U.S. Department
of Transportation
**Federal Highway
Administration**

Interrupted Flow Reference Energy Mean Emission Levels for the FHWA Traffic Noise Model

DOT FHWA-PD-97-019
DOT-VNTSC-FHWA-97-1

U.S. Department of Transportation
Research and Special Programs Administration
John A. Volpe National Transportation Systems Center
Cambridge, MA 02142-1093

Final Report
January 1997

Office of Environment and
Planning
Washington, DC 20590

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	January 1997	Final Report November 1994 - December 1995

4. TITLE AND SUBTITLE
Interrupted Flow Reference Energy Mean Emission Levels for the FHWA Traffic Noise Model

5. FUNDING NUMBERS
HW727/H7005

6. AUTHOR(S)
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8. PERFORMING ORGANIZATION REPORT NUMBER
DOT-VNTSC-FHWA-97-1

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Department of Transportation
Research and Special Programs Administration
John A. Volpe National Transportation Systems Center
Cambridge, MA 02142-1093

10. SPONSORING/MONITORING AGENCY REPORT NUMBER
FHWA-PD-97-019

11. SUPPLEMENTARY NOTES

*under contract to: U.S. Department of Transportation
Research and Special Programs Administration
John A. Volpe National Transportation Systems Center
Cambridge, MA 02142-2296

12a. DISTRIBUTION/AVAILABILITY STATEMENT
This document is available to the public through the National Technical Information Service, Springfield, VA 22161

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

During the period November 1994 through January 1996, the U.S. Department of Transportation, Research and Special Programs Administration, John A. Volpe National Transportation Systems Center (Volpe Center), Acoustics Facility, in support of the Federal Highway Administration (FHWA) and 25 sponsoring State transportation agencies, conducted the National Pooled-Fund Study (NPFS), SP&R 0002-136, titled "Highway Noise Model Data Base Development."

This report presents the results of one portion of that study - the measurement, data reduction, and analysis of individual vehicle sound level and speed data for interrupted flow traffic (accelerating from stop signs, toll booths, and on-highway ramps). Also presented is the development of regression equations for the resulting Reference Energy Mean Emission Levels (REMELs) as a function of vehicle speed and vehicle type. These REMELs are part of the data base that is the foundation around which the acoustical algorithms in the FHWA's Traffic Noise Model, Version 1.0 (FHWA-TNM®) are being structured.

14. SUBJECT TERMS
Noise, highway noise, noise prediction, noise model, traffic noise model, FHWA-TNM, noise barrier, parallel noise barrier, insertion loss, vehicle noise emission, vehicle noise, REMEL, interrupted flow, toll booth, stop sign, acceleration, truck

15. NUMBER OF PAGES
104

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	

PREFACE

The U.S. Department of Transportation, Research and Special Programs Administration, John A. Volpe Transportation Systems Center (Volpe Center), Acoustics Facility, in support of the Federal Highway Administration (FHWA), Office of Environment and Planning, has developed the "Interrupted Flow Reference Energy Mean Emission Levels for the FHWA Traffic Noise Model." The FHWA Program Manager was Howard A. Jongedyk, HNR-30, Office of Engineering and Highway Operations Research and Development. FHWA contacts are Robert E. Armstrong and Steven A. Ronning, HEP-41, Office of Environment and Planning. Volpe Center contacts are G. Fleming and C. Lee. This study was supported through pooled funds by the highway agencies of the following states: AZ, CA, FL, GA, HI, IL, IN, IA, KY, MD, MA, MI, MN, NJ, NY, NC, OH, OR, PA, TN, TX, UT, VA, WA, and WI.

The authors are grateful to the members of the U.S. DOT data collection team from the Volpe Center's Acoustics Facility, including G. Fleming, C. Lee, A. Rapoza, and D. Read, as well as K. Polcak of the Maryland State Highway Administration and L. Smith of the Tennessee Department of Transportation. They also express appreciation to the staff of the Tennessee, Kentucky, and Florida DOTs for their assistance in site selection and provision of equipment such as radios, radar, and traffic cones. The assistance and advice of G. Anderson of HMMH, Inc., is also acknowledged in helping shape the sampling and data analysis procedures. Finally, appreciation is expressed to the students of Vanderbilt University and the University of Central Florida who assisted in the data collection, and the many State DOTs participating in the overall pooled-fund study.

SI* (MODERN METRIC) CONVERSION FACTORS

APPROXIMATE CONVERSIONS TO SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
in	inches	25.4	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.61	kilometers	km
AREA				
in^2	square inches	645.2	millimeters squared	mm^2
ft^2	square feet	0.093	meters squared	m^2
yd^2	square yards	0.836	meters squared	m^2
ac	acres	0.405	hectares	ha
mi^2	square miles	2.59	kilometers squared	km^2
VOLUME				
fl oz	fluid ounces	29.57	milliliters	ml
gal	gallons	3.785	liters	l
ft^3	cubic feet	0.028	meters cubed	m^3
yd^3	cubic yards	0.765	meters cubed	m^3

NOTE: Volumes greater than 1000 l shall be shown in m^3.

MASS				
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams	Mg
TEMPERATURE (exact)				
°F	Fahrenheit temperature	5(F-32)/9 or (F-32)/1.8	Celcius temperature	°C
ILLUMINATION				
fc	foot-candles	10.76	lux	l
fl	foot-Lamberts	3.426	candela/m^2	cd/m^2
FORCE and PRESSURE or STRESS				
lbf	poundforce	4.45	newtons	N
psi	poundforce per square inch	6.89	kilopascals	kPa

APPROXIMATE CONVERSIONS FROM SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
mm	millimeters	0.039	inches	in
m	meters	3.28	feet	ft
m	meters	1.09	yards	yd
km	kilometers	0.621	miles	mi
AREA				
mm^2	millimeters squared	0.0016	square inches	in^2
m^2	meters squared	10.764	square feet	ft^2
m^2	meters squared	1.195	square yards	ac
ha	hectares	2.47	acres	mi^2
km^2	kilometers squared	0.386	square miles	
VOLUME				
ml	milliliters	0.034	fluid ounces	fl oz
l	liters	0.264	gallons	gal
m^3	meters cubed	35.71	cubic feet	ft^3
m^3	meters cubed	1.307	cubic yards	yd^3

MASS				
g	grams	0.035	ounces	oz
kg	kilograms	2.202	pounds	lb
Mg	megagrams	1.103	short tons (2000 lb)	T
TEMPERATURE (exact)				
°C	Celcius temperature	1.8C + 32	Fahrenheit temperature	°F
ILLUMINATION				
lx	lux	0.0929	foot-candles	fc
cd/m^2	candela/m^2	0.2919	foot-Lamberts	fl
FORCE and PRESSURE or STRESS				
N	newtons	0.225	poundforce	lbf
kPa	kilopascals	0.145	poundforce per square inch	psi

* SI is the symbol for the International System of Units

(Revised January 1992)

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1. INTRODUCTION

During the period, November 1994 through January 1996, the Acoustics Facility of the U.S. Department of Transportation, Research and Special Programs Administration, John A. Volpe National Transportation Systems Center (Volpe Center) conducted the National Pooled-Fund Study (NPFS), SP&R 0002-136, titled "Highway Noise Model Data Base Development." This study was supported by the Federal Highway Administration (FHWA) and 25 sponsoring State transportation agencies.

This report presents the results of one portion of that study -- the measurement, data reduction and analysis of individual vehicle sound level and speed data for non-constant speed situations. These situations are referred to as interrupted flow conditions, and include acceleration from stop signs, toll booths and on highway ramps. The measured noise levels were used to compute regression equations on how sound level increases with increasing vehicle speed for an acceleration condition.

The resulting Reference Energy Mean Emission Level (REMEL) equations are presented for each of three vehicle types: automobiles, medium trucks, and heavy trucks. These REMELs are part of the data base that is the foundation around which the acoustical algorithms in the FHWA's Traffic Noise Model, Version 1.0 (FHWA-TNM®) are being structured.[1]

The results of this study are also summarized in a USDOT report on constant speed noise level measurements made at many other sites, also in support of the development of TNM.[2]

The data collected on speed and distance traveled under acceleration during the sound level measurements were also used for calibration of the speed/distance algorithms being developed for FHWA-TNM®.

This report is divided into six sections and two appendices after this introduction. Section 2 discusses the sites that were used for data collection. Sections 3 and 4 describe the data collection and analysis procedures, respectively, while Section 5 presents the results. Section 6 is a summary and Section 7 lists the referenced reports. Appendix A presents tables of the collected data after editing. Appendix B contains the printouts of the results of the statistical and regression analyses from the statistical software package.

2. SITE SELECTION

The objective of the study was to sample the levels of different vehicle types during acceleration and deceleration at both flat (less than 2 percent grade) and upgrade sites and to sample the levels of the same vehicles while cruising at a constant speed at a flat site. Site selection criteria included:

1. The ability to measure levels at distances of 15, 30, 61, 122, and 244 m (50, 100, 200, 400 and 800 ft) from the start or stop line.

2. The presence of relatively flat terrain off to the side of the road at each of these distances; the goal was for the ground elevation to not vary by more than plus/minus 0.6 m (2 ft) from the road elevation (the negative criterion was relaxed by a meter or so at the upgrade Kentucky site so that the ground at two of the measurement points was approximately 1.5 m [5 ft] below the road).

3. The location of an acceptable constant speed site within approximately 2 miles (3.2 km) downstream of the interrupted flow sites with no intervening exit ramps to allow sampled vehicles at the interrupted flow site from exiting prior to passing the cruise site.) This distance was the expected upper limit for reliable radio communication. The plus/minus 0.6 m (2 ft) criterion for the ground elevation was rigorously enforced for consistency with data collection at all other constant speed sites in the U.S. DOT test program for this site, and was extended out to a distance of 30 m (100 ft) from the center of the lane of interest to allow data collection at that distance as well as at 15 m (50 ft). The cruise site procedure also required the ability to safely locate the measurement team, its vehicle and its portable tables holding the instrumentation approximately 244 m (400 ft) upstream from the microphones.

4. A density of traffic low enough to allow a reasonable amount of sampling without masking by other vehicles traveling either in the same or opposite direction, yet high enough to provide enough sampling opportunities of the desired vehicle types. For a "clean" passage, the difference between the maximum A-weighted sound pressure level and the level at the beginning and end of the vehicle passage had to be at least 6 dB with 10 dB being preferable.

5. The same pavement type at the cruise and interrupted flow sites, with no cracked pavement or bumps that would cause banging noise from the vehicle chassis during passage.

A great deal of time went into the location of acceptable sites. Many candidate acceleration or deceleration sites were eliminated because of the difficulty in achieving the needed offset distance without significant upslopes or downslopes, or because of lack of suitable cruise site.

In the end, a total of six pairs of sites were selected. Table 1 lists these sites, with a cross-reference number to the cruise sites in reference 2 where appropriate. Figures 1 and 2 show the general location of these sites. Figures 3-7 show details of each site, with table 2 presenting data on the microphone heights above the road surface and the ground at the microphone. Each site is discussed in more detail below.

Site IF-KY-1 was in southern Kentucky just above the border with Tennessee and was the entrance ramp onto Interstate 65 southbound from State Route (S.R.) 100. The interchange was a diamond design and had a great deal of truck traffic using all four of its legs because there were two truck stops located on S.R. 100. Trucks entered the ramp along two paths:

- A left turn from the local road, and
- A right curve along a channelized section from the local road.

No distinction was made between the two paths during data collection. The start point was selected near where the two paths came together so that the passage of the first measurement point (15 m (50 ft) downstream) would be at a 15 m (50 ft) offset from the microphone for both paths. Also, for both paths most of the trucks did not begin their true full acceleration maneuver until they reached the start point; in both cases they had to complete the turning maneuvers first.

For the left turns, the trucks would generally be at 0 km/h (0 mph) as they initiated the turn. They would begin to accelerate and then coast through the turn, traveling about 18-24 m (60-80 ft) before reaching the start line at which point they tended to begin acceleration up the ramp in earnest. They would generally be traveling about 6.5-9.5 km/h (4-6 mph) at the start point.

The right-turning vehicles had generally begun the acceleration several dozen meters (several hundred feet) upstream as they left one of two truck stop plazas. However, the drivers intentionally accelerated slowly along S.R. 100, knowing that they had to negotiate the right turn channelization just ahead. Thus, these trucks tended to pass the start point coasting, cruising or braking slightly at speeds of 15-30 km/h (10-20 mph). But, as with the left-turning vehicles, they tended to not begin their full entrance ramp acceleration until the start point.

This site was referred to as the "4% site" in the field notes and discussions, although the average grade from the start of the left turn at Station 10+27 to the 244 m (800 ft) measurement point at Station 19+11 was 2.13 percent. The actual grading of the site was:

- Flat from where the left turn was initiated, which was nominally at Station 10+27 (stationing is in English units) on the design plans for the ramp construction, to a point about 36.5 m (120 ft) along the ramp (or about 12 m (40 ft) downstream from the start point) at approximately Station 11+50
- 4.2 percent from Station 11+50 to Station 15+00, where the grade began to decrease, and
- 0.2 percent from Station 15+00 to well past the 244 m (800 ft) site.

The cruise site for Site IF-KY-1 was approximately 1.6 km (1.0 mi) south of the start point for IF-KY-1. The posted speed was 105 km/h (65 mph). The pavement at both the cruise and interrupted flow sites was Portland cement concrete (PCC), being paved in 1965.

Site IF-TN-1 was at a four-way stop sign intersection between U.S. Highway (U.S.) 41A and S.R. 49 in Pleasantview, Tennessee. Each of the legs of the intersection had right turn channelization. This channelization required a shifting of the 15 m (50 ft) and 30 m (100 ft) sites to 18.3 m (60 ft) and 35.1 m (115 ft); these shifts were reflected in the subsequent data analysis. The intersection had more traffic than would have been ideal, especially on the cross-road, limiting the amount of good data that could be collected, especially at the 18.3 m (60 ft) and 35.1 m (115 ft) sites. The site was very level and flat. The posted speed limit was 72 km/h (45 mph). The cruise site was approximately 2.4 km (1.5 mi) north of the start point for IF-TN-1. The pavement at both the cruise and interrupted flow sites was dense graded asphaltic concrete (DGAC) dating back to 1988.

Site IF-TN-2 was the entrance ramp to Interstate 24 eastbound from the Tennessee Welcome Center just south of the Kentucky border by Exit 1. This Welcome Center was used by a large number of trucks. The layout of the site was such that the trucks could be stopped about 6-9 m (20-30 ft) before the starting point

for the noise measurement and held prior to beginning their acceleration down the entrance ramp. The site was very level and flat. The cruise site was approximately 0.8 km (0.5 mi) east of the start point for IF-TN-2. The posted speed was 105 km/h (65 mph). The pavement at the cruise site was DGAC dating back to 1990, while the interrupted flow site had PCC pavement of undetermined age.

Site IF-FL-1 was at a toll booth on S.R. 417 in Orlando, Florida for traffic heading in the northbound direction. Again, the site was level and flat and the instruments were set up 15 m (50 ft) from the center of the outside lane of the toll booth. As with IF-FL-2, traffic cones were used to channel the vehicle flow as the vehicles left the toll booth. The cruise site was approximately 1.6 km (1.0 mi) north of the toll booth. The cruise data were not used in the national study. The posted speed at the cruise site was 105 km/h (65 mph). The pavement at both the cruise and interrupted flow sites was DGAC, dating back to 1994.

Site IF-FL-2 was at the same toll booth on S.R. 417 in Orlando, Florida as Site IF-FL-1, but for the southbound direction. The site was level and flat and the instruments were set up at 15 m (50 ft) from the outside toll booth bay. Traffic cones were used to keep vehicles using this bay at a 15 km (50 ft) offset from the microphones as the vehicles accelerated away from the toll booth. The cruise site was approximately 2.4 km (1.5 mi) south of the start point for site IF-FL-2. The posted speed at the cruise site was 105 km/h (65 mph). The pavement at both the cruise and interrupted flow sites was DGAC, dating back to 1994.

Site IF-FL-3 was in Orlando, Florida and was a controlled automobile test site along the eastbound lanes of the Challenger Parkway on the University of Central Florida campus. Because the site was on campus, automobiles were able to be stopped and held at the "start point" so that individual samples could be made. The site was level and flat. The posted speed limit was 56 km/h (35 mph), but because of the controlled testing, the automobiles were allowed to accelerate to 64 km/h (40 mph). The cruise site was approximately 0.8 km (0.5 mi) from the start point. The pavement at both the cruise and interrupted flow sites was dense graded asphaltic concrete (DGAC) dating back to 1993.

Table 1. Measurement sites and characteristics.

Site Number	Site No. in Ref. 2	Site Description	State	Main Condition Being Studied	Measuring Points from Start Point (m)	Days Sampled
IF-KY-1	--	I-65 Southbound entrance ramp, Exit 6 at S.R. 100 (Franklin, KY)	KY	Accelerating heavy trucks, upgrade	15, 30, 61, 122, 244	Nov. 14, 15, 17 and 18, 1994
--	38	I-65 Southbound, approximately 1.6 km south of Exit 6	KY	Cruising trucks	--	Nov. 14, 15, 17 and 18, 1994
IF-TN-1	--	U.S. 41A Northbound, four-way stop intersection with S.R. 49 (Pleasantville, TN)	TN	Accelerating vehicles (mostly automobiles), no grade	18.3, 35.1, 61, 122, 244	Dec. 6, 1994
--	39	U.S. 41A Northbound, approximately 2.4 km north of intersection with S.R. 49	TN	Cruising vehicles	--	Dec. 6, 1994
IF-TN-2	--	I-24 Eastbound, entrance ramp from Welcome Center near Exit 1 (Clarksville, TN)	TN	Accelerating heavy trucks, no grade	15, 30, 61, 122, 244	Dec. 7 and 8, 1994
--	40	I-24 Eastbound, approximately 0.8 km east of Welcome Center	TN	Cruising trucks	--	Dec. 7 and 8, 1994
IF-FL-1	--	S.R. 417 Northbound, toll booth (Orlando, FL)	FL	Accelerating vehicles, no grade	15, 30, 61, 122, 244, 305	Feb. 3, 1995
--	--	S.R. 417 Northbound, approximately 1.6 km (1 mi) north of toll booth	FL	Cruising vehicles	--	Feb. 3, 1995
IF-FL-2	--	S.R. 417 Southbound, toll booth (Orlando, FL)	FL	Accelerating vehicles, no grade	30, 61, 122, 244, 305	Jan. 31, Feb. 2, 1995
--	17	S.R. 417 Southbound, approximately 2.4 km (1.5 mi) south of toll plaza	FL	Cruising vehicles	--	Jan. 31, Feb. 2, 1995
IF-FL-3	--	Challenger Parkway, eastbound at controlled-stop "start point" (Orlando, FL)	FL	Accelerating automobiles, no grade	15, 30, 61, 122	Feb. 1, 1995
--	18	Challenger Parkway, eastbound, approximately 0.8 km (0.5 mi) east of start point	FL	Cruising vehicles	--	Feb. 1, 1995

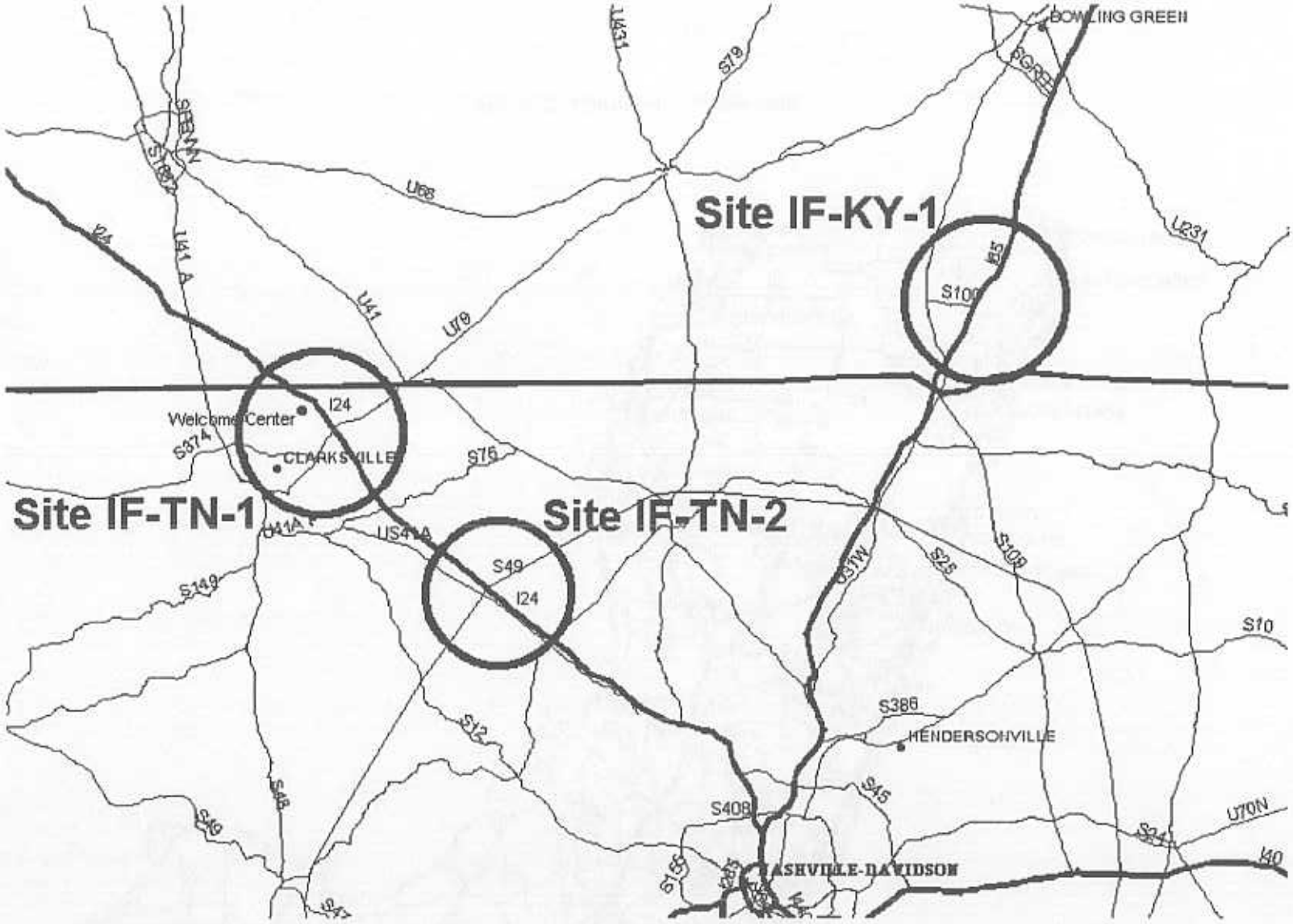

Figure 1. Tennessee/Kentucky site locator map.

