 | 75.0 | 70.5 | 63.4 | 58.7 | 56.2 |
| 10 | 65.4 | 4.6 | 68.0 | 79.7 | 79 | 25 | 76.8 | 72.6 | 65.4 | 60.3 | 57.6 |
| 11 | 66.5 | 4.6 | 69.1 | 81.0 | 80 | 23 | 77.8 | 73.7 | 66.6 | 61.2 | 58.3 |
| 12 | 68.2 | 4.6 | 70.8 | 82.7 | 84 | 27 | 80.1 | 74.9 | 68.2 | 62.9 | 59.8 |
| 13 | 75.8 | 6.2 | 80.9 | 96.7 | 97 | 37 | 92.9 | 84.3 | 76.3 | 68.5 | 62.7 |
| 14 | 77.6 | 5.5 | 81.8 | 96.0 | 97 | 35 | 93.4 | 85.6 | 77.7 | 71.7 | 65.5 |

N= 4780

TABLE NO. 107
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.

BARRIER HGT 16 FT ; REFLECTIVE ; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

4- 27- 76 1454 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 79.1 | 4.4 | 82.1 | 93.4 | 100 | 33 | 92.7 | 85.1 | 79.4 | 74.2 | 70.0 |
| 2 | 77.4 | 4.3 | 80.4 | 91.4 | 99 | 36 | 91.1 | 82.9 | 77.6 | 72.9 | 68.1 |
| 3 | 59.2 | 2.9 | 60.4 | 67.8 | 75 | 22 | 68.5 | 63.4 | 59.2 | 56.5 | 54.8 |
| 4 | 60.4 | 2.9 | 61.5 | 68.8 | 74 | 20 | 69.4 | 64.6 | 60.5 | 57.6 | 55.7 |
| 5 | 61.7 | 2.9 | 62.9 | 70.3 | 76 | 22 | 71.1 | 65.8 | 61.8 | 58.9 | 57.0 |
| 6 | 62.7 | 3.0 | 64.0 | 71.7 | 76 | 21 | 72.4 | 67.1 | 62.8 | 59.7 | 57.5 |
| 7 | 65.6 | 3.2 | 67.0 | 75.3 | 80 | 23 | 75.0 | 70.5 | 65.8 | 62.3 | 59.8 |
| 8 | 67.1 | 4.8 | 70.9 | 83.3 | 90 | 34 | 81.9 | 73.6 | 67.3 | 61.7 | 58.9 |
| 9 | 68.7 | 4.7 | 72.3 | 84.3 | 92 | 35 | 83.0 | 74.8 | 69.1 | 63.3 | 59.7 |
| 10 | 70.0 | 4.5 | 73.1 | 84.7 | 91 | 33 | 83.7 | 75.9 | 70.6 | 64.6 | 61.0 |
| 11 | 70.1 | 4.4 | 73.0 | 84.2 | 91 | 32 | 83.0 | 75.8 | 70.5 | 65.0 | 61.2 |
| 12 | 71.3 | 4.1 | 73.9 | 84.4 | 92 | 32 | 84.0 | 76.8 | 71.7 | 66.7 | 62.9 |
| 13 | 76.0 | 5.0 | 79.7 | 92.4 | 100 | 38 | 90.3 | 82.4 | 76.4 | 70.3 | 65.1 |
| 14 | 77.7 | 4.3 | 80.7 | 91.8 | 99 | 44 | 90.9 | 83.4 | 78.0 | 73.3 | 68.2 |

N= 4785

4- 27- 76 1514 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 81.4 | 4.5 | 84.7 | 96.3 | 100 | 30 | 95.8 | 88.2 | 81.1 | 76.9 | 73.4 |
| 2 | 79.2 | 4.5 | 82.7 | 94.2 | 98 | 31 | 94.5 | 85.9 | 79.1 | 75.0 | 71.0 |
| 3 | 61.2 | 2.9 | 62.4 | 69.9 | 75 | 20 | 71.6 | 65.2 | 61.4 | 58.2 | 56.2 |
| 4 | 62.3 | 2.9 | 63.5 | 70.9 | 74 | 19 | 71.3 | 66.6 | 62.6 | 59.4 | 57.4 |
| 5 | 63.6 | 3.0 | 64.9 | 72.5 | 76 | 19 | 73.5 | 68.0 | 63.8 | 60.6 | 58.9 |
| 6 | 64.8 | 3.1 | 66.2 | 74.1 | 78 | 21 | 75.0 | 69.3 | 64.8 | 61.7 | 59.9 |
| 7 | 67.3 | 3.2 | 68.8 | 77.1 | 82 | 22 | 77.8 | 72.1 | 67.4 | 64.2 | 62.0 |
| 8 | 69.5 | 4.7 | 72.9 | 84.9 | 90 | 31 | 83.6 | 76.4 | 69.3 | 64.4 | 61.2 |
| 9 | 70.7 | 4.8 | 74.3 | 86.6 | 92 | 33 | 85.9 | 77.5 | 70.8 | 65.5 | 61.5 |
| 10 | 71.7 | 4.7 | 75.0 | 86.9 | 91 | 31 | 86.6 | 78.2 | 71.7 | 66.6 | 62.3 |
| 11 | 71.6 | 4.5 | 74.8 | 86.4 | 91 | 31 | 86.4 | 78.1 | 71.7 | 66.8 | 62.6 |
| 12 | 72.7 | 4.3 | 75.7 | 86.8 | 92 | 32 | 87.5 | 78.9 | 72.7 | 68.2 | 64.5 |
| 13 | 77.7 | 5.1 | 81.6 | 94.6 | 100 | 36 | 92.6 | 84.9 | 77.8 | 72.1 | 67.2 |
| 14 | 79.2 | 4.5 | 82.5 | 94.1 | 101 | 33 | 92.9 | 85.6 | 79.3 | 74.5 | 70.3 |

N= 4780

TABLE NO. 108
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.

BARRIER HGT 16 FT ; REFLECTIVE ; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

4- 28- 76 839 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 80.9 | 4.3 | 83.4 | 94.5 | 97 | 29 | 93.2 | 87.0 | 81.1 | 76.3 | 71.5 |
| 2 | 79.6 | 4.2 | 81.9 | 92.7 | 95 | 28 | 91.3 | 85.5 | 79.9 | 75.0 | 70.3 |
| 3 | 60.2 | 2.9 | 61.3 | 68.7 | 73 | 21 | 68.9 | 64.6 | 60.3 | 57.4 | 54.7 |
| 4 | 61.6 | 2.9 | 62.7 | 70.0 | 75 | 21 | 69.8 | 66.0 | 61.7 | 58.9 | 55.8 |
| 5 | 63.2 | 2.9 | 64.3 | 71.7 | 74 | 19 | 71.3 | 67.8 | 63.4 | 60.4 | 57.2 |
| 6 | 64.7 | 3.1 | 65.8 | 73.7 | 76 | 20 | 72.7 | 69.5 | 64.8 | 61.6 | 58.2 |
| 7 | 67.8 | 3.3 | 69.1 | 77.6 | 78 | 20 | 76.7 | 72.9 | 67.9 | 64.5 | 60.7 |
| 8 | 68.0 | 5.0 | 71.2 | 84.0 | 85 | 28 | 81.7 | 74.8 | 68.5 | 61.8 | 59.1 |
| 9 | 70.4 | 4.7 | 73.1 | 85.1 | 85 | 27 | 83.0 | 76.8 | 71.0 | 64.6 | 61.3 |
| 10 | 71.4 | 4.4 | 73.9 | 85.1 | 86 | 26 | 83.3 | 77.5 | 71.9 | 66.2 | 62.9 |
| 11 | 71.7 | 4.1 | 73.8 | 84.2 | 86 | 25 | 82.7 | 77.7 | 72.0 | 67.2 | 63.4 |
| 12 | 73.4 | 3.7 | 75.2 | 84.7 | 86 | 24 | 83.7 | 78.9 | 73.7 | 69.4 | 66.0 |
| 13 | 77.9 | 4.3 | 80.4 | 91.4 | 93 | 29 | 90.0 | 84.0 | 78.2 | 73.3 | 68.4 |
| 14 | 79.1 | 4.0 | 81.3 | 91.5 | 95 | 34 | 90.4 | 84.8 | 79.4 | 75.1 | 70.1 |

N= 4780

4- 28- 76 859 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 79.4 | 4.5 | 82.1 | 93.5 | 96 | 29 | 92.0 | 85.6 | 79.8 | 74.3 | 70.1 |
| 2 | 78.3 | 4.4 | 80.8 | 91.9 | 94 | 28 | 90.8 | 84.1 | 78.8 | 73.3 | 69.1 |
| 3 | 58.5 | 3.1 | 59.7 | 67.6 | 69 | 18 | 67.4 | 63.1 | 58.7 | 55.3 | 53.1 |
| 4 | 59.9 | 3.1 | 61.1 | 68.9 | 70 | 18 | 68.4 | 64.5 | 60.1 | 56.7 | 54.1 |
| 5 | 61.5 | 3.2 | 62.8 | 71.0 | 73 | 20 | 70.1 | 66.4 | 61.8 | 58.1 | 55.3 |
| 6 | 62.9 | 3.4 | 64.3 | 73.0 | 73 | 19 | 72.0 | 67.9 | 63.3 | 59.2 | 56.2 |
| 7 | 66.3 | 3.6 | 67.9 | 77.2 | 77 | 20 | 75.7 | 71.8 | 66.8 | 62.3 | 59.1 |
| 8 | 66.2 | 5.7 | 70.1 | 84.8 | 84 | 33 | 81.4 | 73.4 | 67.0 | 58.9 | 54.0 |
| 9 | 68.4 | 5.5 | 71.9 | 85.8 | 85 | 32 | 82.7 | 75.2 | 69.3 | 61.4 | 56.0 |
| 10 | 69.8 | 5.1 | 72.7 | 85.7 | 85 | 31 | 83.2 | 76.0 | 70.7 | 63.2 | 58.1 |
| 11 | 70.1 | 4.7 | 72.7 | 84.8 | 85 | 31 | 82.6 | 76.1 | 70.8 | 64.2 | 58.8 |
| 12 | 72.0 | 4.4 | 74.1 | 85.3 | 86 | 29 | 83.5 | 77.5 | 72.6 | 67.0 | 61.4 |
| 13 | 76.0 | 5.3 | 79.2 | 92.8 | 93 | 35 | 89.7 | 82.7 | 76.8 | 69.8 | 62.3 |
| 14 | 77.7 | 4.8 | 80.4 | 92.6 | 95 | 34 | 90.4 | 83.7 | 78.3 | 72.3 | 66.0 |

N= 4730

TABLE NO. 109
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.

BARRIER HGT 16 FT ; REFLECTIVE ; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

4- 28- 76 1007 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 79.3 | 5.1 | 83.0 | 96.0 | 102 | 37 | 93.7 | 86.5 | 79.3 | 73.6 | 69.2 |
| 2 | 77.4 | 5.1 | 81.2 | 94.3 | 100 | 37 | 91.4 | 84.6 | 77.5 | 71.8 | 67.0 |
| 3 | 60.7 | 3.0 | 61.9 | 69.5 | 74 | 21 | 69.7 | 65.0 | 60.9 | 57.5 | 55.3 |
| 4 | 61.5 | 2.9 | 62.6 | 70.0 | 74 | 20 | 69.3 | 66.0 | 61.8 | 58.3 | 56.2 |
| 5 | 62.6 | 3.1 | 63.9 | 71.8 | 76 | 21 | 71.0 | 67.4 | 63.0 | 59.3 | 57.1 |
| 6 | 63.5 | 3.3 | 64.9 | 73.4 | 76 | 21 | 72.4 | 68.6 | 63.7 | 60.0 | 57.6 |
| 7 | 66.0 | 3.7 | 67.7 | 77.2 | 81 | 24 | 75.6 | 71.7 | 66.1 | 61.9 | 59.5 |
| 8 | 68.5 | 5.3 | 72.4 | 85.9 | 90 | 34 | 82.8 | 76.4 | 68.3 | 63.0 | 58.2 |
| 9 | 71.2 | 4.9 | 74.6 | 87.3 | 92 | 35 | 84.0 | 78.6 | 71.1 | 66.1 | 60.7 |
| 10 | 72.7 | 4.7 | 75.8 | 88.0 | 93 | 35 | 85.0 | 79.6 | 72.7 | 67.6 | 62.4 |
| 11 | 72.9 | 4.5 | 75.9 | 87.5 | 93 | 33 | 84.8 | 79.8 | 73.0 | 68.2 | 63.5 |
| 12 | 74.4 | 4.4 | 77.1 | 88.4 | 95 | 33 | 85.9 | 81.0 | 74.4 | 69.8 | 65.6 |
| 13 | 75.7 | 5.4 | 80.0 | 93.8 | 100 | 38 | 90.4 | 83.1 | 75.9 | 69.7 | 64.4 |
| 14 | 77.3 | 4.8 | 80.9 | 93.3 | 100 | 41 | 91.0 | 84.3 | 77.3 | 72.2 | 68.1 |

N= 4780

4- 28- 76 1027 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 80.2 | 4.7 | 83.5 | 95.6 | 101 | 33 | 94.2 | 87.2 | 79.9 | 75.2 | 71.9 |
| 2 | 78.2 | 5.0 | 81.9 | 94.8 | 99 | 34 | 92.4 | 85.7 | 78.2 | 72.9 | 68.4 |
| 3 | 61.1 | 2.9 | 62.2 | 69.6 | 75 | 21 | 69.5 | 65.5 | 61.2 | 58.1 | 56.1 |
| 4 | 62.1 | 3.0 | 63.3 | 71.1 | 74 | 19 | 70.6 | 66.9 | 62.2 | 58.9 | 57.1 |
| 5 | 63.5 | 3.1 | 64.8 | 72.8 | 77 | 20 | 72.4 | 68.3 | 63.7 | 60.2 | 58.2 |
| 6 | 64.5 | 3.3 | 65.8 | 74.2 | 79 | 22 | 73.4 | 69.5 | 64.7 | 60.9 | 59.0 |
| 7 | 66.8 | 3.5 | 68.3 | 77.2 | 80 | 21 | 76.2 | 72.0 | 67.1 | 62.9 | 60.7 |
| 8 | 70.1 | 5.1 | 73.7 | 86.8 | 89 | 31 | 84.3 | 77.6 | 70.2 | 64.4 | 61.0 |
| 9 | 72.6 | 4.7 | 75.6 | 87.5 | 91 | 29 | 85.1 | 79.4 | 72.8 | 67.5 | 63.5 |
| 10 | 73.8 | 4.5 | 76.6 | 88.2 | 91 | 28 | 86.3 | 80.5 | 74.0 | 68.8 | 65.4 |
| 11 | 73.9 | 4.3 | 76.4 | 87.5 | 91 | 28 | 85.7 | 80.3 | 74.1 | 69.1 | 66.2 |
| 12 | 75.3 | 4.2 | 77.7 | 88.4 | 92 | 26 | 86.7 | 81.5 | 75.5 | 70.7 | 68.0 |
| 13 | 76.7 | 5.3 | 80.8 | 94.3 | 99 | 36 | 91.6 | 84.3 | 76.8 | 70.9 | 66.1 |
| 14 | 78.2 | 4.8 | 81.6 | 93.8 | 99 | 43 | 91.9 | 85.2 | 78.2 | 73.1 | 69.3 |

N= 4780

TABLE NO. 110
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.

BARRIER HGT 16 FT ; REFLECTIVE ; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

4- 28- 76 1112 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.6 | 4.8 | 81.1 | 93.5 | 99 | 36 | 92.5 | 83.9 | 77.9 | 72.1 | 68.0 |
| 2 | 76.1 | 4.8 | 79.5 | 91.8 | 96 | 36 | 91.3 | 82.0 | 76.6 | 70.6 | 65.1 |
| 3 | 57.7 | 2.9 | 58.9 | 66.3 | 69 | 19 | 66.6 | 62.4 | 57.7 | 55.0 | 52.4 |
| 4 | 58.6 | 3.0 | 59.9 | 67.7 | 71 | 20 | 68.1 | 63.4 | 58.6 | 55.8 | 53.4 |
| 5 | 59.6 | 3.1 | 61.0 | 69.1 | 73 | 21 | 69.1 | 64.6 | 59.6 | 56.7 | 54.1 |
| 6 | 60.2 | 3.3 | 61.7 | 70.2 | 74 | 22 | 70.1 | 65.4 | 60.1 | 57.2 | 54.6 |
| 7 | 61.6 | 3.4 | 63.2 | 72.0 | 74 | 21 | 71.7 | 67.0 | 61.5 | 58.3 | 55.7 |
| 8 | 61.8 | 4.9 | 66.0 | 78.6 | 84 | 34 | 77.6 | 68.7 | 61.4 | 57.0 | 53.7 |
| 9 | 65.8 | 5.3 | 70.0 | 83.6 | 87 | 33 | 81.7 | 73.2 | 65.9 | 59.9 | 56.2 |
| 10 | 68.1 | 5.0 | 71.6 | 84.4 | 87 | 32 | 82.9 | 74.8 | 68.2 | 62.3 | 58.3 |
| 11 | 68.9 | 4.7 | 72.0 | 84.0 | 86 | 30 | 82.8 | 75.4 | 69.0 | 63.6 | 59.9 |
| 12 | 70.7 | 4.5 | 73.6 | 85.2 | 89 | 30 | 84.2 | 76.9 | 70.8 | 65.7 | 62.1 |
| 13 | 73.9 | 5.9 | 78.8 | 93.9 | 97 | 38 | 91.0 | 81.3 | 74.5 | 66.6 | 61.7 |
| 14 | 75.6 | 5.2 | 79.5 | 92.9 | 97 | 42 | 91.4 | 82.5 | 76.1 | 69.5 | 64.7 |

N= 4785

4- 28- 76 1132 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 79.2 | 5.0 | 82.8 | 95.5 | 103 | 37 | 92.2 | 86.6 | 79.4 | 73.4 | 69.5 |
| 2 | 77.3 | 4.9 | 80.7 | 93.4 | 99 | 34 | 90.5 | 84.8 | 77.4 | 71.7 | 68.1 |
| 3 | 59.9 | 2.6 | 60.9 | 67.4 | 73 | 19 | 67.8 | 63.7 | 60.2 | 57.3 | 55.5 |
| 4 | 60.8 | 2.7 | 61.8 | 68.6 | 74 | 20 | 68.8 | 64.7 | 61.1 | 58.2 | 56.4 |
| 5 | 61.7 | 2.6 | 62.7 | 69.4 | 75 | 19 | 69.5 | 65.6 | 62.0 | 59.1 | 57.3 |
| 6 | 62.2 | 2.6 | 63.1 | 69.7 | 75 | 20 | 69.5 | 66.0 | 62.5 | 59.5 | 57.9 |
| 7 | 63.5 | 2.6 | 64.5 | 71.2 | 78 | 21 | 70.8 | 67.4 | 63.9 | 60.7 | 59.1 |
| 8 | 65.2 | 4.2 | 67.9 | 78.8 | 85 | 29 | 77.8 | 71.2 | 65.1 | 60.6 | 58.2 |
| 9 | 68.6 | 4.6 | 71.4 | 83.0 | 86 | 28 | 81.0 | 75.0 | 68.6 | 63.6 | 60.2 |
| 10 | 70.3 | 4.4 | 72.8 | 83.9 | 87 | 28 | 82.1 | 76.5 | 70.5 | 65.5 | 62.0 |
| 11 | 70.8 | 4.2 | 73.0 | 83.8 | 87 | 27 | 82.0 | 76.6 | 71.3 | 66.1 | 62.5 |
| 12 | 72.3 | 4.0 | 74.4 | 84.8 | 89 | 28 | 83.0 | 78.0 | 72.8 | 67.7 | 64.3 |
| 13 | 75.9 | 5.4 | 80.0 | 93.8 | 98 | 36 | 90.6 | 84.0 | 75.9 | 69.9 | 65.2 |
| 14 | 77.2 | 4.9 | 80.7 | 93.1 | 99 | 40 | 91.0 | 84.5 | 77.1 | 72.1 | 67.9 |

N= 4780

TABLE NO. 111
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.

BARRIER HGT 16 FT ; REFLECTIVE ; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

4- 28- 76 1235 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.4 | 4.8 | 80.5 | 92.7 | 94 | 29 | 91.1 | 83.8 | 77.6 | 72.1 | 68.2 |
| 2 | 76.0 | 4.7 | 78.9 | 91.1 | 93 | 31 | 89.1 | 82.4 | 76.2 | 70.6 | 65.8 |
| 3 | 57.8 | 2.3 | 58.5 | 64.4 | 69 | 17 | 64.6 | 61.4 | 58.1 | 55.4 | 54.0 |
| 4 | 58.5 | 2.2 | 59.1 | 64.6 | 66 | 13 | 64.5 | 61.9 | 58.8 | 56.3 | 54.6 |
| 5 | 59.2 | 2.2 | 59.7 | 65.4 | 67 | 14 | 65.3 | 62.7 | 59.5 | 57.0 | 55.2 |
| 6 | 59.5 | 2.3 | 60.1 | 65.9 | 70 | 16 | 65.9 | 63.0 | 59.8 | 57.2 | 55.4 |
| 7 | 60.0 | 2.3 | 60.7 | 66.5 | 71 | 17 | 66.3 | 63.6 | 60.4 | 57.6 | 55.9 |
| 8 | 60.7 | 3.6 | 62.4 | 71.6 | 73 | 20 | 71.1 | 66.0 | 61.2 | 56.7 | 54.2 |
| 9 | 62.7 | 3.8 | 64.4 | 74.2 | 76 | 24 | 73.0 | 68.1 | 63.1 | 58.3 | 55.2 |
| 10 | 64.4 | 3.9 | 66.2 | 76.0 | 77 | 23 | 74.7 | 69.8 | 64.9 | 60.0 | 56.3 |
| 11 | 65.3 | 3.9 | 67.1 | 77.1 | 78 | 24 | 75.0 | 70.8 | 65.9 | 60.8 | 56.7 |
| 12 | 67.0 | 3.9 | 68.7 | 78.6 | 79 | 23 | 76.5 | 72.3 | 67.6 | 62.4 | 58.2 |
| 13 | 73.6 | 5.7 | 77.4 | 92.0 | 93 | 34 | 88.0 | 81.2 | 74.4 | 66.5 | 61.1 |
| 14 | 76.0 | 5.0 | 79.0 | 91.9 | 94 | 36 | 89.1 | 82.7 | 76.6 | 69.8 | 64.3 |

N= 4780

4- 28- 76 1255 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 79.5 | 4.9 | 82.5 | 95.1 | 96 | 30 | 92.4 | 86.5 | 79.9 | 73.7 | 69.5 |
| 2 | 77.5 | 4.7 | 80.2 | 92.2 | 93 | 29 | 89.6 | 83.9 | 78.1 | 71.8 | 67.9 |
| 3 | 59.4 | 3.1 | 60.5 | 68.4 | 70 | 19 | 67.7 | 63.8 | 60.0 | 55.8 | 53.8 |
| 4 | 60.2 | 3.0 | 61.2 | 68.8 | 70 | 19 | 67.8 | 64.4 | 60.8 | 56.6 | 54.4 |
| 5 | 61.2 | 3.1 | 62.3 | 70.2 | 72 | 19 | 69.5 | 65.5 | 61.7 | 57.5 | 55.3 |
| 6 | 61.4 | 2.9 | 62.4 | 70.0 | 71 | 17 | 69.2 | 65.7 | 62.0 | 57.8 | 55.7 |
| 7 | 62.3 | 3.3 | 66.9 | 75.5 | 101 | 47 | 71.8 | 66.8 | 62.8 | 58.3 | 56.1 |
| 8 | 63.0 | 3.5 | 64.3 | 73.2 | 73 | 20 | 70.7 | 68.0 | 63.5 | 58.7 | 55.8 |
| 9 | 64.8 | 3.6 | 66.1 | 75.3 | 74 | 21 | 72.4 | 69.9 | 65.3 | 60.5 | 57.2 |
| 10 | 66.5 | 3.7 | 67.9 | 77.3 | 75 | 20 | 74.1 | 71.7 | 67.1 | 62.2 | 58.3 |
| 11 | 67.1 | 3.7 | 68.6 | 78.1 | 77 | 22 | 75.0 | 72.4 | 67.8 | 62.8 | 58.7 |
| 12 | 68.6 | 3.7 | 70.0 | 79.4 | 78 | 21 | 76.3 | 73.6 | 69.3 | 64.2 | 59.9 |
| 13 | 75.5 | 5.1 | 78.5 | 91.7 | 91 | 33 | 87.9 | 82.5 | 76.3 | 69.3 | 64.1 |
| 14 | 77.6 | 4.6 | 80.1 | 91.8 | 91 | 29 | 89.2 | 83.9 | 78.1 | 72.4 | 66.8 |

N= 4780

TABLE NO. 112
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.