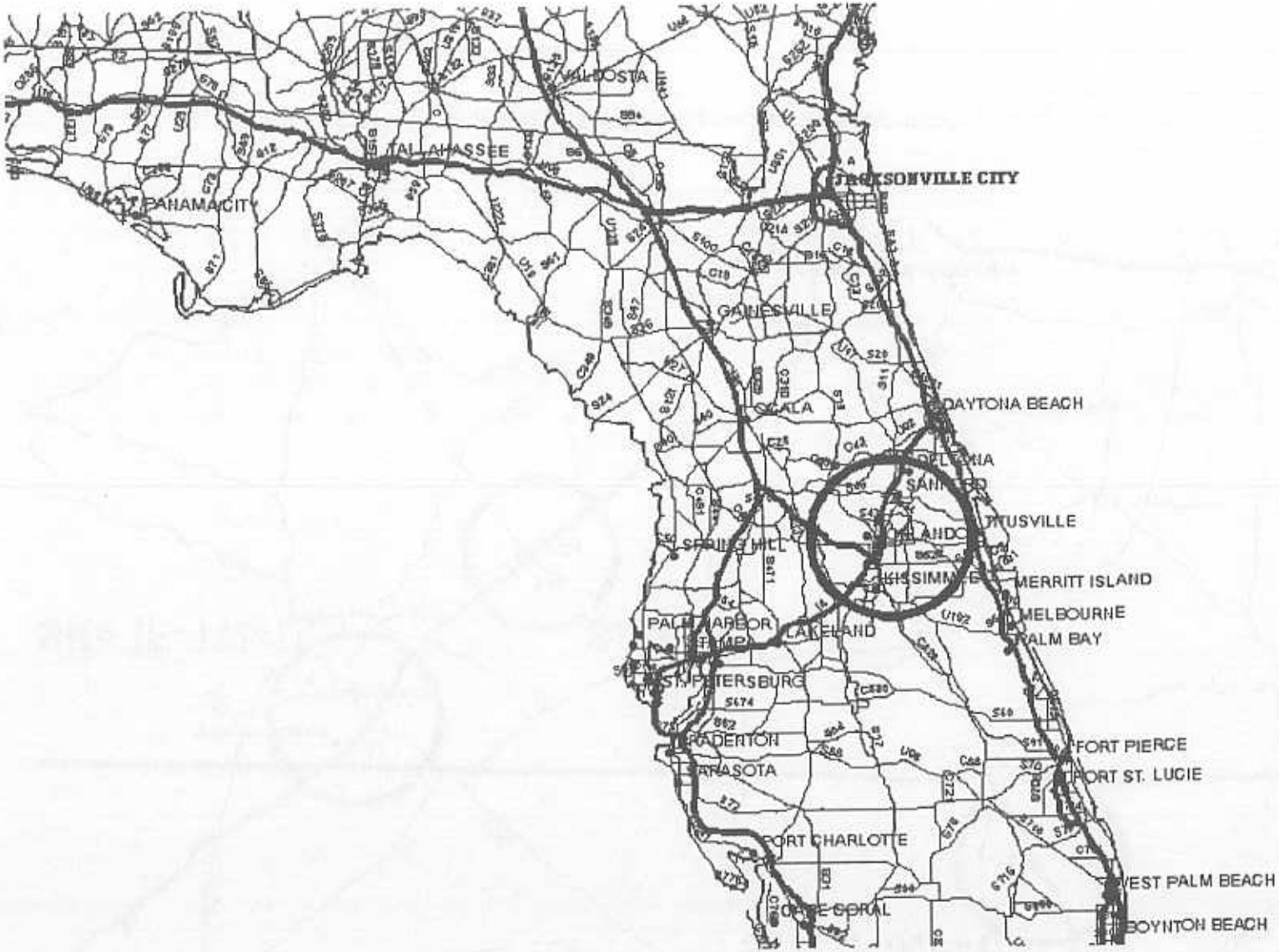

Figure 2. Florida site locator map.

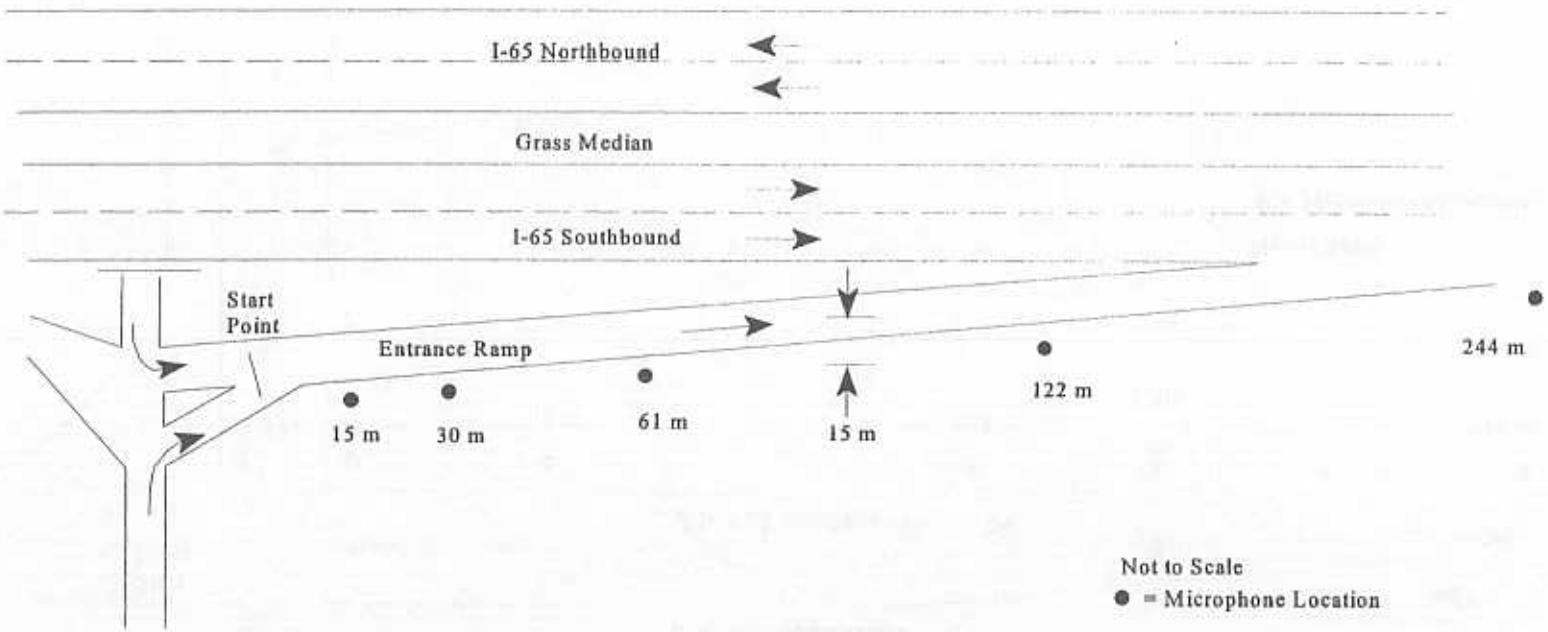

Figure 3. Site IF-KY-1 (Note: 1 m = 3.281 ft).

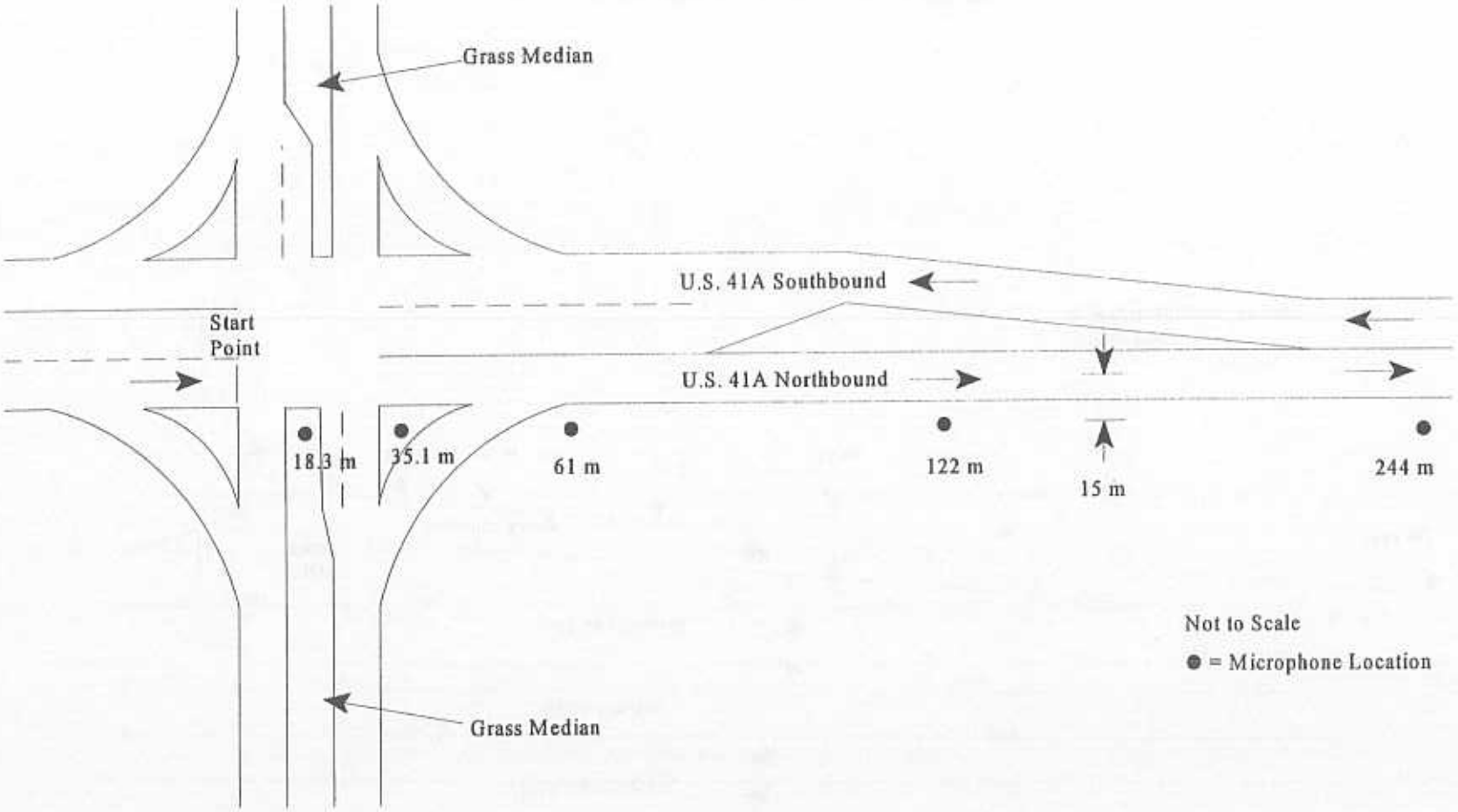

Figure 4. Site IF-TN-1 (Note: 1 m = 3.281 ft).

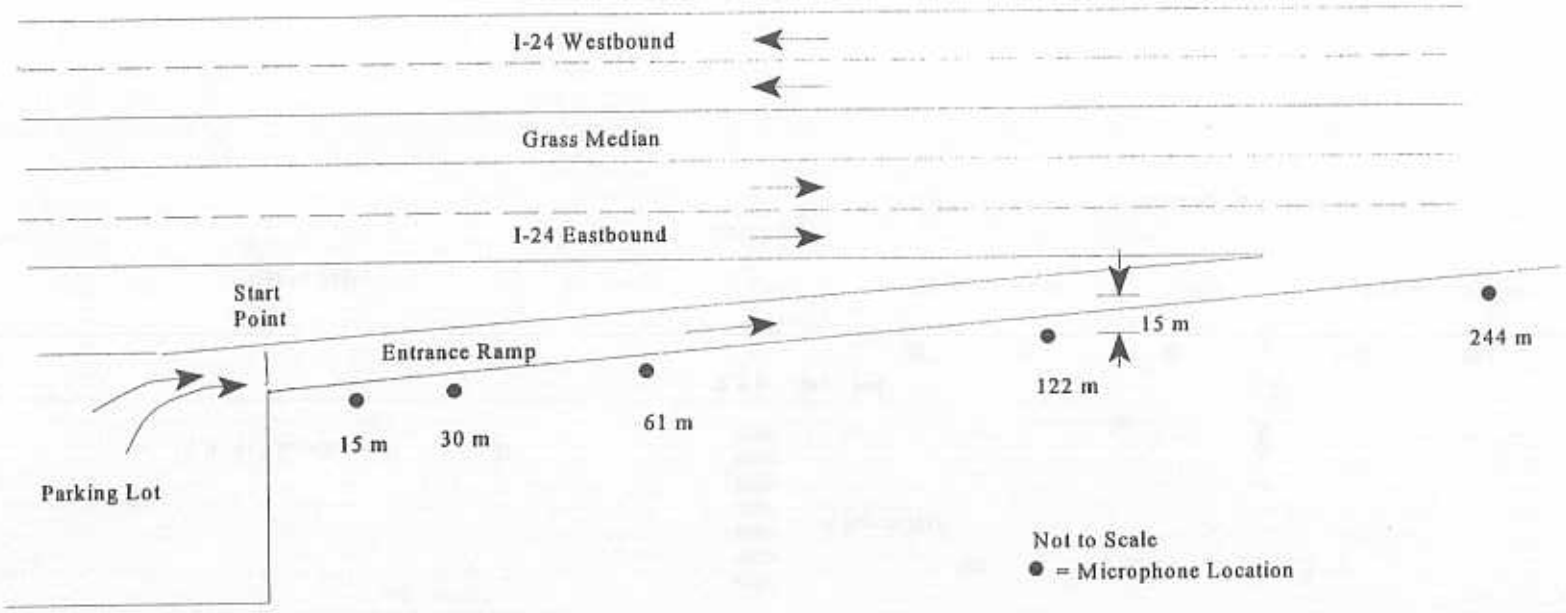

Figure 5. Site IF-TN-2 (Note: 1 m = 3.281 ft).

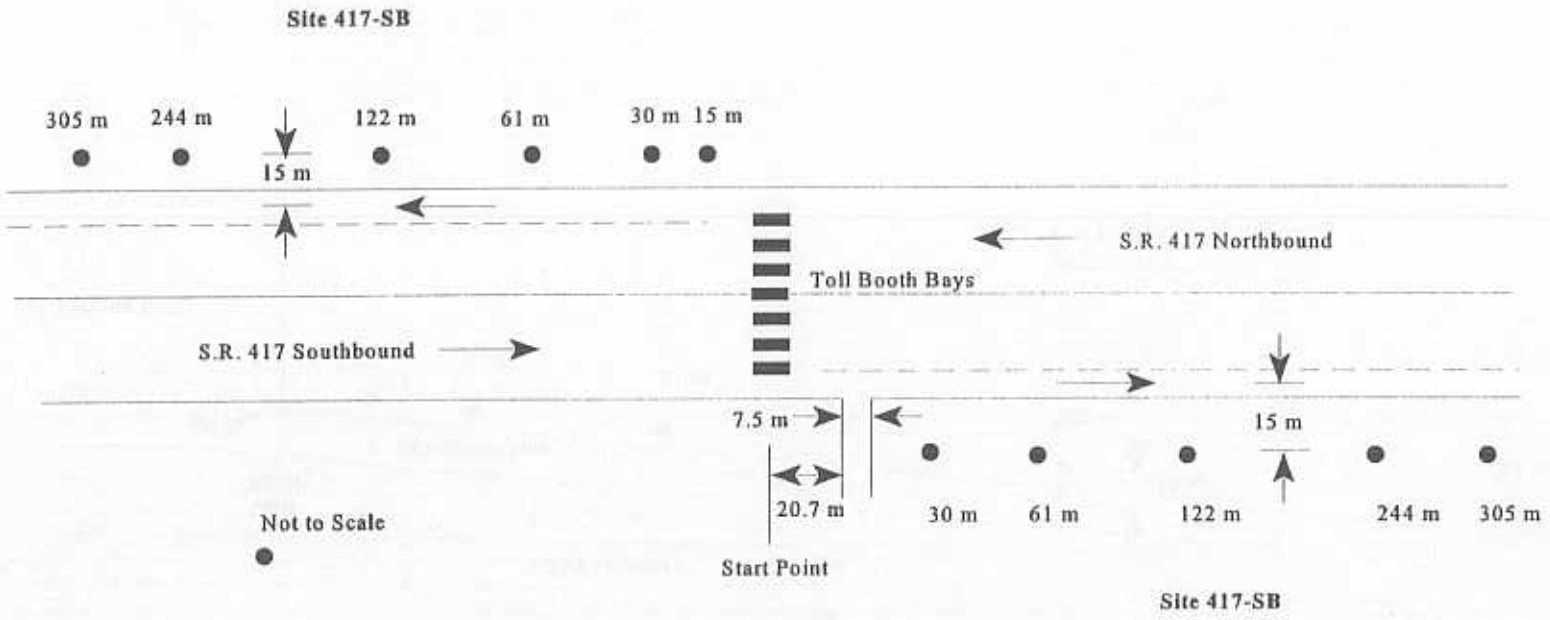

Figure 6. Sites IF-FL-1 and IF-FL-2 (Note: 1 m = 3.281 ft).

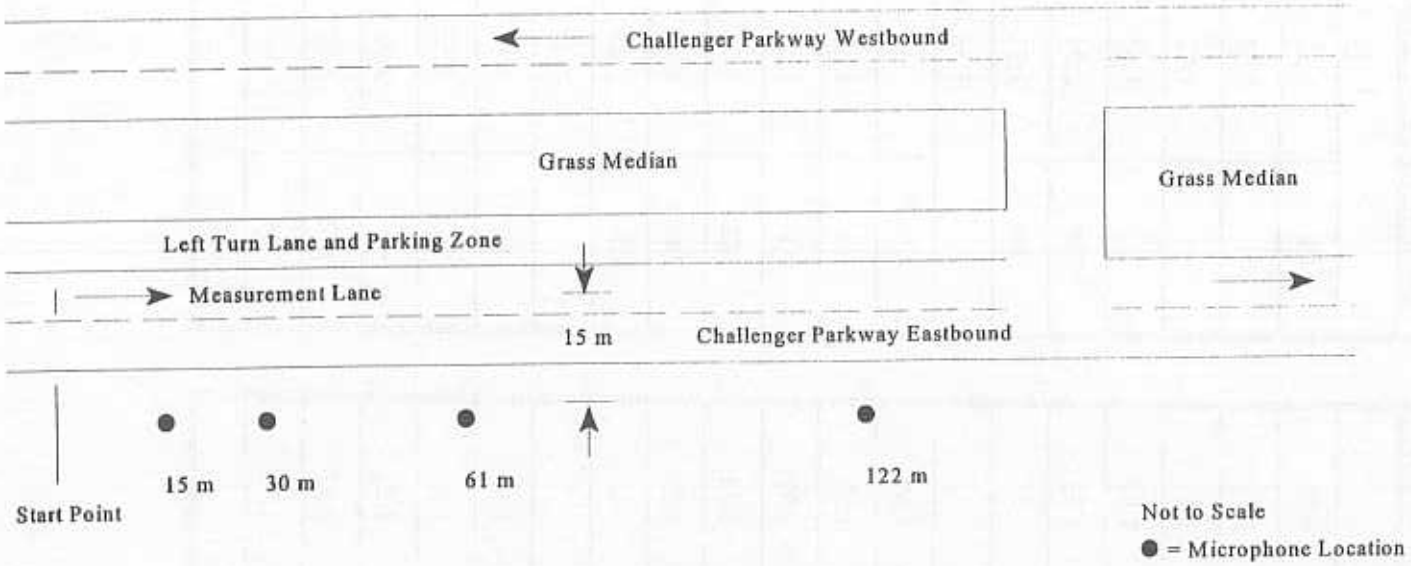

Figure 7. Site IF-FL-3 (Note: 1 m = 3.281 ft).

Table 2. Microphone heights above ground and road.

Microphone Position (m)	Height Above Ground (m)	Height Above Road (m)
IF-KY-1		
15	1.52	1.52
30	2.44	1.52
61	2.74	1.52
122	3.35	1.52
244	0.91	1.52
305	--	--
IF-TN-1		
18.3	1.52	1.52
35.1	1.52	1.52
61	1.83	1.52
122	1.22	1.52
244	2.29	1.52
305	--	--
IF-TN-2		
15	1.52	1.52
30	1.52	1.52
61	1.52	1.52
122	1.52	1.52
244	1.52	1.52
305	--	--

Microphone Position (m)	Height Above Ground (m)	Height Above Road (m)
IF-FL-1		
15	1.52	1.52
30	1.62	1.52
61	1.62	1.52
122	1.62	1.52
244	2.04	1.52
305	2.22	1.52
IF-FL-2		
15	--	--
30	1.52	1.52
61	1.52	1.52
122	1.71	1.52
244	1.95	1.52
305	2.44	1.52
IF-FL-3		
15	1.52	1.52
30	1.52	1.52
61	1.52	1.52
122	1.52	1.52
244	--	--
305	--	--

Note: 1 m = 3.281 ft

3. MEASUREMENT PROCEDURES AND EQUIPMENT

3.1 FIELD PROCEDURES

The basic noise measurement system for this study consisted of manually attended sound level analyzers at each measurement point. One team of measurers was located at the interrupted flow site and a second team at the constant speed site (cruise site). Coordinators for both teams were located at the beginning of the interrupted flow site, communicating with the interrupted flow team via walkie-talkie and with the cruise site team by radio.

At the interrupted flow site, typically five simultaneous measurement points were established, each attended by one person. The site coordinator and the speed measurement person completed the team at the site.

- 15 m (50 ft)
- 30 m (100 ft)
- 61 m (200 ft)
- 122 m (400 ft)
- 244 m (800 ft)

Speeds were determined by subsequent analysis of field-record time pulses when the study vehicle's front axle passed over distance marker lines painted on the travel lane. The moments of passage were signaled by the raising or lowering of flags by each member of the measurement team at each microphone location, at which point the speed measurer would record a tone pulse on a portable microcomputer. Time pulses were typically recorded at the starting point and at the following distances downstream from the starting point:

- 15 m (50 ft)
- 30 m (100 ft)
- 61 m (200 ft)
- 91 m (300 ft)
- 122 m (400 ft)
- 183 m (600 ft)
- 244 m (800 ft)
- 305 m (1000 ft)

The typical deployment of personnel, noise and speed measurement points was as follows:

1. Starting point: measurement coordinator; start point speed flag, 15 m speed flag.
2. 15 m (50 ft) measurement point: noise measurement.
3. 30 m (100 ft) measurement point: noise measurement; 30 m speed flag.
4. 61 m (200 ft) measurement point: noise measurement; 61 m and 92 m speed flags.
5. 122 m (400 ft) measurement point: noise measurement; 122 m and 183 m speed flags.
6. 244 m (800 ft) measurement point: noise measurement; 244 m and 305 m speed flags.

Prior to the beginning of the measurements at the site, the exact noise measurement and speed distance points were determined with a tape measure and marked with spray paint. A key component of this activity was determining the point to be used as the "starting" point. For sites with a stop sign, the choice was simple, being the stop line. However, for ramps where the vehicles were turning onto the ramp while already moving at a non-zero speed, an appropriate starting point had to be chosen. This point was determined from observation of vehicles making the turn and was selected as the point where full throttle was typically applied by the drivers to begin the acceleration.

Each day's measurements began by setting up all equipment at the predetermined points. Tripods, with extension poles where necessary, were used to locate each microphone at a height of 1.5 m (5 ft) above the road surface and performing calibration checks. Cables were used to allow the measurer to sit closer to the road to be in a better position to signal vehicle axle passages over the speed pavement markings. Acoustical calibration checks were also done several times during the day, typically mid-morning, mid-day, mid-afternoon, and at the end of the day, as well as whenever analyzer batteries were changed. The speed measuring person would be located in a van with clear view of each noise measurer. This person would boot up the portable microcomputer and load the time pulse software.