BARRIER HGT 16 FT ; REFLECTIVE ; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

4- 29- 76 835 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 81.3 | 4.3 | 83.8 | 94.8 | 96 | 26 | 93.2 | 88.0 | 81.2 | 76.8 | 73.8 |
| 2 | 80.0 | 4.3 | 82.5 | 93.5 | 95 | 27 | 92.0 | 86.7 | 79.9 | 75.5 | 71.7 |
| 3 | 60.0 | 2.2 | 60.6 | 66.3 | 70 | 16 | 66.6 | 63.4 | 60.3 | 57.7 | 56.1 |
| 4 | 60.2 | 2.2 | 60.8 | 66.5 | 69 | 15 | 66.7 | 63.7 | 60.5 | 57.9 | 56.3 |
| 5 | 61.4 | 2.2 | 62.0 | 67.7 | 70 | 14 | 67.6 | 64.9 | 61.6 | 59.1 | 57.5 |
| 6 | 61.4 | 2.3 | 62.1 | 67.9 | 69 | 14 | 67.6 | 65.1 | 61.7 | 59.2 | 57.5 |
| 7 | 62.0 | 2.3 | 62.7 | 68.5 | 70 | 14 | 68.0 | 65.8 | 62.3 | 59.8 | 58.1 |
| 8 | 64.7 | 3.6 | 66.2 | 75.4 | 75 | 19 | 73.3 | 70.2 | 64.9 | 60.7 | 58.1 |
| 9 | 66.9 | 3.6 | 68.4 | 77.5 | 78 | 21 | 74.9 | 72.4 | 67.2 | 63.0 | 59.9 |
| 10 | 68.8 | 3.5 | 70.2 | 79.2 | 80 | 22 | 76.8 | 74.0 | 69.1 | 64.9 | 61.3 |
| 11 | 69.9 | 3.5 | 71.3 | 80.2 | 81 | 22 | 77.7 | 75.1 | 70.3 | 66.0 | 62.5 |
| 12 | 71.0 | 3.4 | 72.3 | 81.1 | 83 | 22 | 78.6 | 76.0 | 71.4 | 67.0 | 63.7 |
| 13 | 78.6 | 4.6 | 81.5 | 93.4 | 94 | 29 | 91.4 | 85.6 | 78.8 | 73.5 | 69.4 |
| 14 | 80.0 | 4.3 | 82.5 | 93.5 | 94 | 26 | 92.0 | 86.5 | 80.1 | 75.4 | 72.0 |

N= 4785

4- 29- 76 855 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 80.2 | 4.4 | 83.0 | 94.4 | 97 | 31 | 93.6 | 86.5 | 80.3 | 75.7 | 70.7 |
| 2 | 79.2 | 4.3 | 81.8 | 92.8 | 95 | 29 | 92.0 | 85.4 | 79.3 | 74.8 | 70.2 |
| 3 | 60.0 | 2.2 | 60.6 | 66.2 | 71 | 17 | 66.8 | 63.4 | 60.4 | 58.0 | 56.2 |
| 4 | 60.4 | 2.1 | 60.9 | 66.2 | 69 | 14 | 66.3 | 63.6 | 60.7 | 58.3 | 56.6 |
| 5 | 61.4 | 2.0 | 61.9 | 67.0 | 69 | 13 | 67.1 | 64.6 | 61.7 | 59.4 | 57.8 |
| 6 | 61.4 | 2.0 | 61.8 | 66.9 | 69 | 14 | 66.9 | 64.5 | 61.7 | 59.3 | 57.4 |
| 7 | 62.0 | 2.0 | 62.4 | 67.5 | 70 | 14 | 67.3 | 65.0 | 62.4 | 60.0 | 57.9 |
| 8 | 63.0 | 3.6 | 64.7 | 74.0 | 75 | 21 | 73.4 | 68.3 | 63.1 | 59.0 | 56.4 |
| 9 | 65.2 | 3.8 | 66.9 | 76.5 | 79 | 23 | 74.9 | 70.7 | 65.5 | 61.0 | 57.5 |
| 10 | 67.2 | 3.8 | 68.8 | 78.4 | 79 | 23 | 76.9 | 72.6 | 67.6 | 62.8 | 59.0 |
| 11 | 68.5 | 3.6 | 70.0 | 79.3 | 79 | 21 | 77.6 | 73.7 | 68.9 | 64.3 | 60.2 |
| 12 | 69.7 | 3.6 | 71.2 | 80.5 | 80 | 21 | 78.8 | 74.9 | 70.0 | 65.7 | 61.4 |
| 13 | 77.2 | 5.0 | 80.5 | 93.3 | 96 | 35 | 91.6 | 84.0 | 77.7 | 71.5 | 66.1 |
| 14 | 78.8 | 4.6 | 81.6 | 93.5 | 96 | 32 | 92.0 | 85.2 | 79.2 | 73.6 | 68.9 |

N= 4780

TABLE NO. 113
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.

BARRIER HGT 16 FT ; REFLECTIVE ; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

4- 29- 76 1005 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 80.0 | 4.8 | 83.3 | 95.7 | 101 | 33 | 93.2 | 87.2 | 79.7 | 75.0 | 71.1 |
| 2 | 78.9 | 4.8 | 82.3 | 94.6 | 101 | 35 | 91.7 | 86.2 | 78.7 | 73.9 | 69.5 |
| 3 | 61.0 | 3.6 | 62.8 | 72.1 | 79 | 27 | 71.5 | 66.2 | 61.1 | 57.0 | 54.7 |
| 4 | 61.8 | 3.6 | 63.6 | 72.8 | 76 | 22 | 72.1 | 67.0 | 62.0 | 57.8 | 55.8 |
| 5 | 63.8 | 3.9 | 65.8 | 75.7 | 80 | 24 | 75.0 | 69.3 | 64.0 | 59.5 | 57.4 |
| 6 | 65.5 | 4.0 | 67.7 | 77.9 | 81 | 24 | 77.0 | 71.1 | 65.7 | 61.1 | 58.6 |
| 7 | 68.8 | 4.0 | 70.9 | 81.1 | 85 | 26 | 80.2 | 74.3 | 69.1 | 64.2 | 61.3 |
| 8 | 67.2 | 5.5 | 71.5 | 85.5 | 91 | 37 | 82.0 | 75.3 | 67.1 | 61.2 | 56.8 |
| 9 | 68.8 | 5.4 | 73.1 | 87.0 | 93 | 38 | 83.1 | 76.7 | 68.9 | 62.9 | 57.9 |
| 10 | 70.2 | 5.2 | 74.0 | 87.3 | 93 | 38 | 83.8 | 77.7 | 70.3 | 64.4 | 59.3 |
| 11 | 70.6 | 5.0 | 74.1 | 86.8 | 92 | 36 | 83.6 | 77.8 | 70.8 | 65.0 | 60.6 |
| 12 | 72.6 | 4.6 | 75.4 | 87.1 | 91 | 32 | 84.6 | 79.2 | 72.8 | 67.5 | 63.3 |
| 13 | 77.3 | 5.1 | 81.0 | 94.1 | 99 | 37 | 91.2 | 84.6 | 77.3 | 72.0 | 65.2 |
| 14 | 78.3 | 4.9 | 81.7 | 94.3 | 98 | 34 | 91.7 | 85.3 | 78.4 | 73.1 | 67.0 |

N= 4780

4- 29- 76 1025 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 78.6 | 4.8 | 82.0 | 94.3 | 101 | 36 | 92.7 | 85.2 | 78.7 | 73.4 | 69.3 |
| 2 | 77.6 | 4.8 | 80.9 | 93.2 | 100 | 40 | 91.6 | 84.1 | 77.8 | 72.4 | 67.2 |
| 3 | 59.8 | 3.5 | 61.5 | 70.5 | 77 | 26 | 69.4 | 64.9 | 60.2 | 55.8 | 53.3 |
| 4 | 60.6 | 3.6 | 62.3 | 71.5 | 74 | 23 | 70.2 | 65.8 | 61.1 | 56.2 | 54.1 |
| 5 | 62.4 | 3.6 | 64.1 | 73.4 | 79 | 25 | 71.6 | 67.7 | 62.9 | 57.9 | 56.0 |
| 6 | 63.9 | 3.9 | 65.8 | 75.7 | 81 | 27 | 73.4 | 69.7 | 64.2 | 59.3 | 56.9 |
| 7 | 67.4 | 4.2 | 69.4 | 80.2 | 82 | 26 | 77.1 | 73.7 | 67.5 | 62.5 | 59.0 |
| 8 | 66.3 | 5.6 | 70.6 | 84.9 | 90 | 41 | 81.9 | 73.6 | 66.8 | 59.8 | 53.8 |
| 9 | 67.7 | 5.6 | 72.1 | 86.5 | 92 | 42 | 83.0 | 74.9 | 68.3 | 61.2 | 54.8 |
| 10 | 68.9 | 5.4 | 72.8 | 86.6 | 91 | 41 | 83.7 | 75.9 | 69.4 | 62.9 | 55.9 |
| 11 | 69.2 | 5.1 | 72.7 | 85.7 | 90 | 40 | 82.8 | 76.1 | 69.7 | 63.6 | 56.4 |
| 12 | 71.4 | 4.7 | 74.3 | 86.2 | 92 | 39 | 83.6 | 77.8 | 71.8 | 66.3 | 61.2 |
| 13 | 75.8 | 5.4 | 79.8 | 93.7 | 101 | 44 | 90.0 | 83.0 | 76.3 | 69.9 | 61.2 |
| 14 | 77.1 | 5.1 | 80.7 | 93.8 | 100 | 41 | 90.7 | 83.9 | 77.4 | 71.4 | 64.7 |

N= 4730

TABLE NO. 114
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.

BARRIER HGT 16 FT ; REFLECTIVE ; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

4- 29- 76 1055 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 79.1 | 4.6 | 81.9 | 93.6 | 96 | 30 | 91.8 | 85.7 | 79.3 | 73.9 | 69.9 |
| 2 | 77.6 | 4.6 | 80.3 | 92.1 | 95 | 31 | 90.2 | 84.0 | 78.0 | 72.3 | 67.8 |
| 3 | 59.6 | 3.4 | 60.9 | 69.7 | 72 | 23 | 67.7 | 64.5 | 60.2 | 55.4 | 52.4 |
| 4 | 60.2 | 3.5 | 61.6 | 70.6 | 75 | 24 | 68.5 | 65.2 | 60.8 | 55.9 | 53.1 |
| 5 | 61.8 | 3.6 | 63.3 | 72.5 | 74 | 22 | 70.2 | 67.2 | 62.2 | 57.7 | 54.6 |
| 6 | 63.1 | 3.8 | 64.7 | 74.3 | 74 | 21 | 71.9 | 68.8 | 63.4 | 58.8 | 55.5 |
| 7 | 66.4 | 4.0 | 68.2 | 78.5 | 77 | 22 | 75.9 | 72.5 | 66.6 | 61.8 | 58.1 |
| 8 | 69.1 | 5.3 | 72.3 | 85.9 | 85 | 30 | 82.1 | 76.3 | 69.8 | 62.4 | 57.5 |
| 9 | 71.6 | 4.9 | 74.2 | 86.6 | 87 | 29 | 83.3 | 78.1 | 72.3 | 65.6 | 61.0 |
| 10 | 73.1 | 4.7 | 75.6 | 87.6 | 88 | 28 | 84.8 | 79.5 | 73.8 | 67.5 | 62.9 |
| 11 | 73.3 | 4.4 | 75.5 | 86.8 | 88 | 29 | 84.0 | 79.3 | 73.9 | 68.1 | 63.5 |
| 12 | 74.7 | 4.1 | 76.6 | 87.2 | 87 | 24 | 85.3 | 80.3 | 75.3 | 69.7 | 65.8 |
| 13 | 75.9 | 5.3 | 79.3 | 92.9 | 93 | 31 | 89.6 | 83.0 | 76.6 | 69.4 | 64.4 |
| 14 | 77.3 | 4.8 | 80.1 | 92.4 | 94 | 29 | 89.9 | 83.7 | 77.8 | 71.6 | 67.7 |

N= 4780

4- 29- 76 1115 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 79.2 | 4.7 | 82.3 | 94.4 | 97 | 30 | 92.9 | 86.1 | 79.2 | 74.0 | 70.0 |
| 2 | 78.2 | 4.7 | 81.3 | 93.3 | 96 | 32 | 91.8 | 84.9 | 78.3 | 73.2 | 68.5 |
| 3 | 60.4 | 3.6 | 61.9 | 71.1 | 72 | 20 | 69.4 | 66.0 | 60.6 | 56.4 | 54.2 |
| 4 | 61.3 | 3.5 | 62.7 | 71.6 | 71 | 18 | 69.3 | 66.7 | 61.7 | 57.3 | 54.6 |
| 5 | 63.2 | 3.5 | 64.6 | 73.6 | 73 | 19 | 71.3 | 68.4 | 63.8 | 59.1 | 56.2 |
| 6 | 64.8 | 3.7 | 66.3 | 75.7 | 75 | 20 | 73.5 | 70.0 | 65.4 | 60.4 | 57.2 |
| 7 | 68.4 | 3.9 | 70.1 | 80.2 | 81 | 23 | 77.6 | 74.0 | 69.0 | 63.6 | 60.1 |
| 8 | 69.3 | 5.5 | 72.8 | 86.9 | 87 | 33 | 83.0 | 76.9 | 69.7 | 62.5 | 57.5 |
| 9 | 71.9 | 5.0 | 74.8 | 87.5 | 88 | 30 | 84.2 | 78.7 | 72.2 | 66.1 | 61.1 |
| 10 | 73.4 | 4.8 | 76.2 | 88.5 | 87 | 27 | 85.5 | 80.2 | 73.7 | 67.7 | 63.4 |
| 11 | 73.6 | 4.7 | 76.1 | 88.1 | 87 | 26 | 84.9 | 80.2 | 73.9 | 68.1 | 64.0 |
| 12 | 75.1 | 4.5 | 77.5 | 89.1 | 88 | 25 | 85.9 | 81.5 | 75.5 | 69.7 | 65.8 |
| 13 | 76.4 | 5.5 | 80.3 | 94.4 | 96 | 34 | 91.5 | 83.8 | 76.7 | 69.9 | 65.1 |
| 14 | 77.8 | 5.1 | 81.2 | 94.2 | 96 | 31 | 91.8 | 84.8 | 78.2 | 71.8 | 67.5 |

N= 4780

TABLE NO. 115
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.

BARRIER HGT 16 FT ; REFLECTIVE ; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

4- 29- 76 1215 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 79.0 | 4.6 | 81.8 | 93.6 | 97 | 31 | 91.9 | 85.2 | 79.3 | 73.7 | 69.2 |
| 2 | 77.6 | 4.5 | 80.2 | 91.6 | 94 | 30 | 90.2 | 83.7 | 78.0 | 72.5 | 68.3 |
| 3 | 59.5 | 3.3 | 60.9 | 69.2 | 72 | 21 | 68.3 | 64.1 | 59.9 | 55.8 | 53.2 |
| 4 | 60.2 | 3.3 | 61.6 | 70.2 | 73 | 21 | 69.0 | 65.1 | 60.6 | 56.4 | 53.9 |
| 5 | 62.0 | 3.4 | 63.3 | 72.0 | 73 | 19 | 70.8 | 66.8 | 62.5 | 58.0 | 55.4 |
| 6 | 63.2 | 3.5 | 64.6 | 73.4 | 74 | 20 | 71.9 | 68.2 | 63.6 | 59.1 | 56.6 |
| 7 | 65.3 | 3.5 | 66.7 | 75.8 | 77 | 21 | 74.0 | 70.4 | 65.8 | 61.1 | 58.4 |
| 8 | 64.9 | 4.3 | 67.2 | 78.1 | 79 | 26 | 76.6 | 71.3 | 65.0 | 60.3 | 55.6 |
| 9 | 69.4 | 4.3 | 71.6 | 82.6 | 82 | 27 | 80.3 | 75.7 | 69.5 | 64.7 | 59.3 |
| 10 | 71.1 | 4.0 | 72.9 | 83.1 | 82 | 24 | 80.9 | 76.9 | 71.3 | 66.7 | 61.8 |
| 11 | 71.2 | 3.9 | 72.9 | 82.9 | 83 | 24 | 80.8 | 76.9 | 71.4 | 66.9 | 62.3 |
| 12 | 72.3 | 3.7 | 73.9 | 83.5 | 85 | 24 | 81.7 | 77.8 | 72.6 | 68.1 | 64.0 |
| 13 | 76.1 | 4.6 | 79.0 | 90.8 | 93 | 29 | 89.5 | 82.1 | 76.4 | 70.9 | 66.7 |
| 14 | 77.5 | 4.3 | 80.0 | 91.0 | 93 | 26 | 90.2 | 83.6 | 77.7 | 72.8 | 69.4 |

N= 4785

4- 29- 76 1235 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 78.2 | 4.3 | 81.1 | 92.2 | 100 | 33 | 91.2 | 84.0 | 78.5 | 73.4 | 70.0 |
| 2 | 76.6 | 4.5 | 79.5 | 91.1 | 98 | 36 | 89.6 | 82.5 | 76.9 | 71.6 | 66.7 |
| 3 | 57.5 | 2.6 | 58.4 | 65.2 | 71 | 20 | 65.9 | 61.3 | 57.7 | 54.9 | 53.0 |
| 4 | 58.2 | 2.8 | 59.3 | 66.4 | 73 | 21 | 67.1 | 62.2 | 58.5 | 55.4 | 53.3 |
| 5 | 59.8 | 2.8 | 60.9 | 68.2 | 74 | 22 | 68.7 | 63.8 | 60.1 | 57.0 | 54.6 |
| 6 | 60.4 | 3.1 | 61.7 | 69.6 | 74 | 22 | 69.7 | 65.0 | 60.7 | 57.3 | 54.4 |
| 7 | 62.2 | 3.4 | 63.7 | 72.3 | 77 | 23 | 71.5 | 67.3 | 62.4 | 58.7 | 55.3 |
| 8 | 63.2 | 4.2 | 66.3 | 77.2 | 90 | 35 | 76.6 | 69.3 | 63.0 | 58.9 | 56.5 |
| 9 | 67.6 | 4.3 | 70.3 | 81.3 | 90 | 32 | 80.0 | 73.7 | 67.7 | 63.0 | 59.8 |
| 10 | 69.8 | 4.0 | 72.0 | 82.3 | 89 | 29 | 81.2 | 75.4 | 70.0 | 65.4 | 62.4 |
| 11 | 70.1 | 3.8 | 72.1 | 81.9 | 87 | 26 | 80.8 | 75.6 | 70.4 | 65.9 | 63.0 |
| 12 | 71.4 | 3.6 | 73.2 | 82.5 | 88 | 26 | 81.6 | 76.5 | 71.7 | 67.4 | 64.6 |
| 13 | 75.3 | 4.5 | 78.5 | 89.9 | 99 | 37 | 89.1 | 81.0 | 75.7 | 70.3 | 66.2 |
| 14 | 77.0 | 4.1 | 79.6 | 90.2 | 97 | 31 | 89.7 | 82.5 | 77.2 | 72.8 | 68.7 |

N= 4780

TABLE NO. 116
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 14- 76 946 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.4 | 4.9 | 80.9 | 93.5 | 96 | 30 | 91.8 | 84.6 | 77.2 | 72.3 | 68.3 |
| 2 | 77.8 | 4.8 | 81.1 | 93.4 | 97 | 30 | 91.9 | 85.0 | 77.7 | 72.6 | 69.6 |
| 3 | 59.3 | 3.4 | 60.9 | 69.6 | 75 | 23 | 69.6 | 64.4 | 59.3 | 55.7 | 54.1 |
| 4 | 60.6 | 3.4 | 62.1 | 70.8 | 73 | 20 | 70.4 | 65.8 | 60.7 | 57.1 | 54.8 |
| 5 | 62.4 | 3.5 | 64.1 | 73.1 | 77 | 23 | 72.7 | 67.7 | 62.5 | 58.7 | 56.4 |
| 6 | 63.4 | 3.7 | 65.2 | 74.6 | 80 | 27 | 73.8 | 68.8 | 63.4 | 59.5 | 57.0 |
| 7 | 66.5 | 3.9 | 68.5 | 78.4 | 80 | 24 | 77.3 | 72.5 | 66.5 | 62.5 | 59.4 |
| 8 | 67.6 | 5.3 | 71.4 | 85.0 | 86 | 32 | 81.9 | 75.7 | 67.5 | 61.7 | 57.3 |
| 9 | 71.5 | 4.8 | 74.4 | 86.6 | 88 | 30 | 84.0 | 78.6 | 71.5 | 66.2 | 61.7 |
| 10 | 72.3 | 4.5 | 74.9 | 86.5 | 88 | 28 | 84.1 | 79.2 | 72.4 | 67.3 | 63.1 |
| 11 | 72.9 | 4.3 | 75.3 | 86.3 | 89 | 27 | 84.2 | 79.5 | 72.8 | 68.2 | 64.9 |
| 12 | 74.1 | 4.0 | 76.3 | 86.6 | 90 | 26 | 85.1 | 80.4 | 74.0 | 69.8 | 66.9 |
| 13 | 76.0 | 5.0 | 79.5 | 92.3 | 95 | 32 | 90.4 | 83.3 | 76.1 | 70.5 | 66.7 |
| 14 | 76.1 | 4.6 | 79.0 | 90.8 | 93 | 27 | 89.3 | 82.8 | 76.1 | 71.3 | 68.0 |

N= 4780

9- 14- 76 1009 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.9 | 5.4 | 79.6 | 93.4 | 94 | 33 | 90.8 | 83.6 | 76.2 | 69.7 | 64.0 |
| 2 | | | | N O | D A T A | | | | | | |
| 3 | 58.9 | 3.6 | 60.6 | 69.8 | 75 | 25 | 69.0 | 64.0 | 59.3 | 54.6 | 52.3 |
| 4 | 59.7 | 3.6 | 61.4 | 70.7 | 74 | 23 | 70.1 | 64.9 | 60.0 | 55.5 | 53.3 |
| 5 | 61.5 | 3.7 | 63.3 | 72.9 | 77 | 25 | 72.0 | 66.9 | 61.8 | 57.2 | 54.8 |
| 6 | 62.7 | 3.9 | 64.6 | 74.7 | 77 | 24 | 73.3 | 68.2 | 63.1 | 58.1 | 55.4 |
| 7 | 66.1 | 4.3 | 68.2 | 79.1 | 79 | 25 | 76.7 | 72.4 | 66.4 | 61.1 | 57.8 |
| 8 | 67.3 | 5.7 | 71.2 | 85.9 | 86 | 36 | 81.8 | 75.8 | 67.4 | 61.0 | 53.4 |
| 9 | 70.9 | 5.3 | 74.2 | 87.7 | 89 | 37 | 84.4 | 78.5 | 71.1 | 65.4 | 57.4 |
| 10 | 71.8 | 5.1 | 74.9 | 87.9 | 90 | 37 | 85.0 | 78.9 | 72.0 | 66.8 | 58.0 |
| 11 | 72.2 | 4.8 | 75.1 | 87.4 | 90 | 35 | 84.6 | 79.2 | 72.3 | 67.7 | 59.5 |
| 12 | 73.3 | 4.6 | 76.0 | 87.7 | 90 | 34 | 85.3 | 79.9 | 73.3 | 69.2 | 61.9 |
| 13 | 75.6 | 5.4 | 79.5 | 93.3 | 96 | 39 | 90.6 | 83.1 | 75.8 | 70.1 | 62.5 |
| 14 | 75.4 | 4.9 | 78.7 | 91.3 | 95 | 38 | 89.5 | 82.6 | 75.4 | 70.7 | 63.8 |

N= 4780

TABLE NO. 117
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 14- 76 1135 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.0 | 5.7 | 81.6 | 96.1 | 101 | 40 | 91.9 | 85.2 | 77.0 | 70.7 | 65.3 |
| 2 | 76.6 | 5.5 | 81.0 | 95.1 | 101 | 40 | 91.0 | 84.6 | 76.6 | 70.4 | 65.6 |
| 3 | 57.2 | 3.7 | 58.8 | 68.2 | 72 | 23 | 66.4 | 62.6 | 57.3 | 52.8 | 51.1 |
| 4 | 57.7 | 3.7 | 59.4 | 68.9 | 73 | 24 | 66.9 | 63.2 | 57.8 | 53.3 | 51.3 |
| 5 | 58.6 | 3.8 | 60.5 | 70.4 | 75 | 25 | 68.1 | 64.4 | 58.7 | 54.1 | 52.0 |
| 6 | 60.0 | 4.0 | 61.9 | 72.2 | 76 | 25 | 69.5 | 65.9 | 60.1 | 55.1 | 53.0 |
| 7 | 61.6 | 4.2 | 63.7 | 74.3 | 77 | 25 | 71.7 | 67.7 | 61.7 | 56.5 | 54.1 |
| 8 | 62.8 | 5.1 | 66.1 | 79.1 | 80 | 28 | 76.7 | 70.2 | 62.7 | 57.2 | 54.3 |
| 9 | 67.0 | 5.4 | 70.3 | 84.2 | 84 | 31 | 79.7 | 74.7 | 67.3 | 60.5 | 55.5 |
| 10 | 69.3 | 5.1 | 72.2 | 85.2 | 83 | 29 | 80.9 | 76.5 | 69.8 | 63.3 | 57.8 |
| 11 | 70.2 | 4.8 | 72.7 | 85.1 | 83 | 28 | 81.0 | 76.9 | 70.7 | 64.5 | 59.3 |
| 12 | 71.7 | 4.6 | 74.0 | 85.6 | 88 | 31 | 81.9 | 78.1 | 72.1 | 66.5 | 61.4 |
| 13 | 75.9 | 5.8 | 80.1 | 95.0 | 97 | 39 | 90.8 | 83.9 | 76.2 | 69.3 | 61.4 |
| 14 | 76.1 | 5.4 | 79.7 | 93.5 | 97 | 39 | 90.1 | 83.7 | 76.2 | 70.2 | 62.4 |

N= 4785

9- 14- 76 1155 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.1 | 5.7 | 81.3 | 95.8 | 99 | 38 | 93.1 | 84.3 | 76.1 | 70.0 | 65.5 |
| 2 | 75.8 | 5.5 | 80.8 | 95.0 | 100 | 38 | 92.3 | 83.9 | 75.7 | 70.1 | 65.7 |
| 3 | 56.1 | 3.9 | 58.4 | 68.3 | 72 | 24 | 68.1 | 61.8 | 56.0 | 52.2 | 50.3 |
| 4 | 57.0 | 4.1 | 59.5 | 70.0 | 75 | 26 | 69.6 | 62.9 | 57.0 | 52.7 | 50.9 |
| 5 | 57.9 | 4.2 | 60.5 | 71.1 | 76 | 26 | 70.4 | 63.9 | 58.1 | 53.4 | 51.6 |
| 6 | 58.8 | 4.2 | 61.4 | 72.1 | 75 | 25 | 71.2 | 64.9 | 58.9 | 54.2 | 52.3 |
| 7 | 61.0 | 4.3 | 63.6 | 74.7 | 79 | 27 | 73.6 | 67.1 | 61.0 | 56.1 | 54.0 |
| 8 | 61.3 | 5.3 | 66.1 | 79.8 | 85 | 33 | 77.4 | 70.0 | 60.0 | 56.5 | 54.6 |
| 9 | 65.2 | 5.8 | 69.9 | 84.8 | 86 | 32 | 81.0 | 74.4 | 64.4 | 58.9 | 56.0 |
| 10 | 67.5 | 5.6 | 71.7 | 86.0 | 87 | 33 | 82.2 | 76.1 | 67.0 | 61.4 | 57.2 |
| 11 | 68.3 | 5.4 | 72.1 | 86.0 | 87 | 32 | 82.2 | 76.6 | 67.9 | 62.5 | 57.7 |
| 12 | 69.9 | 5.2 | 73.4 | 86.8 | 88 | 31 | 83.6 | 77.8 | 69.5 | 64.4 | 59.5 |
| 13 | 74.2 | 6.1 | 79.9 | 95.5 | 98 | 39 | 91.7 | 83.2 | 74.3 | 67.5 | 62.3 |
| 14 | 74.6 | 5.6 | 79.5 | 93.7 | 99 | 37 | 91.1 | 82.9 | 74.4 | 68.8 | 64.3 |

N= 4780

TABLE NO. 118
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 14- 76 1257 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 74.8 | 4.9 | 78.1 | 90.7 | 94 | 34 | 89.2 | 81.1 | 75.3 | 69.0 | 64.5 |
| 2 | 75.0 | 4.6 | 78.0 | 89.9 | 94 | 30 | 88.5 | 81.2 | 75.3 | 69.6 | 66.3 |
| 3 | 54.8 | 2.8 | 55.8 | 63.1 | 65 | 16 | 63.1 | 59.0 | 55.1 | 51.8 | 50.3 |
| 4 | 55.7 | 3.2 | 57.0 | 65.3 | 67 | 19 | 64.4 | 60.6 | 56.1 | 52.1 | 50.3 |
| 5 | 56.5 | 3.4 | 57.8 | 66.4 | 68 | 19 | 65.2 | 61.6 | 56.9 | 52.7 | 50.7 |
| 6 | 56.3 | 3.4 | 57.7 | 66.4 | 67 | 19 | 64.8 | 61.4 | 56.9 | 52.4 | 50.1 |
| 7 | 58.1 | 3.5 | 59.5 | 68.4 | 70 | 21 | 66.8 | 63.2 | 58.7 | 54.1 | 51.7 |
| 8 | 56.9 | 3.9 | 59.6 | 69.6 | 76 | 27 | 71.7 | 62.1 | 56.8 | 53.1 | 51.0 |
| 9 | 59.1 | 4.3 | 62.0 | 72.9 | 79 | 30 | 73.6 | 65.1 | 59.2 | 54.5 | 52.0 |
| 10 | 61.4 | 4.4 | 64.2 | 75.5 | 79 | 28 | 75.1 | 67.6 | 61.6 | 56.3 | 53.1 |
| 11 | 63.0 | 4.5 | 65.7 | 77.1 | 79 | 28 | 76.0 | 69.1 | 63.4 | 57.9 | 54.2 |
| 12 | 65.4 | 4.4 | 67.8 | 79.1 | 82 | 29 | 77.6 | 71.4 | 66.0 | 60.2 | 55.9 |
| 13 | 73.8 | 5.6 | 77.8 | 92.0 | 96 | 38 | 89.2 | 80.3 | 74.7 | 66.9 | 60.0 |
| 14 | 74.0 | 5.2 | 77.4 | 90.8 | 95 | 37 | 88.3 | 80.4 | 74.7 | 68.0 | 60.5 |

N= 4780

9- 14- 76 1317 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.4 | 5.2 | 79.2 | 92.7 | 98 | 42 | 89.9 | 81.9 | 75.9 | 69.8 | 62.3 |
| 2 | 75.5 | 5.1 | 79.1 | 92.2 | 98 | 41 | 89.4 | 82.0 | 75.8 | 70.2 | 62.5 |
| 3 | 54.4 | 2.5 | 55.3 | 61.7 | 66 | 18 | 62.8 | 58.2 | 54.8 | 51.9 | 50.0 |
| 4 | 55.3 | 2.6 | 56.3 | 63.0 | 67 | 18 | 63.8 | 59.2 | 55.7 | 52.6 | 50.7 |
| 5 | 56.0 | 2.8 | 57.0 | 64.1 | 69 | 21 | 64.4 | 60.0 | 56.5 | 52.9 | 50.9 |
| 6 | 55.9 | 2.8 | 56.9 | 64.1 | 68 | 20 | 63.9 | 59.9 | 56.4 | 52.7 | 50.8 |
| 7 | 57.6 | 2.9 | 58.6 | 65.9 | 67 | 17 | 64.9 | 61.8 | 58.2 | 54.3 | 52.3 |
| 8 | 57.9 | 3.7 | 59.9 | 69.5 | 74 | 24 | 68.8 | 63.6 | 57.7 | 54.2 | 52.3 |
| 9 | 59.7 | 4.2 | 62.3 | 73.0 | 78 | 27 | 72.0 | 66.3 | 59.5 | 55.4 | 53.0 |
| 10 | 62.0 | 4.4 | 64.6 | 75.9 | 80 | 28 | 74.1 | 68.6 | 61.7 | 57.3 | 54.4 |
| 11 | 63.6 | 4.4 | 66.1 | 77.4 | 80 | 27 | 75.5 | 70.0 | 63.4 | 59.0 | 55.3 |
| 12 | 66.0 | 4.3 | 68.4 | 79.5 | 82 | 27 | 78.6 | 72.2 | 66.1 | 61.4 | 57.5 |
| 13 | 74.4 | 5.6 | 78.8 | 93.0 | 98 | 42 | 89.5 | 81.8 | 74.9 | 68.0 | 62.1 |
| 14 | 74.8 | 4.9 | 78.4 | 91.0 | 98 | 38 | 88.3 | 81.6 | 75.0 | 69.6 | 63.8 |

N= 4780

TABLE NO. 119
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 14- 76 1455 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.5 | 5.0 | 80.0 | 92.9 | 94 | 30 | 90.6 | 84.2 | 76.4 | 70.9 | 67.4 |
| 2 | 76.8 | 4.9 | 80.1 | 92.8 | 94 | 30 | 90.5 | 84.3 | 76.6 | 71.5 | 67.2 |
| 3 | 58.5 | 3.3 | 60.0 | 68.5 | 71 | 20 | 68.1 | 63.6 | 58.8 | 55.1 | 52.2 |
| 4 | 59.8 | 3.3 | 61.1 | 69.6 | 73 | 21 | 68.8 | 64.8 | 60.0 | 56.3 | 53.5 |
| 5 | 61.1 | 3.4 | 62.5 | 71.2 | 73 | 21 | 70.2 | 66.3 | 61.3 | 57.4 | 54.6 |
| 6 | 62.1 | 3.5 | 63.7 | 72.6 | 75 | 22 | 71.9 | 67.4 | 62.3 | 58.4 | 55.8 |
| 7 | 65.4 | 3.6 | 67.0 | 76.2 | 78 | 22 | 75.2 | 70.8 | 65.6 | 61.6 | 58.9 |
| 8 | 65.1 | 4.9 | 69.1 | 81.8 | 86 | 32 | 80.5 | 72.7 | 64.7 | 60.5 | 57.3 |
| 9 | 66.3 | 5.3 | 70.5 | 84.2 | 87 | 32 | 81.3 | 74.5 | 66.2 | 60.5 | 57.6 |
| 10 | 67.7 | 5.2 | 71.6 | 85.0 | 87 | 31 | 82.7 | 75.9 | 67.7 | 61.9 | 58.4 |
| 11 | 68.8 | 5.0 | 72.2 | 84.9 | 87 | 30 | 83.0 | 76.3 | 68.7 | 63.3 | 59.9 |
| 12 | 70.3 | 4.6 | 73.2 | 84.9 | 86 | 27 | 83.5 | 77.3 | 70.1 | 65.5 | 62.0 |
| 13 | 76.0 | 5.4 | 79.9 | 93.7 | 95 | 33 | 90.4 | 84.1 | 76.4 | 69.6 | 65.4 |
| 14 | 76.4 | 4.8 | 79.6 | 91.9 | 94 | 30 | 89.8 | 83.6 | 76.6 | 71.0 | 66.7 |

N= 4785

9- 14- 76 1515 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.9 | 4.3 | 79.6 | 90.6 | 96 | 32 | 89.8 | 82.8 | 77.0 | 72.4 | 67.5 |
| 2 | 77.1 | 4.2 | 79.7 | 90.5 | 94 | 31 | 89.8 | 82.9 | 77.3 | 72.7 | 68.0 |
| 3 | 59.2 | 3.1 | 60.4 | 68.3 | 70 | 18 | 67.8 | 64.0 | 59.2 | 56.0 | 54.2 |
| 4 | 60.4 | 3.0 | 61.5 | 69.2 | 73 | 19 | 68.4 | 64.9 | 60.4 | 57.3 | 55.5 |
| 5 | 61.4 | 3.0 | 62.6 | 70.3 | 74 | 19 | 69.6 | 66.1 | 61.5 | 58.3 | 56.5 |
| 6 | 62.8 | 3.1 | 64.0 | 71.9 | 76 | 20 | 71.0 | 67.6 | 63.1 | 59.6 | 57.9 |
| 7 | 66.1 | 3.2 | 67.4 | 75.6 | 77 | 20 | 74.6 | 70.9 | 66.4 | 62.6 | 60.5 |
| 8 | 65.6 | 4.3 | 68.6 | 79.6 | 83 | 27 | 79.8 | 71.8 | 65.5 | 61.4 | 58.6 |
| 9 | 66.8 | 4.5 | 69.8 | 81.3 | 84 | 27 | 80.4 | 73.1 | 66.9 | 61.8 | 58.8 |
| 10 | 67.9 | 4.4 | 70.6 | 81.9 | 85 | 28 | 80.9 | 74.1 | 68.1 | 63.0 | 59.2 |
| 11 | 69.4 | 4.1 | 71.8 | 82.1 | 85 | 27 | 81.5 | 75.1 | 69.6 | 65.0 | 61.7 |
| 12 | 70.8 | 3.7 | 72.7 | 82.1 | 85 | 25 | 81.6 | 76.1 | 71.0 | 67.0 | 63.7 |
| 13 | 76.3 | 4.6 | 79.1 | 90.8 | 91 | 31 | 89.7 | 82.2 | 76.8 | 71.2 | 65.5 |
| 14 | 76.4 | 4.1 | 78.6 | 89.2 | 91 | 27 | 88.3 | 81.9 | 76.8 | 71.9 | 67.0 |

N= 4780

TABLE NO. 120
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION E

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 15- 76 848 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.7 | 4.4 | 80.5 | 91.8 | 96 | 31 | 91.0 | 84.4 | 77.7 | 73.2 | 69.2 |
| 2 | 78.4 | 4.3 | 81.1 | 92.1 | 95 | 28 | 91.4 | 85.0 | 78.4 | 73.9 | 70.8 |
| 3 | 60.2 | 2.9 | 61.3 | 68.8 | 71 | 16 | 69.2 | 64.7 | 60.2 | 57.3 | 55.9 |
| 4 | 61.7 | 2.8 | 62.8 | 70.0 | 73 | 17 | 70.0 | 66.1 | 61.8 | 58.9 | 57.4 |
| 5 | 62.9 | 2.9 | 64.0 | 71.6 | 74 | 17 | 71.5 | 67.4 | 63.0 | 60.0 | 58.3 |
| 6 | 64.9 | 3.2 | 66.2 | 74.4 | 76 | 18 | 74.0 | 69.8 | 64.9 | 61.6 | 60.0 |
| 7 | 67.9 | 3.5 | 69.5 | 78.4 | 79 | 19 | 77.4 | 73.5 | 67.8 | 64.4 | 62.2 |
| 8 | 66.9 | 4.8 | 70.3 | 82.5 | 84 | 25 | 81.2 | 73.7 | 67.0 | 61.7 | 59.5 |
| 9 | 68.8 | 4.8 | 72.0 | 84.3 | 86 | 29 | 82.6 | 75.6 | 69.1 | 63.4 | 59.9 |
| 10 | 69.6 | 4.6 | 72.8 | 84.6 | 86 | 28 | 83.3 | 76.5 | 70.0 | 64.7 | 61.3 |
| 11 | 71.0 | 4.2 | 73.5 | 84.4 | 87 | 27 | 83.7 | 77.3 | 71.1 | 66.4 | 63.3 |
| 12 | 72.5 | 4.0 | 74.6 | 85.0 | 87 | 27 | 83.9 | 78.6 | 72.5 | 68.2 | 65.2 |
| 13 | 77.2 | 4.6 | 80.2 | 91.9 | 95 | 30 | 90.8 | 83.7 | 77.1 | 72.4 | 68.7 |

N= 4780

9- 15- 76 906 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.9 | 4.5 | 80.1 | 91.7 | 98 | 33 | 91.5 | 83.2 | 77.0 | 72.2 | 68.4 |
| 2 | 77.7 | 4.4 | 80.7 | 92.1 | 97 | 31 | 91.6 | 84.0 | 77.6 | 72.9 | 69.6 |
| 3 | 59.7 | 3.2 | 61.1 | 69.3 | 73 | 21 | 69.7 | 64.6 | 59.7 | 56.5 | 54.4 |
| 4 | 61.3 | 3.2 | 62.8 | 71.1 | 74 | 20 | 71.1 | 66.2 | 61.3 | 58.1 | 56.1 |
| 5 | 62.4 | 3.4 | 64.0 | 72.7 | 77 | 22 | 72.1 | 67.7 | 62.4 | 59.0 | 57.1 |
| 6 | 64.3 | 3.6 | 66.0 | 75.2 | 79 | 22 | 74.3 | 69.8 | 64.2 | 60.6 | 58.7 |
| 7 | 67.2 | 3.7 | 69.1 | 78.5 | 83 | 24 | 77.4 | 73.0 | 67.1 | 63.5 | 61.3 |
| 8 | 65.8 | 4.8 | 69.5 | 81.8 | 87 | 31 | 80.5 | 72.6 | 65.8 | 60.7 | 57.6 |
| 9 | 67.3 | 4.8 | 71.4 | 83.8 | 88 | 31 | 82.5 | 74.4 | 68.1 | 62.7 | 59.1 |
| 10 | 68.9 | 4.6 | 72.2 | 84.0 | 89 | 31 | 83.0 | 75.2 | 69.1 | 64.2 | 60.4 |
| 11 | 70.0 | 4.3 | 72.9 | 83.9 | 89 | 29 | 83.6 | 76.3 | 70.1 | 65.7 | 62.3 |
| 12 | 71.5 | 4.0 | 73.9 | 84.1 | 88 | 26 | 84.1 | 77.4 | 71.6 | 67.5 | 64.1 |
| 13 | 76.5 | 4.5 | 79.6 | 91.2 | 95 | 31 | 90.5 | 82.7 | 76.7 | 71.6 | 67.6 |

N= 4730

TABLE NO. 121
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION B

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 15- 76 1022 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.0 | 4.9 | 79.7 | 92.3 | 97 | 33 | 90.5 | 82.5 | 76.2 | 70.5 | 66.5 |
| 2 | 76.4 | 4.9 | 79.9 | 92.4 | 98 | 34 | 90.5 | 82.8 | 76.7 | 71.0 | 66.9 |
| 3 | 57.0 | 3.9 | 59.1 | 69.1 | 73 | 23 | 67.7 | 63.2 | 57.0 | 52.6 | 51.1 |
| 4 | 58.0 | 3.9 | 60.0 | 69.9 | 72 | 22 | 68.7 | 64.0 | 58.0 | 53.8 | 52.0 |
| 5 | 59.8 | 3.8 | 61.8 | 71.6 | 74 | 22 | 70.5 | 65.8 | 59.8 | 55.7 | 53.6 |
| 6 | 61.6 | 3.9 | 63.6 | 73.7 | 77 | 24 | 72.1 | 67.6 | 61.6 | 57.3 | 55.2 |
| 7 | 64.8 | 4.0 | 66.8 | 77.0 | 79 | 23 | 74.9 | 70.9 | 64.9 | 60.3 | 58.1 |
| 8 | 67.2 | 5.6 | 71.5 | 85.7 | 88 | 37 | 82.5 | 75.1 | 67.2 | 61.2 | 56.2 |
| 9 | 70.3 | 5.2 | 73.9 | 87.1 | 89 | 34 | 84.1 | 77.8 | 70.4 | 64.7 | 60.0 |
| 10 | 71.7 | 4.9 | 75.0 | 87.6 | 90 | 34 | 85.0 | 78.8 | 71.8 | 66.6 | 61.6 |
| 11 | 72.4 | 4.7 | 75.5 | 87.5 | 90 | 32 | 85.2 | 79.5 | 72.3 | 67.6 | 63.2 |
| 12 | 73.2 | 4.5 | 76.0 | 87.5 | 90 | 31 | 85.6 | 79.9 | 73.0 | 68.5 | 64.4 |
| 13 | 75.2 | 5.4 | 79.7 | 93.4 | 99 | 38 | 91.1 | 82.1 | 75.4 | 69.3 | 64.0 |
| 14 | 76.2 | 4.9 | 79.9 | 92.5 | 98 | 36 | 91.1 | 82.6 | 76.3 | 71.1 | 66.1 |

N= 4780

9- 15- 76 1042 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.9 | 5.0 | 79.7 | 92.4 | 100 | 37 | 90.6 | 82.4 | 76.3 | 70.2 | 65.6 |
| 2 | 76.3 | 5.0 | 80.1 | 92.8 | 100 | 36 | 90.8 | 83.0 | 76.7 | 70.7 | 66.2 |
| 3 | 57.5 | 3.9 | 59.6 | 69.5 | 76 | 28 | 68.0 | 63.0 | 57.7 | 53.1 | 50.7 |
| 4 | 58.4 | 3.9 | 60.6 | 70.6 | 76 | 27 | 69.4 | 64.0 | 58.6 | 54.0 | 51.3 |
| 5 | 60.2 | 4.1 | 62.4 | 72.9 | 76 | 26 | 71.0 | 66.2 | 60.4 | 55.5 | 52.7 |
| 6 | 62.2 | 4.4 | 64.6 | 75.9 | 78 | 27 | 73.3 | 68.5 | 62.4 | 57.3 | 53.7 |
| 7 | 65.3 | 4.7 | 68.0 | 80.1 | 81 | 28 | 76.9 | 72.2 | 65.5 | 60.1 | 55.8 |
| 8 | 67.3 | 5.4 | 71.4 | 85.3 | 90 | 38 | 81.7 | 74.7 | 67.7 | 61.2 | 54.9 |
| 9 | 70.2 | 5.1 | 73.9 | 87.1 | 92 | 36 | 84.2 | 77.2 | 70.6 | 64.2 | 58.4 |
| 10 | 71.6 | 4.9 | 75.0 | 87.5 | 92 | 34 | 85.0 | 78.4 | 72.0 | 66.0 | 60.6 |
| 11 | 72.6 | 4.7 | 75.7 | 87.7 | 93 | 34 | 85.3 | 79.1 | 72.9 | 67.3 | 62.6 |
| 12 | 73.1 | 4.6 | 76.1 | 87.8 | 94 | 35 | 85.5 | 79.6 | 73.4 | 68.1 | 62.8 |
| 13 | 75.0 | 5.3 | 79.2 | 92.7 | 99 | 40 | 90.2 | 81.8 | 75.5 | 68.9 | 63.8 |
| 14 | 75.8 | 5.0 | 79.6 | 92.5 | 100 | 40 | 90.0 | 82.7 | 76.3 | 70.1 | 64.7 |