After all equipment was tested and several practice measurements were made, the measurements were started, using the following procedure:

1. The coordinators would ask all measurers to report via walkie-talkie and radio that they were ready to sample.

2. The interrupted flow site coordinator would decide which vehicle to sample. There were two basic procedures used, depending on the site:

    a. vehicles were asked to stop near the start line and were released when all was clear and ready;
    b. vehicles were not controlled, in which case the decision was made based on the likelihood of a "clean" measurement (unaffected by other vehicles) at as many of the measurement points as possible; vehicles preceding or following the vehicle of interest on the ramp or road of interest could interfere with a clean measurement, as well as vehicles on the main line or, for intersections, the crossroad.

3. The interrupted flow site coordinator would give a radio call to the team to sample a particular vehicle; if the vehicle's start was being controlled the driver would be told to begin normal acceleration.

4. As the vehicle passed each time line, the speed flag would be sharply raised or lowered by the appropriate person and the speed measurement person would press a designated key on the microcomputer keyboard to record a time signal for that vehicle at that distance.

5. At each noise measurement point as the sound level began to rise, the noise measurer would mentally note this pre-measurement minimum level, and press the "log data" button on the analyzer while listening for potential interference by other vehicles.

6. After the passage, the measurer would note the after-passage minimum level and when the level dropped off at least 10 dB from the maximum, would stop the data logging; the maximum level and the SEL would be read and recorded on the data sheet and the minimum levels before and after the passage would also be recorded.

7. The measurer would also make a qualitative observation of the effects of other vehicles on the measurement; the site coordinator would then make a final judgement as to the useability of the data at each measurement point for that event (even if a vehicle was not cleanly measured at all points for an event, its data was used for the clean points in the data analysis, as described later).

8. The site coordinator would call over the walkie-talkies with the event number and vehicle description to be noted on each data sheet (described following step 11).

9. The cruise site coordinator would call on the radio to the cruise team with the event number and vehicle identification; when the vehicle arrived at the cruise site, the measurement team would try to sample it according to the established procedure for that team; often other vehicles traveling in the same or opposite direction would prevent a clean measurement from being made; in either case, the cruise team would call back to the interrupted flow site coordinator with the result of the attempted measurement.

10. When each member of the interrupted flow site team had recorded all needed data, he or she would clear the analyzer's memory in preparation for the next sample and call back to the coordinator with a "ready" message.

11. The speed measurer would also record the vehicle identification both on paper and within the program so that the output file would contain this information associated with the data; the speed measurer would note any problems with missed flag signals and would then make the program ready for the next event; event data were continually appended to the file, creating a complete record for that measurement session.

3.2 VEHICLE IDENTIFIERS

In addition to recording an event identifier number, the site coordinator would determine other vehicle identifying characteristics and pass these on to the measurement people over the radio for recording on their individual data sheets. These other characteristics included the tractor-trailer axle configuration, the color of the tractor cab, and the type of tractor cab. The tractor-trailer axle configurations were as follows (the alphanumeric code was recorded on the data sheets; the numeric code corresponded to the codes used by the Volpe Center in the national constant speed data collection):

•	A	0,1	Automobile
•	2D	2	2-axle medium truck with dual rear wheels
•	3D	3	Single unit truck with 2 rear axles (such as a dump truck)
•	2S1	3	Tractor-trailer with 2 axles on the tractor and 1 on the trailer
•	2S2	4	2-axle tractor trailer with two axles on the tractor and two on the trailer
•	3S1	4	3 axle tractor trailer with three axles on the tractor and 1 axle on the trailer

- 3S2 5 Tractor trailer with 3 axles on the tractor and 2 axles on the trailer
- 3S2S1 6 Tandem tractor trailer, with 3 axles on the tractor, 2 axles on the first trailer and 1 axle on the second trailer

The type of tractor cab was listed as either C for "conventional" (where the engine compartment and hood extend forward from the windshield) and CO for "cab-over" (where the engine compartment is directly under the cab and the cab windshield extends directly above the grill for the engine compartment).

These vehicle description features were mainly used to make sure that each vehicle could be clearly identified on each measurement point's data sheet.

For the purposes of data analysis, the vehicles were grouped into three classes:

- Automobiles: 2-axle, 2-tire vehicles (A; 0, 1)
- Medium trucks: 2-axle single-unit trucks with dual tires on the rear axle (2D; 2)
- Heavy trucks: vehicles with 3 or more axles, including single unit trucks and tractor trailers (3D, 2S1, 2S2, 3S1, 3S2, 3S2S1; 3, 4, 5, 6)

3.3 MEASUREMENT EQUIPMENT

Metrosonics db-308 sound level analyzers were used to measure maximum A-weighted sound levels (L_{max}) and sound exposure levels (SEL) at each acceleration or deceleration measurement position.[1]

System acoustical sensitivity checks ("field calibration") was done with a Metrosonics cl-304 acoustical calibrator (102 dB at 1000 Hz).

Microphones were isolated from the analyzer via extension cables of 15-30 m (25-50 ft) in length and were attached to tripod necks via boom-arm clamps that extended the microphone approximately 0.5 m (1.5 ft) directly behind the tripod. Where needed, extension poles were used on the tripod neck to allow the boom-arm to be clamped at a position so that the microphone would be 1.5 m (5 ft) above the pavement. A 10-cm (4-in) diameter B&K foam windscreen was placed atop each microphone to minimize wind noise.

Each measurement person was equipped with special data sheets, a walkie-talkie, an orange flag for signaling passage over the pavement markings used to measure speeds, and a lawn chair.

The site coordinators had a walkie-talkie plus a short wave radio for communication with the cruise site, as well as a handheld Dwyer wind speed gauge. Sound level sampling was suspended when wind speeds exceeded 12 mph (19 km/h). Speeds were determined using a portable 486 computer with a specially

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[1]The measurement plan also called for measurement of one-third octave band frequency spectra at two points at each site. A Larson-Davis model 3200 real time analyzer was planned for use at the Tennessee/Kentucky sites, and a Rion real time analyzer was to be used at the Florida sites. However, equipment, battery and cable problems, plus excessive data-downloading time problems led to modification of the plan. At the Tennessee/Kentucky sites, only a limited number of spectra were collected at one site (IF-KY-1) at the 30 m (100 ft) position; on other days, the analyzer was used to sample only overall A-weighted maximum sound levels and SEL. At the Florida sites, the real time analyzer was used to sample at two points: 30 and 61 m (100 and 400 ft); however, problems were revealed in the way in which the maximum band levels were stored by the equipment compared to the data collected for the other cruise sites documented in reference 2.

written time stamp program to allow manual logging of the hand signals from each noise measurement person as well as a vehicle identifier tag and comment.

Measurements at the cruise site were made by USDOT personnel using the same equipment and procedures as were used for all other cruise measurements at other sites. These equipment and procedures are described in reference 2.

4. DATA REDUCTION AND ANALYSIS PROCEDURES

The next two critical steps in the process were the reduction of the field data back in the office and the subsequent analysis of the results. This section describes the procedures for both of these steps, with the actual results presented in the next section.

4.1 DATA REDUCTION

4.1.1 Sound Level Data

Spreadsheets in Quattro Pro were developed for processing of the data. The first step was to type the following data into the spreadsheets: vehicle identifier, maximum A-weighted sound level, minimum A-weighted sound level at the beginning and end of the vehicle passage, and sound exposure level (where measured). The next step was a rigorous and thorough checking of the data against the field data sheets to see, first, that the data were correctly entered, and to determine if any of the field notes on the measurement person's sheet or the site coordinator's sheet indicated problems with the particular measurement at each point. This second step resulted in a number of samples being rejected because of problems in measuring or recording the values, or a labeling of the data as "unacceptable" because of interference from other noise sources such as another vehicle. The maximum A-weighted levels were also compared to the minimum levels at the beginning and end of the passage. The differences between the maximum and minimum levels were used to classify the measurement at each point as follows:

- Rise and fall in sound level was greater than 10 dB: a Type-2 event.
- Rise and fall in sound level was between 6 and 10 dB: a Type-1 event.
- Rise and fall in sound level was less than 6 dB: a Type-0 event.

Also, for those measurements where the field notes indicated a problem, the event was labelled as a Type-3 event ("bad" data).

These event quality indicators were manually or automatically entered into the spreadsheets. In the subsequent data analysis only the Type 2 and Type 1 events were used. No attempt was made to adjust the Type-0 quality events based on the difference between the maximum level and background noise level. (An adjustment procedure was used, however, in the larger study of constant-speed emission levels documented in Reference 2.)

4.1.2 Speed Data

The next step in the data reduction was the processing of the time pulse data to determine vehicle speed. In the field a time pulse was recorded as the front axle of the study vehicle passed over the distance marker painted on the roadway; what was needed was the speed of the vehicle at that point. The process for determining the speed was as follows:

1. Determine the average speed on the segment immediately preceding the point of interest.

2. Determine the average speed on the segment immediately following the point of interest.

3. Compute a weighted average of the two average speeds to determine the speed at the point of interest.

While not totally precise because of the potential for a changing rate of acceleration, calculations based on different vehicle dynamics equations showed that this procedure should result in a speed at the point of interest within 1 mile-per-hour or less of the actual speed. As an example, assume a speed was desired at the 30 m (100 ft) point and that time pulses were recorded at the 15 m (50 ft), 30 m (100 ft) and 61 m (200 ft) points. The average speed for the first segment was computed as:

$$S_{15m\text{-}30m} = [(\text{time pulse at 30 m}) - (\text{time pulse at 15 m})] / (30\text{ m} - 15\text{ m})$$

The average speed for the segment following the 30 m (100 ft) point was determined as:

$$S_{30m\text{-}61m} = [(\text{time pulse at 61 m}) - (\text{time pulse at 30 m})] / (61\text{ m} - 30\text{ m})$$

The speed at the 30 m (100 ft) point was determined as:

$$S_{30m\text{-}61m} = [2(S_{15m\text{-}30m}) + S_{30m\text{-}61m}]/3$$

These speeds were determined by reading the time pulse files through a small computer program to perform the needed computations. The results then had to be carefully checked to eliminate those points where field notes had indicated that the time pulses had been incorrectly recorded or, in some cases, not signaled or recorded. The computed speed data were then loaded into the spreadsheet as additional columns coinciding with the sound levels at each measurement point.

4.2 DATA ANALYSIS

After the data were reduced and the spreadsheets were completed, the spreadsheets were once again carefully reviewed to identify any problems or bad data. The next step was to analyze the data in the spreadsheets to determine the relationships between distance, speed, and maximum sound levels. To do this, the Windows-based SYSTAT statistical analysis software was used.

Three basic relationships were examined:

1. The variation of speed as a function of distance;
2. The variation in maximum sound level as a function of distance; and
3. The variation of maximum sound level as a function of speed.

The first relationship (speed vs. distance) was used as a calibration check on the speed-distance algorithms being developed separately as part of the actual FHWA-TNM® development project. That derivation was based on vehicle dynamics equations that had been developed in reference 3.[3] The interrupted flow data were used to calibrate some of the coefficients in the vehicle dynamics equations.

The second relationship (level vs. distance) was not actually used in the final analysis, but was performed to help gain a better understanding of the change of sound level with distance for accelerating vehicles.

The third relationship (maximum sound level vs. speed) was the key relationship that needed to result from this study for incorporation into the emission levels section of FHWA-TNM®.

4.2.1 Methodology for Determination of REMELs and 95 Percent Confidence Intervals

The analysis methodology presented below is taken from reference 4[4] and was also used in the analysis of the national constant speed data (reference 2). This methodology is employed for the determination of the Reference Energy Mean Emission Levels (REMELs) used in the FHWA-TNM®. In determining the REMELs, the level-mean emission levels are first computed by regressing the measured L_{max} values as a function of vehicle speed. The REMELs are then computed by adjusting the level-mean emission levels upward by a fixed value, which is a function of the relationship between the level-mean regression and the individual L_{max} values.

To compute the level-mean emission levels, the L_{max} data measured at 15 m (50 ft) were regressed as a function of speed for each vehicle type, roadway surface, etc. The functional form of the level-mean regression equation is as follows:

$$L(s) = 10 \log_{10} [10^{C/10} + 10^{(A\log s + B)/10}]$$
$$= 10 \log_{10} [10^{C/10} + (s^{A/10})(10^{B/10})]$$

In the above equation, L(s) is ten times the logarithm to the base-10 of the coefficient "C" (an engine/exhaust coefficient that is independent of vehicle speed) plus an "$A \log_{10}(s) + B$" term (a tire/pavement-term, which increases with increasing speed).

The "$A \log_{10}(s) + B$" term is consistent with the function used in previous REMEL studies, as well as employed by the FHWA STAMINA traffic noise prediction computer model. The coefficient "C" has been added in this study to eliminate the prediction of erroneously low sound levels at low vehicle speeds using only the "$A \log_{10}(s) + B$" term.

In previous REMEL studies, the adjustment from level-mean (arithmetic average of maximum sound levels) to energy-mean (arithmetic average of $10^{(\text{maximum sound levels})}$) was computed using $0.115\ \sigma^2$ where σ is the standard error of the regression. This adjustment is correct only if the level-mean data are normally distributed about the level-mean regression, i.e., the level-mean data are Gaussian. However, if the level-mean data are non-Gaussian, the adjustment is only an approximation. Since traffic noise data tend to be scattered more widely above the mean than below the mean, i.e., skewed upward, the adjustment is not quite correct. The following equation is a better method of approximating the level-mean to energy-mean adjustment factor when the distribution is non-Gaussian.

$$\Delta E = 10 \log_{10} [(1/n)\Sigma RE_i] - (1/n)\ \Sigma RL_i$$

In the above equation, the RLi values represent the level residuals, which are equivalent to the value of each data point (,) at its corresponding speed (s), minus the value of regression at s; and the REi values represent the energy residuals, which are equivalent to $10^{(RLi/10)}$.

To correctly account for this adjustment, the adjustment must be added to both the engine/exhaust term and the tire/pavement term of the L(s) equation, i.e., it must be added to both the C and B coefficients, as follows:

$$L_E(s) = 10 \log_{10} [10^{(C+\Delta E)/10} + (s^{A/10})(10^{(B+\Delta E)/10})]$$

The ΔE adjustment converts the level-mean regression to an energy-mean regression. For many of the regressions, computation of the engine/exhaust term and the tire/pavement term were performed separately. In these instances, computation of ΔE was performed twice, once during computation of the C coefficient, resulting in a ΔEc term; and once during computation of the B coefficient, resulting in a ΔEb term.

For each energy-mean regression, the 95-percent confidence interval (CI) is defined as follows:

$$95\text{-percent CI}(s) = L_E(s) \pm 1.96[\varepsilon_{regr}(s)]$$

In this case, the 95-percent CI defines the bounds within which one is 95 percent sure that the energy-mean regression lies. In the above equation, $\varepsilon_{regr}(s)$ is the standard error of the energy-mean regression as a function of speed and is defined as follows:

$$\begin{aligned}\varepsilon_{regr}(s) = (1/E)\,([s^{A/10}\,10^{B/10}]^2\{[\log_{10}(s)]^2\varepsilon_A^{\,2} + \varepsilon_B^{\,2}\} + (10^{C/10})^2\varepsilon_C^{\,2} \\ + 2(s^{A/10})^2[\log_{10}(s)]\,\rho_{AB}\,\varepsilon_A\,\varepsilon_B \\ + 2(10^{C/10})(s^{A/10}10^{B/10})[\log_{10}(s)\rho_{AC}\,\varepsilon_A\,\varepsilon_C + \rho_{BC}\,\varepsilon_B\,\varepsilon_C] \\ + (\sigma_{RL}^{\,2}\,\sigma_{RE}^{\,2})/[N(RE)^2]\})^{1/2}\end{aligned}$$

In the above equation, $E = 10^{C/10} + s^{A/10}10^{B/10}$; ε_A, ε_B and ε_C are the standard errors of the A, B and C coefficients, respectively; ρ_{AB}, ρ_{AC}, and ρ_{BC} are the correlations between coefficients (i.e., the degree of relative correspondence); σ_{RL} is the standard deviation of the level residuals; σ_{RE} is the standard deviation of the energy residuals; RE is the mean of the energy residuals; and N is the number of data points.

4.2.2 Use of National Data Base Regression Coefficients A and B

One of the concerns in the data analysis was the potential difference in vehicle emission levels at the sites in the interrupted flow study compared to all of the sites in the national study. A difference would complicate the application of the derived value for the constant "C" to the national REMELs. If, on the other hand, the mean maximum A-weighted sound levels for the cruising vehicles at the interrupted flow study sites was not different from that at the national study sites, then the national values for the coefficients A and B could be used in the regression for coefficient C for the interrupted flow data.

Statistical tests showed no difference (at the 5 percent level of significance) between the cruise data at the interrupted flow sites and the national cruise data in the speed range over which the interrupted flow cruise data were collected. As a result, the national values for coefficients A and B, as documented in reference 2, could be used in the regression analysis for the interrupted flow data. This assumption reduced the interrupted flow regression problem to determining the value for the coefficient C. The results of the regressions will be presented in section 5.

5. RESULTS

The Tennessee and Kentucky sites' results will be discussed individually, followed by a discussion of the pooled Florida sites' data by vehicle type. In all of the graphs, a data presentation option was used that shows the data points slightly offset from each other ("jittered") so that when many samples had the same abscissa value (such as distance), the points would not be printed on top of each other. All of the spreadsheets tabulating the data are in appendix A. These spreadsheet tables include the collected SEL data, which are not analyzed in this report. The actual field data sheets are available at the Volpe Center in the project files. Table 3 summarizes the measurement results by site in terms of the number of Type 1 and 2 samples at each measurement point. Table 4 then presents the number of samples at each measurement point actually used in the regressions, combing the Florida data by vehicle type as described in section 5.4. Differences between tables 3 and 4 are due to certain valid sound level samples not being used because the speed data was not valid at that measurement point.

5.1 SITE IF-KY-1

Site IF-KY-1, the upgrade highway entrance ramp, was studied on November 14, 15, 17, and 18, 1994. Since almost all of the samples were heavy trucks, only heavy truck data were analyzed and are presented herein. First, figure 8 shows heavy truck speed as a function of distance from the start point. It should be noted that the start point chosen was the point near where the trucks typically applied full throttle. For trucks turning left onto the ramp, they were already moving at about 6-10 km/h (4-6 mph); for trucks turning right through the channelization, they were already typically at a speed of 15-20 km/h (10-12 mph).

Figure 9 presents the heavy truck data combined for the three days, showing maximum A-weighted sound level as a function of distance from the start point. Figure 10 then shows maximum A-weighted sound level as a function of speed.

5.2 SITE IF-TN-1

Site IF-TN-1, the 4-way stop intersection, was studied on December 6, 1994. Since almost all of the samples were automobiles, only automobile data were analyzed and are presented. First, figure 11 shows heavy truck speed as a function of distance from the start point. It should be noted that the start point was at the stop line for the stop sign, so that the speed at the start point was 0 km/h (0 mph). Figure 12 shows maximum A-weighted sound level as a function of distance from the start point. Figure 13 then shows maximum A-weighted sound level as a function of speed.

5.3 SITE IF-TN-2

Site IF-TN-2, the level Welcome Center highway entrance ramp, was studied on December 7 and 8, 1994. All of the samples were heavy trucks. Figure 14 shows heavy truck speed as a function of distance from the start point. At this site, one of the coordinators was able to stop the trucks a short distance before the stop line. Safety considerations did not permit trying to stop each truck at exactly the same spot or at the start point. At the start point, the trucks were typically traveling at about 6-10 km/h (4-6 mph). Figure 15 presents the heavy truck data combined for the two days, showing maximum A-weighted sound level as a function of distance from the start point. Figure 16 then shows maximum A-weighted sound level as a function of speed.

5.4 FLORIDA DATA

Because all of the Florida sites were level, with no grade, and the vehicles all started from a speed of 0 km/h (0 mph) at the start point (a stop sign or toll plaza booth), the data at these sites were pooled by vehicle type. The results are shown below for first for automobiles, then for medium trucks and finally for heavy trucks.

5.4.1 Automobiles

Automobile data were collected at Sites IF-FL-1 (toll booth), IF-FL-2 (toll booth) and IF-FL-3 (stop sign) on January 31 through February 3, 1995. Figure 17 shows automobile speed as a function of distance from the start point. Figure 18 presents the automobile data combined for the two days, showing maximum A-weighted sound level as a function of distance from the start point. Figure 19 then shows the automobile maximum A-weighted sound level as a function of speed.

5.4.2 Medium Trucks

Medium truck data were collected at Sites IF-FL-1 (toll booth) and IF-FL-2 (toll booth) on January 31 and February 2-3, 1995. Figure 20 shows medium truck speed as a function of distance from the start point. Figure 21 presents the medium truck data combined for the two days, showing maximum A-weighted sound level as a function of distance from the start point. Figure 22 then shows the medium truck maximum A-weighted sound level as a function of speed.

5.4.3 Heavy Trucks

Heavy truck data were collected at Sites IF-FL-1 (toll booth) and IF-FL-2 (toll booth) on January 31 and February 2-3, 1995. Figure 23 shows heavy truck speed as a function of distance from the start point. Figure 24 presents the heavy truck data combined for the two days, showing maximum A-weighted sound level as a function of distance from the start point. Figure 25 then shows the heavy truck maximum A-weighted sound level as a function of speed.

5.5 OVERALL DATA

The next step in the analysis of the results was to pool the data by vehicle type across the different sites so that a single set of regression coefficients could be developed for each vehicle for use in the FHWA-TNM. Figures 26 through 29 present the results of the combination of the data sets and the resultant regression curves.

For each of these regressions, as with the previous ones, the passage of the vehicle did not have to be a Type 1 or Type 2 event at every measurement point; however, only those measurement points where the passage was Type 1 or 2 were included in the analysis for that particular passage.

Figure 26 shows the combined automobile data from Site IF-TN-1 and the three Florida sites. Shown are all of the valid data points collected at these sites, the regression line, and the 95 percent confidence intervals for that regression line. The constant C has a value of 67.01 (representing 67 dB) at the

intersection of the regression line with the maximum sound level axis (the zero-speed intercept). Also shown is the regression line that was derived in reference 2 for the constant speed automobile data. The zero-speed intercept of this latter line is at a value of 50 dB, which was based on the measurement of idling automobile sound levels, as documented in reference 2.

Figure 27 presents the medium truck data. Since very little medium truck data was collected at Sites IF-KY-1, IF-TN-1 and IF-TN-2, the medium truck regression was based on only the data at the Florida Sites IF-FL-1 and IF-FL-2. As with figure 26, shown are all the data points collected at all of the sites, the regression line, the 95 percent confidence intervals for that regression line. Also shown is the constant speed medium truck regression line that was derived in Reference 2. The constant C for the interrupted flow data is 74.09 (representing 74.1 dB at the zero-speed intercept, compared to 66 dB for the constant speed medium truck data).

The heavy truck data is presented in two ways. Figure 28 shows all of the valid heavy truck data at those sites where the grade was 0 percent; these sites were IF-TN-2, IF-FL-1 and IF-FL-2. The constant C for the interrupted flow data is 78.37 (representing 78.4 dB at the zero-speed intercept, compared to 74 dB for the constant speed heavy truck data). Figure 29 shows all of the above heavy truck data plus those valid samples from Site IF-KY-1, where the grade varied from 0 to 4 percent. The constant C for the interrupted flow data is 77.57 (representing 77.6 dB at the zero-speed intercept, again compared to 74 dB for the constant speed heavy truck data).