N= 4780

TABLE NO. 122
STATISTICAL NOISE DATA
ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION C

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 15- 76 1136 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.9 | 4.9 | 80.6 | 93.3 | 97 | 35 | 91.8 | 84.1 | 76.8 | 72.1 | 67.1 |
| 2 | 77.4 | 4.8 | 81.0 | 93.3 | 96 | 33 | 92.1 | 84.5 | 77.2 | 72.5 | 68.2 |
| 3 | 58.6 | 3.1 | 59.9 | 67.8 | 69 | 18 | 67.6 | 63.2 | 58.8 | 55.3 | 52.9 |
| 4 | 59.7 | 3.2 | 60.9 | 69.2 | 70 | 18 | 68.5 | 64.5 | 59.9 | 56.3 | 53.6 |
| 5 | 60.9 | 3.2 | 62.1 | 70.3 | 71 | 18 | 69.5 | 65.7 | 61.1 | 57.4 | 55.0 |
| 6 | 62.2 | 3.3 | 63.5 | 72.0 | 72 | 18 | 70.7 | 67.3 | 62.4 | 58.5 | 56.0 |
| 7 | 63.9 | 3.4 | 65.2 | 73.8 | 75 | 21 | 72.1 | 69.0 | 64.1 | 60.2 | 57.5 |
| 8 | 63.5 | 4.2 | 66.2 | 77.1 | 80 | 26 | 77.1 | 69.9 | 63.4 | 59.3 | 56.7 |
| 9 | 67.9 | 4.5 | 70.6 | 82.4 | 85 | 28 | 81.2 | 74.8 | 67.8 | 63.3 | 59.3 |
| 10 | 69.6 | 4.4 | 72.4 | 83.6 | 85 | 27 | 82.2 | 76.4 | 69.7 | 65.2 | 61.5 |
| 11 | 71.4 | 4.2 | 73.6 | 84.6 | 86 | 26 | 83.4 | 77.7 | 71.5 | 66.9 | 63.6 |
| 12 | 71.8 | 4.2 | 74.1 | 84.8 | 86 | 26 | 83.6 | 77.9 | 71.9 | 67.3 | 64.1 |
| 13 | 75.7 | 5.2 | 79.7 | 92.9 | 97 | 35 | 91.0 | 83.0 | 75.8 | 70.1 | 65.3 |
| 14 | 76.8 | 4.8 | 80.1 | 92.3 | 96 | 32 | 90.9 | 83.5 | 76.8 | 71.9 | 67.1 |

N= 4785

9- 15- 76 1156 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75.7 | 4.8 | 78.9 | 91.1 | 93 | 34 | 89.8 | 82.4 | 75.7 | 71.0 | 64.4 |
| 2 | 76.2 | 4.6 | 79.1 | 90.9 | 93 | 31 | 90.1 | 82.6 | 76.2 | 71.7 | 65.4 |
| 3 | 58.1 | 2.9 | 59.1 | 66.4 | 67 | 16 | 65.2 | 62.7 | 58.4 | 55.1 | 53.1 |
| 4 | 59.1 | 3.0 | 60.1 | 67.7 | 68 | 16 | 66.7 | 63.7 | 59.4 | 55.8 | 53.9 |
| 5 | 60.1 | 3.0 | 61.2 | 69.0 | 69 | 16 | 67.9 | 64.7 | 60.4 | 56.9 | 55.0 |
| 6 | 61.3 | 3.3 | 62.6 | 70.9 | 71 | 18 | 69.7 | 66.1 | 61.5 | 57.7 | 55.6 |
| 7 | 63.0 | 3.5 | 64.5 | 73.5 | 73 | 19 | 72.2 | 68.2 | 63.3 | 59.3 | 56.9 |
| 8 | 64.6 | 4.0 | 66.9 | 77.2 | 79 | 22 | 75.3 | 71.4 | 64.5 | 60.7 | 59.1 |
| 9 | 68.1 | 4.4 | 70.6 | 81.7 | 80 | 22 | 79.4 | 75.1 | 68.0 | 63.4 | 61.1 |
| 10 | 69.5 | 4.3 | 71.8 | 82.8 | 82 | 23 | 80.0 | 76.4 | 69.4 | 64.7 | 62.1 |
| 11 | 70.9 | 4.2 | 73.1 | 83.8 | 83 | 22 | 81.2 | 77.6 | 71.0 | 66.2 | 64.0 |
| 12 | 71.1 | 4.1 | 73.1 | 83.6 | 83 | 21 | 81.1 | 77.6 | 71.2 | 66.6 | 64.3 |
| 13 | 75.2 | 4.9 | 78.6 | 91.2 | 92 | 29 | 90.0 | 82.2 | 75.4 | 69.8 | 66.2 |
| 14 | 76.1 | 4.5 | 79.0 | 90.7 | 92 | 28 | 89.8 | 82.7 | 76.1 | 71.2 | 68.1 |

N= 4780

TABLE NO. 123

STATISTICAL NOISE DATA

ROADSIDE BARRIER TEST SITE, ANDOVER, MA.

BARRIER HGT 16 FT; REFLECTIVE; MICROPHONE CONFIGURATION D

NOISE LEVEL - DBA RE 20 MICROPASCAL

9- 15- 76 1337 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.7 | 5.2 | 81.7 | 95.1 | 99 | 36 | 92.7 | 85.5 | 77.6 | 72.2 | 67.5 |
| 2 | 78.2 | 5.2 | 82.1 | 95.3 | 99 | 35 | 93.0 | 85.8 | 78.1 | 72.6 | 68.2 |
| 3 | 58.2 | 2.4 | 58.9 | 65.0 | 67 | 15 | 64.5 | 61.9 | 58.6 | 55.6 | 53.5 |
| 4 | 59.0 | 2.5 | 59.7 | 66.1 | 69 | 16 | 65.5 | 62.9 | 59.4 | 56.3 | 54.2 |
| 5 | 59.6 | 2.5 | 60.3 | 66.6 | 70 | 17 | 66.1 | 63.5 | 59.9 | 56.9 | 54.9 |
| 6 | 60.0 | 2.6 | 60.8 | 67.3 | 68 | 15 | 66.6 | 64.0 | 60.3 | 57.3 | 55.1 |
| 7 | 61.1 | 2.6 | 61.9 | 68.6 | 69 | 15 | 67.7 | 65.2 | 61.4 | 58.3 | 55.9 |
| 8 | 61.8 | 3.9 | 63.8 | 73.7 | 75 | 22 | 72.3 | 67.4 | 61.9 | 57.7 | 54.6 |
| 9 | 64.6 | 4.1 | 66.6 | 77.0 | 78 | 24 | 75.2 | 70.6 | 64.7 | 60.2 | 56.5 |
| 10 | 66.4 | 4.1 | 68.4 | 78.9 | 80 | 24 | 76.8 | 72.4 | 66.6 | 61.9 | 57.8 |
| 11 | 68.3 | 4.1 | 70.2 | 80.6 | 81 | 23 | 78.4 | 74.2 | 68.7 | 63.7 | 59.8 |
| 12 | 69.5 | 4.0 | 71.4 | 81.7 | 83 | 25 | 79.0 | 75.2 | 69.8 | 64.9 | 61.1 |
| 13 | 77.4 | 5.2 | 81.5 | 94.9 | 100 | 35 | 92.7 | 85.0 | 77.5 | 71.6 | 67.4 |
| 14 | 78.0 | 4.9 | 81.5 | 94.2 | 99 | 36 | 92.2 | 85.0 | 78.0 | 72.7 | 68.3 |

N= 4780

9- 15- 76 1357 HOURS

| BAND | A | S | E | N | M | R | 1 | 10 | 50 | 90 | 99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 77.5 | 5.2 | 81.4 | 94.6 | 98 | 35 | 92.1 | 85.0 | 77.2 | 72.0 | 67.4 |
| 2 | 77.6 | 5.0 | 81.3 | 94.1 | 98 | 34 | 91.8 | 84.8 | 77.5 | 72.3 | 67.9 |
| 3 | 57.9 | 2.3 | 58.6 | 64.5 | 68 | 16 | 65.5 | 61.3 | 58.2 | 55.6 | 54.0 |
| 4 | 59.0 | 2.5 | 59.9 | 66.4 | 70 | 17 | 67.3 | 62.7 | 59.3 | 56.4 | 54.7 |
| 5 | 59.4 | 2.6 | 60.3 | 66.9 | 71 | 18 | 67.9 | 63.2 | 59.7 | 56.8 | 55.3 |
| 6 | 59.5 | 2.6 | 60.4 | 67.0 | 71 | 18 | 67.8 | 63.4 | 59.7 | 56.9 | 55.2 |
| 7 | 60.5 | 2.5 | 61.4 | 67.9 | 71 | 17 | 68.2 | 64.4 | 60.8 | 58.0 | 56.2 |
| 8 | 61.6 | 3.8 | 63.5 | 73.3 | 75 | 21 | 72.7 | 67.3 | 61.6 | 57.5 | 56.1 |
| 9 | 64.0 | 4.0 | 66.2 | 76.5 | 79 | 23 | 75.7 | 69.8 | 64.1 | 59.5 | 57.8 |
| 10 | 65.8 | 4.1 | 68.0 | 78.6 | 81 | 25 | 77.6 | 71.6 | 66.1 | 61.0 | 58.9 |
| 11 | 67.4 | 4.1 | 69.5 | 79.9 | 83 | 26 | 79.1 | 72.9 | 67.7 | 62.6 | 59.8 |
| 12 | 68.7 | 4.1 | 70.8 | 81.3 | 84 | 26 | 80.2 | 74.2 | 69.0 | 63.8 | 61.1 |
| 13 | 76.9 | 5.4 | 81.0 | 94.7 | 99 | 37 | 91.5 | 84.8 | 77.2 | 70.8 | 66.0 |
| 14 | 77.5 | 4.9 | 81.0 | 93.6 | 98 | 34 | 91.3 | 84.7 | 77.7 | 72.0 | 67.6 |

N= 4780

TABLES 124-134. METEOROLOGICAL DATA

TABLE NO. 124
METEOROLOGICAL DATA
SITE I-93, ANDOVER, MASSACHUSETTS

Date 9/3-4/75

| TIME (Hours) | TEMP. (°F) | BAR. PRESS. (mbars) | REL. HUM. (%) | WIND SPEED (mph) Ave. - Max. | WIND DIRECTION (Degrees) | REMARKS (P=pavement) (G=ground) (S=sky) |
|---|---|---|---|---|---|---|
| 9/3 1145 | 63 | 1009 | 60 | 7 - 12 | 315 | P&G - DRY |
| 1420 | 58 | 1010 | 62 | 6 - 12 | 315 | S - PTLY CLOUDY |
| 1535 | 58 | 1010 | 62 | 5 - 10 | 315 | |
| 1640 | 60 | 1010 | 60 | 6 - 10 | 315 | S - CLEAR |
| 1740 | 60 | 1010 | 60 | 5 - 7 | 315 | |
| | | | | | | |
| 9/4 0930 | 54 | 1013 | 80 | 6 - 10 | 0 | P&G - DRY |
| 1037 | 60 | 1012 | 70 | 6 - 12 | 0 | S - CLEAR |
| 1135 | 63 | 1012 | 62 | 7 - 10 | 0 | |
| 1235 | 67 | 1011 | 57 | 4 - 10 | 335 | |
| 1502 | 69 | 1011 | 52 | 5 - 10 | 335 | |
| 1532 | 70 | 1011 | 50 | 4 - 11 | 315 | |
| 1620 | 69 | 1010 | 49 | 6 - 8 | 335 | |
| 1700 | 68 | 1010 | 51 | 5 - 8 | 315 | S - CLEAR |

TABLE NO. 125

METEOROLOGICAL DATA

SITE I-93, ANDOVER, MASSACHUSETTS

Date 10/7-8-9/75

| TIME (Hours) | TEMP. (°F) | BAR. PRESS. (mbars) | REL. HUM. (%) | WIND SPEED (mph) Ave. - Max. | WIND DIRECTION (Degrees) | REMARKS (P=pavement) (G=ground) (S=sky) |
|---|---|---|---|---|---|---|
| 10/7 1155 | 55 | 1017 | 38 | 5 - 8 | 330 | P & G - DRY |
| 1510 | 56 | 1017 | 30 | 6 - 8 | 340 | S - CLEAR |
| 1611 | 56 | 1017 | 29 | 4 - 5 | 330 | |
| 1755 | — | — | — | 1 - 1 | 330 | |
| | | | | | | |
| 10/8 1010 | 50 | 1018 | 40 | 4 - 5 | 330 | P & G - DRY |
| 1032 | 53 | 1018 | 34 | 3 - 6 | 330 | S - CLEAR |
| 1148 | 60 | 1017 | 25 | 4 - 7 | 310 | |
| 1240 | 60 | 1017 | 26 | 5 - 8 | 310 | |
| 1302 | 62 | 1017 | 27 | 4 - 7 | 320 | S - PTLY SUNNY |
| 1324 | 62 | 1017 | 29 | 3 - 6 | 320 | |
| 1620 | 64 | 1017 | 30 | 3 - 7 | 330 | |
| 1640 | 62 | 1018 | 33 | 3 - 7 | 340 | |
| 1710 | 60 | 1018 | 39 | 3 - 5 | 340 | S - CLEAR |
| | | | | | | |
| 10/9 0900 | 41 | 1026 | 77 | 3 - 4 | 220 | P & G DRY |
| 0920 | 41 | 1026 | 75 | 3 - 4 | 240 | SKY - PLY CLOUDY |
| 1020 | 48 | 1026 | 60 | 2 - 4 | 250 | |
| 1040 | 48 | 1026 | 57 | 2 - 4 | 320 | S - OVERCAST |
| 1205 | 51 | 1026 | 51 | 3 - 5 | 50 | S - PLY CLOUDY |
| 1225 | 50 | 1026 | 50 | 2 - 4 | 270 | |
| 1511 | 46 | 1025 | 46 | 2 - 4 | 90 | S - OVERCAST |
| 1531 | 48 | 1024 | 48 | 2 - 4 | 90 | S - OVERCAST |

TABLE NO. 126

METEOROLOGICAL DATA

SITE I 93, ANDOVER, MASSACHUSETTS

Date 10/15, 16, 17/75

| TIME (Hours) | TEMP. (°F) | BAR. PRESS. (mbars) | REL. HUM. (%) | WIND SPEED (mph) Ave. - Max. | WIND DIRECTION (Degrees) | REMARKS (P=pavement) (G=ground) (S=sky) |
|---|---|---|---|---|---|---|
| 10/15 0953 | 62 | 1010 | 76 | 2 - 3 | 210 | P&G - DRY |
| 1013 | 61 | 1010 | 79 | 2 - 3 | 260 | S - CLEAR |
| 1231 | 72 | 1009 | 56 | 4 - 7 | 280 | |
| 1248 | 74 | 1008 | 53 | 4 - 6 | 280 | |
| 1455 | 70 | 1007 | 55 | 4 - 6 | 70 | |
| 1515 | 62 | 1007 | 63 | 5 - 8 | 80 | |
| 1609 | 64 | 1007 | 69 | 4 - 6 | 110 | |
| 1629 | 62 | 1007 | 71 | 4 - 6 | 110 | S - CLEAR |
| | | | | | | |
| 10/16 0711 | 55 | 1007 | 65 | 5 - 8 | 280 | P/G - DRY |
| 0737 | 56 | 1007 | 61 | 6 - 8 | 300 | S - CLEAR |
| 1014 | 57 | 1007 | 52 | 7 - 10 | 290 | |
| 1034 | 57 | 1008 | 50 | 9 - 15 | 280 | |
| 1147 | 58 | 1008 | 40 | 7 - 10 | 290 | |
| 1207 | 60 | 1008 | 38 | 8 - 12 | 290 | |
| 1456 | 57 | 1009 | 37 | 7 - 11 | 300 | |
| 1576 | 57 | 1010 | 37 | 6 - 11 | 300 | S - CLEAR |
| | | | | | | |
| 10/17 0917 | 42 | 1020 | 65 | 4 - 6 | 340 | G - DAMP P - DRY |
| 0937 | 42 | 1019 | 64 | 3 - 4 | 330 | S - PTLY CLOUDY |
| 1030 | 45 | 1020 | 50 | 4 - 6 | 330 | G - DRY |
| 1050 | 46 | 1020 | 52 | 4 - 7 | 340 | |
| 1201 | 50 | 1020 | 49 | 3 - 6 | 320 | |
| 1221 | 52 | 1020 | 42 | 4 - 6 | 330 | S - PTLY SUNNY |
| 1435 | 52 | 1020 | 43 | 3 - 7 | 330 | S - OVERCAST |

TABLE NO.

METEOROLOGICAL DATA

SITE I-93, ANDOVER, MASSACHUSETTS

Date 10/25, 31/75

| TIME (Hours) | TEMP. (°F) | BAR. PRESS. (mbars) | REL. HUM. (%) | WIND SPEED (mph) Ave. - Max. | WIND DIRECTION (Degrees) | REMARKS (P=pavement) (G=ground) (S=sky) |
|---|---|---|---|---|---|---|
| 10/29 0945 | 55 | 1016 | 73 | 3 - 5 | 330 | P-DRY G-DAMP |
| 1005 | 57 | 1016 | 69 | 3 - 8 | 280 | S-CLEAR |
| 1131 | 62 | 1014 | 58 | 3 - 7 | 315 | G-DRY |
| 1151 | — | — | — | 3 - 8 | 290 | |
| 1335 | 64 | 1014 | 56 | 5 - 9 | 270 | |
| 1359 | 64 | 1014 | 57 | 5 - 10 | 260 | |
| 1509 | 64 | 1014 | 56 | 7 - 12 | 310 | |
| 1529 | 63 | 1014 | 56 | 7 - 12 | 310 | S-CLEAR |
| 10/31 0905 | — | — | — | 12 - 22 | 350 | P & G-DRY |
| 0925 | 38 | 51 | 1024 | 12 - 24 | 340 | S-CLEAR |
| 1046 | 33 | 51 | 1024 | 10 - 15 | 340 | |
| 1123 | — | — | — | 12 - 19 | 340 | |
| 1250 | 40 | 44 | 1023 | 11 - 15 | 320 | |
| 1307 | 40 | 43 | 1022 | 9 - 17 | 320 | |
| 1433 | 40 | 41 | 1022 | 7 - 14 | 330 | |
| 1453 | 40 | 41 | 1022 | 5 - 15 | 330 | S-CLEAR |

TABLE NO. 128

METEOROLOGICAL DATA

SITE I 93 , ANDOVER, MASSACHUSETTS

Date 11/4,5,6/75

| TIME (Hours) | TEMP. (°F) | BAR. PRESS. (mbars) | REL. HUM. (%) | WIND SPEED (mph) Ave. - Max. | WIND DIRECTION (Degrees) | REMARKS (P=pavement) (G=ground) (S=sky) |
|---|---|---|---|---|---|---|
| 11/4 0905 | 66 | 1012 | 68 | 5 - 12 | 270 | P&G - DRY |
| 0925 | | | | 4 - 9 | 270 | S - OVERCAST |
| 1117 | | | | 8 - 16 | 270 | |
| 1137 | 72 | 1012 | 58 | 12 - 20 | 315 | |
| 1236 | | | | 9 - 18 | 270 | |
| 1256 | 71 | 1013 | 51 | 10 - 18 | 290 | |
| 1437 | — | — | — | 12 - 22 | 290 | |
| 1457 | 68 | 1013 | 42 | 12 - 20 | 290 | S - OVERCAST |
| 11/5 0848 | 52 | 1012 | 43 | 10 - 19 | 340 | P&G - DRY |
| 0908 | 52 | 1012 | 42 | 12 - 20 | 300 | S - CLEAR |
| 1014 | 54 | 1013 | 39 | 10 - 18 | 310 | |
| 1034 | 55 | 1013 | 37 | 10 - 16 | 300 | |
| 1123 | 56 | 1013 | 35 | 9 - 15 | 310 | |
| 1143 | 58 | 1013 | 34 | 8 - 15 | 340 | |
| 1317 | 66 | 1012 | 22 | 8 - 14 | 0 | |
| 1348 | 66 | 1012 | 22 | 9 - 16 | 0 | S - CLEAR |
| 11/6 0850 | 49 | 1023 | 48 | 0 - 1 | 220 | P&G - DRY |
| 0910 | 50 | 1023 | 48 | 0 - 1 | 220 | S - CLEAR |
| 1018 | 50 | 1023 | 48 | 1 - 3 | 200 | |
| 1038 | 51 | 1023 | 46 | 1 - 5 | 220 | |
| 1119 | — | — | — | 2 - 6 | 220 | |
| 1141 | — | — | — | 3 - 8 | 200 | |
| 1320 | 58 | 1022 | 37 | 4 - 8 | 220 | |
| 1340 | 59 | 1022 | 37 | 4 - 8 | 220 | S - CLEAR |

TABLE NO.
METEOROLOGICAL DATA
SITE I 93 . ANDOVER, MASSACHUSETTS

Date 11/18, 19, 20/75

| TIME (Hours) | TEMP. (°F) | BAR. PRESS. (mbars) | REL. HUM. (%) | WIND SPEED (mph) Ave. - Max | WIND DIRECTION (Degrees) | REMARKS (P=pavement) (G=ground) (S=sky) |
|---|---|---|---|---|---|---|
| 11/18 0916 | 54 | 1020 | 72 | 7 - 12 | 320 | P-DRY G-DAMP |
| 0936 | 56 | 1020 | 69 | 8 - 13 | 320 | G-DRY S-CLEAR |
| 1043 | — | — | — | 8 - 16 | 300 | |
| 1103 | 58 | 1020 | 59 | 9 - 14 | 290 | |
| 1204 | 57 | 1020 | 58 | 9 - 14 | 290 | |
| 1224 | — | — | — | 7 - 10 | 310 | |
| 1348 | 62 | 1020 | 43 | 5 - 9 | 300 | |
| 1408 | 62 | 1020 | 42 | 8 - 14 | 300 | S-CLEAR |
| 11/19 0855 | 50 | 1022 | 49 | 0 - — | — | P-DRY G-DAMP |
| 0915 | 52 | 1023 | 51 | 1 - 3 | 265 | S-CLEAR |
| 1016 | 50 | 1023 | 50 | 1 - 4 | 280 | G-DRY |
| 1036 | 50 | 1022 | 50 | 0 - 2 | 300 | |
| 1127 | | | | 1 - 5 | 200 | |
| 1147 | 53 | 1022 | 43 | 1 - 5 | 200 | |
| 1313 | 55 | 1021 | 34 | 0 - 6 | 250 | |
| 1333 | 56 | 1021 | 30 | 0 - 3 | 250 | S-CLEAR |
| 11/20 0848 | 60 | 1017 | 59 | 0 - 0 | — | P-DRY G-DAMP |
| 0908 | 64 | 1017 | 63 | 1 - 6 | 340 | S-CLEAR |
| 1007 | 64 | 1017 | 63 | 4 - 8 | 270 | G-DRY |
| 1027 | 63 | 1017 | 62 | 4 - 8 | 280 | |
| 1112 | — | — | — | 2 - 8 | 270 | |
| 1132 | — | — | — | 2 - 7 | 260 | |
| 1263 | 65 | 1015 | 50 | 4 - 10 | 260 | |
| 1313 | — | — | — | 5 - 10 | 270 | S-CLEAR |

TABLE NO. 130

METEOROLOGICAL DATA

SITE I 93, ANDOVER, MASSACHUSETTS

Date 12/2,3,4/75

| TIME (Hours) | TEMP. (°F) | BAR. PRESS. (mbars) | REL. HUM. (%) | WIND SPEED (mph) Ave. - Max. | WIND DIRECTION (Degrees) | REMARKS (P=pavement) (G=ground) (S=sky) |
|---|---|---|---|---|---|---|
| 12/2 0522 | 34 | 1019 | 64 | 2 - 6 | 350 | P-DRY G-DAMP |
| 0942 | 35 | 1019 | 62 | 1 - 5 | 340 | S-CLEAR G-DRY |
| 1045 | 37 | 1018 | 58 | 0 - 3 | 330 | |
| 1105 | 40 | 1018 | 55 | 0 - 0 | — | |
| 1152 | 40 | 1018 | 54 | 0 - 5 | 180 | |
| 1212 | 40 | 1016 | 52 | 0 - 3 | 190 | |
| 1344 | 39 | 1016 | 48 | 1 - 6 | 180 | |
| 1404 | — | — | — | 2 - 8 | 180 | S-CLEAR |
| 12/3 0841 | 37 | 1011 | 50 | 1 - 6 | 230 | P-DRY G-DAMP |
| 0901 | 36 | 1011 | 52 | 4 - 15 | 220 | S-PTLY CLDY |
| 1002 | 36 | 1011 | 54 | 8 - 21 | 240 | G-DRY S-CLEAR |
| 1022 | 37 | 1010 | 54 | 10 - 15 | 270 | |
| 1106 | — | — | — | 12 - 17 | 260 | |
| 1139 | 38 | 1010 | 52 | 13 - 25 | 270 | S-PTLY CLDY |
| 1306 | 38 | 1010 | 47 | 12 - 22 | 280 | |
| 1326 | 38 | 1010 | 46 | 12 - 16 | 280 | S-PTLY CLDY |
| 12/4 0712 | 27 | 1023 | 32 | 9 - 17 | 320 | P-DRY G-FROZEN |
| 0932 | 28 | 1022 | 34 | 7 - 17 | 340 | S CLEAR |
| 1040 | 29 | 1022 | 36 | 8 - 13 | 320 | |
| 1100 | 30 | 1022 | 36 | 7 - 15 | 330 | |
| 1129 | 30 | 1023 | 37 | 10 - 18 | 320 | |
| 1145 | — | — | — | 10 - 18 | 320 | |
| 1328 | 32 | 1023 | 35 | 8 - 14 | 300 | |
| 1348 | 32 | 1023 | 35 | 6 - 13 | 340 | S-CLEAR |

TABLE NO.

METEOROLOGICAL DATA

SITE I 93 , ANDOVER, MASSACHUSETTS

Date 12/9, 11, 12/75

| TIME (Hours) | TEMP. (°F) | BAR. PRESS. (mbars) | REL. HUM. (%) | WIND SPEED (mph) Ave. - Max. | WIND DIRECTION (Degrees) | REMARKS (P=pavement) (G=ground) (S=sky) |
|---|---|---|---|---|---|---|
| 12/9 0909 | 31 | 1023 | 58 | 1 - 8 | 350 | P- WET G-FROZEN |
| 1035 | 31 | 1021 | 92 | 2 - 12 | 20 | S- DRIZZLE |
| 1050 | 32 | 1021 | 96 | 1 - 7 | 20 | G - LT SNOW COVER |
| 1145 | 32 | 1021 | 100 | 2 - 7 | 10 | |
| 1200 | 32 | 1021 | 100 | 2 - 7 | 10 | S - FREEZING DRIZZLE |
| 12/11 0942 | 40 | 1011 | 58 | 8 - 15 | 270 | P-DRY G-DRY |
| 1007 | 41 | 1010 | 55 | 10 - 16 | 280 | S- CLEAR |
| 1143 | 44 | 1011 | 57 | 12 - 20 | 300 | |
| 1203 | 45 | 1011 | 54 | 10 - 17 | 300 | |
| 1244 | — | — | — | 12 - 22 | 320 | |
| 1305 | 47 | 1012 | 53 | 12 - 21 | 300 | |
| 1427 | 46 | 1012 | 53 | 10 - 17 | 300 | |
| 1447 | 45 | 1014 | 52 | 9 - 15 | 300 | S - CLEAR |
| 12/12 0854 | 34 | 1027 | 26 | 2 - 12 | 0 | P/G - DRY |
| 0914 | 32 | 1027 | 27 | 1 - 3 | 0 | S - PTLY SUNNY |
| 1012 | 31 | 1027 | 29 | 2 - 9 | 0 | |
| 1032 | 32 | 1027 | 29 | 2 - 10 | 350 | S - PTLY SUNNY |
| 1117 | — | — | — | 1 - 6 | 350 | |
| 1137 | — | — | — | 1 - 7 | 350 | |
| 1309 | — | — | — | 1 - 7 | 340 | |
| 1329 | — | — | — | 0 - 5 | 350 | |

TABLE NO.
METEOROLOGICAL DATA
SITE I 93, ANDOVER, MASSACHUSETTS

Date 12/16,17,18/75

| TIME (Hours) | TEMP. (°F) | BAR. PRESS. (mbars) | REL. HUM. (%) | WIND SPEED (mph) Ave. - Max. | WIND DIRECTION (Degrees) | REMARKS (P=pavement) (G=ground) (S=sky) |
|---|---|---|---|---|---|---|
| 12/16 0706 | 39 | 1011 | 71 | 1 - 6 | 330 | P&G - WET |
| 0926 | 39 | 1011 | 75 | 8 - 13 | 330 | S - OVERCAST LT SNOW |
| 1022 | 39 | 1012 | 75 | 9 - 16 | 320 | P - DRY |
| 1042 | — | — | — | 10 - 20 | 320 | |
| 1122 | 41 | 1012 | 66 | 16 - 28 | 310 | S - PTLY CLDY |
| 1142 | 41 | 1012 | 63 | 14 - 25 | 300 | |
| 1303 | 42 | 1012 | 47 | 15 - 23 | 290 | P - DRY S - CLEAR |
| 1323 | 39 | 1013 | 44 | 13 - 22 | 290 | S - CLEAR |
| 12/17 0925 | — | — | — | 0 - 0 | — | P & G - DRY |
| 0945 | 25 | 1028 | 37 | 0 - 0 | — | S - CLEAR |
| 1054 | 32 | 1026 | 40 | 0 - 4 | 180 | |
| 1132 | 31 | 1025 | 41 | 4 - 8 | 180 | |
| 1209 | — | — | — | 4 - 8 | 180 | |
| 1229 | — | — | — | 4 - 9 | 190 | |
| 1345 | 35 | 1025 | 44 | 7 - 13 | 180 | |
| 1405 | 36 | 1024 | 46 | 6 - 15 | 190 | S - CLEAR |
| 12/18 0947 | 33 | 1007 | 73 | 10 - 18 | 310 | G - SNOW COVERED |
| 1007 | 33 | 1007 | 78 | 13 - 19 | 320 | P - WET S - PTLY CLDY |
| 1058 | 33 | 1007 | 82 | 10 - 18 | 310 | |
| 1118 | 32 | 1007 | 82 | 13 - 17 | 320 | |
| 1201 | — | — | — | 10 - 20 | 310 | |
| 1221 | — | — | — | 13 - 20 | 320 | |
| 1345 | 33 | 1007 | 63 | 12 - 20 | 300 | P - DRY |
| 1406 | 31 | 1007 | 61 | 14 - 25 | 300 | S - PTLY CLDY |

TABLE NO. 133

METEOROLOGICAL DATA

SITE I-93, Andover, Massachusetts

Date 4/27-29/76

| TIME (Hours) | TEMP. (°F) | BAR. PRESS. (mbars) | REL. HUM. (%) | WIND SPEED (mph) Ave - Max | WIND DIRECTION (Degrees) | REMARKS (P=pavement) (G=ground) (S=sky) |
|---|---|---|---|---|---|---|
| 4/27 1005 | 47 | 1013 | 71 | 9 - 19 | 300 | P&G - Dry |
| 1025 | 48 | | 70 | 10 - 15 | 310 | S - Cloudy |
| 1150 | 48 | | 69 | 12 - 17 | 320 | |
| 1210 | 48 | 1013 | 68 | 10 - 15 | 310 | |
| 1258 | 47 | | 68 | 8 - 13 | 310 | S - Cloudy |
| 1318 | 48 | | 68 | 9 - 14 | 320 | |
| 1455 | 49 | | 69 | 5 - 7 | 300 | |
| 1515 | 49 | 1013 | 69 | 4 - 6 | 300 | S - Light Drizzle |
| | | | | | | P - Dry |
| 4/28 0839 | 47 | 1020 | 88 | 3 - 5 | 300 | G - Wet |
| 0859 | 48 | | 86 | 2 - 4 | 290 | S - Cloudy |
| 1007 | 56 | | 72 | 8 - 11 | 310 | G - Damp |
| 1027 | 56 | 1019 | 70 | 7 - 12 | 300 | S - Ptly Cldy |
| 1112 | 59 | | 61 | 8 - 13 | 300 | |
| 1132 | 58 | | 60 | 10 - 14 | 320 | |
| 1235 | 59 | | 58 | 7 - 12 | 300 | |
| 1255 | 57 | 1019 | 59 | 6 - 9 | 310 | S - Light Rain |
| | | | | | | |
| 4/29 0835 | 49 | 1022 | 80 | 5 - 8 | 340 | P&G - Dry |
| 0855 | 50 | | 78 | 4 - 8 | 340 | S - Ptly Cldy |
| 1005 | 57 | | 62 | 5 - 9 | 30 | |
| 1025 | 56 | 1021 | 60 | 6 - 11 | 20 | |
| 1055 | 58 | | 55 | 7 - 9 | 330 | S - Clear |
| 1115 | 56 | | 57 | 5 - 8 | 350 | |
| 1215 | 61 | | 49 | 5 - 11 | 40 | |
| 1235 | 61 | 1020 | 50 | 7 - 11 | 350 | S - Clear |

TABLE NO. 134

METEOROLOGICAL DATA

SITE I-93, Andover, Massachusetts

Date 9/14-15/76

| | TIME (Hours) | TEMP. (°F) | BAR. PRESS. (mbars) | REL. HUM. (%) | WIND SPEED (mph) Ave - Max. | WIND DIRECTION (Degrees) | REMARKS (P=pavement) (G=ground) (S=sky) |
|---|---|---|---|---|---|---|---|
| 9/14 | 0546 | 76 | 1012 | 61 | 3 - 6 | 250 | G - Heavy Dew |
| | 1009 | 78 | | 60 | 3 - 5 | 270 | P - Dry |
| | 1135 | 82 | | 47 | 4 - 7 | 310 | S - Clear |
| | 1155 | 84 | | 44 | 4 - 6 | 290 | G - Dry |
| | 1257 | 85 | | 42 | 4 - 6 | 260 | |
| | 1317 | 86 | | 42 | 3 - 6 | 280 | |
| | 1455 | 90 | | 46 | 5 - 8 | 270 | |
| | 1515 | 91 | 1014 | 46 | 4 - 9 | 250 | S - Clear |
| 9/15 | 0848 | 65 | 1009 | 90 | 1 - 2 | 230 | G+P - Dry S - Fog |
| | 0908 | 67 | | 88 | 2 - 3 | 200 | S - overcast |
| | 1022 | 74 | | 68 | 2 - 4 | 260 | |
| | 1042 | 75 | | 66 | 2 - 4 | 290 | |
| | 1136 | 77 | | 64 | 3 - 4 | 280 | S - Light overcast |
| | 1156 | 78 | | 65 | 3 - 5 | 200 | |
| | 1337 | 80 | | 64 | 3 - 6 | 230 | |
| | 1357 | 80 | 1016 | 64 | 3 - 5 | 240 | S - overcast |

TABLE NO. 135

10 MINUTE TRAFFIC SUMMARY

SITE I-93 . Andover, Massachusetts

Date 9/3/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1145 | SB | 173 | | | 10 | 2 | | 2 | 7 | 10 | | 55 | 43-64 |
| | NB | 173 | 1 | | 11 | 2 | | 3 | 5 | 8 | | | |
| 1420 | SB | 220 | 2 | | 9 | 1 | | 1 | 7 | 10 | | 54 | 38-65 |
| | NB | 209 | 1 | | 10 | 3 | | | 4 | 8 | | | |
| 1525 | SB | 300 | | | 7 | 3 | | 1 | 4 | 5 | | 54 | 44-61 |
| | NB | 337 | 2 | | 17 | 3 | | | 3 | 7 | | | |
| 1640 | SB | 308 | | | 8 | 4 | | 2 | 8 | 3 | | 54 | 41-66 |
| | NB | 531 | 1 | | 8 | 5 | | | 5 | 3 | | | |
| 1740 | SB | 232 | | | 5 | 1 | | | 5 | 4 | | 57 | 44-69 |
| | NB | 475 | | | 10 | 2 | | | 6 | 2 | | | |

TABLE NO. 136

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 9/4/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0930 | SB | 198 | — | — | 5 | 2 | — | — | 15 | 8 | — | 57 | 43-71 |
| — | NB | 182 | — | — | 12 | 5 | — | 1 | 4 | 7 | — | — | — |
| 1037 | SB | 192 | 1 | — | 11 | 4 | — | 1 | 4 | 10 | — | 55 | 42-71 |
| — | NB | 207 | 1 | — | 10 | 1 | — | 2 | 3 | 8 | — | — | — |
| 1135 | SB | 158 | — | — | 12 | 2 | — | 1 | 7 | 8 | — | 57 | 42-79 |
| — | NB | 208 | 1 | — | 7 | 1 | — | 4 | 6 | 12 | 1 | — | — |
| 1235 | SB | 138 | — | — | 10 | 1 | — | 1 | 11 | 9 | — | 55 | 34-75 |
| — | NB | 299 | 2 | — | 9 | — | — | — | 4 | 8 | — | — | — |
| 1502 | SB | 264 | 3 | — | 10 | 1 | — | 2 | 5 | 7 | — | 53 | 36-73 |
| — | NB | 253 | 1 | — | 3 | 1 | — | — | 5 | 7 | — | — | — |
| 1532 | SB | 311 | — | — | 10 | 4 | — | 1 | 4 | 5 | — | 55 | 38-74 |
| — | NB | 250 | 2 | — | 15 | 2 | — | — | 4 | 10 | — | — | — |
| 1620 | SB | 409 | 4 | — | 7 | — | — | 3 | 6 | 3 | — | 54 | 38-70 |
| — | NB | 410 | 1 | — | 3 | 1 | — | 1 | 3 | 5 | — | — | — |
| 1700 | SB | 343 | 1 | — | 7 | 2 | — | — | 8 | 7 | — | 55 | 37-71 |
| | NB | 628 | — | — | 15 | 1 | — | — | 10 | 9 | — | — | — |

TABLE NO. 137

10 MINUTE TRAFFIC SUMMARY

SITE I-93 , ANDOVER, MASSACHUSETTS

Date 10/7/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles | | | | | TTST | | | Speed (mph) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | 5 axle | 4 axle | 5 axle | 6 axle | Ave | Range |
| 1154 | SB | | | | 12 | 6 | | | 3 | 15 | | 56 | 43-70 |
| | NB | | | | 12 | 1 | 1 | 1 | 6 | 10 | | | |
| 1510 | SB | | | | 8 | 4 | | | 12 | 8 | | 55 | 48-62 |
| | NB | | 1 | | 5 | 2 | | | | 9 | | | |
| 1611 | SB | | | | 12 | 6 | | | 6 | 9 | | 55 | 40-68 |
| | NB | | | | 8 | 3 | | | 4 | 3 | | | |
| 1759 | SB | | | | 3 | 5 | | | 4 | 5 | | 56 | 47-64 |
| | NB | | | | 7 | | | 1 | 7 | 3 | | | |

TABLE NO. 138

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 10/8/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles | | | | | TTST | | | | Speed (mph) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | 3 axle | 4 axle | 5 axle | 6 axle | Ave | Range |
| 1010 | SB | 192 | — | — | 12 | 1 | — | 22 | 6 | 15 | — | 54 | 44-69 |
| — | NB | 152 | — | 1 | 12 | 4 | — | 13 | 2 | 10 | — | — | — |
| 1032 | SB | 180 | — | — | 21 | 5 | — | 18 | 6 | 10 | — | 56 | 46-72 |
| — | NB | 216 | — | — | 14 | 1 | — | 22 | 10 | — | — | — | — |
| 1145 | SB | 170 | — | — | 9 | 3 | — | 29 | 9 | 10 | — | 54 | 41-68 |
| — | NB | 163 | — | — | 10 | 2 | — | 16 | 6 | — | — | — | — |
| 1210 | SB | 187 | — | — | 14 | 1 | — | 19 | 9 | 10 | — | 54 | 31-69 |
| — | NB | 188 | — | — | 10 | — | — | 19 | 11 | — | — | — | — |
| 1302 | SB | 170 | — | — | 13 | 2 | — | 18 | 8 | 10 | — | 54 | 41-68 |
| — | NB | 158 | — | — | 12 | — | — | 16 | 5 | — | — | — | — |
| 1324 | SB | 161 | — | — | 13 | 1 | — | 13 | 5 | 7 | — | 53 | 38-63 |
| — | NB | 157 | 2 | — | 14 | 1 | — | 17 | 5 | 12 | — | — | — |
| 1620 | SB | 280 | — | — | 13 | 4 | — | 14 | 4 | 9 | — | 55 | 43-74 |
| — | NB | 481 | — | — | 11 | 1 | — | 10 | 7 | — | — | — | — |
| 1640 | SB | 330 | — | — | 9 | 3 | — | 7 | 7 | 1 | — | 54 | 47-61 |
| — | NB | 463 | — | — | 8 | 1 | — | 6 | 3 | — | — | — | — |
| 1710 | SB | 295 | — | — | 10 | 4 | — | 7 | 3 | 2 | — | — | — |
| — | NB | 622 | — | — | 9 | — | — | 7 | 5 | — | — | — | — |

TABLE NO. 139

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 10/9/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0906 | SB | 219 | 4 | | 9 | 3 | | | 6 | 14 | | 54 | 45-70 |
| | NB | 189 | 2 | | 6 | 1 | | 2 | 2 | 12 | | | |
| 0926 | SB | 180 | | | 9 | 3 | | | 6 | 11 | | 58 | 45-70 |
| | NB | 182 | | 1 | 15 | 1 | | | 7 | 7 | | | |
| 1020 | SB | 191 | 1 | | 10 | 2 | | | 3 | 14 | | 55 | 49-64 |
| | NB | 204 | | | 14 | 1 | | 2 | 7 | 16 | | | |
| 1040 | SB | 172 | | | 11 | 2 | | | 8 | 7 | | 53 | 35-64 |
| | NB | 183 | | | 16 | 4 | | 1 | 5 | 11 | | | |
| 1205 | SB | 176 | | | 7 | 2 | | | 4 | 6 | | 53 | 37-62 |
| | NB | 181 | | | 12 | | | 1 | 5 | 15 | | | |
| 1225 | SB | 154 | | | 8 | 3 | | | 6 | 6 | | 52 | 31-65 |
| | NB | 168 | | | 8 | 2 | | | 5 | 6 | | | |
| 1511 | SB | 241 | 1 | | 5 | 2 | 8 | | | 6 | | 55 | 45-66 |
| | NB | 256 | | | 12 | 2 | | 1 | 3 | 5 | | | |
| 1531 | SB | 278 | | | 14 | 5 | 6 | | | 7 | | 57 | 36-61 |
| | NB | 359 | 1 | | 15 | 1 | | 2 | 4 | 1 | | | |

TABLE NO. 140

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 10/15/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles | | | | | TTST | | | Speed (mph) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | 3 axle | 4 axle | 5 axle | 6 axle | Ave | Range |
| 0953 | SB | 193 | | | 10 | | | | 8 | 6 | | 55 | 41-64 |
| | NB | 163 | 2 | | 7 | 3 | | 1 | 4 | 10 | | | |
| 1013 | SB | 190 | | | 12 | 4 | | | 9 | 8 | | 52 | 35-61 |
| | NB | 192 | 1 | | 16 | | | 2 | 7 | 9 | | | |
| 1231 | SB | 115 | | | 12 | 3 | | | 2 | 1 | | 55 | 45-67 |
| | NB | 128 | | | 10 | 3 | | 1 | 4 | 7 | | | |
| 1248 | SB | 153 | | | 5 | 3 | | | 11 | 3 | | 54 | 34-72 |
| | NB | 176 | | | 9 | 2 | | | 5 | 7 | | | |
| 1455 | SB | 232 | | | 18 | 7 | | | 4 | 5 | | 53 | 41-68 |
| | NB | 228 | | | 17 | 3 | | 2 | 8 | 3 | | | |
| 1575 | SB | 263 | | | 10 | 3 | | | 6 | 8 | | 50 | 43-64 |
| | NB | 255 | 1 | | 7 | 3 | | | 6 | 10 | | | |
| 1609 | SB | 316 | | | 11 | 6 | | | 4 | 4 | | 51 | 33-63 |
| | NB | 479 | | | 16 | 1 | | | 5 | 7 | | | |
| 1629 | SB | 326 | | | 8 | 1 | | | 9 | 6 | | 50 | 37-61 |
| | NB | 482 | 1 | | 10 | 1 | | 1 | 3 | 4 | | | |

TABLE NO. 141

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 10/16/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles | | | | | TTST | | | | Speed (mph) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | 3 axle | 4 axle | 5 axle | 6 axle | Ave | Range |
| 0911 | SB | 198 | | | 22 | 3 | | | 10 | 18 | | 56 | 36-72 |
| | NB | 207 | 1 | | 8 | 2 | | 1 | 7 | 7 | | | |
| 0937 | SB | 218 | | | 12 | 2 | | | 9 | 9 | | 55 | 43-66 |
| | NB | 185 | 1 | | 12 | | | 4 | 5 | 8 | | | |
| 1014 | SB | 168 | | | 19 | 2 | | | 9 | 13 | | 55 | 41-67 |
| | NB | 171 | | | 11 | 3 | | 2 | 5 | 13 | | | |
| 1034 | SB | 162 | | | 8 | 5 | | | 8 | 7 | | 56 | 42-68 |
| | NB | 167 | 2 | | 11 | | | | 6 | 13 | | | |
| 1147 | SB | 128 | | | 13 | 4 | | | 9 | 12 | | 54 | 32-76 |
| | NB | 148 | | | 8 | 3 | | 1 | 4 | 13 | | | |
| 1207 | SB | 163 | | | 14 | 1 | | | 5 | 4 | | 53 | 36-79 |
| | NB | 168 | | | 5 | 1 | | | 5 | 6 | | | |
| 1456 | SB | 209 | | | 16 | 2 | | | 7 | 8 | | 56 | 46-74 |
| | NB | 217 | | | 10 | 2 | | 1 | 3 | 3 | | | |
| 1516 | SB | 281 | | | 9 | 4 | | | 2 | 19 | | 53 | 47-64 |
| | NB | 286 | | | 4 | | | 1 | 6 | 7 | | | |