Table 4 summarizes the coefficients for each of the regressions for the interrupted flow data, as well as the 95 percent confidence intervals on the C parameter. As noted earlier, the values for coefficients A and B are the national data base values taken from reference 2.

Table 3. Number of samples at each site.

Microphone Position (m)	Automobile		Medium Truck		Heavy Truck, 3-axle		Heavy Truck, 4-axle		Heavy Truck, 5,6-axle		Heavy Truck, total	
	Type 2	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2	Type 1
IF-KY-1												
15	0	5	1	2	2	0	1	0	75	99	78	99
30	--	--	--	--	--	--	--	--	--	--	--	--
61	1	4	2	2	2	0	2	1	150	75	154	76
122	1	4	2	2	2	0	1	0	122	69	125	69
244	0	13	0	9	0	0	0	1	63	96	63	97
305	--	--	--	--	--	--	--	--	--	--	--	--
IF-TN-1												
15	4	13	--	--	--	--	--	--	--	--	--	--
30	3	10	--	--	--	--	--	--	--	--	--	--
61	18	12	--	--	--	--	--	--	--	--	--	--
122	16	28	--	--	--	--	--	--	--	--	--	--
244	29	16	--	--	--	--	--	--	--	--	--	--
305	--	--	--	--	--	--	--	--	--	--	--	--
IF-TN-2												
15	--	--	--	--	--	--	0	4	29	35	29	39
30	--	--	--	--	--	--	1	0	30	16	31	16
61	--	--	--	--	--	--	2	2	41	12	43	14
122	--	--	--	--	--	--	0	2	33	19	33	21
244	--	--	--	--	--	--	1	0	42	18	43	18
305	--	--	--	--	--	--	--	--	--	--	--	--

Table 3. Number of samples at each site.

Microphone Position (m)	Automobile		Medium Truck		Heavy Truck, 3-axle		Heavy Truck, 4-axle		Heavy Truck, 5,6-axle		Heavy Truck, total	
	Type 2	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2	Type 1
IF-FL-1												
15	--	--	--	--	--	--	--	--	--	--	--	--
30	0	1	16	8	14	2	1	0	0	0	15	2
61	2	0	21	8	19	2	2	0	0	0	21	2
122	2	0	12	15	16	5	1	0	0	0	17	5
244	2	0	8	20	5	15	1	0	0	0	6	15
305	0	1	26	8	22	0	2	0	0	0	24	0
IF-FL-2												
15	--	--	--	--	--	--	--	--	--	--	--	--
30	1	0	2	4	7	10	0	0	0	0	7	10
61	14	11	36	7	79	15	0	3	0	0	79	18
122	1	0	5	4	12	7	0	1	0	0	12	8
244	10	16	13	18	26	37	0	0	0	0	26	37
305	9	10	22	15	63	26	1	1	0	0	64	27
IF-FL-3												
15	13	19	0	0	0	0	0	0	0	0	0	0
30	--	--	--	--	--	--	--	--	--	--	--	--
61	68	20	2	0	0	0	0	0	0	0	0	0
122	--	--	--	--	--	--	--	--	--	--	--	--
244	--	--	--	--	--	--	--	--	--	--	--	--
305	--	--	--	--	--	--	--	--	--	--	--	--

Note: 1 m = 3.281 ft

Table 4. Number of samples used in each regression.

Distance (m)	Event Type	IF-KY-1 Heavy Trucks	IF-TN-1 Automobiles	IF-TN-2 Heavy Trucks	All Florida Sites Automobiles	All Forida Sites Medium Trucks	All Florida Sites Heavy Trucks
15	1	85	12	75	19	0	0
15	2	60	1	74	13	0	0
30	1	0	9	60	1	10	10
30	2	0	1	61	1	16	17
61	1	65	8	37	30	13	16
61	2	127	15	87	79	53	83
122	1	67	19	34	0	21	12
122	2	98	13	76	2	13	25
244	1	53	7	32	13	38	49
244	2	62	25	82	9	14	30
305	1	0	0	0	11	21	23
305	2	0	0	0	8	43	76

Note: 1 m = 3.281 ft

Table 5. REMEL regression coefficients and 95% confidence intervals.

Vehicle Type	A*	B*	C	Asymptotic Standard Error	95%-Confidence Intervals (dB)	
					Lower	Upper
Automobile	41.74	1.15	67.01	0.037	66.28	67.73
Medium Truck	33.92	20.59	74.09	0.041	43.29	74.90
Heavy Truck -- at-grade sites only	35.88	21.02	78.37	0.013	78.12	78.62
Heavy Truck -- all sites	35.88	21.02	77.57	0.011	77.36	77.78

* A and B are the values from the national data base regressions, taken from Reference 2.

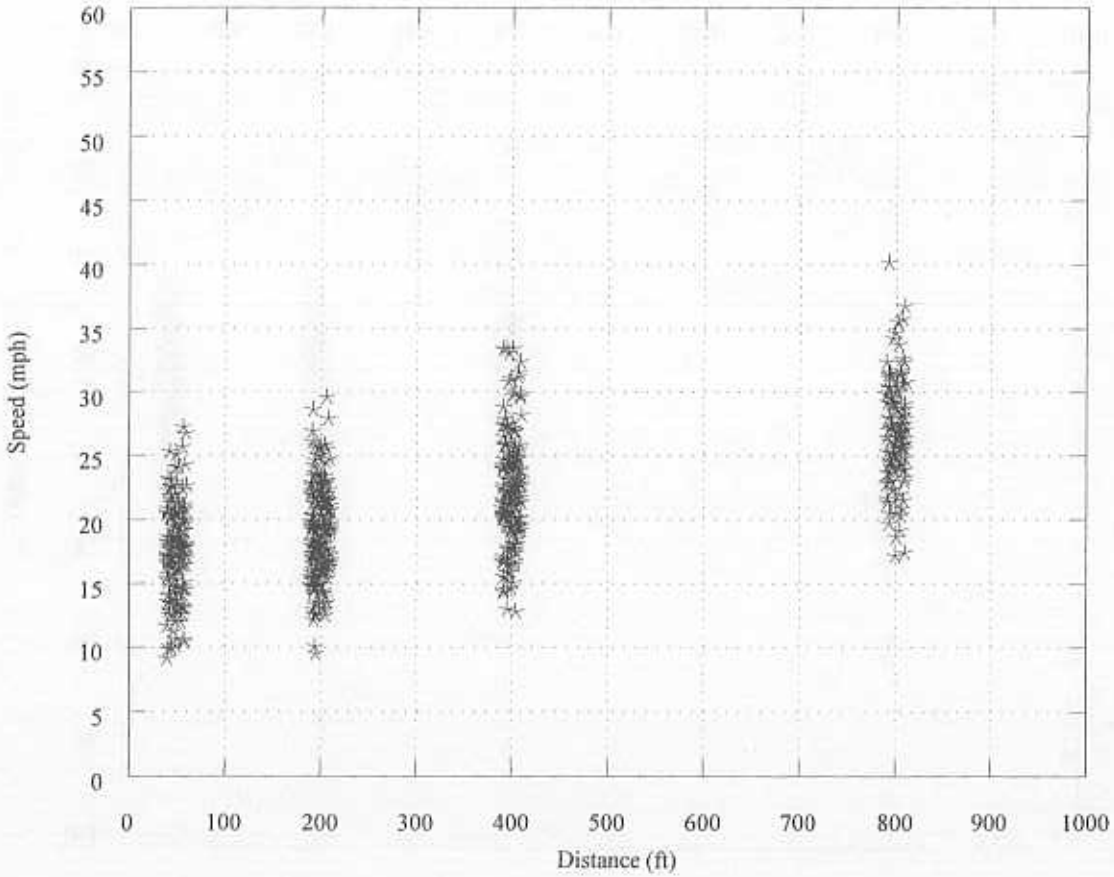

Figure 8. Site IF-KY-1: speed vs. distance data (note: 1 ft = 3.281 m, 1 mph = 1.609 km/h).

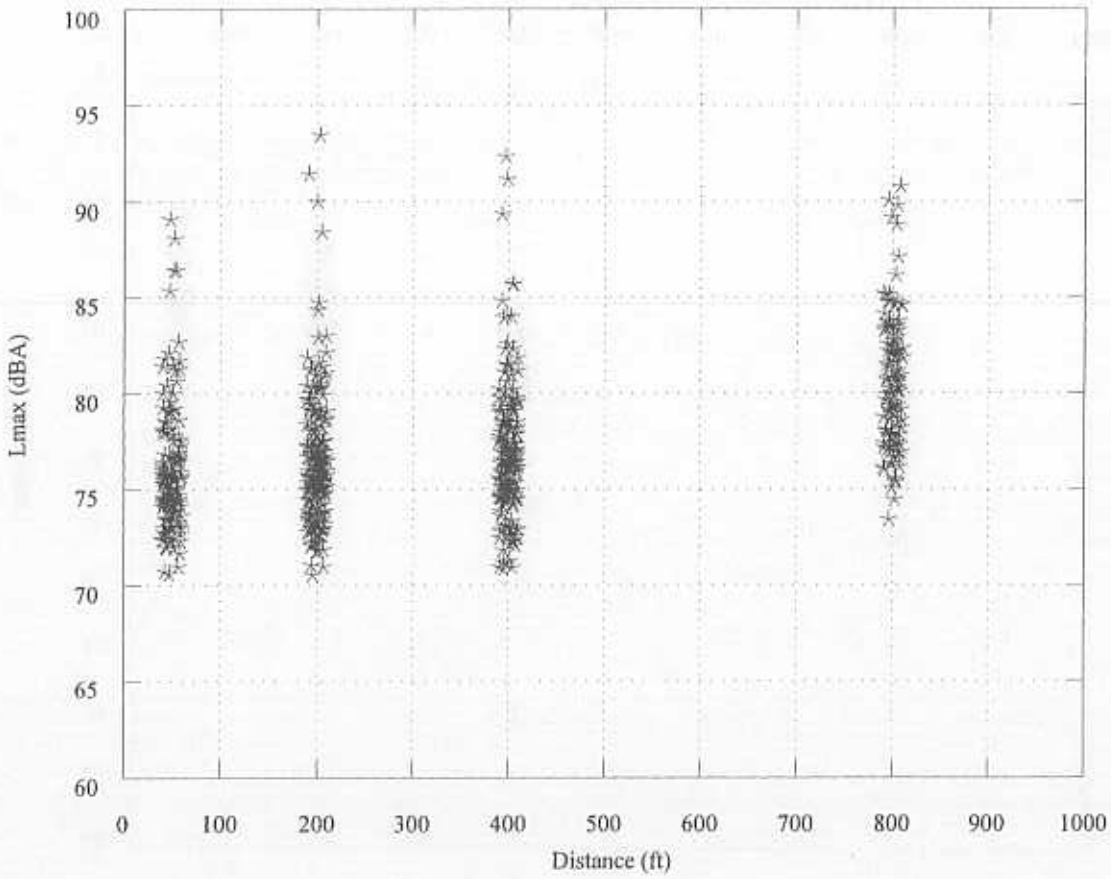

Figure 9. Site IF-KY-1: maximum A-weighted sound level vs. distance data (note: 1 ft = 3.281 m).

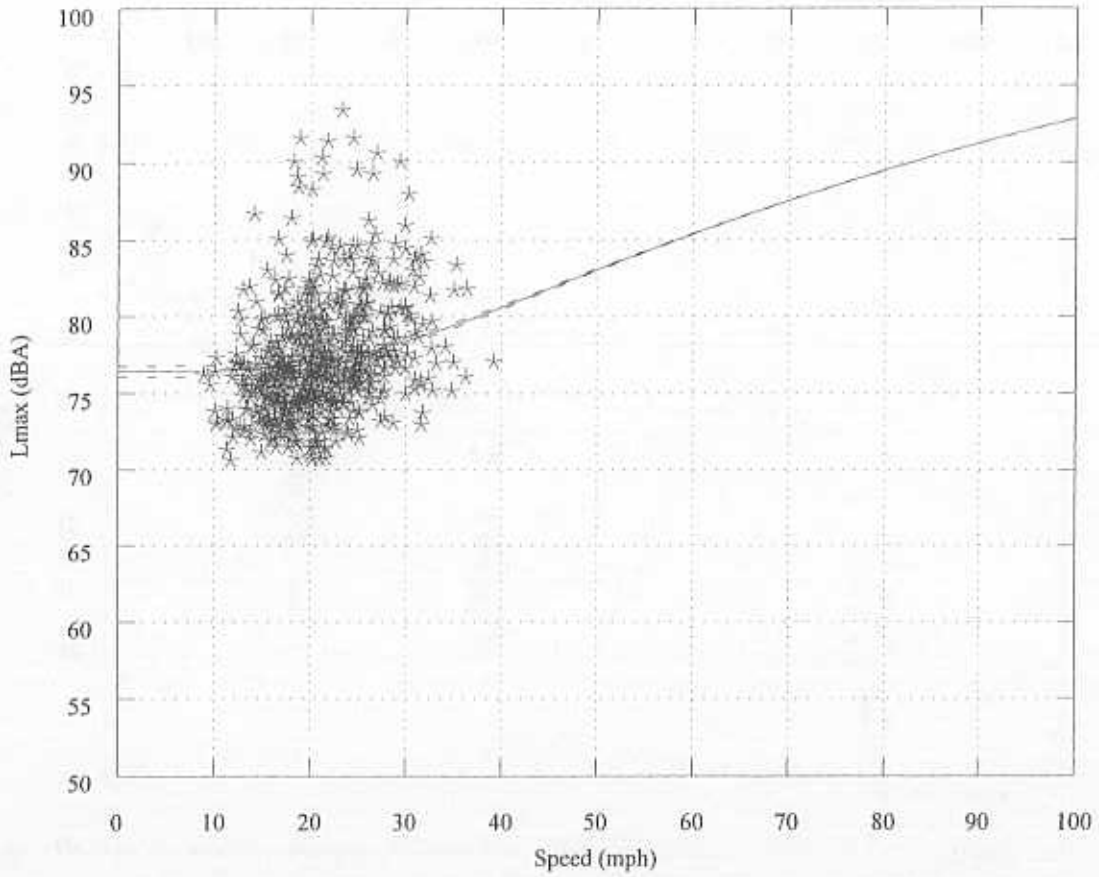

Figure 10. Site IF-KY-1: maximum A-weighted sound level vs. speed data, with REMEL regression line and 95% confidence intervals (note: 1 mph = 1.609 km/h).

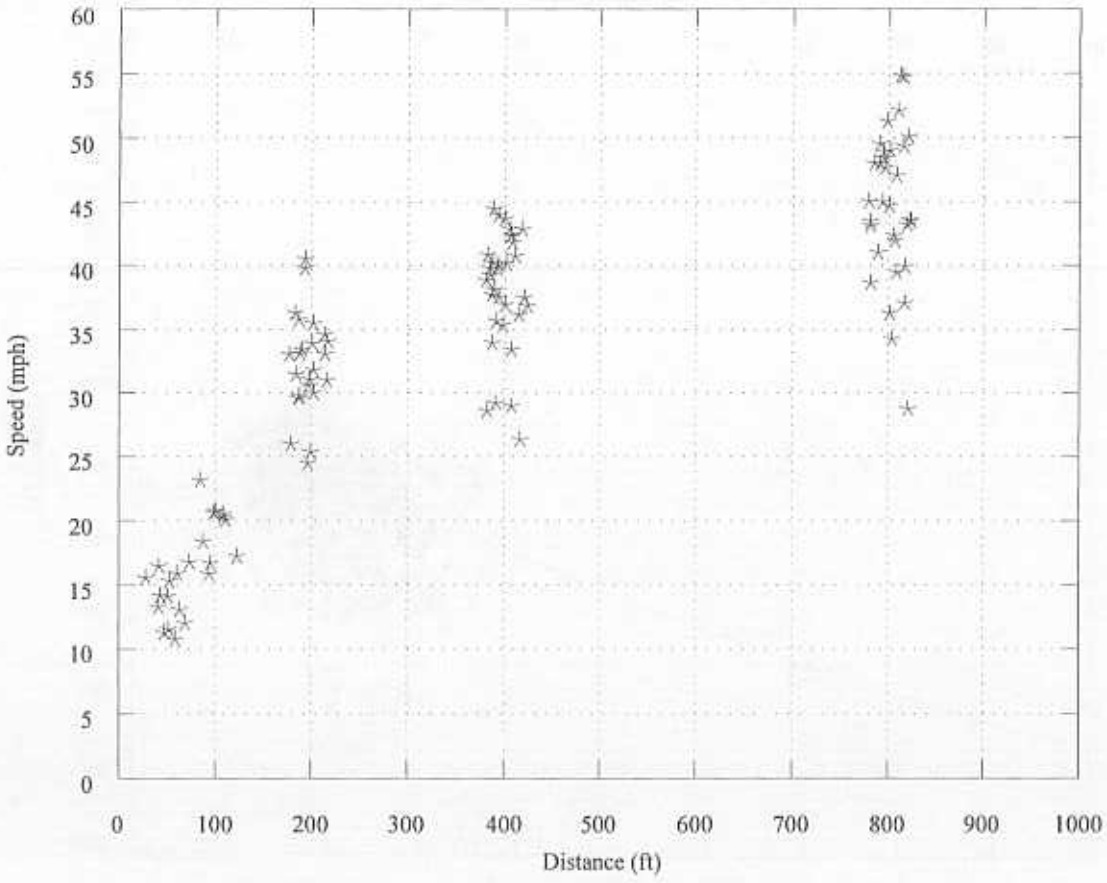

Figure 11. Site IF-TN-1: speed vs. distance data (note: 1 ft = 3.281 m; 1 mph = 1.609 km/h).

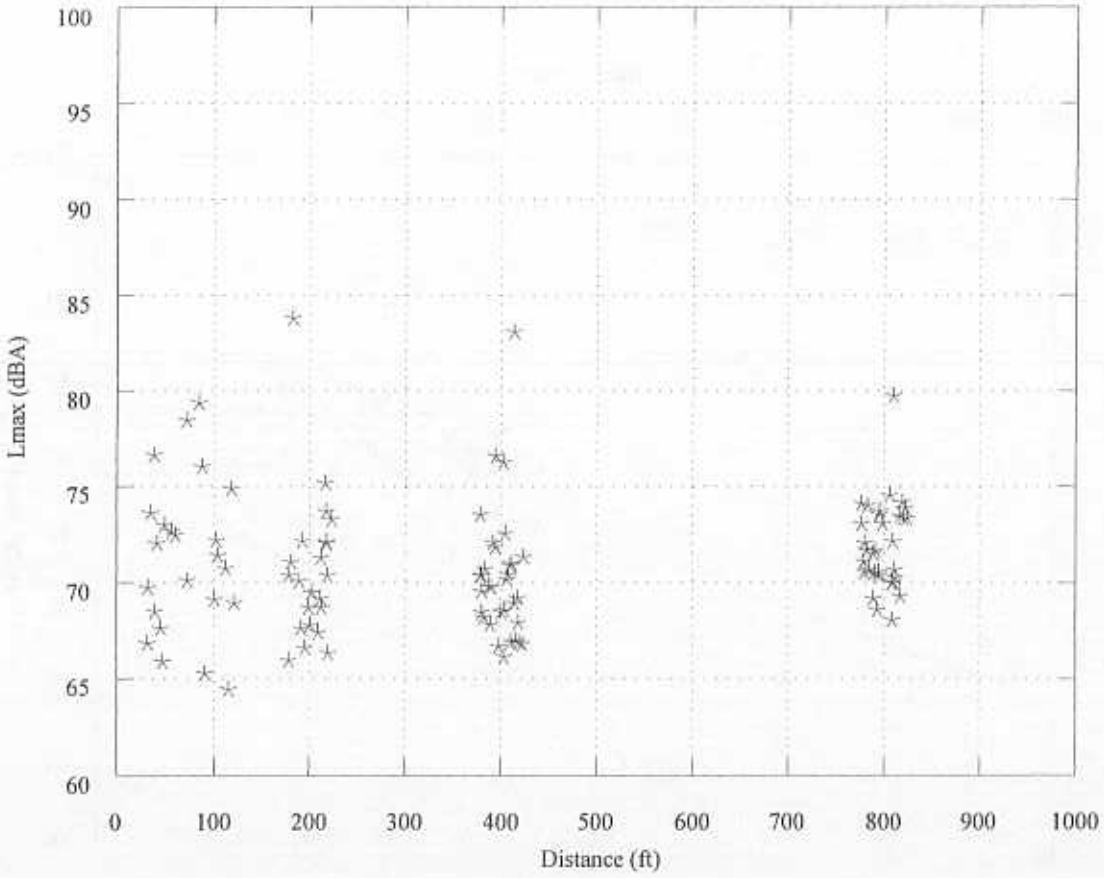

Figure 12. Site IF-TN-1: maximum A-weighted sound level vs. distance data (note: 1 ft = 3.281 m).

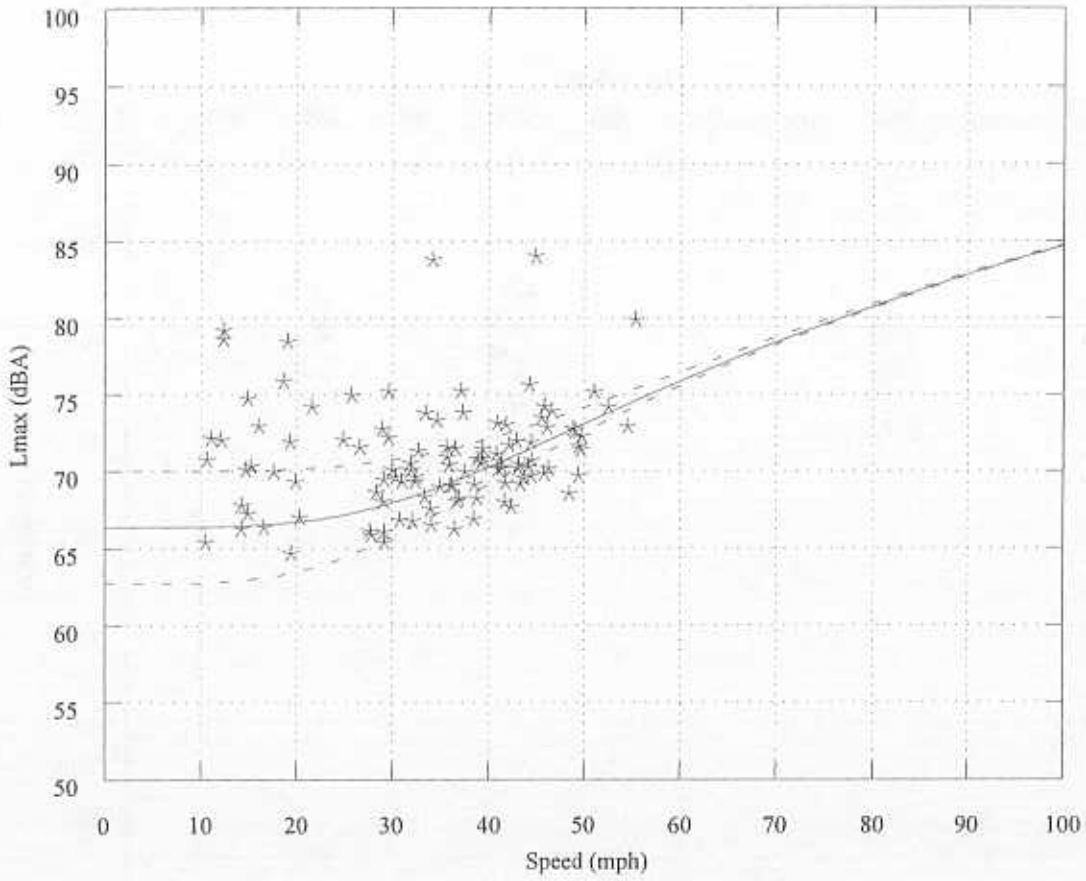

Figure 13. Site IF-TN-1: maximum A-weighted sound level vs. speed data, with REMEL regression line and 95% confidence intervals (note: 1 mph = 1.609 km/h).