TABLE NO. 142

10 MINUTE TRAFFIC SUMMARY

SITE I-93 . ANDOVER, MASSACHUSETTS

Date 10/17/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0917 | SB | 201 | | | 8 | 3 | | | 2 | 9 | | 57 | 48-65 |
| | NB | 158 | 1 | | 8 | 2 | | | 2 | 10 | | | |
| 0937 | SB | 184 | | | 15 | 4 | | | 8 | 7 | | 54 | 41-63 |
| | NB | 141 | 3 | | 8 | 2 | | | 6 | 7 | | | |
| 1030 | SB | 164 | | | 12 | 1 | | | 9 | 10 | | 55 | 44-66 |
| | NB | 209 | 1 | | 10 | 3 | | 2 | 9 | 9 | | | |
| 1050 | SB | 177 | | | 7 | 4 | | | 10 | 7 | | 55 | 38-67 |
| | NB | 195 | | | 19 | 3 | | | 4 | 15 | | | |
| 1201 | SB | 163 | | | 7 | 2 | | | 10 | 7 | | 55 | 39-67 |
| | NB | 176 | | | 9 | 2 | | | 6 | 5 | | | |
| 1221 | SB | 214 | | | 10 | 1 | | | 8 | 5 | | 56 | 44-71 |
| | NB | 191 | | | 11 | 2 | | | 2 | 8 | | | |
| 1435 | SB | | | | No | DATA | | | | | | | |
| | NB | | | | No | DATA | | | | | | | |

TABLE NO. 143

10 MINUTE TRAFFIC SUMMARY

SITE I93 , ANDOVER, MASSACHUSETTS

Date 10-29-75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0945 | SB | 170 | | | 10 | | | 2 | 5 | 7 | | 55 | 43-67 |
| | NB | 158 | 4 | | 11 | 1 | | 1 | 4 | 6 | | | |
| 1005 | SB | 171 | | | 17 | | | 4 | 8 | 10 | | 54 | 45-63 |
| | NB | 150 | | | 15 | 2 | | 2 | 8 | 13 | | | |
| 1131 | SB | 126 | | | 10 | | | 4 | 7 | 10 | | 54 | 44-65 |
| | NB | 166 | | | 10 | | 1 | 1 | 4 | 2 | | | |
| 1151 | SB | 157 | | | 9 | | | 3 | 3 | 8 | | 55 | 44-64 |
| | NB | 137 | | | 9 | 1 | | 1 | 9 | 16 | | | |
| 1339 | SB | 175 | | | 16 | | | 3 | 7 | 8 | | 52 | 32-66 |
| | NB | 176 | | | 12 | 1 | | | 2 | 10 | | | |
| 1359 | SB | 182 | | | 12 | | | 6 | 3 | 8 | | 52 | 34-77 |
| | NB | 180 | | | 13 | 1 | | | 4 | 14 | | | |
| 1509 | SB | 280 | | | 11 | | | 6 | 10 | 7 | | 53 | 45-61 |
| | NB | 262 | | | 6 | 2 | | | 12 | 11 | | | |
| 1529 | SB | 313 | | | 18 | | | 2 | 6 | 6 | | 53 | 36-65 |
| | NB | 355 | | | 10 | 5 | | 1 | 4 | 9 | | | |

TABLE NO. 144

10 MINUTE TRAFFIC SUMMARY

SITE I-93 . ANDOVER, MASSACHUSETTS

Date 10/31/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0905 | SB | 220 | 4 | | 10 | | | 2 | 7 | 5 | | 56 | 36-70 |
| | NB | 149 | | | 6 | 5 | | 3 | 4 | 4 | | | |
| 0925 | SB | 186 | 1 | | 9 | 1 | | | 7 | 8 | | 54 | 34-70 |
| | NB | 172 | 1 | | 13 | | | 1 | 7 | 12 | | | |
| 1046 | SB | 152 | | | 10 | 1 | | 1 | 1 | 11 | | 56 | 37-68 |
| | NB | 140 | | | 13 | 6 | 1 | 2 | 3 | 16 | | | |
| 1123 | SB | 162 | | | 10 | 5 | | | 4 | 8 | | 54 | 38-65 |
| | NB | 136 | | | 10 | 1 | | | 7 | 11 | | | |
| 1250 | SB | 168 | | | 8 | 1 | | | 5 | 12 | | 57 | 44-69 |
| | NB | 168 | 1 | | 10 | 2 | | 1 | 4 | 6 | | | |
| 1307 | SB | 163 | | | 15 | 2 | | | 8 | 12 | | 55 | 30-68 |
| | NB | 179 | | 1 | 9 | 1 | | | 5 | 9 | | | |
| 1433 | SB | 232 | 1 | | 18 | 1 | | 1 | 10 | 4 | | 54 | 43-65 |
| | NB | 239 | | | 22 | 3 | | 1 | 9 | 8 | | | |
| 1453 | SB | 235 | 1 | | 19 | | | 1 | 5 | 7 | | 56 | 48-68 |
| | NB | 189 | | | 18 | | | | 5 | 7 | | | |

TABLE NO. 145

10 MINUTE TRAFFIC SUMMARY

SITE I-93, ANDOVER, MASSACHUSETTS

Date 11/4/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0905 | SB | 191 | — | 3 | 7 | 1 | — | — | 6 | 3 | — | 57 | 48-79 |
| — | NB | 181 | — | — | 10 | 2 | — | 3 | 8 | 12 | — | — | — |
| 0925 | SB | 186 | — | 5 | 11 | 3 | 1 | — | 4 | 12 | — | 56 | 48-65 |
| — | NB | 185 | 1 | — | 5 | — | — | — | 10 | 5 | — | — | — |
| 1117 | SB | 139 | — | — | 19 | 3 | — | — | 3 | 7 | — | 56 | 43-71 |
| — | NB | 178 | 1 | — | 13 | 3 | — | 1 | 5 | 7 | — | — | — |
| 1137 | SB | 131 | — | — | 9 | 2 | — | — | 6 | 10 | — | 55 | 46-63 |
| — | NB | 144 | — | — | 10 | — | — | 3 | 6 | 11 | — | — | — |
| 1236 | SB | 148 | — | — | 5 | 4 | — | 1 | 4 | 6 | — | 57 | 47-67 |
| — | NB | 165 | — | — | 16 | — | — | — | 2 | 8 | — | — | — |
| 1256 | SB | 138 | — | — | 10 | 1 | 1 | — | 5 | 8 | — | 56 | 45-74 |
| — | NB | 146 | — | 1 | 7 | 3 | — | 1 | 6 | 9 | — | — | — |
| 1437 | SB | 193 | — | 1 | 18 | — | — | — | 8 | 10 | — | 56 | 44-66 |
| — | NB | 221 | 2 | — | 16 | 3 | — | 3 | 5 | 13 | — | — | — |
| 1457 | SB | 229 | — | 1 | 13 | 3 | — | 1 | 6 | 9 | — | 58 | 47-77 |
| — | NB | 268 | — | — | 8 | 4 | — | — | 8 | 8 | — | — | — |

TABLE NO. 146

10 MINUTE TRAFFIC SUMMARY

SITE I-93, ANDOVER, MASSACHUSETTS

Date 11/5/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0848 | SB | 272 | | | 8 | | | | 6 | 8 | | 58 | 48-72 |
| | NB | 187 | 1 | 1 | 10 | | | | 7 | 8 | | | |
| 0908 | SB | 221 | | 1 | 19 | | | | 6 | 7 | | 57 | 41-70 |
| | NB | 158 | | | 10 | 1 | | | 7 | 11 | | | |
| 1014 | SB | 186 | | | 7 | 1 | | 1 | 10 | 6 | | 57 | 51-68 |
| | NB | 158 | | | 12 | 2 | | 2 | 8 | 16 | | | |
| 1034 | SB | 148 | | | 11 | 2 | | 1 | 6 | 7 | | 58 | 50-74 |
| | NB | 154 | | | 7 | | | 1 | 5 | 10 | | | |
| 1123 | SB | 173 | | 1 | 18 | 1 | 1 | 1 | 9 | 9 | | 58 | 49-66 |
| | NB | 159 | | | 10 | 2 | | 3 | 10 | 9 | | | |
| 1143 | SB | 172 | | 1 | 9 | 2 | 1 | | 7 | 9 | | 56 | 45-66 |
| | NB | 122 | | | 8 | 1 | | 2 | 4 | 10 | | | |
| 1317 | SB | 176 | | | 8 | 2 | | 1 | 2 | 6 | | 57 | 50-65 |
| | NB | 170 | | | 9 | 1 | | 1 | 4 | 5 | | | |
| 1348 | SB | 194 | | 1 | 14 | 3 | | 1 | 9 | 3 | | 58 | 48-67 |
| | NB | 179 | | | 11 | 1 | | 2 | 6 | 8 | | | |

TABLE NO. 147

10 MINUTE TRAFFIC SUMMARY

SITE I-93 . ANDOVER, MASSACHUSETTS

Date 11/6/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles | | | | | TTST | | | | Speed (mph) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | 3 axle | 4 axle | 5 axle | 6 axle | Ave | Range |
| 0850 | SB | 252 | 1 | | 13 | 2 | | | 5 | 12 | | 54 | 48-69 |
| | NB | 212 | | | 11 | 1 | | 1 | 5 | 8 | | | |
| 0910 | SB | 224 | 3 | | 12 | 1 | | 1 | 4 | 5 | | 52 | 44-63 |
| | NB | 178 | 1 | | 11 | | | 3 | 9 | 9 | | | |
| 1018 | SB | 185 | | | 29 | | | 1 | 11 | 10 | | 54 | 40-70 |
| | NB | 204 | | 1 | 17 | 2 | | | 9 | 7 | | | |
| 1038 | SB | 142 | | | 12 | | | 1 | 8 | 9 | | 55 | 41-66 |
| | NB | 134 | | | 14 | 1 | | 1 | 4 | 8 | | | |
| 1119 | SB | 166 | 3 | | 15 | 6 | | | | 9 | | 51 | 45-57 |
| | NB | 152 | 1 | | 9 | 1 | | 1 | 7 | 8 | | | |
| 1141 | SB | 131 | 1 | | 12 | 4 | | | 4 | 8 | | 55 | 44-66 |
| | NB | 202 | 1 | | 8 | 3 | | | 16 | 15 | | | |
| 1320 | SB | 170 | | | 20 | 5 | | | 6 | 2 | | 53 | 44-64 |
| | NB | 161 | | | 12 | | | 1 | 10 | 4 | | | |
| 1340 | SB | 184 | 1 | | 12 | 2 | | 1 | 9 | 8 | | 54 | 44-68 |
| | NB | 171 | 1 | | 17 | 2 | | 2 | 3 | 11 | | | |

TABLE NO. 148

10 MINUTE TRAFFIC SUMMARY

SITE I73 . ANDOVER, MASSACHUSETTS

Date 11/18/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles | | | | | TTST | | | | Speed (mph) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | 3 axle | 4 axle | 5 axle | 6 axle | Ave | Range |
| 0916 | SB | 199 | | 1 | 13 | | | | 5 | 12 | | 55 | 44-66 |
| | NB | 208 | 1 | | 9 | | | | 5 | 10 | | | |
| 0936 | SB | 203 | | 1 | 10 | 2 | | 2 | 6 | 11 | | 55 | 46-76 |
| | NB | 210 | | | 12 | 2 | | 3 | 3 | 9 | | | |
| 1043 | SB | 171 | | | 16 | 2 | 1 | 3 | 3 | 8 | | 54 | 41-62 |
| | NB | 147 | | | 10 | 2 | | 2 | 8 | 6 | | | |
| 1103 | SB | 174 | | | 10 | 5 | | 1 | 6 | 7 | | 55 | 44-64 |
| | NB | 141 | | | 10 | 2 | | 1 | 6 | 7 | | | |
| 1204 | SB | 148 | | 1 | 7 | 2 | | 1 | 6 | 12 | | 54 | 45-66 |
| | NB | 164 | | | 9 | 1 | | | 3 | 9 | | | |
| 1224 | SB | 146 | | | 3 | 1 | | | 7 | 7 | | 56 | 41-68 |
| | NB | 172 | | | 10 | | 1 | 2 | 5 | 7 | | | |
| 1348 | SB | 175 | | 1 | 12 | 2 | | | 10 | 8 | | 55 | 45-70 |
| | NB | 167 | | | 10 | | | 1 | 1 | 7 | | | |
| 1408 | SB | 215 | | 1 | 8 | 3 | 1 | 1 | 3 | 8 | | 55 | 42-63 |
| | NB | 158 | 1 | | 9 | 3 | | | 4 | 9 | | | |

TABLE NO. 149

10 MINUTE TRAFFIC SUMMARY

SITE I-93, ANDOVER, MASSACHUSETTS

Date 11/19/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0855 | SB | 247 | 7 | | 19 | 1 | | 3 | 7 | 8 | | 55 | 46-66 |
| | NB | 158 | | | 9 | 5 | | 1 | 2 | 13 | | | |
| 0915 | SB | 208 | 4 | | 11 | 5 | | | 5 | 11 | | 54 | 43-65 |
| | NB | 167 | 1 | | 14 | 1 | | 3 | 5 | 16 | | | |
| 1016 | SB | 157 | | | 15 | | | 2 | 3 | 5 | | 55 | 48-67 |
| | NB | 178 | | | 19 | 3 | | | 3 | 15 | | | |
| 1036 | SB | 155 | | | 14 | 3 | | 2 | 5 | 12 | | 56 | 43-71 |
| | NB | 175 | | | 14 | | | 5 | 6 | 17 | | | |
| 1127 | SB | 199 | | | 13 | | | 2 | 7 | 10 | | 54 | 47-63 |
| | NB | 164 | | | 5 | 1 | | | 8 | 12 | | | |
| 1147 | SB | 141 | 1 | | 11 | 4 | | 1 | 5 | 4 | | 54 | 45-62 |
| | NB | 124 | | | 12 | | | 1 | 4 | 7 | | | |
| 1313 | SB | 183 | | | 10 | 3 | 1 | 1 | 2 | 3 | | 54 | 46-70 |
| | NB | 165 | 1 | | 12 | 1 | | | 9 | 7 | | | |
| 1333 | SB | 169 | 1 | | 19 | 2 | | 2 | 9 | 8 | | 55 | 44-71 |
| | NB | 164 | | | 10 | 2 | | | 5 | 8 | | | |

TABLE NO. 150

10 MINUTE TRAFFIC SUMMARY

SITE I-93 , ANDOVER, MASSACHUSETTS

Date 11/20/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles | | | | | TTST | | | | Speed (mph) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | 3 axle | 4 axle | 5 axle | 6 axle | Ave | Range |
| 0848 | SB | 265 | | | 12 | 2 | | | 8 | 4 | | 56 | 45-66 |
| | NB | 178 | | 1 | 10 | 2 | | 2 | 8 | 8 | | | |
| 0908 | SB | 255 | 7 | | 12 | 2 | | | 4 | 8 | | 54 | 46-67 |
| | NB | 211 | | | 11 | | | | 6 | 12 | | | |
| 1007 | SB | 184 | | | 13 | 3 | | | 7 | 10 | | 55 | 46-71 |
| | NB | 179 | | | 13 | 1 | | 1 | 4 | 9 | | | |
| 1027 | SB | 156 | 1 | | 11 | 2 | | 1 | 7 | 7 | | 56 | 47-69 |
| | NB | 199 | | | 11 | 1 | | 3 | 6 | 10 | | | |
| 1112 | SB | 165 | 1 | | 13 | 1 | | | 5 | 7 | | 54 | 44-66 |
| | NB | 147 | | | 12 | 1 | | | 11 | 6 | | | |
| 1132 | SB | 155 | | | 9 | 2 | | | 4 | 9 | | 56 | 43-77 |
| | NB | 171 | | | 8 | 1 | | 3 | 3 | 11 | | | |
| 1253 | SB | 131 | | | 10 | 2 | | | 12 | 5 | | 56 | 44-89 |
| | NB | 145 | | 1 | 13 | 2 | | | 3 | 9 | | | |
| 1313 | SB | 192 | | | 10 | 1 | | 2 | 7 | 8 | | 55 | 40-69 |
| | NB | 193 | 2 | | 10 | | | 1 | 6 | 15 | | | |

TABLE NO. 151

10 MINUTE TRAFFIC SUMMARY

SITE I-93, ANDOVER MASSACHUSETTS

Date 12/2/25

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | Single Unit Vehicles: 3 axle busses | Single Unit Vehicles: 2 axle 6 tired trucks | Single Unit Vehicles: 3 axle trucks | Single Unit Vehicles: 4 axle trucks | TTST: 3 axle | TTST: 4 axle | TTST: 5 axle | TTST: 6 axle | Speed (mph): Ave | Speed (mph): Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0922 | SB | 218 | 2 | | 15 | 1 | | | 4 | 14 | | 54 | 42-66 |
| | NB | 168 | | | 11 | 3 | | 2 | 6 | 7 | | | |
| 0942 | SB | 189 | 1 | | 12 | | | 2 | 5 | 8 | 1 | 53 | 35-64 |
| | NB | 162 | 2 | 1 | 11 | 3 | | 2 | 10 | 6 | | | |
| 1045 | SB | 157 | | | 12 | 1 | | 3 | 6 | 8 | | 54 | 44-61 |
| | NB | 168 | | | 19 | 1 | | 2 | 7 | 15 | | | |
| 1105 | SB | 144 | | | 14 | 1 | | 1 | 6 | 10 | | 54 | 40-74 |
| | NB | 140 | | | 18 | | | 1 | 3 | 11 | | | |
| 1152 | SB | 149 | 1 | | 9 | 3 | | | 2 | 12 | | — | — |
| | NB | 143 | | | 12 | 2 | | 1 | 3 | 15 | | | |
| 1212 | SB | 131 | | | 9 | 5 | | 1 | 4 | 5 | | 54 | 42-64 |
| | NB | 157 | | | 16 | 3 | | 1 | 8 | 9 | | | |
| 1344 | SB | 154 | | 1 | 13 | 6 | | | 5 | 5 | | 53 | 41-63 |
| | NB | 167 | | | 13 | 3 | | 3 | 8 | 12 | | | |
| 1404 | SB | 196 | | | 6 | 1 | | 1 | 4 | 6 | | 53 | 30-63 |
| | NB | 181 | 1 | | 16 | 3 | | | 4 | 4 | | | |

TABLE NO. 152

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 12/3/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles | | | | | TTST | | | Speed (mph) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | 3 axle | 4 axle | 5 axle | 6 axle | Ave | Range |
| 0841 | SB | 287 | — | — | 13 | 1 | — | — | 10 | 13 | 1 | 54 | 35-68 |
| — | NB | 188 | 1 | — | 9 | 4 | — | — | 4 | 9 | — | — | — |
| 0901 | SB | 237 | — | — | 15 | 1 | — | — | 8 | 10 | — | 53 | 37-65 |
| — | NB | 187 | — | — | 9 | 1 | 1 | — | 8 | 6 | — | — | — |
| 1002 | SB | 160 | 1 | — | 10 | — | — | 1 | 5 | 16 | — | 54 | 41-66 |
| — | NB | 133 | — | — | 12 | 2 | — | 1 | 6 | 12 | — | — | — |
| 1022 | SB | 161 | — | — | 18 | 5 | — | — | 3 | 5 | — | 55 | 30-74 |
| — | NB | 154 | — | 1 | 11 | 3 | — | 3 | 7 | 9 | — | — | — |
| 1106 | SB | 167 | — | — | 17 | 6 | — | 1 | 9 | 13 | — | 55 | 37-67 |
| — | NB | 141 | — | — | 15 | — | 2 | 1 | 3 | 13 | — | — | — |
| 1139 | SB | 152 | 3 | — | 10 | 3 | — | — | 4 | 3 | — | 53 | 38-69 |
| — | NB | 156 | — | — | 14 | — | — | — | 9 | 10 | — | — | — |
| 1306 | SB | 103 | — | — | 4 | 1 | — | 1 | 7 | 6 | — | 55 | 32-71 |
| — | NB | 148 | — | — | 15 | — | — | — | 10 | 6 | — | — | — |
| 1326 | SB | 157 | — | — | 12 | 1 | 1 | 1 | 5 | 10 | — | 54 | 42-64 |
| — | NB | 161 | 1 | — | 10 | — | — | — | 4 | 11 | — | — | — |

TABLE NO.

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 12/4/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0712 | SB | 225 | 1 | | 10 | 3 | | 2 | 10 | 8 | | 55 | 46-63 |
| | NB | 157 | 1 | | 10 | 1 | | 1 | 5 | 2 | | | |
| 0737 | SB | 206 | | 1 | 11 | 3 | | 2 | 7 | 9 | | 53 | 41-64 |
| | NB | 153 | 2 | 1 | 19 | 3 | | 1 | 7 | 11 | | | |
| 1040 | SB | 169 | | | 11 | 3 | | | 5 | 10 | | 54 | 40-66 |
| | NB | 148 | | | 9 | 2 | | 2 | 3 | 4 | | | |
| 1100 | SB | 138 | | 1 | 9 | 2 | | 1 | 6 | 7 | | 56 | 44-86 |
| | NB | 151 | | | 12 | 1 | | 2 | 5 | 13 | | | |
| 1125 | SB | 147 | 2 | | 8 | 1 | | | 6 | 8 | | 57 | 45-77 |
| | NB | 130 | | | 9 | | | | 5 | 10 | | | |
| 1145 | SB | 139 | 1 | | 10 | | | 1 | 6 | 6 | | 56 | 39-68 |
| | NB | 147 | | | 12 | 1 | | 2 | 5 | 11 | | | |
| 1328 | SB | 214 | | | 12 | 2 | | 1 | 3 | 10 | | 55 | 41-71 |
| | NB | 152 | 1 | | 15 | 2 | | 1 | 11 | 6 | | | |
| 1348 | SB | 173 | | 1 | 14 | 1 | | 1 | 11 | 3 | | 55 | 44-67 |
| | NB | 139 | | | 10 | | | 1 | 8 | 12 | | | |

TABLE NO. 154

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 12/9/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0950 | SB | 225 | 1 | | 13 | 1 | | | 6 | 5 | | 54 | 41-67 |
| | NB | 168 | 2 | | 9 | 3 | | | 5 | 3 | | | |
| 1035 | SB | 145 | 1 | | 11 | | | 3 | 12 | 8 | | 51 | 35-62 |
| | NB | 134 | | | 11 | 1 | 1 | 2 | 4 | 5 | | | |
| 1050 | SB | 142 | | | 11 | | | 1 | 6 | 9 | | 52 | 30-67 |
| | NB | 106 | | | 13 | 1 | | | 9 | 8 | | | |
| 1145 | SB | 144 | 1 | | 9 | 2 | | 4 | 1 | 9 | | 51 | 31-63 |
| | NB | 135 | | | 4 | | | | 11 | 9 | | | |
| 1200 | SB | 115 | | | 5 | 2 | | | 5 | 9 | | 51 | 37-67 |
| | NB | 165 | | | 12 | | | 2 | 7 | 8 | | | |

TABLE NO. 155

10 MINUTE TRAFFIC SUMMARY

SITE I 93 , ANDOVER, MASSACHUSETTS

Date 12/11/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 5 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0947 | SB | 172 | 1 | | 15 | | | | 10 | 15 | | 54 | 44-64 |
| | NB | 106 | 1 | | 12 | 2 | | 3 | 5 | 12 | | | |
| 1007 | SB | 163 | | | 16 | | | 2 | 2 | 7 | | 55 | 42-67 |
| | NB | 142 | | | 9 | 2 | | 2 | 9 | 8 | | | |
| 1143 | SB | 167 | 1 | | 7 | 1 | | 3 | 5 | 7 | | 55 | 32-66 |
| | NB | 134 | | | 7 | 1 | | | 6 | 8 | | | |
| 1203 | SB | 150 | | | 13 | 1 | | 1 | 4 | 12 | | 54 | 36-79 |
| | NB | 158 | | | 13 | 1 | | | 2 | 5 | | | |
| 1244 | SB | 151 | | | 12 | | | | 8 | 10 | | 55 | 43-65 |
| | NB | 170 | | | 9 | | | 1 | 6 | 10 | | | |
| 1305 | SB | 153 | | | 12 | 1 | | 1 | 6 | 13 | | 54 | 39-68 |
| | NB | 136 | | | 7 | 2 | 1 | 1 | 5 | 9 | | | |
| 1427 | SB | 200 | | | 14 | 1 | | 1 | 6 | 3 | | 55 | 38-68 |
| | NB | 172 | | 1 | 21 | 1 | | 1 | 7 | 10 | | | |
| 1447 | SB | 225 | | | 20 | | | 2 | 10 | 8 | | 55 | 42-66 |
| | NB | 227 | 2 | | 15 | 1 | | 2 | 6 | 6 | | | |

TABLE NO. 156

10 MINUTE TRAFFIC SUMMARY

SITE I-93 . ANDOVER, MASSACHUSETTS

Date 12/12/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0854 | SB | 253 | | | 14 | 1 | | 3 | 5 | 13 | | 55 | 45-63 |
| | NB | 157 | | | 9 | 1 | | 3 | 11 | 8 | | | |
| 0914 | SB | 152 | 4 | | 13 | 1 | | | 4 | 8 | | 56 | 42-76 |
| | NB | 129 | 1 | | 10 | 2 | | | 4 | 3 | | | |
| 1012 | SB | 174 | | | 13 | 4 | | 1 | 9 | 17 | | 56 | 45-74 |
| | NB | 135 | 1 | | 12 | | | 1 | 6 | 7 | | | |
| 1032 | SB | 177 | | | 15 | 1 | | | 8 | 13 | | 54 | 36-67 |
| | NB | 175 | | | 10 | 7 | | 2 | 8 | 10 | | | |
| 1117 | SB | 160 | | | 18 | 2 | | 1 | 5 | 9 | | 53 | 34-67 |
| | NB | 157 | 1 | | 24 | 3 | | 2 | 7 | 10 | | | |
| 1137 | SB | 157 | | | 8 | 1 | | | 9 | 5 | | 55 | 44-67 |
| | NB | 174 | | | 15 | 2 | | | 6 | 10 | | | |
| 1305 | SB | 152 | | | 6 | 2 | | | 4 | 8 | | 57 | 44-71 |
| | NB | 150 | | | 8 | 2 | | | 2 | 8 | | | |
| 1325 | SB | 173 | 1 | | 13 | 1 | | 2 | 3 | 9 | | 55 | 44-63 |
| | NB | 189 | 1 | | 10 | 1 | | | 4 | 10 | | | |

TABLE NO. 157

10 MINUTE TRAFFIC SUMMARY

SITE I93, ANDOVER, MASSACHUSETTS

Date 12/16/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0906 | SB | 228 | 1 | | 7 | 2 | | 1 | 5 | 9 | | 55 | 39-62 |
| | NB | 142 | | | 6 | 1 | | | 7 | 12 | | | |
| 0926 | SB | 228 | 1 | 1 | 11 | | | | 6 | 8 | | 55 | 46-68 |
| | NB | 152 | | | 15 | 1 | | 2 | 8 | 7 | | | |
| 1022 | SB | 182 | | | 9 | 5 | | | 5 | 10 | | 55 | 43-65 |
| | NB | 155 | 1 | | 11 | 1 | | 1 | 6 | 11 | | | |
| 1042 | SB | 153 | | 1 | 9 | 3 | | 1 | 5 | 15 | | 56 | 43-78 |
| | NB | 190 | | | 12 | 1 | | | 6 | 13 | | | |
| 1122 | SB | 163 | | | 15 | 1 | | | 6 | 7 | | 54 | 41-68 |
| | NB | 161 | 1 | | 13 | 5 | | 1 | 10 | 16 | | | |
| 1142 | SB | 146 | 1 | | 8 | 1 | | | 11 | 10 | | 55 | 41-66 |
| | NB | 150 | | | 15 | 2 | | 5 | 4 | 8 | | | |
| 1303 | SB | 167 | | | 13 | 4 | | | 6 | 7 | | 55 | 32-69 |
| | NB | 175 | | | 13 | 5 | | 1 | 7 | 9 | | | |
| 1323 | SB | 164 | | | 18 | 3 | | | 2 | 7 | | 56 | 37-65 |
| | NB | 152 | 1 | | 6 | 4 | | 2 | 8 | 8 | | | |

TABLE NO. 158

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 12/17/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0725 | SB | 231 | 2 | | 11 | 1 | | | 7 | 9 | | 54 | 46-65 |
| | NB | 165 | | | 14 | 3 | | 3 | 7 | 8 | | | |
| 0945 | SB | 210 | | | 10 | | | | 6 | 10 | | 56 | 36-66 |
| | NB | 159 | | | 13 | | | 1 | 2 | 15 | | | |
| 1054 | SB | 189 | | | 13 | 1 | | 1 | 3 | 11 | | 52 | 33-64 |
| | NB | 149 | | | 18 | 3 | | 2 | 8 | 21 | | | |
| 1132 | SB | 176 | 2 | | 10 | | | 1 | 6 | 4 | | 54 | 31-67 |
| | NB | 153 | | | 7 | | | | 9 | 8 | | | |
| 1209 | SB | 145 | | | 10 | 1 | | 2 | 8 | 12 | | 53 | 38-64 |
| | NB | 168 | 1 | | 10 | 3 | | | 8 | 12 | | | |
| 1225 | SB | 155 | | | 5 | 2 | | 4 | 5 | 13 | | 54 | 41-63 |
| | NB | 155 | 1 | | 6 | 3 | | | 4 | 15 | | | |
| 1345 | SB | 184 | | | 10 | 1 | | | 6 | 9 | | 53 | 42-65 |
| | NB | 177 | | | 12 | 1 | | 3 | 10 | 12 | | | |
| 1405 | SB | 196 | 1 | | 10 | 3 | | 1 | 8 | 10 | | 54 | 34-69 |
| | NB | 198 | | | 7 | 1 | | | 4 | 10 | | | |

TABLE NO. 159

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 12/18/75

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles | | | | | TTST | | | | Speed (mph) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | 3 axle | 4 axle | 5 axle | 6 axle | Ave | Range |
| 0747 | SB | 209 | | | 16 | 1 | | 1 | 1 | 11 | | 53 | 41-65 |
| | NB | 164 | | | 9 | 1 | | 2 | 7 | 4 | | | |
| 1007 | SB | 178 | | | 12 | 3 | | 2 | 5 | 6 | | 52 | 37-63 |
| | NB | 146 | | | 21 | | | 1 | 3 | 10 | | | |
| 1058 | SB | 178 | | 1 | 10 | | | 1 | 5 | 12 | | 52 | 30-62 |
| | NB | 162 | | | 7 | 2 | | 1 | 8 | 3 | | | |
| 1118 | SB | 139 | | | 12 | 1 | | 1 | 3 | 9 | | 53 | 37-76 |
| | NB | 156 | 1 | | 11 | 2 | | 2 | 8 | 7 | | | |
| 1201 | SB | 141 | | | 8 | 2 | | 1 | 5 | 9 | | 53 | 33-64 |
| | NB | 141 | | | 7 | | | 1 | 6 | 7 | | | |
| 1221 | SB | 143 | | | 7 | 1 | | | 4 | 8 | | 53 | 35-65 |
| | NB | 150 | | | 10 | | | | 8 | 7 | | | |
| 1345 | SB | 182 | 1 | 1 | 14 | 1 | | 1 | 6 | 8 | | 53 | 41-68 |
| | NB | 162 | 1 | | 6 | 1 | | 4 | 5 | 10 | | | |
| 1406 | SB | 154 | | | 14 | 1 | | | 6 | 10 | | 54 | 40-70 |
| | NB | 172 | | | 8 | 1 | | | 5 | 9 | | | |

TABLE NO. 160

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 4/27/76

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1005 | SB | 137 | | | 5 | 1 | | | 7 | 11 | | 54 | 30-67 |
| | NB | 168 | | | 15 | 2 | | 3 | 5 | 13 | | | |
| 1025 | SB | 176 | | | 7 | 5 | 1 | 3 | 7 | 9 | | 54 | 66-32 |
| | NB | 173 | | 1 | 15 | 1 | | 2 | 8 | 12 | | | |
| 1150 | SB | 153 | | | 7 | 1 | | | 3 | 5 | | 53 | 37-68 |
| | NB | 134 | | | 12 | 5 | | 4 | 8 | 7 | | | |
| 1210 | SB | 156 | | | 14 | 4 | | 1 | 6 | 10 | | 52 | 37-67 |
| | NB | 155 | 2 | | 14 | 3 | | 1 | 7 | 10 | | | |
| 1258 | SB | 167 | | | 15 | 1 | | 1 | 2 | 5 | | 55 | 35-68 |
| | NB | 171 | | | 14 | 1 | | 4 | 4 | 5 | | | |
| 1318 | SB | 176 | | | 13 | 1 | | 1 | 12 | 12 | | 54 | 42-68 |
| | NB | 167 | 2 | | 6 | 1 | | 3 | 7 | 7 | | | |
| 1455 | SB | 238 | 1 | | 13 | 2 | | | 5 | 7 | 1 | 51 | 40-62 |
| | NB | 205 | 2 | | 18 | 1 | | | 4 | 9 | | | |
| 1515 | SB | 282 | 1 | 2 | 14 | 7 | | 2 | 7 | 12 | | 52 | 27-61 |
| | NB | 271 | | | 9 | 1 | | 2 | 2 | 8 | | | |

TABLE NO. 161

10 MINUTE TRAFFIC SUMMARY

SITE I 93 , ANDOVER, MASSACHUSETTS

Date 4/28/76

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0839 | SB | 321 | 1 | | 19 | 3 | | 1 | 8 | 8 | | 54 | 39-64 |
| | NB | 185 | | 1 | 9 | 2 | 1 | | 7 | 8 | | | |
| 0857 | SB | 228 | | | 17 | 2 | | | 7 | 5 | | 55 | 42-70 |
| | NB | 165 | | | 23 | 5 | | 4 | 5 | 13 | | | |
| 1007 | SB | 169 | | | 15 | 2 | | | 5 | 12 | | 52 | 41-65 |
| | NB | 153 | | | 14 | 1 | | 1 | 3 | 13 | | | |
| 1027 | SB | 189 | | | 15 | 4 | | 2 | 7 | 10 | | 53 | 43-66 |
| | NB | 176 | 2 | 1 | 11 | 2 | | 3 | 7 | 17 | | | |
| 1117 | SB | 162 | | | 13 | | | 1 | 7 | 7 | | 52 | 34-64 |
| | NB | 181 | | | 12 | 6 | | 2 | 5 | 8 | | | |
| 1132 | SB | 158 | | | 12 | 4 | | 4 | 11 | 12 | | 52 | 38-65 |
| | NB | 162 | | | 8 | 4 | | | 7 | 12 | | | |
| 1235 | SB | 146 | 1 | | 6 | 2 | | 1 | 5 | 4 | 1 | 53 | 36-68 |
| | NB | 135 | | | 18 | | | 1 | 7 | 10 | | | |
| 1255 | SB | 181 | | | 10 | 1 | | 2 | 7 | 10 | | 54 | 44-67 |
| | NB | 170 | | 1 | 10 | 2 | | 1 | 11 | 10 | | | |

TABLE NO. 162

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 4-29-76

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0835 | SB | 345 | 1 | | 15 | 2 | | 1 | 13 | 14 | | 55 | 46-68 |
| | NB | 203 | | 1 | 12 | 3 | 1 | 1 | 7 | 4 | | | |
| 0855 | SB | 262 | | | 15 | 2 | 1 | 1 | 6 | 11 | 1 | 55 | 42-71 |
| | NB | 191 | 1 | | 10 | 2 | | 3 | 11 | 8 | | | |
| 1005 | SB | 190 | 2 | | 12 | 1 | 1 | 1 | 6 | 16 | | 53 | 42-67 |
| | NB | 173 | 1 | | 15 | 2 | | 1 | 3 | 10 | | | |
| 1025 | SB | 172 | | | 11 | 2 | | | 3 | 9 | | 56 | 41-68 |
| | NB | 144 | | 1 | 16 | 3 | | 2 | 6 | 6 | | | |
| 1055 | SB | 160 | 2 | 1 | 11 | 2 | | | 7 | 9 | | 52 | 38-69 |
| | NB | 166 | | | 14 | 1 | 1 | 1 | 11 | 11 | | | |
| 1115 | SB | 174 | | | 8 | 2 | | 1 | 6 | 12 | | 54 | 36-62 |
| | NB | 155 | | | 14 | 3 | | | 2 | 20 | | | |
| 1215 | SB | 174 | | | 3 | 1 | | | 2 | 12 | | 54 | 37-61 |
| | NB | 140 | | | 12 | 2 | | 1 | 10 | 14 | | | |
| 1235 | SB | 172 | | | 11 | 3 | | | 1 | 6 | | 55 | 37-68 |
| | NB | 160 | | | 9 | 2 | 1 | | 6 | 16 | | | |

TABLE NO. 163

10 MINUTE TRAFFIC SUMMARY

SITE I93 . ANDOVER, MASSACHUSETTS

Date 9/14/76

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles | | | | | TTST | | | | Speed (mph) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | 3 axle | 4 axle | 5 axle | 6 axle | Ave | Range |
| 0946 | SB | 205 | — | 1 | 16 | 1 | — | — | 2 | 21 | — | 55 | 39-70 |
| — | NB | 197 | — | — | 8 | 4 | — | 3 | 5 | 8 | — | — | — |
| 1009 | SB | 208 | — | — | 19 | 1 | — | 2 | 6 | 9 | — | 55 | 47-65 |
| — | NB | 171 | — | — | 18 | 1 | — | 1 | 5 | 9 | — | — | — |
| 1135 | SB | 194 | 2 | — | 12 | 2 | — | 1 | 8 | 14 | — | 53 | 31-61 |
| — | NB | 168 | 1 | — | 12 | — | — | — | 6 | 12 | — | — | — |
| 1155 | SB | 165 | — | — | 6 | 4 | — | 2 | 4 | 10 | — | 54 | 44-70 |
| — | NB | 181 | — | — | 8 | — | — | 2 | 2 | 10 | — | — | — |
| 1257 | SB | 192 | — | — | 9 | — | 1 | — | 4 | 5 | — | 53 | 41-67 |
| — | NB | 181 | — | 1 | 12 | 3 | — | 1 | 3 | 12 | — | — | — |
| 1317 | SB | 182 | — | — | 13 | — | — | — | 7 | 10 | — | 55 | 47-64 |
| — | NB | 210 | — | — | 13 | — | — | 3 | 7 | 10 | — | — | — |
| 1455 | SB | 220 | 1 | — | 6 | 3 | — | 1 | 11 | 12 | — | 52 | 44-66 |
| — | NB | 243 | — | — | 9 | — | — | 1 | 4 | 13 | — | — | — |
| 1515 | SB | 299 | — | — | 8 | 2 | — | 2 | 6 | 8 | — | 55 | 46-63 |
| — | NB | 318 | — | — | 11 | — | — | 1 | 5 | 8 | — | — | — |

TABLE NO. 164

10 MINUTE TRAFFIC SUMMARY

SITE I 93 . ANDOVER, MASSACHUSETTS

Date 9-15-76

| Start Time | Direction | Pass. Cars & 4 tired trucks | Single Unit Vehicles: 2 axle busses | 3 axle busses | 2 axle 6 tired trucks | 3 axle trucks | 4 axle trucks | TTST: 3 axle | 4 axle | 5 axle | 6 axle | Speed (mph): Ave | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0848 | SB | 282 | 1 | | 12 | 2 | | 1 | 4 | 10 | | 56 | 45-68 |
| | NB | 225 | | | 13 | | | 1 | 12 | 8 | | | |
| 0908 | SB | 230 | | | 13 | | | | 2 | 10 | | 54 | 36-66 |
| | NB | 182 | | | 16 | 1 | | 1 | 4 | 5 | | | |
| 1022 | SB | 213 | 1 | | 10 | 3 | | | 7 | 9 | | 54 | 41-66 |
| | NB | 199 | | 1 | 11 | 3 | | 2 | 6 | 6 | | | |
| 1042 | SB | 206 | | | 15 | | | | 2 | 9 | | 53 | 40-65 |
| | NB | 199 | | | 10 | | | | 3 | 16 | | | |
| 1136 | SB | 171 | | | 12 | 1 | | | 5 | 10 | | 55 | 41-70 |
| | NB | 219 | | | 18 | 5 | | | 10 | 9 | | | |
| 1156 | SB | 181 | | | 8 | | | | 7 | 9 | | 54 | 41-68 |
| | NB | 201 | | | 12 | | | 2 | 11 | 7 | | | |
| 1337 | SB | 218 | | 2 | 7 | 3 | | | 11 | 17 | | 54 | 36-69 |
| | NB | 203 | | | 11 | 2 | | | 6 | 12 | | | |
| 1357 | SB | 200 | 1 | | 13 | 6 | | | 7 | 13 | | 52 | 33-62 |
| | NB | 240 | | | 16 | 1 | | | 5 | 5 | | | |

TABLES 165-168. OCTAVE BAND-MEAN ENERGY DATA: REFLECTIVE BARRIERS AT FOUR, EIGHT, TWELVE, AND SIXTEEN FEET; MICROPHONE CONFIGURATIONS B, C, D, E.

TABLE NO. 165
OCTAVE BAND- MEAN ENERGY DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.
10-09- 75 ; BARRIER HGT 4 FT ; REFLECTIVE

MEAN ENERGY - DB RE 20 MICROPASCAL

| MAST CONFIGURATION | FREQ HZ | MICROPHONE NO 1 | 3 | 4 | 5 | 8 | 10 | 13 |
|---|---|---|---|---|---|---|---|---|
| | 31.5 | 67.9 | 65.2 | 68.9 | 64.0 | 64.8 | | 65.5 |
| "B" | 63 | 72.5 | 73.2 | 74.7 | 69.9 | 71.9 | | 73.5 |
| | 125 | 76.9 | 74.0 | 74.4 | 70.1 | 73.4 | | 77.6 |
| | 250 | 75.2 | 66.3 | 68.9 | 69.8 | 68.3 | | 76.1 |
| 1205 | 500 | 74.6 | 61.5 | 68.9 | 69.7 | 66.1 | | 75.6 |
| HOURS | 1K | 72.6 | 62.3 | 66.5 | 67.6 | 65.3 | No Data | 73.2 |
| | 2K | 70.3 | 58.7 | 62.2 | 64.6 | 62.6 | | 70.1 |
| | 4K | 64.5 | 52.6 | 54.6 | 57.9 | 53.8 | | 64.4 |
| | 8K | 58.0 | 46.7 | 47.3 | 50.0 | 50.0 | | 56.6 |
| | OVER ALL | 82.2 | 77.6 | 79.4 | 77.0 | 77.4 | | 82.7 |
| | 31.5 | 69.8 | 64.3 | 67.5 | 63.7 | 65.7 | 63.9 | 67.3 |
| "C" | 63 | 74.4 | 71.7 | 73.5 | 70.3 | 72.0 | 69.4 | 75.0 |
| | 125 | 77.6 | 71.5 | 72.5 | 69.7 | 72.8 | 69.9 | 77.7 |
| | 250 | 76.6 | 63.7 | 66.7 | 67.1 | 66.6 | 67.9 | 77.2 |
| 1511 | 500 | 75.8 | 60.3 | 66.1 | 67.4 | 62.8 | 68.5 | 76.2 |
| HOURS | 1K | 74.5 | 59.8 | 64.3 | 65.7 | 62.2 | 67.0 | 74.4 |
| | 2K | 72.5 | 56.7 | 59.0 | 62.4 | 58.7 | 63.0 | 72.0 |
| | 4K | 66.9 | 49.6 | 50.6 | 55.8 | 50.6 | 54.6 | 66.4 |
| | 8K | 59.6 | 45.1 | 44.2 | 48.2 | 51.0 | 48.2 | 57.7 |
| | OVER ALL | 83.6 | 75.6 | 77.6 | 75.8 | 76.7 | 76.0 | 83.6 |
| | 31.5 | 70.1 | 63.3 | 65.8 | 62.9 | 62.3 | 62.1 | 68.2 |
| "D" | 63 | 75.6 | 70.6 | 71.7 | 69.4 | 70.1 | 67.8 | 76.9 |
| | 125 | 78.0 | 69.3 | 69.4 | 67.5 | 70.8 | 67.8 | 78.9 |
| | 250 | 75.8 | 58.4 | 61.9 | 63.5 | 61.6 | 64.2 | 77.1 |
| 0926 | 500 | 75.2 | 59.1 | 63.2 | 64.4 | 61.6 | 65.1 | 76.1 |
| HOURS | 1K | 73.7 | 61.0 | 61.5 | 62.9 | 61.4 | 64.1 | 74.2 |
| | 2K | 72.7 | 57.8 | 57.4 | 60.0 | 58.8 | 61.1 | 72.6 |
| | 4K | 66.6 | 49.2 | 48.3 | 52.4 | 50.6 | 52.0 | 66.6 |
| | 8K | 60.2 | 44.5 | 43.9 | 46.6 | 50.3 | 47.1 | 58.8 |
| | OVER ALL | 83.5 | 74.1 | 75.2 | 73.8 | 74.6 | 73.6 | 84.2 |
| | 31.5 | 69.8 | 67.4 | 69.3 | 66.5 | 67.2 | 66.0 | 66.8 |
| "E" | 63 | 75.2 | 76.6 | 76.2 | 73.7 | 75.9 | 72.2 | 76.2 |
| | 125 | 78.8 | 77.0 | 75.2 | 72.9 | 77.5 | 72.8 | 79.8 |
| | 250 | 77.6 | 68.9 | 69.9 | 73.1 | 70.3 | 72.1 | 78.7 |
| 1020 | 500 | 77.1 | 65.1 | 70.7 | 73.6 | 68.8 | 72.0 | 77.6 |
| HOURS | 1K | 76.0 | 66.8 | 68.7 | 71.8 | 67.9 | 71.2 | 75.6 |
| | 2K | 72.8 | 62.6 | 63.8 | 68.0 | 64.4 | 67.3 | 72.2 |
| | 4K | 66.6 | 55.2 | 55.8 | 60.9 | 56.5 | 60.7 | 66.1 |
| | 8K | 59.7 | 47.9 | 47.2 | 51.6 | 51.3 | 51.9 | 58.0 |
| | OVER ALL | 84.6 | 80.7 | 80.6 | 80.5 | 80.9 | 79.4 | 85.0 |

TABLE NO. 166
OCTAVE BAND- MEAN ENERGY DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.
11-06-75 ; BARRIER HGT 8 FT ; REFLECTIVE