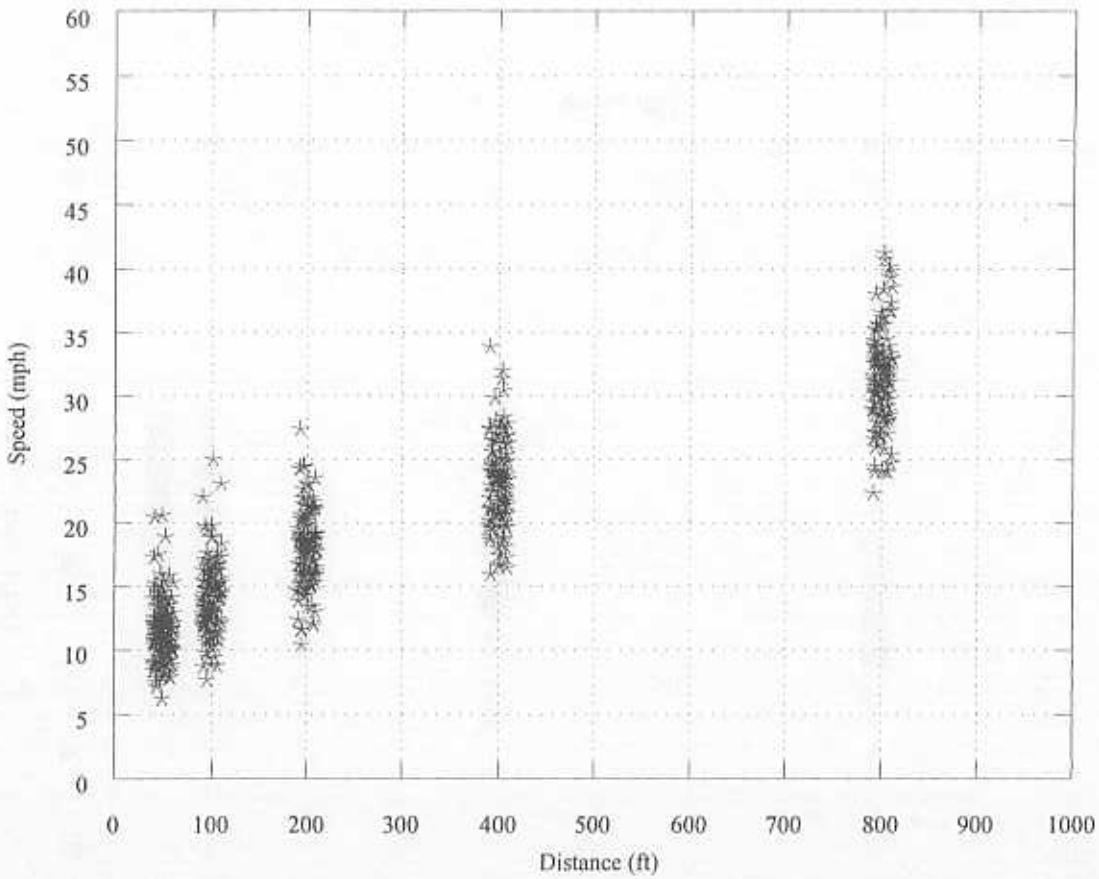

Figure 14. Site IF-TN-2: speed vs. distance data (note: 1 ft = 3.281 m, ; 1 mph = 1.609 km/h).

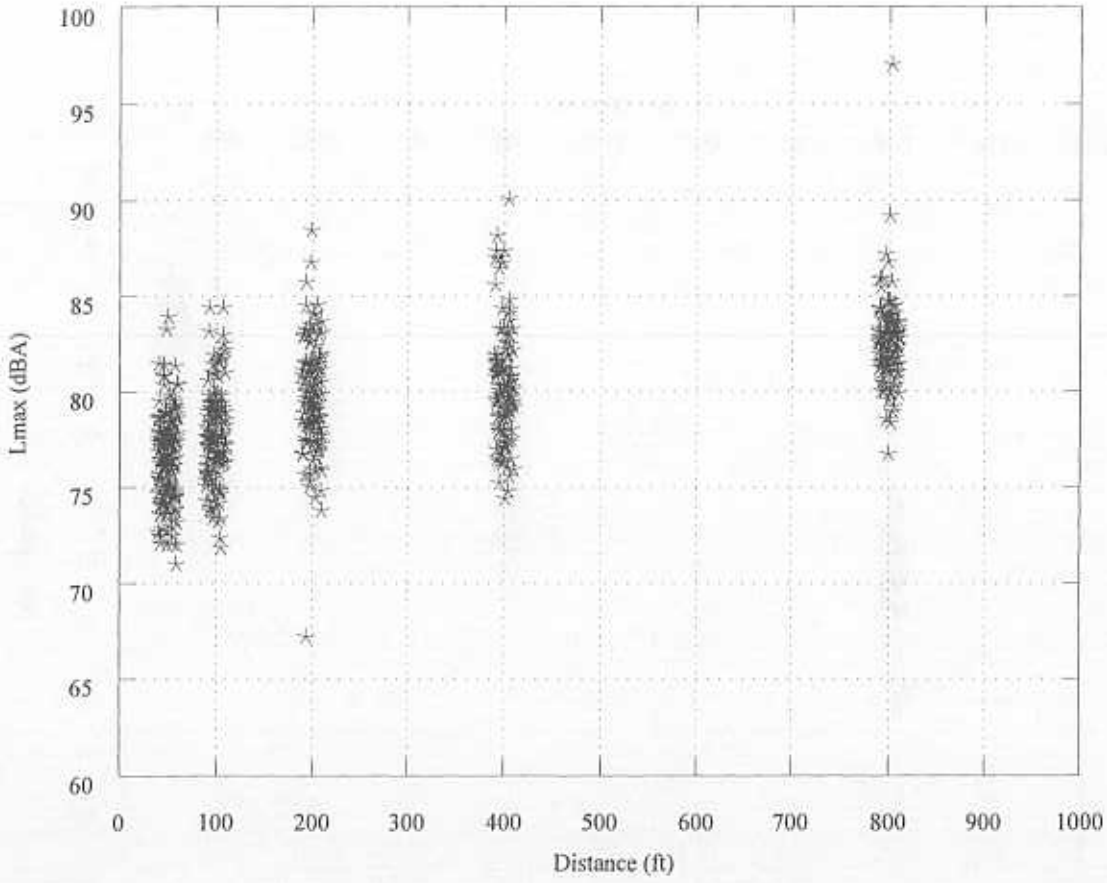

Figure 15. Site IF-TN-2: maximum A-weighted sound level vs. distance data (note: 1 ft = 3.281 m; 1 mph = 1.609 km/h)

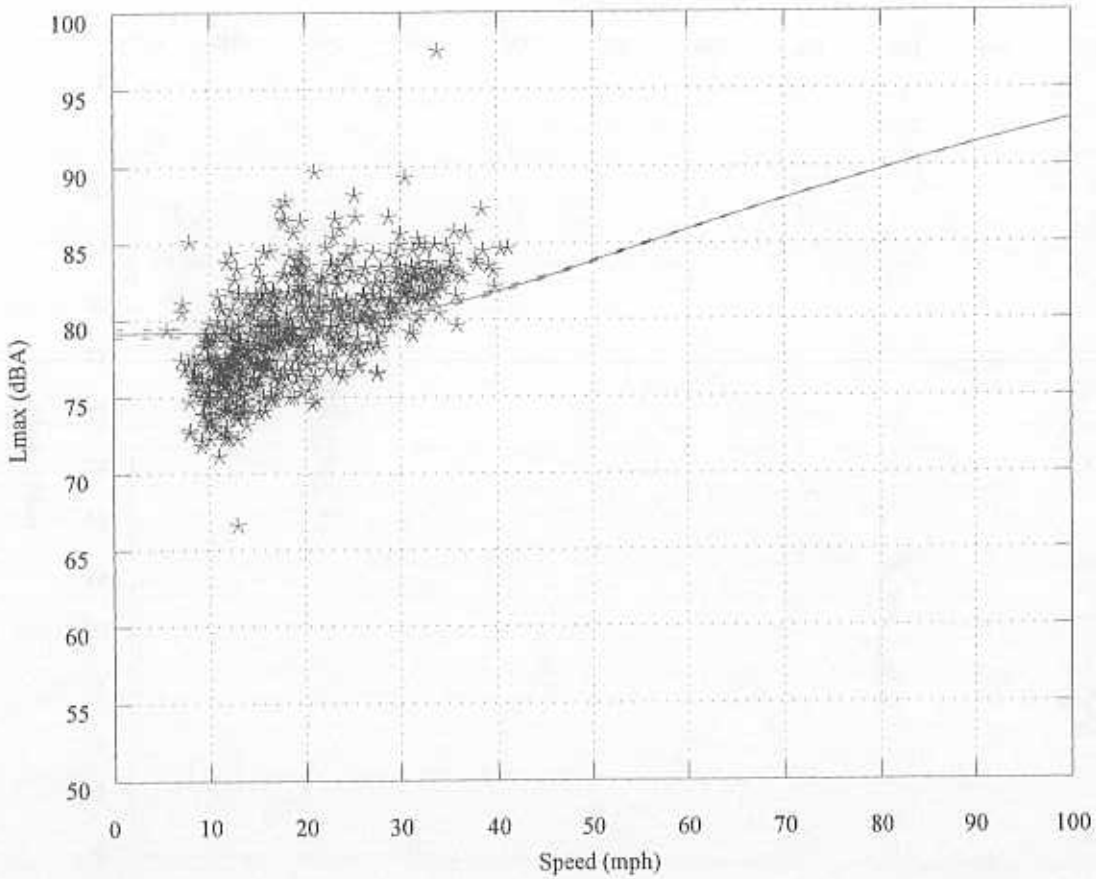

Figure 16. Site IF-TN-2: maximum A-weighted sound level vs. speed data, with REMEL regression line and 95% confidence intervals (note: 1 mph = 1.609 km/h).

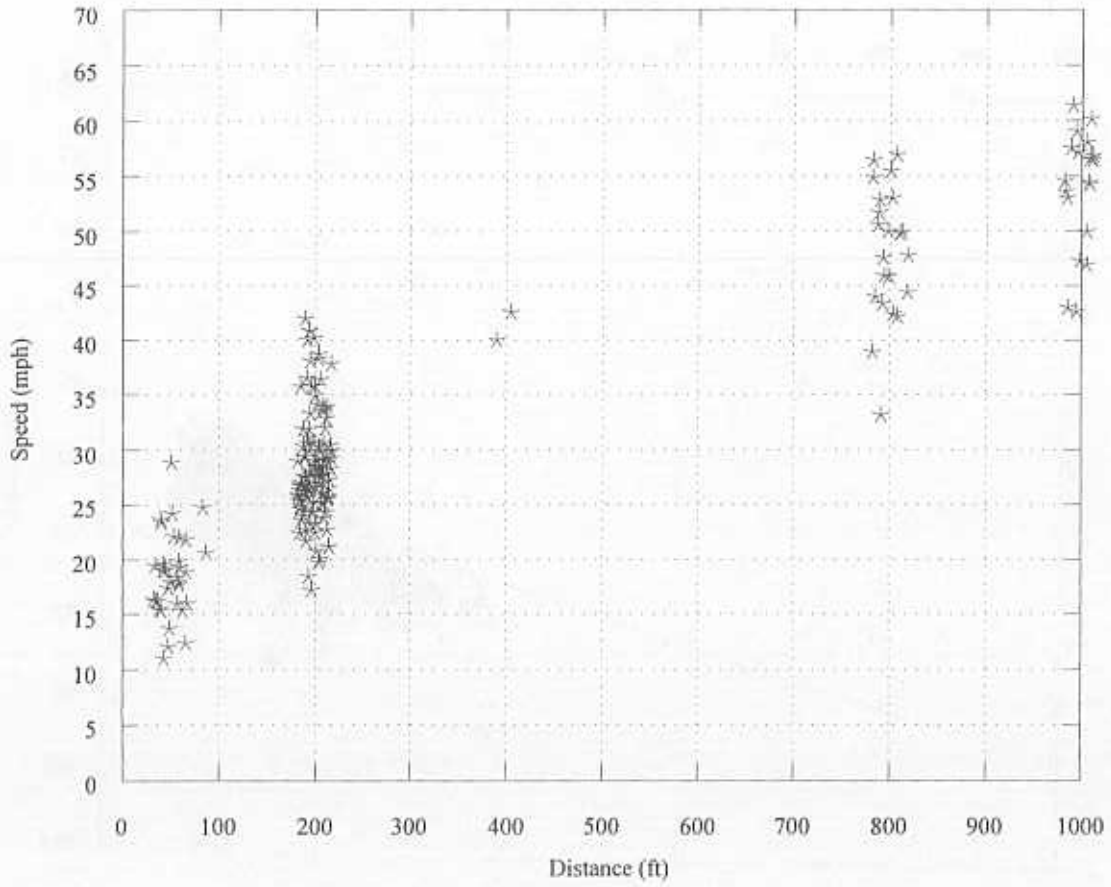

Figure 17. All Florida sites, automobiles: speed vs. distance data (note: 1 ft = 3.281; 1 mph = 1.609 km/h).

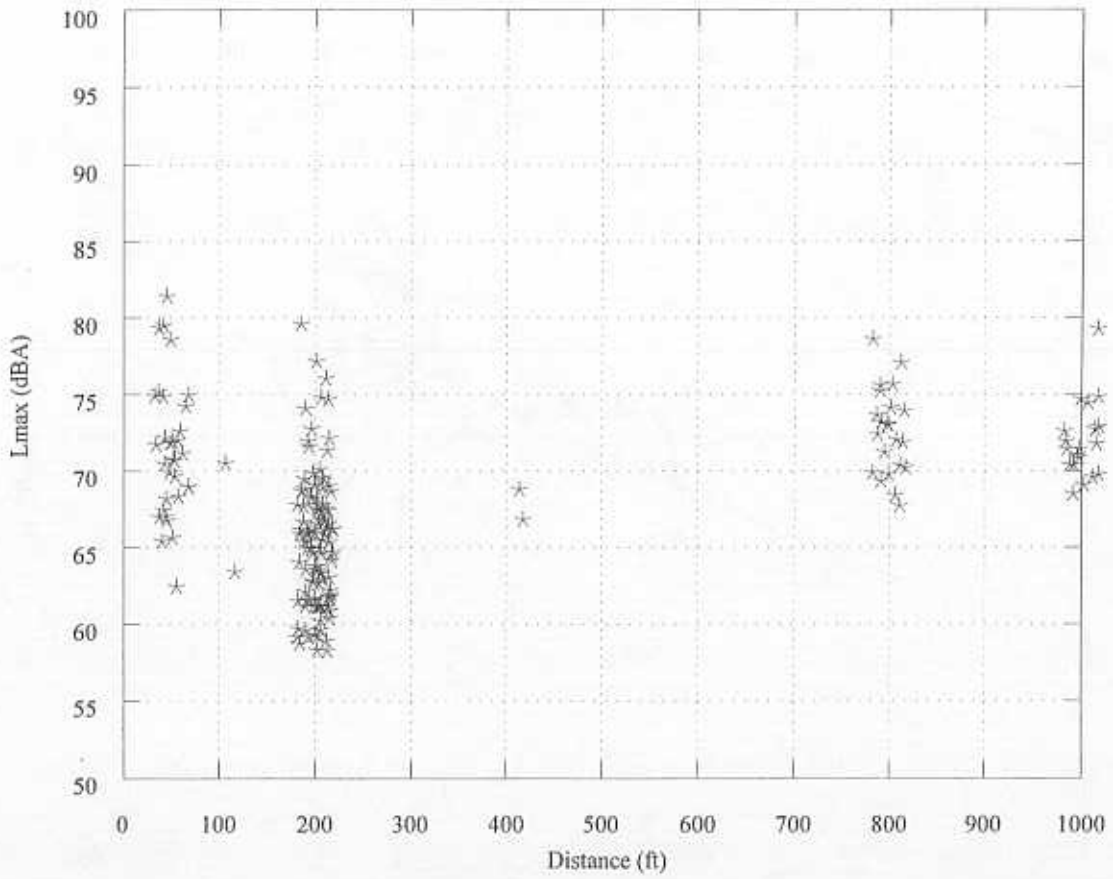

Figure 18. All Florida sites, automobiles: maximum A-weighted sound level vs. distance data (note: 1 ft = 3.281 m).

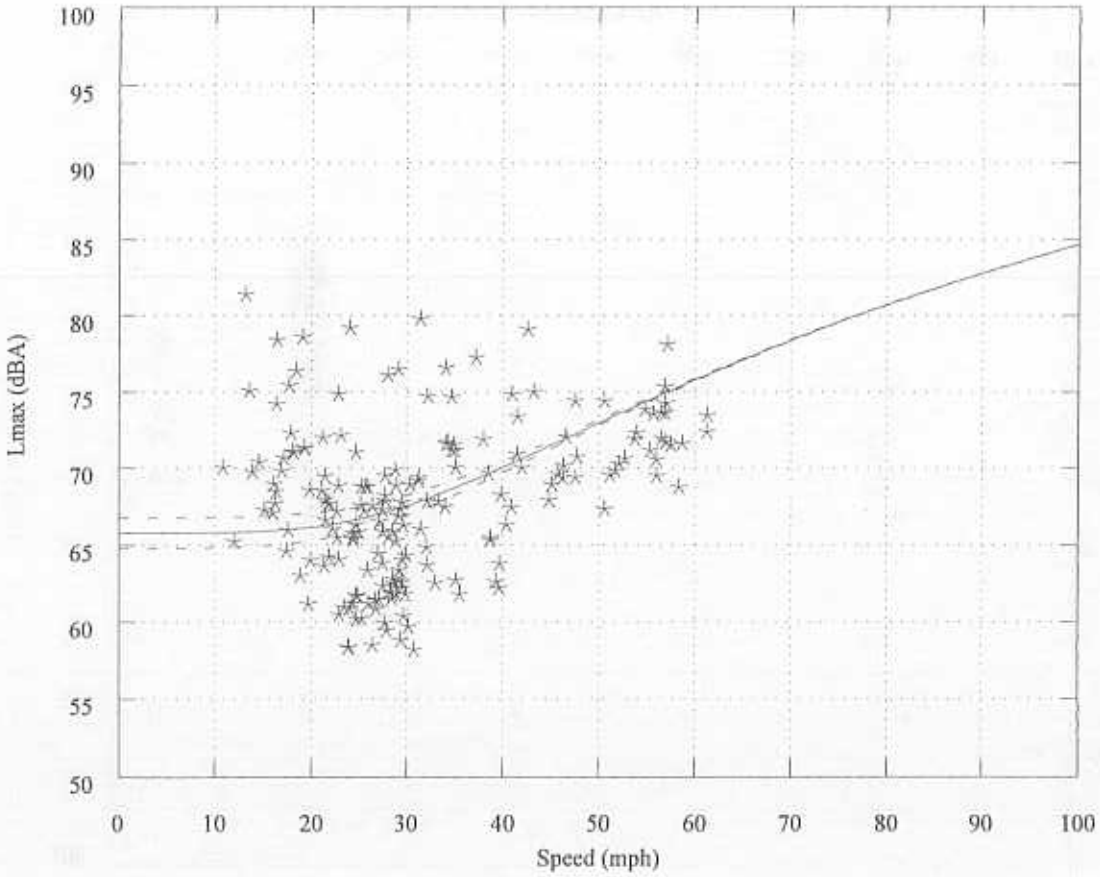

Figure 19. All Florida sites, automobiles: maximum A-weighted sound level vs. speed data, with REMEL regression line and 95% confidence intervals (note: 1 mph = 1.609 km/h).

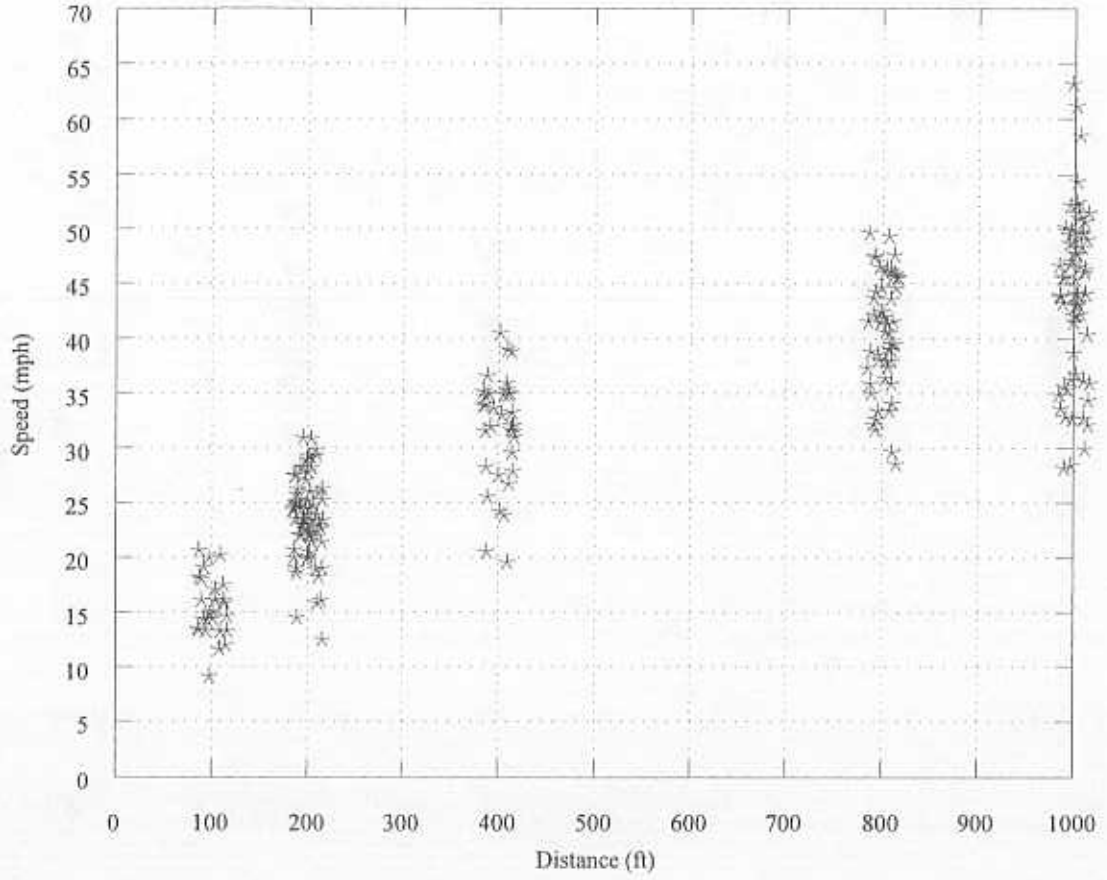

Figure 20. All Florida sites, medium trucks: speed vs. distance data (note: 1 ft = 3.281; 1 mph = 1.609 km/h).