MEAN ENERGY - DB RE 20 MICROPASCAL

| MAST CONFIGURATION | FREQ HZ | MICROPHONE NO 1 | 3 | 4 | 5 | 8 | 10 | 13 |
|---|---|---|---|---|---|---|---|---|
| | 31.5 | 71.3 | 68.5 | 69.1 | 67.8 | 68.7 | 67.7 | 70.0 |
| "B" | 63 | 78.1 | 77.4 | 76.4 | 75.2 | 79.2 | 76.5 | 80.5 |
| | 125 | 79.0 | 75.4 | 72.5 | 71.6 | 78.8 | 75.3 | 80.2 |
| | 250 | 78.8 | 67.0 | 67.7 | 71.7 | 73.3 | 74.5 | 79.6 |
| 1141 | 500 | 77.8 | 60.9 | 67.3 | 69.3 | 68.7 | 73.6 | 78.4 |
| HOURS | 1K | 75.6 | 60.6 | 63.1 | 66.4 | 68.1 | 71.2 | 75.9 |
| | 2K | 72.2 | 54.0 | 57.8 | 62.6 | 64.7 | 67.1 | 71.7 |
| | 4K | 65.6 | 46.2 | 50.3 | 55.4 | 57.0 | 60.0 | 64.8 |
| | 8K | 58.6 | 46.3 | 46.1 | 47.0 | 47.2 | 50.0 | 57.3 |
| | OVER ALL | 85.4 | 80.1 | 79.2 | 79.2 | 83.0 | 81.8 | 86.3 |
| | 31.5 | 71.0 | 65.0 | 64.8 | 63.7 | 64.8 | 63.9 | 68.7 |
| "C" | 63 | 77.4 | 73.0 | 71.8 | 71.0 | 73.2 | 71.5 | 77.9 |
| | 125 | 77.1 | 69.1 | 67.0 | 66.3 | 71.3 | 69.3 | 77.4 |
| | 250 | 77.7 | 62.0 | 62.4 | 64.8 | 66.2 | 67.9 | 77.8 |
| 1320 | 500 | 76.3 | 58.0 | 61.7 | 63.8 | 60.7 | 67.7 | 76.0 |
| HOURS | 1K | 74.5 | 57.9 | 59.0 | 60.7 | 59.9 | 66.2 | 74.4 |
| | 2K | 72.1 | 52.8 | 54.3 | 56.8 | 56.5 | 62.7 | 71.3 |
| | 4K | 65.9 | 44.5 | 45.9 | 48.5 | 48.3 | 55.0 | 64.8 |
| | 8K | 58.4 | 46.2 | 44.6 | 43.6 | 42.6 | 45.1 | 57.6 |
| | OVER ALL | 84.2 | 75.3 | 74.4 | 74.1 | 76.4 | 76.3 | 84.1 |
| | 31.5 | 69.1 | 62.5 | 63.0 | 61.6 | 62.6 | 61.4 | 66.4 |
| "D" | 63 | 75.9 | 70.3 | 69.6 | 68.7 | 71.4 | 69.2 | 76.6 |
| | 125 | 77.6 | 67.9 | 66.4 | 65.5 | 70.4 | 68.0 | 77.4 |
| | 250 | 77.8 | 58.6 | 59.2 | 61.4 | 63.4 | 64.1 | 77.4 |
| 0910 | 500 | 76.4 | 55.5 | 59.6 | 61.5 | 58.9 | 63.6 | 75.9 |
| HOURS | 1K | 74.8 | 56.0 | 57.6 | 58.5 | 57.4 | 62.6 | 74.3 |
| | 2K | 72.9 | 51.5 | 52.6 | 54.0 | 53.5 | 59.5 | 71.4 |
| | 4K | 66.2 | 43.4 | 44.2 | 45.2 | 44.7 | 50.4 | 64.3 |
| | 8K | 58.6 | 46.4 | 44.9 | 43.6 | 41.7 | 41.6 | 57.2 |
| | OVER ALL | 84.1 | 73.1 | 72.5 | 72.0 | 74.7 | 73.6 | 83.7 |
| | 31.5 | 70.4 | 67.1 | 67.9 | 66.1 | 66.8 | 66.2 | 68.3 |
| "E" | 63 | 76.8 | 76.1 | 75.5 | 73.6 | 76.7 | 74.1 | 78.1 |
| | 125 | 77.0 | 72.6 | 70.1 | 69.0 | 74.8 | 71.3 | 77.6 |
| | 250 | 79.4 | 66.7 | 68.9 | 71.7 | 70.6 | 72.9 | 79.0 |
| 1038 | 500 | 78.3 | 60.9 | 67.4 | 68.9 | 67.9 | 71.3 | 77.8 |
| HOURS | 1K | 76.0 | 60.8 | 63.4 | 65.9 | 65.8 | 68.9 | 75.7 |
| | 2K | 73.2 | 55.2 | 58.7 | 62.2 | 61.6 | 65.2 | 72.2 |
| | 4K | 66.4 | 47.8 | 50.8 | 54.7 | 54.6 | 57.7 | 65.0 |
| | 8K | 58.7 | 46.7 | 46.1 | 46.3 | 46.1 | 48.0 | 57.2 |
| | OVER ALL | 85.1 | 78.5 | 78.3 | 77.9 | 80.1 | 79.3 | 85.0 |

TABLE NO. 167
OCTAVE BAND- MEAN ENERGY DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.
11-20-75 ; BARRIER HGT 12 FT ; REFLECTIVE

MEAN ENERGY - DB RE 20 MICROPASCAL

| MAST CONFIGURATION | FREQ HZ | MICROPHONE NO 1 | 3 | 4 | 5 | 8 | 10 | 13 |
|---|---|---|---|---|---|---|---|---|
| | 31.5 | 68.5 | 66.4 | 66.9 | 64.6 | 67.4 | 66.7 | 66.4 |
| "B" | 63 | 76.6 | 75.4 | 74.0 | 71.6 | 77.9 | 75.3 | 77.0 |
| | 125 | 77.6 | 72.9 | 69.5 | 68.7 | 76.6 | 73.7 | 77.8 |
| | 250 | 76.5 | 62.8 | 64.8 | 66.7 | 71.6 | 72.4 | 77.4 |
| 1112 | 500 | 74.7 | 58.2 | 62.6 | 63.8 | 66.6 | 71.1 | 75.6 |
| HOURS | 1K | 74.3 | 58.3 | 59.8 | 61.7 | 66.6 | 70.3 | 75.0 |
| | 2K | 72.9 | 54.9 | 56.6 | 58.6 | 65.2 | 67.9 | 73.0 |
| | 4K | 66.5 | 49.2 | 50.2 | 51.9 | 58.8 | 61.9 | 66.7 |
| | 8K | 59.2 | 53.8 | 52.5 | 50.5 | 53.3 | 55.7 | 59.4 |
| | OVER ALL | 83.7 | 77.8 | 76.4 | 75.3 | 81.4 | 80.3 | 84.0 |
| | 31.5 | 68.9 | 63.8 | 63.3 | 64.2 | 64.7 | 64.0 | 66.0 |
| "C" | 63 | 75.7 | 71.8 | 70.4 | 73.3 | 73.3 | 71.9 | 76.5 |
| | 125 | 76.5 | 68.4 | 65.2 | 67.5 | 71.0 | 69.3 | 76.2 |
| | 250 | 76.7 | 60.1 | 59.7 | 62.3 | 66.8 | 68.2 | 76.9 |
| 1253 | 500 | 76.0 | 56.7 | 59.3 | 60.0 | 61.1 | 68.0 | 76.7 |
| HOURS | 1K | 75.4 | 55.9 | 55.9 | 57.2 | 60.6 | 67.0 | 75.4 |
| | 2K | 72.9 | 50.8 | 52.0 | 52.5 | 56.9 | 63.6 | 72.7 |
| | 4K | 67.2 | 47.1 | 47.6 | 47.6 | 52.5 | 57.8 | 67.2 |
| | 8K | 59.0 | 53.2 | 51.5 | 52.3 | 52.5 | 52.7 | 59.1 |
| | OVER ALL | 83.9 | 74.3 | 72.8 | 75.1 | 76.4 | 76.6 | 83.7 |
| | 31.5 | 69.2 | 63.9 | 64.1 | 62.6 | 63.4 | 62.9 | 66.5 |
| "D" | 63 | 75.8 | 71.3 | 70.1 | 69.2 | 71.8 | 70.4 | 77.0 |
| | 125 | 77.3 | 69.1 | 66.2 | 65.9 | 70.7 | 68.6 | 77.4 |
| | 250 | 77.4 | 59.4 | 59.6 | 62.1 | 62.8 | 64.0 | 77.4 |
| 0848 | 500 | 76.2 | 57.3 | 60.1 | 61.2 | 60.3 | 65.1 | 76.7 |
| HOURS | 1K | 75.9 | 58.7 | 58.7 | 59.0 | 61.4 | 65.0 | 76.1 |
| | 2K | 73.8 | 54.0 | 54.8 | 54.9 | 58.3 | 62.3 | 73.7 |
| | 4K | 68.0 | 48.9 | 49.8 | 49.4 | 52.4 | 54.9 | 67.7 |
| | 8K | 61.1 | 53.9 | 53.0 | 51.0 | 51.2 | 49.0 | 60.6 |
| | OVER ALL | 84.3 | 74.3 | 73.1 | 72.6 | 75.3 | 74.9 | 84.3 |
| | 31.5 | 69.7 | 66.8 | 67.4 | 65.3 | 67.2 | 66.3 | 67.1 |
| "E" | 63 | 77.6 | 76.2 | 75.0 | 72.9 | 77.8 | 74.8 | 78.0 |
| | 125 | 78.3 | 72.8 | 69.4 | 69.0 | 77.1 | 72.6 | 77.8 |
| | 250 | 76.1 | 62.0 | 63.7 | 65.9 | 70.1 | 69.5 | 76.6 |
| 1007 | 500 | 75.9 | 57.7 | 61.6 | 63.3 | 66.0 | 68.6 | 76.4 |
| HOURS | 1K | 75.3 | 56.2 | 58.2 | 59.9 | 65.0 | 67.6 | 75.9 |
| | 2K | 72.7 | 52.6 | 54.8 | 56.3 | 61.0 | 64.7 | 73.2 |
| | 4K | 66.9 | 48.8 | 50.4 | 50.3 | 55.9 | 58.4 | 67.3 |
| | 8K | 59.5 | 53.8 | 53.2 | 49.9 | 51.0 | 51.7 | 59.4 |
| | OVER ALL | 84.3 | 78.2 | 76.9 | 75.7 | 81.1 | 78.7 | 84.4 |

TABLE NO. 168
OCTAVE BAND- MEAN ENERGY DATA
ROADSIDE BARRIER TEST SITE , ANDOVER MA.
12-17-75 ; BARRIER HGT 16 FT ; REFLECTIVE

MEAN ENERGY - DB RE 20 MICROPASCAL

| MAST CONFIGURATION | FREQ HZ | MICROPHONE NO 1 | 3 | 4 | 5 | 8 | 10 | 13 |
|---|---|---|---|---|---|---|---|---|
| | 31.5 | 71.0 | 64.6 | 65.2 | 63.7 | 68.5 | 67.6 | 71.2 |
| "B" | 63 | 76.7 | 73.6 | 72.1 | 70.2 | 78.9 | 76.1 | 81.4 |
| | 125 | 78.9 | 71.5 | 68.7 | 68.7 | 79.1 | 75.1 | 81.2 |
| | 250 | 79.4 | 62.6 | 66.5 | 67.5 | 74.0 | 74.8 | 80.8 |
| 1209 | 500 | 77.5 | 59.7 | 62.3 | 63.1 | 69.4 | 73.0 | 78.7 |
| HOURS | 1K | 76.9 | 58.2 | 59.1 | 60.7 | 69.5 | 71.7 | 77.1 |
| | 2K | 73.5 | 52.3 | 53.8 | 55.8 | 66.5 | 68.0 | 72.9 |
| | 4K | 66.8 | 47.5 | 48.6 | 49.2 | 58.8 | 60.9 | 65.3 |
| | 8K | 59.1 | 52.9 | 52.6 | 51.5 | 53.7 | 54.6 | 55.7 |
| | OVER ALL | 85.4 | 76.4 | 75.5 | 74.8 | 83.2 | 81.7 | 87.3 |
| | 31.5 | 70.1 | 63.3 | 63.5 | 63.3 | 66.4 | 65.4 | 71.5 |
| "C" | 63 | 75.4 | 71.6 | 70.9 | 70.2 | 74.8 | 72.6 | 79.7 |
| | 125 | 77.3 | 69.6 | 67.2 | 67.8 | 75.1 | 72.1 | 80.2 |
| | 250 | 76.7 | 61.8 | 64.0 | 66.1 | 68.6 | 70.1 | 79.1 |
| 1345 | 500 | 75.4 | 59.9 | 61.5 | 62.0 | 64.8 | 69.3 | 77.0 |
| HOURS | 1K | 75.4 | 57.9 | 58.7 | 59.7 | 65.8 | 68.2 | 75.8 |
| | 2K | 72.2 | 52.4 | 53.8 | 54.0 | 63.0 | 64.4 | 71.4 |
| | 4K | 65.6 | 47.6 | 48.5 | 46.9 | 55.5 | 57.0 | 63.2 |
| | 8K | 57.9 | 53.1 | 52.7 | 49.9 | 52.0 | 51.6 | 53.6 |
| | OVER ALL | 83.6 | 74.8 | 74.1 | 74.1 | 79.1 | 78.1 | 85.9 |
| | 31.5 | 71.3 | 62.6 | 63.2 | 62.2 | 63.9 | 63.7 | 71.3 |
| "D" | 63 | 82.3 | 68.7 | 68.1 | 66.8 | 70.6 | 68.8 | 79.2 |
| | 125 | 78.6 | 68.6 | 66.5 | 65.4 | 72.0 | 69.4 | 81.7 |
| | 250 | 78.6 | 58.0 | 58.9 | 60.9 | 63.3 | 64.6 | 79.4 |
| 0945 | 500 | 76.3 | 56.0 | 58.4 | 59.0 | 60.9 | 65.5 | 78.3 |
| HOURS | 1K | 76.3 | 54.9 | 56.3 | 57.1 | 61.3 | 65.2 | 77.0 |
| | 2K | 73.7 | 49.9 | 51.3 | 51.6 | 57.3 | 61.0 | 72.6 |
| | 4K | 67.5 | 47.5 | 48.0 | 47.5 | 50.4 | 52.6 | 64.2 |
| | 8K | 60.0 | 53.3 | 52.7 | 51.5 | 51.6 | 50.6 | 54.9 |
| | OVER ALL | 86.0 | 72.9 | 72.2 | 71.4 | 75.6 | 74.9 | 86.6 |
| | 31.5 | 70.3 | 64.2 | 64.8 | 63.4 | 65.7 | 65.2 | 70.5 |
| "E" | 63 | 76.9 | 73.0 | 71.6 | 70.0 | 75.3 | 72.1 | 79.5 |
| | 125 | 78.3 | 71.2 | 68.0 | 68.4 | 75.7 | 72.1 | 80.6 |
| | 250 | 76.8 | 60.6 | 63.8 | 65.1 | 70.4 | 70.6 | 78.9 |
| 1054 | 500 | 75.8 | 58.4 | 60.7 | 62.1 | 67.0 | 68.7 | 76.8 |
| HOURS | 1K | 75.4 | 55.7 | 57.3 | 59.3 | 64.3 | 67.1 | 75.3 |
| | 2K | 72.2 | 50.7 | 51.8 | 54.3 | 60.1 | 63.2 | 71.3 |
| | 4K | 65.4 | 47.2 | 47.8 | 48.2 | 54.2 | 55.9 | 63.3 |
| | 8K | 58.4 | 52.9 | 52.2 | 51.2 | 52.6 | 52.1 | 54.3 |
| | OVER ALL | 84.2 | 75.9 | 74.6 | 74.1 | 79.7 | 77.9 | 85.8 |

# APPENDIX A TEMPORARY NOISE ATTENUATION BARRIER: DESIGN AND CONSTRUCTION

The purpose of this appendix is to describe the design and construction parameters and procedures as applicable to the temporary noise attenuation barrier; included is the as-built plan.

## A.1 LAYOUT

The barrier is considered to be a temporary structure and is designed for easy removal after the acoustic test series are completed. As the expected life of the barrier is approximately one year, the materials used to comprise the barrier were not treated to obtain a long service life.

The barrier is 1000 feet long and 16 feet high and was constructed at a site selected by the U.S. Department of Transportation.

The barrier is located along the southbound side of Interstate Route 1-93 in Andover, Massachusetts. The face of the barrier was placed 30 feet from the edge of the nearest travel lane in order to adhere to the American Association of State Highway Transportation Officials (AASHTO) requirements for a safety setback to objects that would constitute a danger to out-of-control vehicles on interstate highways. The grade of the existing ground along the centerline of the barrier is approximately 0.7 percent or a difference of 7 feet in elevation between the beginning and end of the 1000 foot long barrier.

## A.2 DESIGN AND CONSTRUCION

The barrier was designed and constructed to prohibit light from passing through the barrier. The major loading applied to the structure was transverse wind. The magnitude and application of this loading was as specified in the AASHTO "Specifications for the Design and Construction of Structural Supports For Highway Signs."

The supporting elements for the barrier are untreated round timber posts spaced at 8'-0" on center. A single unpainted 16'-0" long 2" x 6" was attached to the face of each post to produce a compatible interface for the vertical wall panels (See Figure A-1).

The timber posts support the main portion of the barrier which was constructed using 4' x 8' x 5/8" plywood panels (unpainted grade C-D plugged with exterior glue). The plywood panels were placed with the 8 foot long edge placed horizontally and the 4 foot long edge placed vertically. To obtain the required 16 foot high barrier, four rows of plywood were required. The plywood panels were butted at the center of the 2' x 6" interface support and, while held in the proper alignment with wall-board nails, were fastened through the post with six 3/8", Ø x 6" zinc-plated lag screws with washers (3 screws and washers each end of the panels). The top of each plywood panel was placed horizontally. The tops of adjacent panels were placed with a slight differential in elevation between them. The introduction to the barrier of a slight saw-toothed top edge was necessary since the timber posts were placed plumb and the top edge of the plywood panels were placed horizontally. The sum of the difference in elevations between adjacent panels equals the approximate 7 foot difference in elevation between ends of the barrier.

The center 200 feet of the barrier consist of a double thickness of plywood with the top of the rear piece of plywood 3 inches higher than the front piece. The back-to-back plywood panels are fastened by nails.

The remaining 800 feet of the barrier consist of a single thickness of plywood with a 2' x 6" stiffener place horizontally and centered along the top edge of each panel. The stiffener is attached to the vertical 2' x 6" at each post and the plywood panels are nailed to the horizontal 2' x 6" stiffener. To enhance the acoustic properties of the barrier, a 4' x 8' piece of fiberglass insulation board was attached to the front face of each panel using twelve #9 x 3" zinc-coated wood screws with 2" diameter x 1/16" thick polyethylene washers.

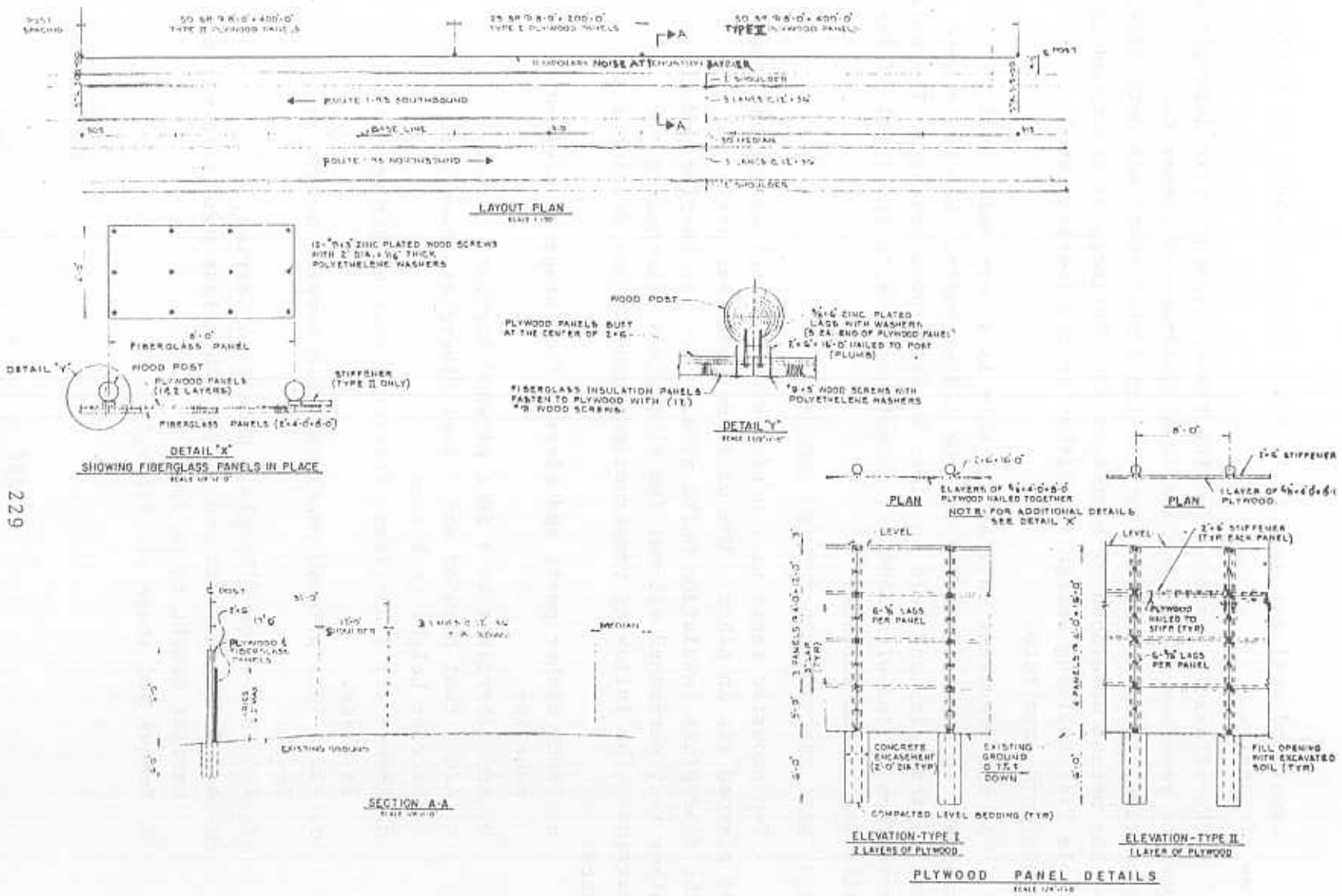



FIGURE A-1 DESIGN FOR NOISE BARRIER

Excavated soil was used to fill any openings under the bottom row of panels.

The allowable stresses for the timber elements were determined per the requirements of the American Institute of Timber Construction. The embedment length of the timber posts was determined by the method developed by Professor R.C. Rutledge as described in "Pole-Type Building Design" published by the American Wood Preservers Institute.

As the prevalent soil at the site is a very sandy soil, it was easy to auger the holes for the timber posts. The posts were set in the holes and held in place by false-work bracing. The holes were then filled with 3000 psi cement concrete to the level of the existing ground surface.

A.3 WALL ERECTION FOR TESTING SEQUENCES

Two acoustic tests were performed after each horizontal row of plywood was in place. One of these tests was performed with the fiberglass insulation board attached to the barrier and the other test performed without the fiberglass attached to the barrier. The following construction sequence was developed and used:

a. Erect timber posts and first 4 foot stage of plywood paneling.
b. Add fiberglass to 4 foot plywood barrier.
c. Add 4 foot plywood and 4 foot fiberglass panels to raise barrier height to 8 feet.
d. Remove all fiberglass, leaving 8 foot height of plywood in place.
e. Add 4 foot plywood panel to raise barrier height to 12 feet.
f. Add 12 feet of fiberglass panels to barrier.
g. Add 4 foot plywood and 4 foot fiberglass panels to raise barrier height to 16 feet.
h. Remove and store all fiberglass.

After completion of the first step, each following step required approximately one week for construction and one week for acoustic testing.

## A.4 PROJECT COST

The project was advertised and bid as a lump sum contract. The total in-place project cost is $45,214.60 or $2.80 per square foot of barrier vertical face area. Construction of the barrier proceeded smoothly without any costly change orders necessitated by construction problems. The completion date indicated in the contract specifications was extended because the time required to perform each set of acoustic tests was longer than anticipated.

The barrier was constructed without adversly affecting either the environment or the traffic flow on adjacent route I-93.

## APPENDIX B REFERENCES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