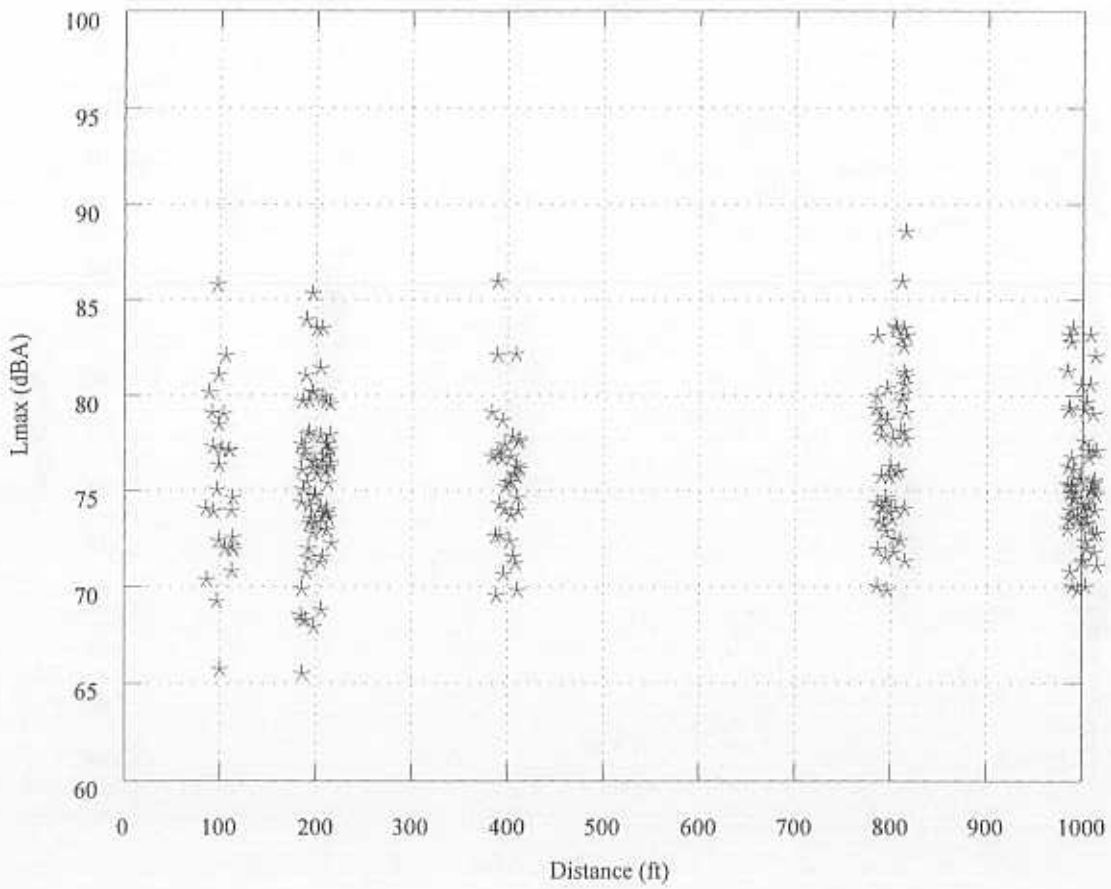

Figure 21. All Florida sites, medium trucks: maximum A-weighted sound level vs. distance data (note: 1 ft = 3.281; 1 mph = 1.609 km/h).

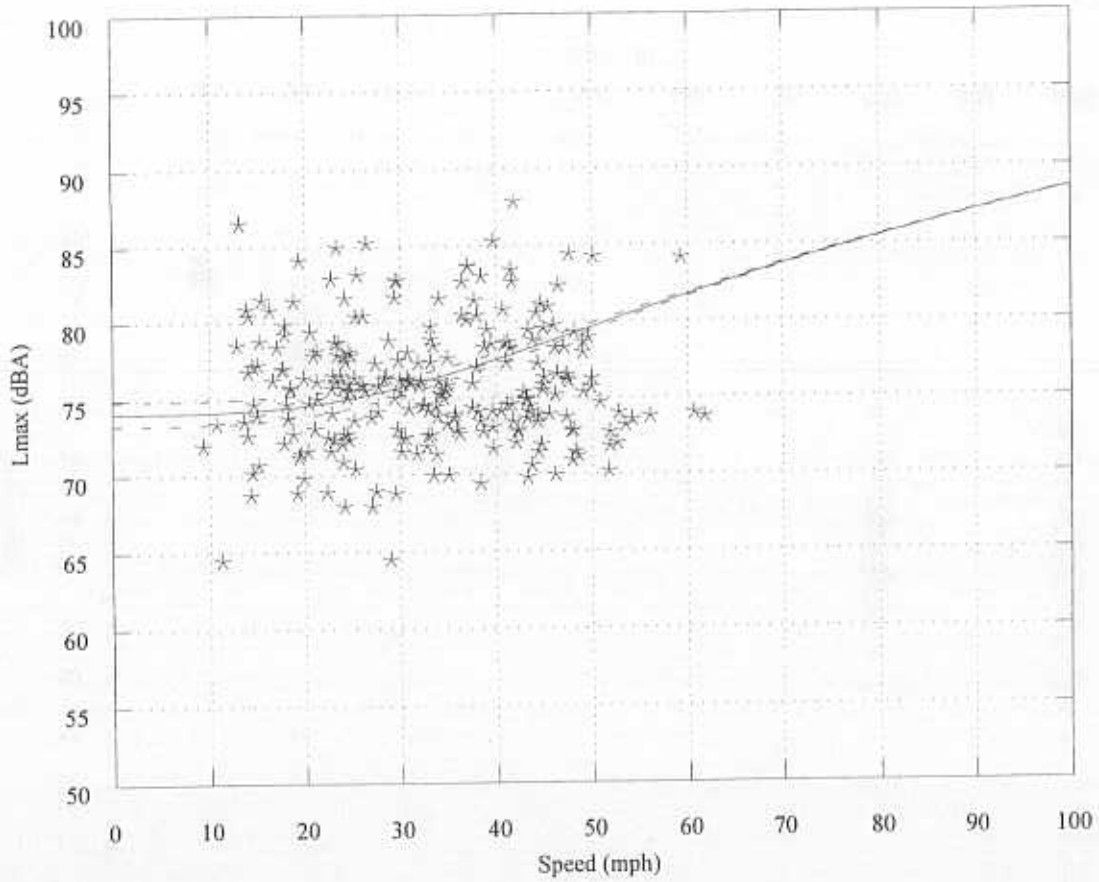

Figure 22. All Florida sites, medium trucks: maximum A-weighted sound level vs. speed data, with REMEL regression line and 95% confidence intervals (note: 1 mph = 1.609 km/h).

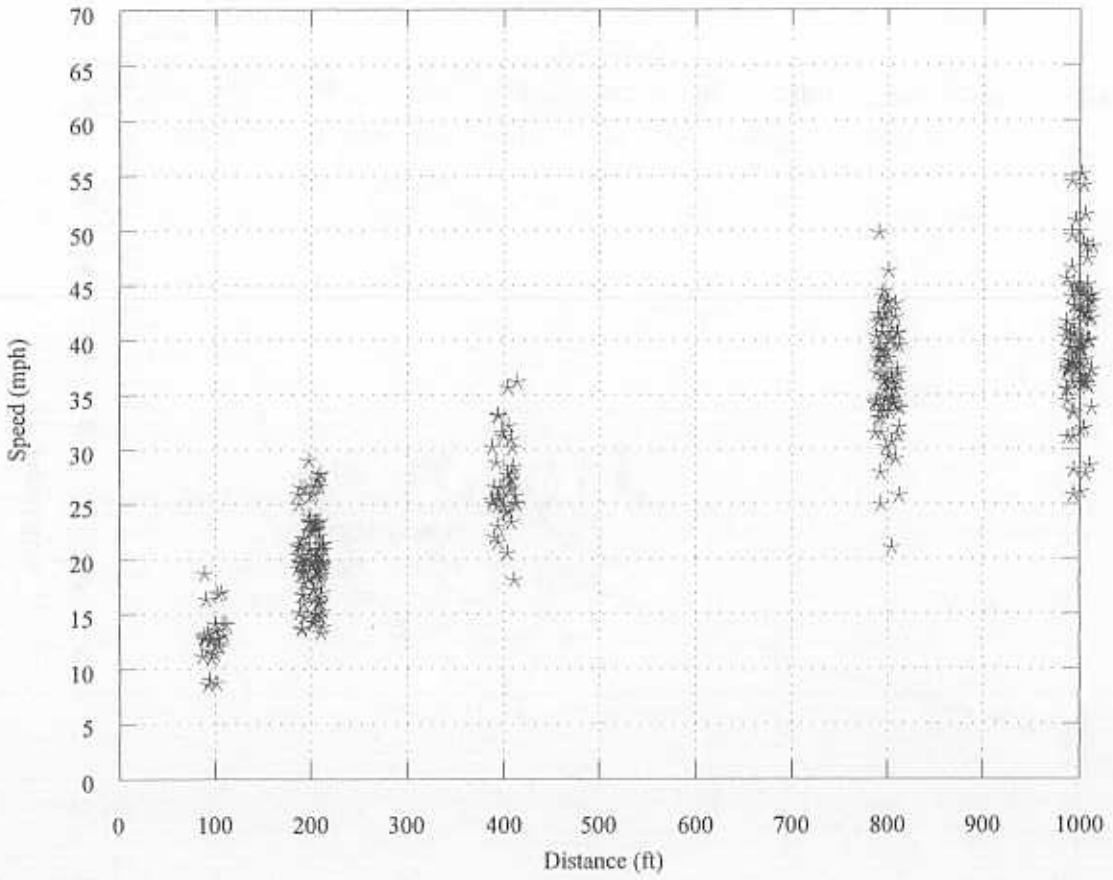

Figure 23. All Florida sites, heavy trucks: speed vs. distance data (note: 1 ft = 3.281; 1 mph = 1.609 km/h).

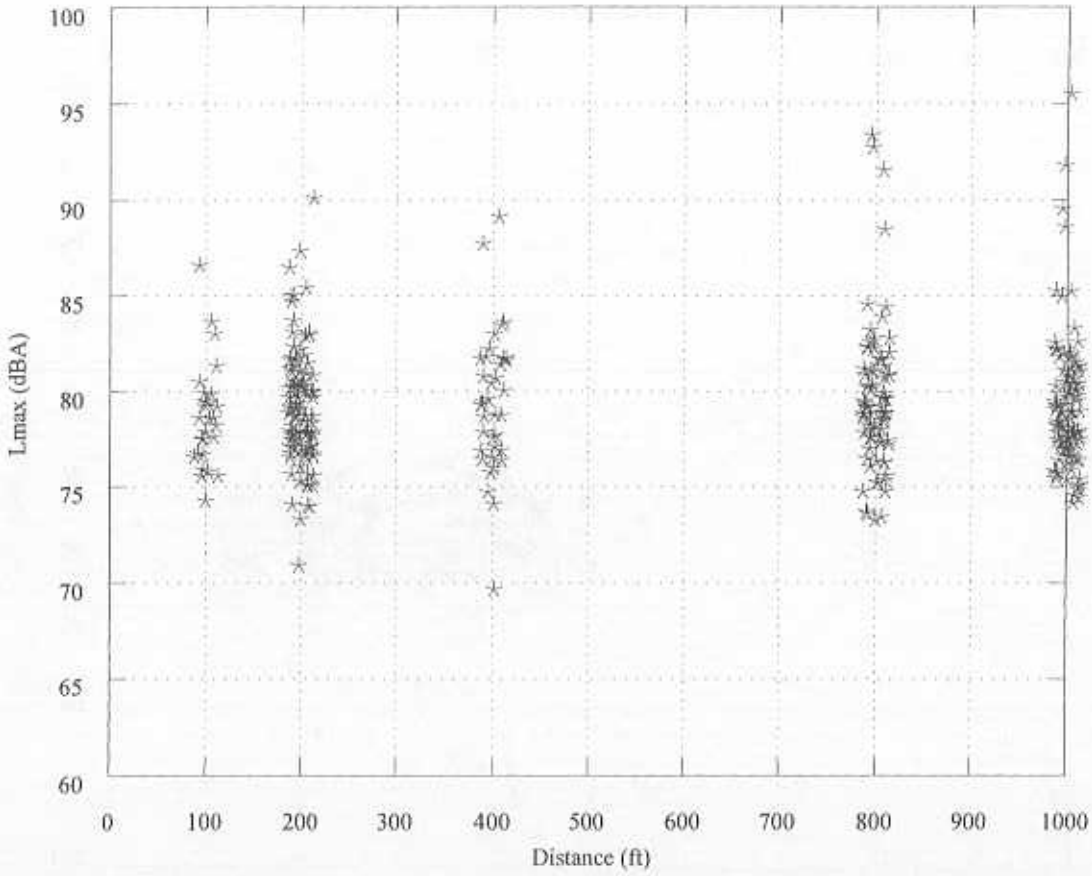

Figure 24. All Florida sites, heavy trucks: maximum A-weighted sound level vs. distance data (note: 1 mph = 1.609 km/h).

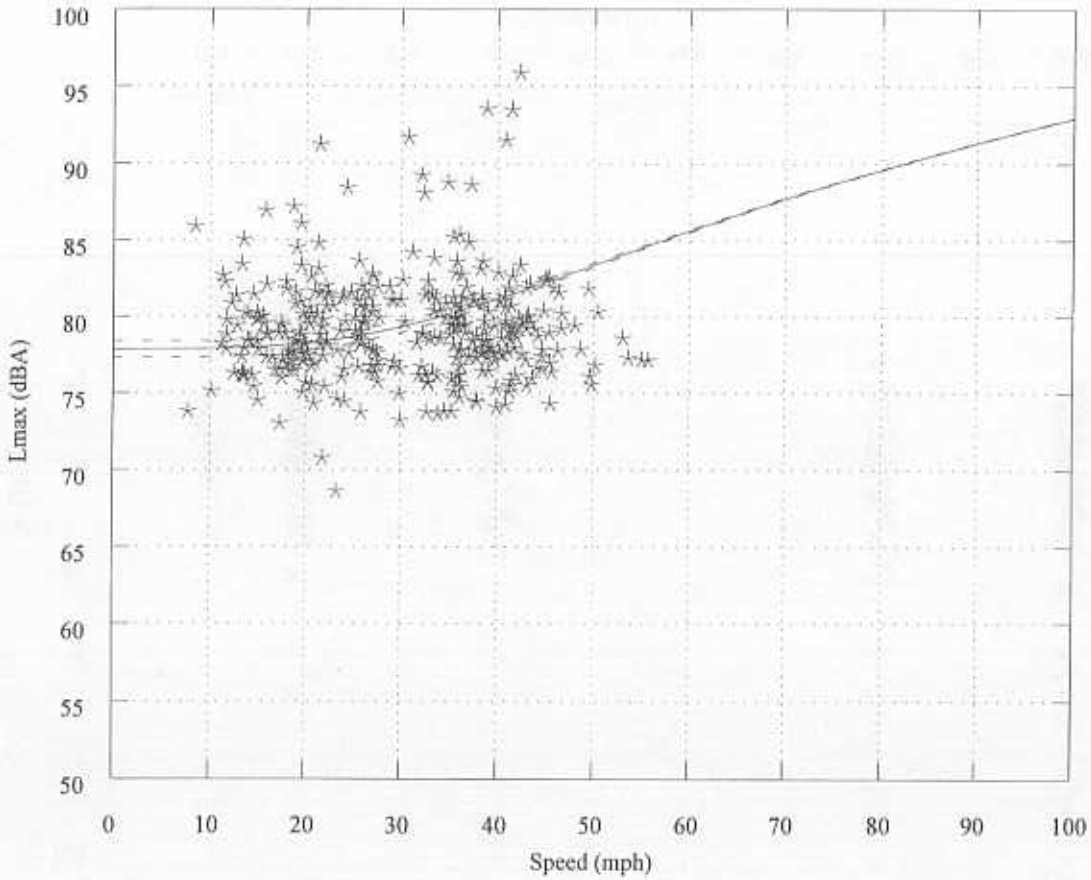

Figure 25. All Florida sites, heavy trucks: maximum A-weighted sound level vs. speed data, with REMEL regression line and 95% confidence intervals (note: 1 mph = 1.609 km/h).

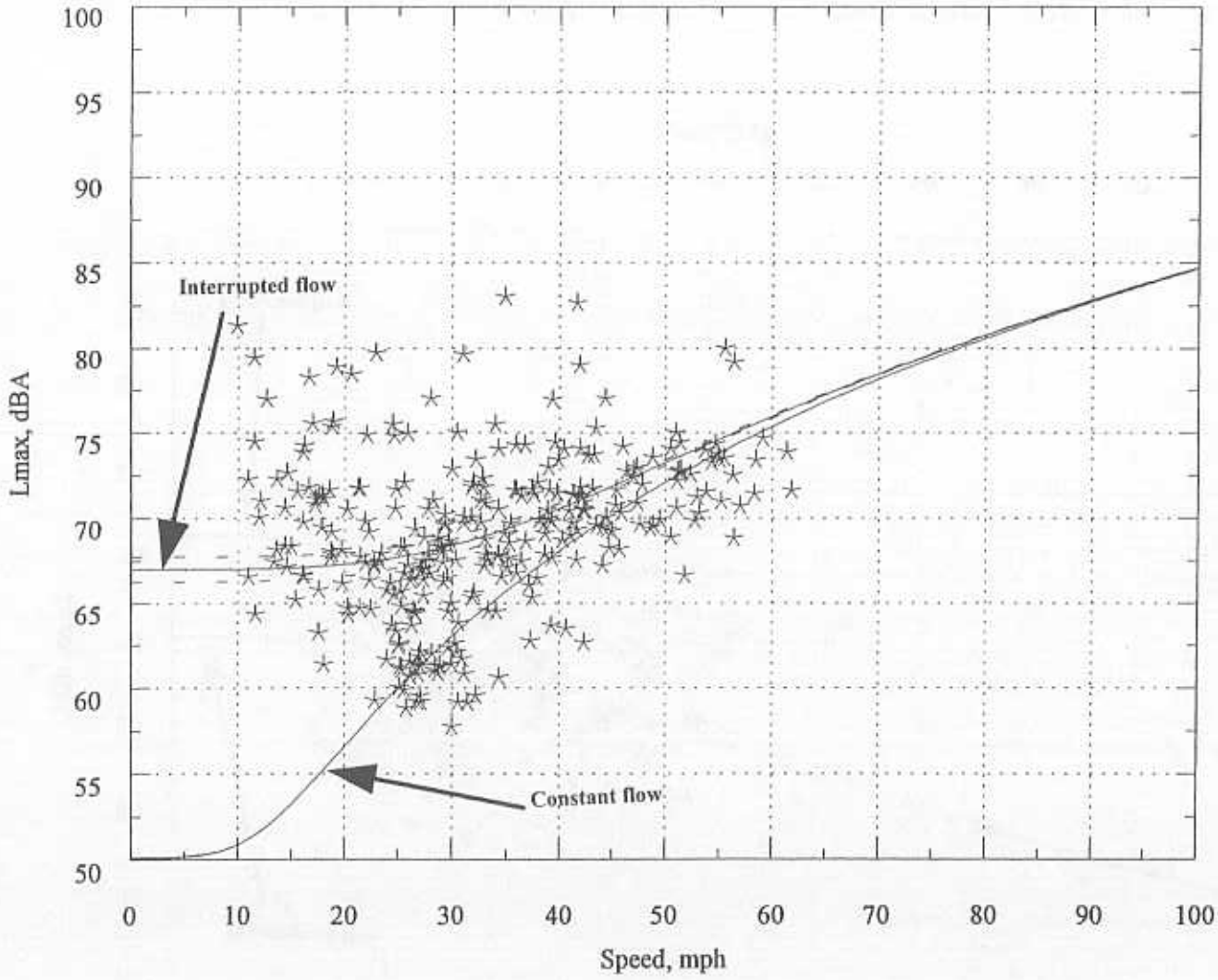

Figure 26. Overall automobile interrupted flow REMEL regression line, with 95% confidence intervals and national constant-speed regression line (note: 1 ft = 3.281; 1 mph = 1.609 km/h).

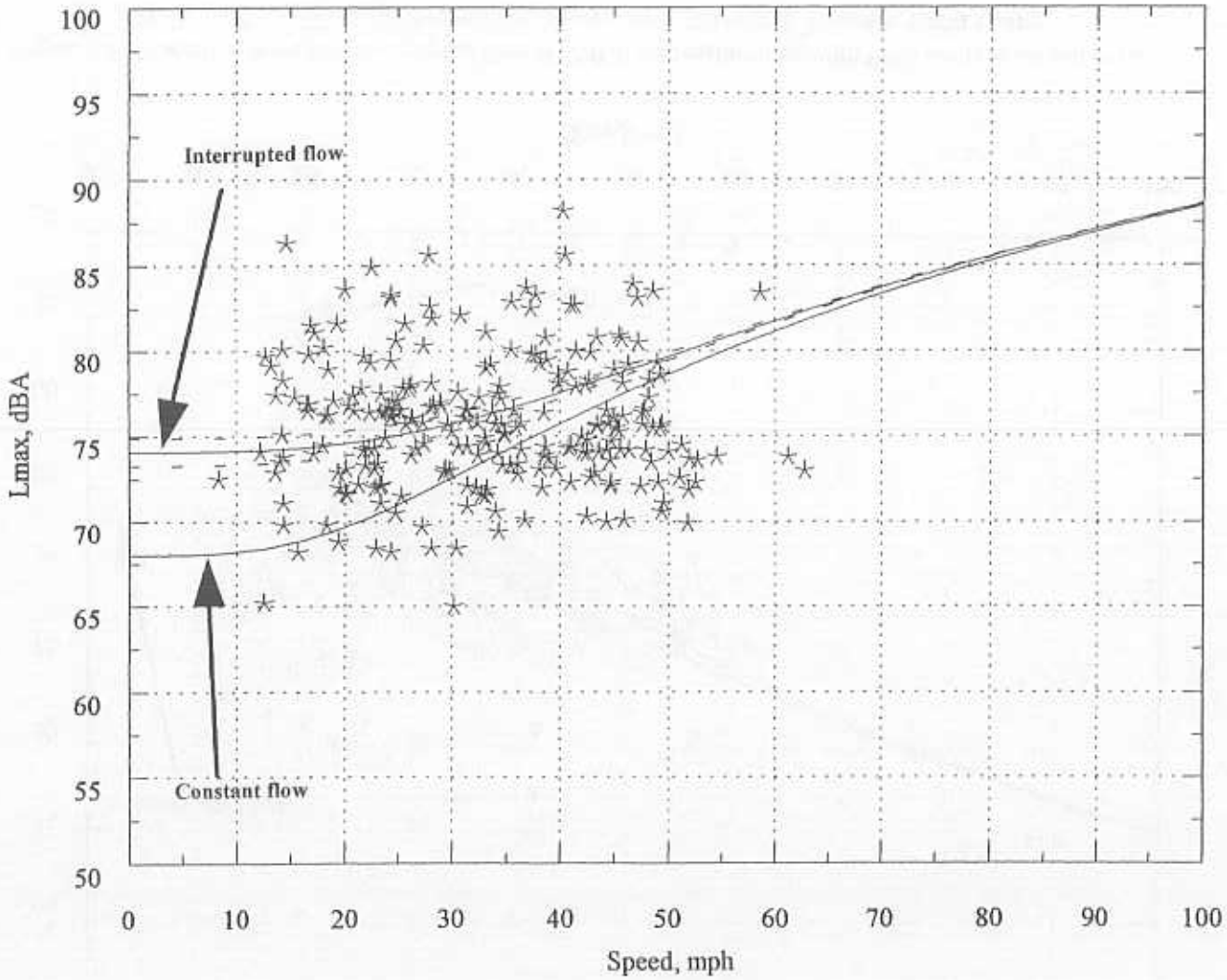

Figure 27. Overall medium truck interrupted flow REMEL regression line, with 95% confidence intervals and national constant-speed regression line (note: 1 ft = 3.281; 1 mph = 1.609 km/h).

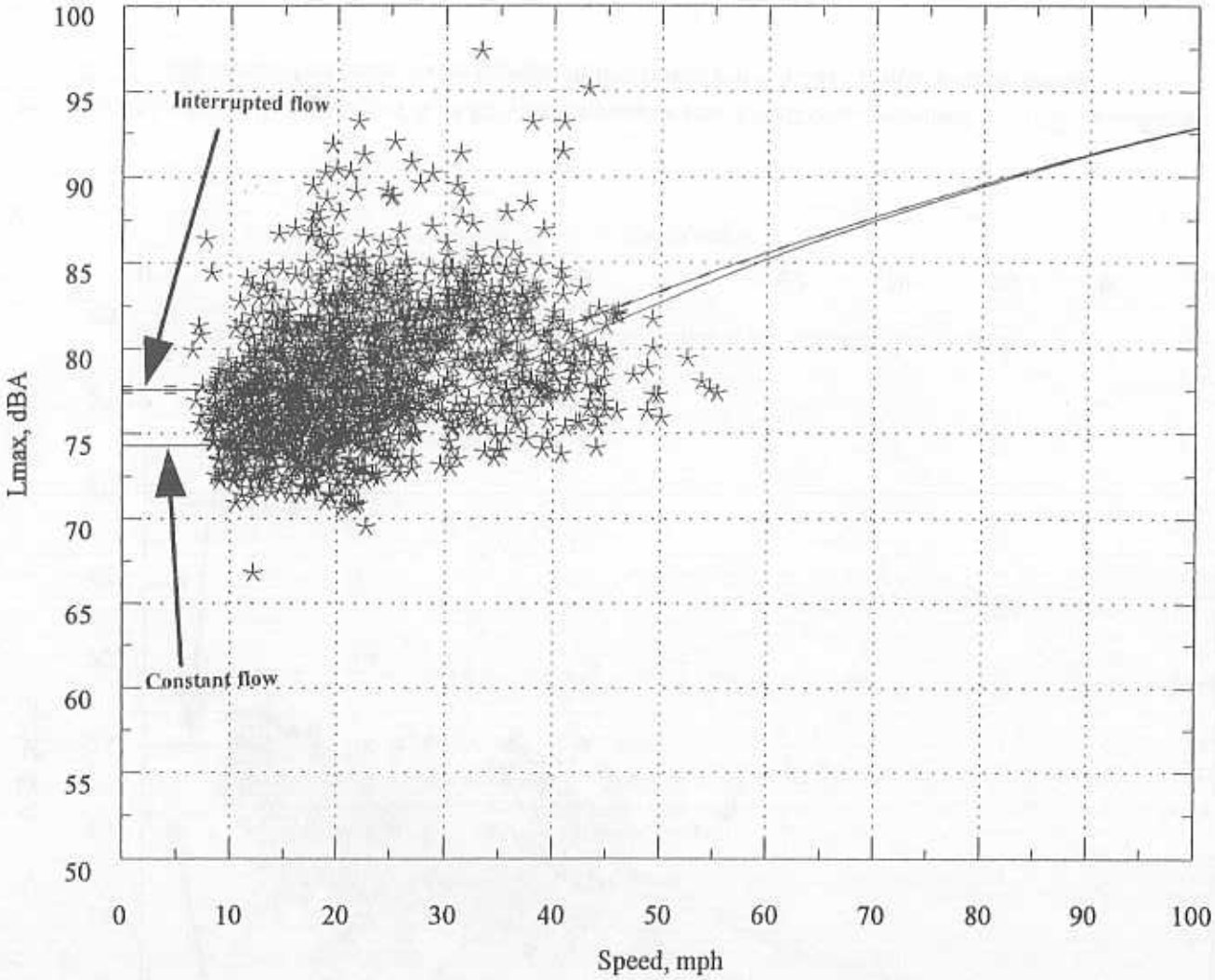

Figure 28. Overall heavy truck interrupted flow REMEL regression line for level grade, with 95% confidence intervals and national constant-speed regression line (note: 1 ft = 3.281; 1 mph = 1.609 km/h).

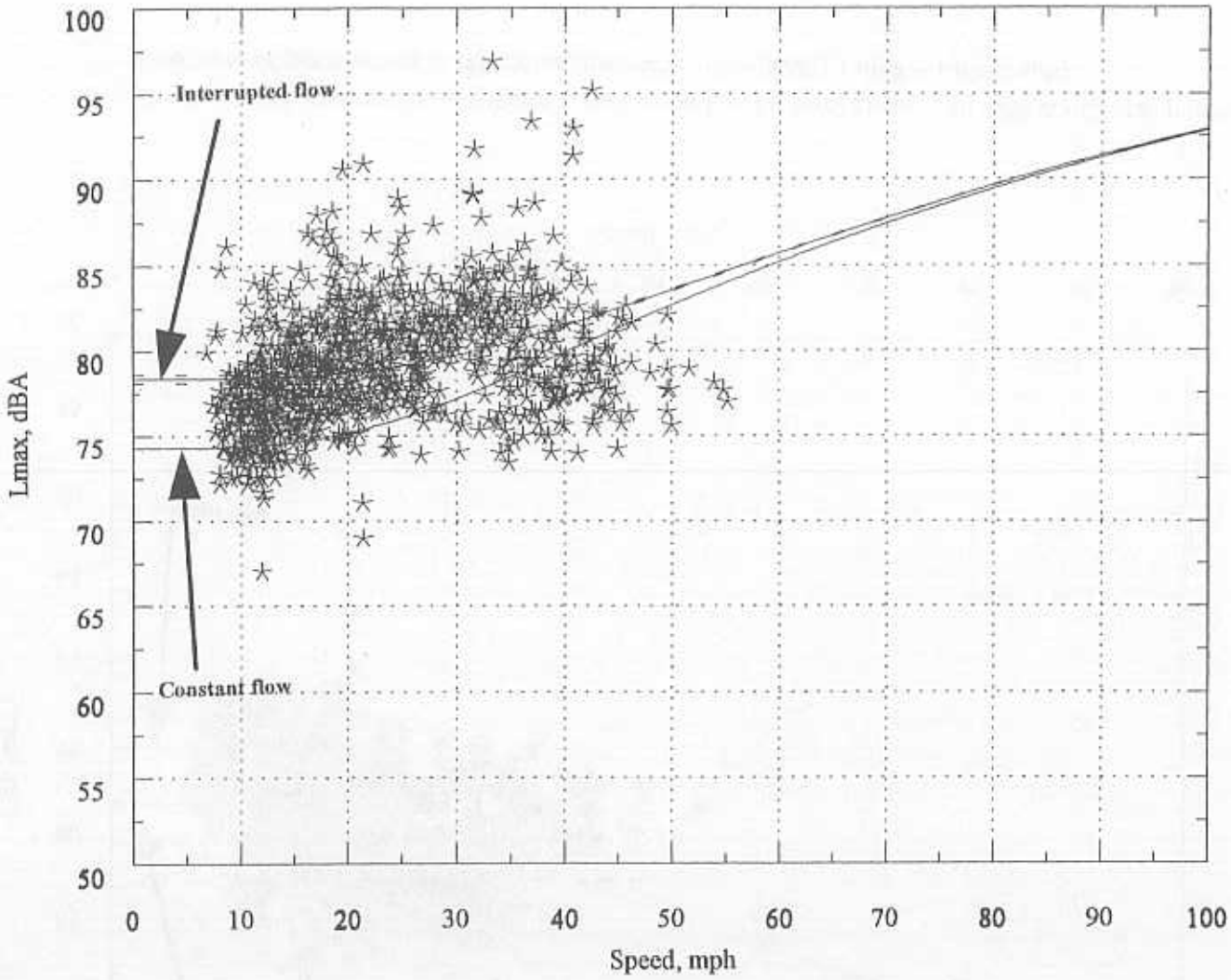

Figure 29. Overall heavy truck interrupted flow REMEL regression line for all sites combined, with 95% confidence intervals and national constant-speed regression line (note: 1 ft = 3.281; 1 mph = 1.609 km/h).

6. SUMMARY

This report documents the collection and analysis of sound level data from individual vehicles in support of the development of the FHWA Traffic Noise Model (FHWA-TNM®). This study focused on nonconstant speed situations, referred to as interrupted flow sites, specifically where vehicles were accelerating from a stopped position or from a very low speed.

Maximum, A-weighted sound levels and sound exposure levels were collected at two sites in Tennessee (a four-way stop sign controlled intersection and the entrance ramp to an interstate highway from a Welcome Center along side the road), one site in Kentucky (an entrance ramp to an interstate highway near two truck stops) and three sites in Florida (two at toll booths and one at a controlled test site where automobiles were held and then released from a "start point"). At each site, sound level analyzers were set at a number of distances from a starting line, ranging from 15 m (50 ft) to 305 m (1000 ft), along the direction of travel. All analyzers were offset 15 m (50 ft) from the center of the travel lane.

Additionally, a constant-speed site was chosen down stream from the interrupted flow area, with microphones at 7.5 m (25 ft), 15 m (50 ft) and 30 m (100 ft) from the center of the near travel lane. The procedures and detail results at the constant speed sites are contained in reference 2.

The resulting data were analyzed to investigate the relationships between speed and distance, distance and maximum A-weighted sound level, and speed and maximum A-weighted sound level. Three vehicle types were studied: automobiles, medium trucks, and heavy trucks. The first relationship was used to calibrate the vehicle dynamics equations being used in the FHWA-TNM® development for the speed-distance-grade algorithms as a function of vehicle type.

The third relationship resulted in the development of regression equations relating the "reference energy mean emission level" to vehicle speed. The desired form of this relationship included a speed-dependent tire/pavement noise component and a speed-independent engine/exhaust noise component. In the development of this relationship, it was found that the means of the cruise site maximum A-weighted sound level data were not statistically different from those of the national cruise site data. This finding allowed the regression coefficients A and B in the tire/pavement portion of the relationship to be assumed to apply to the interrupted flow data sets. This assumption reduced the problem down to finding the constant C representing the engine/exhaust sound level component.

APPENDIX A -- MEASUREMENT DATA

Tables A1 through A-11 present the raw data collected in the field as well as the calculated speed values. Each table is for a different site or a different day for a site with multiple days of sampling:

Table A1	Site IF-KY-1, 11-14-94
Table A2	Site IF-KY-1, 11-15-94
Table A3	Site IF-KY-1, 11-17-94
Table A4	Site IF-KY-1, 11-18-94
Table A5	Site IF-TN-1, 12-06-94
Table A6	Site IF-TN-2, 12-07-94
Table A7	Site IF-TN-2, 12-08-94
Table A8	Site IF-FL-1, 02-03-95
Table A9	Site IF-FL-2, 02-02-95
Table A10	Site IF-FL-2, 01-31-95
Table A11	Site IF-FL-3, 02-01-95

The columns in each table represent the following variables:

Event ID	A unique number given to an individual vehicle event for a given site.
Volpe Type	The vehicle type: 0: Compact automobile 1: Standard automobile 2: 2-axle medium truck (with dual rear wheels) 3: 3-axle heavy truck 4: 4-axle heavy truck 5: 5-axle heavy truck 6: 6-or-more-axle heavy truck
LminB	Minimum A-weighted sound level (fast response) just before the vehicle passage
Lmax	Maximum A-weighted sound level (fast response) of the vehicle passage
LminA	Minimum A-weighted sound level (fast response) just after the vehicle passage
SEL	A-weighted sound exposure level of the vehicle passage, measured from the time at or just after LminB to at or just before LminA
Speed	The calculated vehicle speed at the microphone location based on the time pulses recorded when the vehicle passed the speed points before , at and after the microphone location
ET	Code for quality of event: 0: rise and fall in maximum A-weighted sound level was less than 6 dB 1: rise and fall in maximum A-weighted sound level was between 6 and 10 dB 2: rise and fall in maximum A-weighted sound level was greater than 10 dB 3: bad event

Table A1 -- Site IF-KY-1, 11-14-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
1	5	60.1	73.2	60.8		11.0	2							59.9	75.2	61.4		18.3	2	62.4	72.9	63.6		17.2	1	66.7	76.9	60.4		18.9	2				
2	5	65.2	76.6	63.7		16.6	2							63.7	77.6	62.4		21.5	2	65.2	78.7	64.8		23.3	2	66.2	78.2	71.1		27.7	1				
3	5	62.5	76.3	68.1		13.9	1							64.1	80.1	63.6		18.3	2	67.0	78.2	66.4		20.4	2	63.5	81.4	63.2		24.4	2	84.4		58.0	2
4	5	66.1	72.6	61.8		17.2	1							62.6	71.9	59.6		16.6	1	63.4	70.9	64.6		19.0	1	64.2	78.7	66.0		21.7	2	85.2		56.0	2
5	1	60.6	65.3	60.9		20.1	0							59.7	69.5	61.8		28.2	1	59.6	73.3	66.1		31.4	1	65.7	82.5	71.3		37.9	3				
6	2	61.4	67.4	59.2		21.3	1							57.8	62.7	56.3		26.4	3	58.1	66.5	59.3		26.5	1	68.0	76.9	62.5		31.2	1	80.5		54.0	1
7	5	61.5	74.1	62.3		16.6	2							59.0	73.1	63.1		21.9	1	59.4	73.1	64.9		22.8	1	65.5	75.6	67.0		25.5	1	82.0		57.0	2
8	5	69.4	78.7	65.2		12.7	1							70.1	78.5	67.1		18.1	1	69.2	76.0	67.7		17.2	1	75.2	80.0	68.7		20.1	3				
10	5	66.7	75.1	64.5		13.6	1							54.8	80.5	64.5		19.1	2	70.3	75.1	69.2		18.8	0	65.6	75.8	68.9		21.9	1	84.0		60.0	2
11	5	65.4	79.4	63.7		14.7	2							63.0	80.5	65.1		21.7	2	69.1	81.3	67.2		20.5	2	69.2	79.3	68.1		25.3	2				
12	2	64.5	78.6	62.9		14.4	2							59.2	72.6	62.4		19.4	2	59.6	71.8	63.9		21.6	1	63.6	77.5	71.0		28.5	1				
13	5	69.1	75.5	64.3		15.3	1							67.6	78.5	63.4		20.8	2	66.7	79.3	65.3		23.3	2	65.7	80.7	69.9		26.7	2	83.8		57.0	2
14	5	66.4	72.9	64.7		10.2	1							65.7	76.4	62.4		14.0	2	63.5	76.1	66.9		15.5	1	65.3	80.2	72.0		17.6	1	84.3		58.0	1
17	5	61.7	70.8	61.2		10.7	1							57.4	75.4	62.1		15.0	2	59.6	77.5	65.4		17.2	2	58.5	79.4	68.1		20.5	2				
18	5	58.9	70.2	64.5		11.6	0							56.4	75.1	68.1		15.7	1	65.7	73.9	66.1		17.8	1	67.4	84.3	66.0		21.0	3				
19	1	62.4	66.0	61.2		25.3	0							58.4	62.9	58.1		28.4	0	57.6	65.8	63.7		32.3	0	66.2	77.1	64.6		37.0	3				
20	5	66.2	78.3	61.6		19.3	2							66.9	76.1	62.4		22.8	1	62.9	77.1	64.2		25.2	2	64.7	77.5	64.7		30.4	2				
21	5	61.9	74.1	60.9		14.5	2							61.5	75.9	61.4		22.6	2	63.3	76.1	63.3		22.9	2	64.3	77.5	64.6		27.1	2				
22	5	62.4	77.9	63.6		16.6	2							61.4	79.2	63.6		22.3	2	66.3	78.2	64.5		22.7	2	66.1	77.9	65.1		28.4	1	81.1		54.0	1
23	5	64.0	73.7	65.1		16.1	1							61.5	73.3	60.4		23.0	2	64.2	73.0	62.5		21.6	1	64.5	79.9	68.0		27.0	3	85.7		66.0	2
25	5	62.5	75.4	63.4		15.8	2							59.6	70.9	60.4		21.9	2	59.0	72.3	61.0		23.9	2	62.7	80.7	68.1		29.0	2				
26	5	61.9	74.1	62.3		16.3	2							63.9	76.0	59.1		26.8	2	66.1	74.6	62.7		27.3	1	60.0	77.5	65.5		31.4	2	86.3		66.0	2
27	5	69.8	79.2	66.3		19.6	1							58.4	79.9	62.3		22.0	2	63.5	79.4	62.3		21.6	2	65.2	79.7	61.5		24.6	2	83.2		50.0	2
28	2	70.2	78.2	72.1		17.4	3							64.1	74.3	60.2		25.6	2	61.6	74.1	58.8		25.1	2					25.1	0				
29	5	64.6	74.1	66.2		18.5	3							64.2	73.3	60.4		22.0	1	65.9	71.9	59.5		19.9	1	55.2	76.9	61.0		21.6	2	81.9		57.0	1
33	5	59.6	73.4	61.7		21.9	2							57.5	73.5	59.6		21.4	2	60.5	72.9	62.6		23.4	2	57.3	77.1	70.3		27.3	1	82.1		54.0	2
34	1	64.3	69.1	64.6		19.1	0							66.1	69.7	63.5		28.6	0	70.1	72.6	64.7		36.4	0	68.5	74.0	64.9		45.5	1				
35	1	62.1	76.9	68.6		18.3	1							55.3	73.3	64.2		28.6	3	68.3	72.1	66.4		31.2	0	70.2	75.7	69.0		35.2	3				
36	5	64.2	76.6	64.1		21.4	2							64.5	75.4	64.3		24.3	2	66.7	74.7	62.4		27.4	1	67.5	76.6	68.1		32.2	1	80.5		58.0	0
37	5	67.2	78.9	68.4		17.2	2							61.2	81.9	67.4		23.5	2	69.4	82.2	73.0		24.6	1	74.0	84.6	78.2		31.6	3	82.7		62.0	1
38	5	72.3	79.3	68.7		20.4	1							67.4	79.0	63.9		20.4	3	67.9	79.6	65.2		23.9	2	69.2	81.9	64.7		29.2	3				
39	1	57.2	61.0	58.2		17.5	0							52.0	60.5	53.4		28.9	1	54.1	62.5	57.4		29.7	0	62.0	70.3	64.0		37.0	1				
40	5	65.2	81.1	66.2		15.2	2							60.3	81.7	63.4		17.4	2	65.6	82.5	68.1		19.6	2	66.4	82.3	67.9		25.3	3				
42	5	65.2	72.7	65.1		19.1	1							63.4	78.3	63.9		20.3	2	66.1	77.2	62.9		22.5	2	67.0	78.5	68.5		26.7	2	84.1		55.0	2
44	5	62.8	73.4	63.4		18.1	2							62.7	75.1	63.3		21.8	2	62.5	75.3	62.9		23.5	2	62.2	75.2	65.4		27.0	1				
45	1	59.1	68.1	61.1		21.4	1							56.9	63.6	57.1		27.5	1	61.6	64.8	58.6		27.8	0	65.9	76.2	66.9		33.7	3				
46	1	53.1	66.1	61.2		16.5	0							54.7	61.5	56.2		24.0	0	57.4	64.8	61.0		23.0	0	62.1	74.0	65.5		26.5	1				
47	5	65.2	74.5	66.8		18.5	1							62.2	76.4	60.8		19.0	2	65.7	78.3	63.0		19.5	2	63.9	78.6	61.7		23.0	2	84.0		59.0	0
49	5	65.4	73.5	64.2		14.4	1							61.2	75.7	58.6		16.6	2	61.7	74.3	64.1		20.0	2	61.6	80.6	70.4		23.9	2				
51	1	62.1	66.2	64.2		20.1	0							63.0	66.9	62.7		23.1	0	66.4	69.1	64.2		32.1	0	65.8	74.3	67.0		31.8	3				
52	1	59.1	67.5	54.2		28.0	1							58.7	63.9	57.9		29.9	0	58.0	66.3	63.2		30.3	0	70.1	75.1	70.0		38.8	3				
53	5	67.2	75.5	69.1		12.6	1							71.3	76.1	68.3		26.7	0	72.1	74.1	65.7		19.8	0	70.5	75.2	65.1		23.0	0				
54	5	65.1	72.5	68.2		10.9	0							60.1	71.6	61.8		16.1	1	63.2	74.0	64.1		17.2	1	70.8	75.8	59.0		21.2	0				

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1114R.WB1

Table A1 -- Site IF-KY-1, 11-14-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
55	5	66.2	78.1	62.3		9.7	1							61.0	72.0	64.9		12.9	1	62.4	72.7	64.8		15.0	1	71.0	78.4	67.0		18.2	3	82.1		55.0	2
56	5	65.1	71.7	66.2		16.3	0							60.5	71.9	63.7		18.0	1	63.8	71.9	65.1		17.7	1	64.7	74.5	68.0		20.3	1				
57	1	56.2	65.7	61.0		19.3	0							61.9	65.4	60.3		24.5	0	63.2	68.3	62.8		29.2	0	69.8	77.4	73.2		36.5	3				
58	1	60.9	65.1	61.1		22.6	0							57.3	69.5	59.0		23.6	2	60.8	71.4	61.6		25.2	1	66.0	68.8	64.6		31.4	0				
59	2	59.3	67.8	64.1		16.4	0							57.2	69.5	63.1		25.1	1	60.9	72.9	62.6		27.5	2	67.6	71.5	67.7		33.5	0				
60	5	63.1	71.2	68.9		15.7	0							59.9	74.0	62.5		19.6	2	65.9	75.7	69.1		21.9	1	77.0	82.7	75.0		28.2	3				
61	5	61.6	75.8	67.3		16.5	1							64.8	74.8	65.2		21.8	1	63.9	75.6	69.4		24.3	1	64.6	77.8	68.2		29.5	1	88.1		59.0	1
62	5	65.2	74.8	71.3		16.7	0							66.7	77.5	62.8		19.8	2	63.4	78.0	65.9		20.9	2	65.6	76.6	64.7		24.1	2				
63	B	67.4	73.0	67.2		16.9	3							61.5	70.9	64.0		25.0	1	64.6	73.1	66.2		24.6	1	67.2	77.4	69.1		29.4	1				
64	5	66.4	72.6	66.0		10.9	3							64.2	74.5	63.1		16.3	2	65.9	74.8	66.6		18.0	1	69.2	81.0	71.0		20.9	3	85.8		64.0	2
65	5	64.2	76.5	68.6		9.7	1							63.0	74.0	63.9		14.8	2	66.6	75.6	63.8		15.2	1	65.3	76.8	71.0		20.2	0	82.5		55.0	2
66	5	66.2	71.9	64.2		17.6	0							62.8	72.8	65.1		25.6	1	63.1	74.5	71.2		26.3	0	66.2	82.0	68.0		32.0	3	84.2		60.0	1
67	3S3	72.2	82.6	72.6		21.3	2							65.6	79.5	64.4		20.9	2	64.6	80.2	64.3		24.1	2	66.1	80.8	61.6		29.4	2				
68	5	67.2	73.1	68.1		23.8	0							64.3	75.3	62.1		16.6	2	63.9	75.5	61.4		18.7	2	61.2	78.6	66.2		21.0	3	83.9		60.0	1
69	1	63.3	66.0	61.2		20.1	0							60.8	67.4	60.2		30.9	1	60.9	69.1	61.2		34.5	1	65.5	72.5	65.4		42.1	1				
70	5	66.3	75.6	72.3		17.0	0							62.9	76.3	61.0		17.3	2	62.8	77.3	65.8		19.9	2	76.0	77.5	63.6		23.9	0				
71	1	66.2	69.3	64.8		21.0	3							63.9	68.1	63.5		34.1	0	63.9	72.6	68.6		36.5	1	66.0	70.8	62.3		43.6	0				
72	5	64.8	78.0	66.2		14.8	2							65.0	82.5	64.7		18.7	2	66.5	81.2	68.2		20.6	2	75.0	80.7	72.2		25.2	0	83.2		56.0	2
73	5	62.4	75.6	66.2		12.8	1							60.0	76.3	62.9		17.1	2	62.7	71.4	65.6		18.3	0	71.3	79.8	71.3		21.3	3	85.9		59.0	1
75	5	65.4	74.0	72.2		13.2	3							63.9	73.3	65.2		18.2	1	70.1	74.0	64.7		18.0	0	66.3	75.6	67.9		19.0	1				
77	2	64.3	68.0	66.1		25.4	0							67.6	68.1	62.7		29.6	0	64.8	72.0	67.2		30.5	0	72.1	74.9	72.3		35.2	3	82.9		55.0	1
78	5	61.7	70.6	65.8		15.7	0							61.7	70.6	64.4		20.3	1	62.7	71.0	64.0		21.0	1	61.0	75.7	65.1		23.7	2				
79	2	61.2	64.5	61.1		20.7	0							60.5	65.7	59.4		30.4	0	58.0	67.6	63.9		34.2	0	69.5	75.6	68.4		41.4	1				
80	5	63.3	74.3	65.4		15.8	1							62.0	78.1	65.4		19.6	2	68.1	77.5	67.3		21.2	1	68.1	80.9	66.7		27.0	3	83.0		53.0	1
81	2	60.4	67.4	64.3		14.6	0							56.7	63.5	56.0		20.9	0	58.4	64.6	61.2		22.4	0	63.0	75.2	70.0		27.3	3				
82	2	61.2	63.0	60.6		17.2	0							58.1	64.7	60.2		30.8	0	62.6	66.6	64.8		29.8	0	70.4	75.1	66.8		35.0	0				
83	5	68.2	77.6	62.9		23.2	1							63.9	77.1	62.2		25.2	2	69.4	81.7	65.5		25.8	2	66.1	79.3	64.9		27.9	2	86.4		63.0	2
84	5	72.1	76.6	63.2		16.2	0							71.9	77.5	64.2		16.6	0	68.2	74.9	65.8		22.5	1	70.2	78.7	62.9		24.6	1				
86	5	65.2	73.8	63.6		13.4	1							61.4	72.1	63.8		20.7	1	61.2	77.0	74.3		21.3	0	71.4	87.8	75.1		23.9	3	86.8		66.0	2
87	5	64.2	78.2	66.8		21.2	2							64.3	78.1	62.5		39.0	2	66.1	74.8	68.2		30.1	1	75.4	76.7	68.7		33.3	3	83.6		59.0	2

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1114R.WB1

Table A2 –Site IF-KY-1, 11-15-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
111	5	68.2	74.7	69.4		13.5	3					13.9		65.7	75.5	62.3		16.4	1	66.0	76.2	66.0		19.2	2	71.0	74.4	69.8		26.9	0				
112	5	63.2	76.5	65.4		16.5	2					18.0		64.9	77.9	63.6		22.0	2	72.0	77.5	65.0		27.2	0	70.2	76.0	66.4		35.0	1	65.9		70.0	1
113	5	63.6	75.4	65.4		16.9	3					14.4		64.4	76.9	64.3		17.0	2	66.0	76.2	66.0		19.6	2	66.7	81.5	71.1		27.9	3	64.2		66.0	1
114	5	65.4	77.4	72.3		19.1	0					19.6		67.2	77.8	73.2		25.3	0	66.0	81.0	71.0		26.2	2	67.1	83.8	72.0		32.0	2	66.7		72.0	2
115	5	64.3	77.2	68.1		17.9	3					18.4		64.3	75.8	67.5		15.3	1	67.0	78.8	71.0		17.0	1	70.5	77.7	69.7		25.2	1				
116	5	64.2	72.0	66.2		16.2	0					14.6		64.1	72.2	61.9		15.3	1	62.0	72.0	65.0		16.0	1	67.4	76.9	68.9		24.6	1	62.4		53.0	1
117	5	66.2	72.4	64.6		16.6	3					17.1		66.5	75.2	66.1		23.0	1	66.0	77.4	67.0		25.3	2	72.6	78.1	70.4		33.3	0	64.6		62.0	1
119	5	65.4	72.5	69.2		17.1	3					18.3		60.9	75.1	69.8		24.2	0	64.0	80.6	74.0		28.6	1	72.8	83.5	75.1		35.1	1	65.6		65.0	1
120	5	59.8	74.4	65.4		17.0	1					17.9		61.4	74.9	63.7		19.0	2	64.0	76.2	67.0		21.7	1	65.5	80.4	71.0		31.0	3	63.3		52.0	2
121	5	63.2	76.9	71.2		14.9	0					17.5		63.3	77.0	62.2		18.2	2	66.0	76.6	66.0		22.8	2	62.3	78.8	65.5		32.1	2	66.5		63.0	1
122	5	62.7	76.7	69.8		13.7	3					16.4		62.8	76.9	63.4		17.7	2	62.0	78.6	67.0		19.6	2	67.2	73.7	67.0		25.1	1	66.7		65.0	1
123	5	65.2	85.7	76.5		18.4	3					17.3		65.5	90.1	71.8		18.4	2	66.0	89.3	75.0		22.1	2	75.8	86.3	74.7		29.8	3				
124	5	66.2	76.4	71.4		18.8	3					19.5		64.4	76.6	69.3		21.1	3	67.0	77.6	70.0		24.8	1	63.6	76.2	70.2		29.3	1				
125	5	69.5	72.1	67.6		19.1	3					19.7		68.7	73.7	64.1		19.7	0	68.0	77.9	66.0		23.0	1	70.6	73.2	66.1		28.2	0				
126	5	65.4	89.2	61.2		18.0	2					19.6		74.3	93.4	69.8		22.5	2	72.0	92.0	76.0		24.8	2	77.0	84.8	82.2		30.6	3	93.8		60.0	2
127	5	68.1	74.1	67.6		11.6	1					12.4		65.2	77.3	66.4		16.2	2	72.0	77.6	66.0		20.8	0	70.1	74.4	63.1		24.9	0	63.6		64.0	2
128	5	66.2	76.2	68.6		17.6	3					17.9		71.8	76.0	64.2		17.1	0	70.0	78.1	63.0		19.6	3	64.8	72.0	64.3		27.3	3	64.3		63.0	2
129	2D	66.2	70.5	68.4		17.4	0					16.1		62.7	71.1	57.7		21.2	1	67.0	71.2	64.0		24.1	0	64.7	74.4	62.7		29.8	3				
130	5	64.5	76.6	69.2		11.6	1					12.6		68.4	76.3	64.2		16.4	1	64.0	76.9	65.0		17.6	2	61.9	79.3	70.6		22.6	3				
131	5	62.6	74.1	65.4		17.6	1					17.2		62.4	74.0	60.8		19.5	2	62.6	74.6	66.0		21.9	1	62.0	80.7	76.0		27.0	0				
134	5	69.1	76.8	71.2		16.5	0					18.5		69.5	80.2	68.5		18.8	2	68.0	82.2	66.0		22.6	2	65.0	81.9	70.0		26.2	2	64.8		59.0	2
137	5	63.1	72.4	69.2		21.2	3		71.7			22.2		62.1	71.4	61.4		20.7	1	60.5	72.3	62.0		22.6	2	59.0	82.3	65.0		29.1	2	66.5		61.0	1
138	5	62.8	74.8	62.1		17.7	2		73.2			20.8		63.0	74.8	62.0		20.6	2	60.3	74.0	63.3		21.3	3	63.0	85.4	68.0		28.5	3				
139	5	66.2	74.9	69.1		17.4	0					14.1		63.6	74.8	67.0		20.6	3	58.0	75.6	65.0		21.7	2	65.0	80.5	70.0		28.7	2	63.6		58.0	0
142	5	69.4	76.5	64.2		16.1	1		74.2			17.3		65.9	76.9	64.3		18.3	2	64.0	76.6	63.0		24.7	2	69.0	80.2	72.0		29.8	1				
145	5	65.2	74.1	68.4		14.6	3		76.0			14.3		63.4	75.7	64.0		19.1	2	60.0	75.6	61.0		24.0	2	72.0	83.6	65.0		30.9	2	64.4		66.0	2
147	5	64.4	75.5	66.1		14.1	1					13.3		63.6	78.5	61.9		17.2	2	62.0	80.0	61.0		20.6	2	64.0	80.7	75.0		22.4	0				
148	5	61.4	79.3	63.1		18.6	2					19.3		62.7	81.4	63.3		22.0	2	59.0	79.4	60.0		24.2	2	63.0	79.9	74.0		27.5	0				
149	5	67.2	78.2	69.1		14.1	3					13.6		66.0	77.2	66.6		23.1	2	67.0	76.9	64.0		22.1	1	76.0	82.9	62.0		29.6	3				
150	5	67.6	73.6	66.7		13.0	3					15.0		65.7	77.6	65.2		15.8	2	64.0	78.3	65.0		19.3	2	62.0	81.4	64.0		22.6	3				
151	2D	59.7	69.6	56.7		24.3	1					16.8		59.4	64.6			19.9	0	54.0	64.8	60.0		23.3	0	64.0	78.1	67.0		25.0	1				
153	5	62.3	74.2	62.1		18.6	2		73.7			19.2		63.9	75.1	60.3		20.7	2	68.0	74.2	66.0		24.6	1	78.0	81.3	71.0		27.5	3				
155	5	69.6	71.2	64.5		9.9	0		70.0			9.9		65.3	72.5	62.5		12.1	1	64.0	74.8	62.0		14.9	2	70.0	80.3	73.0		17.8	1				
156	5	64.2	71.8	65.4		16.8	1		71.4			16.2		67.5	72.1	64.7		15.9	3	66.0	71.3	64.0		16.8	0	69.0	81.6	71.0		20.2	3	64.7		63.0	1
157	5	61.9	72.0	69.2		19.4	0		69.8			20.8		59.8	77.1	60.9		21.3	3	58.0	76.5	63.0		23.3	3	74.0	79.8	70.0		30.6	3	62.4		55.0	1
158	5	71.2	74.7	72.4		14.0	0		75.8			13.3		70.1	79.3	69.6		18.9	3	68.0	76.8	64.0		20.9	1	67.0	82.0	70.0		25.7	2				
159	5	62.5	74.7	64.6		19.0	2		71.9			15.4		61.9	72.1	61.7		18.3	2	59.0	72.0	64.0		20.3	1	71.0	76.2	67.0		24.7	3	63.0		57.0	1
160	5	66.5	74.0	65.7		23.7	1		74.2			24.8		64.1	74.2	62.4		23.5	2	60.0	75.0	63.0		30.1	2	68.0	76.2	70.0		31.6	1				
162	5	66.1	72.5	66.5		17.3	1		72.6			17.7		67.0	74.9	66.6		20.1	3	65.0	76.4	60.0		21.9	3	70.0	82.0	78.0		26.6	0	66.2		58.0	2
163	5	65.4	74.2	66.2		10.3	1		73.6			11.2		63.6	73.7	65.0		15.7	1	64.0	74.4	67.0		17.5	1	67.0	80.3	71.0		21.1	3	65.1		62.0	2
164	5	69.2	77.1	71.2		16.5	0		74.6			19.7		68.4	76.4	64.9		18.2	1	65.0	74.6	64.0		20.1	1	68.0	82.9	68.0		23.0	3	62.4		51.0	1
165	5	64.6	72.4	68.2		14.7	0		72.8			12.9		61.7	74.5	61.4		16.4	2	60.0	74.6	60.0		21.1	2	68.0	82.3	70.0		27.9	2	63.3		57.0	0
166	5	64.3	77.0	71.1		14.3	0		78.6			16.9		60.1	78.0	68.8		14.3	1	61.0	77.2	68.0		23.5	3	69.0	83.3	75.0		34.5	3				

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1115R.WB1

Table A2 --Site IF-KY-1, 11-15-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
167	5	60.2	72.4	64.8		25.9	1		70.3			23.5		59.4	72.9	66.6		22.5	3	58.0	75.4	63.0		27.6	2	68.0	81.8	74.0		30.7	3				
168	5	65.2	75.4	68.2		13.6	1		77.1			14.0		62.4	75.1	69.4		16.0	3	60.0	74.6	70.0		19.1	3	67.0	82.5	65.0		27.2	3	85.7		59.0	1
169	5	67.6	73.2	64.2		18.0	0		72.8			18.1		68.4	74.5	62.2		19.7	1	64.0	76.8	61.0		25.4	2	64.0	78.5	70.0		30.3	1	84.1		61.0	1
170	5	67.2	81.8	68.6		13.4	2		82.6			14.0		64.7	80.8	63.5		17.5	2	61.0	79.0	60.0		20.5	3	69.0	84.0	81.0		24.4	3	84.1		63.0	1
171	5	68.4	76.6	68.6		24.4	1		76.8			25.3		63.8	80.0	63.8		26.7	2	57.0	79.4	64.0		33.0	2	65.0	85.5	75.0		36.0	3				
172	5	63.2	73.4	67.6		18.2	0					18.0		62.9	73.2	64.7		21.6	3	59.0	73.2	62.0		23.9	3	77.0	82.5	71.0		28.1	0	84.6		58.0	1
173	5	64.6	75.3	67.6		17.2	1		70.9			16.2		63.6	75.3	63.4		20.2	2	58.0	74.8	61.0		24.1	2	68.0	84.6	77.0		29.6	1				
174	5	64.2	73.6	69.2		12.4	0		73.3			14.6		64.0	75.9	63.2		16.9	2	62.0	72.9	59.0		20.7	2	72.0	82.2	67.0		26.2	2				
177	5	63.1	74.5	72.1		13.7	3		72.6			13.3		61.3	73.4	70.3		14.7	3	59.0	75.2	70.0		16.6	3	81.0	84.5	67.0		22.5	3				
178	5	68.2	77.7	67.6		17.8	3		78.7			16.6		62.5	80.4	67.2		15.5	3	65.0	79.1	62.0		19.7	3	71.0	82.3	75.0		26.9	3				
180	5	65.4	73.4	68.2		18.1	1		73.2			19.0		67.6	75.1	66.0		20.0	1	64.0	76.6	60.0		24.8	3	77.0	83.3	69.0		30.1	3	85.1		59.0	1
181	5					16.1	0		75.6			16.2		69.4	74.2	62.5		17.2	0	66.0	74.7	66.0		20.5	1	75.0	81.0	72.0		22.7	3				
182	5	64.7	76.2	69.6		12.2	1					12.3		65.6	75.2	63.2		14.9	1	61.0	77.1	63.0		19.0	2	72.0	80.0	71.0		24.9	3				
183	6	69.1	73.4	65.4		25.5	0					33.9		62.1	73.4	64.2		19.7	1	59.0	71.2	64.0		21.6	1	68.0	80.6	74.0		25.6	3	82.6		56.0	1

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1115R.WB1

Table A3 -- Site IF-KY-1, 11-17-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
228	5	62.9	74.6	63.4		15.9	2		75.0			17.0		61.0		61.0		19.2	0	63.8	74.0	67.0		23.5	3	73.0	85.4	79.0		28.2	3	83.8		62.0	2
229	5	64.5	78.1	67.8		15.0	1		75.3			16.9		63.0	77.4	64.0		25.5	2	62.1	75.2	64.3		32.7	2	67.0	80.2	74.0		33.4	3	85.8		66.0	1
230	5	61.5	77.6	67.4		16.2	3		77.1			14.9		66.0				17.9	0	64.3	79.2	65.1		22.1	3	70.0	84.9	67.0		26.5	2				
231	6	65.4	78.7	67.7		20.4	3					20.1		66.0	79.2	69.0		22.1	2	65.0	74.0	64.1		26.2	3	78.0	84.7	79.0		29.6	3				
232	5	60.1	67.6	66.7		20.1	0					18.6	3	60.0	72.3	62.0		13.7	2	62.3	76.5	70.1		14.8	1	82.0	84.6	72.0		23.7	0				
233	5	60.9	72.6	60.2		13.0	3					12.4		62.0	73.7	60.0		15.9	2	63.0	78.6	62.9		20.0	2	68.0	84.9	69.0		25.9	2	82.5		59.0	1
234	5	65.6	74.1	63.9		18.1	1		75.3			17.4		68.0	77.9	64.0		20.8	1	67.0	76.6	64.1		26.1	3	69.0	83.8	68.0		30.4	2	86.0		62.0	0
235	5	63.8	71.0	62.9		19.8	1		71.1			23.1		64.0	73.0	64.0		18.1	1	69.2	77.7	64.3		24.1	3	68.0	81.5	78.0		34.2	3	84.4		59.0	1
237	5	69.1	75.5	65.8		22.6	1		75.3			21.1		69.0	75.7	64.0		22.4	1	64.1	76.8	64.9		26.9	2	68.0	86.0	80.0		30.0	1				
238	5	66.1	73.2	64.3		18.2	3		73.6			17.9	3	66.0	75.0	66.0		15.8	3	72.1	76.5	64.3		20.3	0	71.0	85.0	82.0		22.3	2	77.8		49.0	0
239	5	62.2	76.0	69.4		14.1	1		76.8			15.2		63.0	78.0	69.0		17.6	3	65.1	77.9	71.3		20.1	3	75.0	84.0	68.0		25.6	3	83.0		57.0	1
241	5	60.2	75.8	67.3		21.0	3		74.8			19.5	3	68.0	73.8	68.0		18.0	3	64.1	74.8	60.0		20.0	3	71.0	84.9	72.0		22.5	2	87.3		58.0	1
242	5	67.5	73.2	65.4		19.8	0		73.1			18.4		66.0	75.9	66.0		21.4	3	67.2	76.1	65.2		27.2	3	72.0	80.3	71.0		29.9	1				
243	4	65.4	74.6	71.1		18.8	3		74.8			20.3	3	64.0	78.9	65.0		21.0	2	67.5	78.7	64.3		28.0	3	80.0	80.2	73.0		34.0	0				
245	5	63.2	75.6	64.8		19.1	2		75.5			19.0		60.0	75.5	64.0		20.4	2	62.7	77.8	65.2		24.0	2	74.0	82.8	74.0		27.8	1				
246	5	66.1	75.7	65.4		24.1	1		73.3			25.8		64.0	75.5	64.0		22.3	3	65.7	77.9	66.2		25.9	3	64.0	87.5	76.0		31.2	2	83.3		59.0	1
247	5	62.6	75.8	69.4		18.5	3		72.7			18.7	3	63.0	75.2	71.0		21.2	3	65.4	79.9	72.4		26.0	3	77.0	83.4	73.0		31.9	3	86.2		65.0	2
248	5	62.4	73.6	68.7		14.8	0		75.5			14.0		62.0	77.0	67.0		18.2	2	62.5	78.4	72.1		19.8	3	80.0	82.6	72.0		28.1	3				
250	5	68.1	74.8	70.6		20.2	3		74.3			20.6	3	72.0	78.2	70.0		25.4	3	70.7	77.2	72.1		25.6	3	75.0	81.9	75.0		28.4	3				
251	5	61.9	71.0	65.4		19.1	0		75.3			18.2	3	59.0	73.2	62.0		19.5	2	63.9	74.8	64.1		22.5	3	74.0	79.4	74.0		25.3	3	83.1		57.0	1
252	5	67.7	74.7	66.4		16.8	3		70.4			17.8	3	65.0	76.0	65.0		19.2	2	65.3	78.3	64.1		22.8	3	67.0	78.0	69.0		24.8	1	85.3		58.0	2
254	5	68.4	71.7	69.2		13.3	0					11.7		65.0	72.4	70.0		14.0	0	62.8	74.8	70.2		17.2	0	71.0	80.8	74.0		21.5	1				
255	6	65.4	74.8	64.0		18.8	1		76.6			18.5		63.0	79.0	64.0		18.8	2	65.8	79.8	67.3		24.4	2	72.0	84.9	79.0		31.8	3	85.6		60.0	1
256	5	70.9	74.3	68.6		16.0	3		78.2			16.7	3	69.0	76.0	68.0		16.9	3	67.1	78.6	66.2		20.2	3	77.0	81.9	76.0		22.3	3	83.8		55.0	1
258	5	64.8	71.1	61.9		11.2	1		75.6			11.6		62.0	74.6	61.0		14.9	2	64.8	72.2	62.1		19.0	3	69.0	82.6	72.0		27.6	2				
260	5	62.4	74.1	66.2		19.4	0		74.0			19.8		60.0	76.7	74.0		25.6	3	64.3	79.3	77.6		32.5	3	74.0	85.1	84.0		36.8	3				
262	5	71.2	75.8	69.3		10.3	3		80.0			11.0		69.0	79.9	70.0		12.7	1	69.1	80.6	69.7		18.6	3	77.0	83.7	72.0		25.2	3				
264	5	66.5	73.5	69.2		17.5	0		73.0			17.7		64.0	74.9	65.0		19.2	1	64.1	76.5	63.2		24.2	3	76.0	84.5	74.0		29.1	3	82.0		61.0	1
265	5	65.4	70.7	61.6		10.8	0		73.1			10.8		64.0	76.4	64.0		13.0	2	62.3	75.5	61.1		17.5	2	66.0	83.1	78.0		25.9	0	83.4		57.0	1
266	5	64.0	78.0	63.2		25.8	2		78.6			24.6		64.0	74.8	65.0		25.2	1	64.2	78.2	62.9		33.1	2	66.0	81.9	77.0		36.9	3				
267	5	66.9	75.5	66.1		13.5	1		75.4			13.5		65.0	78.7	68.0		14.0	1	63.3	77.8	64.7		17.7	3	72.0	82.6	76.0		23.2	3				
268	5	66.9	75.3	62.5		20.4	1					20.0		67.0	76.2	63.0		21.2	1	64.1	76.7	63.6		24.6	2	71.0	90.9	78.0		26.9	2	84.2		56.0	1
269	2	61.7	69.4	64.6		18.8	0		64.3			18.6		61.0	68.0	63.0		20.4	0	63.2	69.9	70.1		24.9	3	63.0	81.5	73.0		30.4	3				
270	5	65.4	72.1	65.4		19.8	1					18.5		67.0	75.8	66.0		20.4	1	65.7	76.5	67.5		23.8	3	71.0	84.3	79.0		28.7	3	83.0		56.0	1
271	5	70.1	75.9	63.5		19.2	3		76.5			19.2		69.0	74.0	65.0		22.3	0	64.8	75.9	66.2		25.5	1	69.0	82.4	74.0		31.8	1				
272	5	66.4	74.4	70.2		19.2	3					21.8		68.0	80.2	66.0		23.3	2	65.1	77.0	66.3		30.6	3	74.0	82.9	72.0		38.3	3				
273	5	67.6	75.1	69.2		16.3	0		75.5			15.7		68.0	77.6	72.0		15.5	3	64.7	80.1	77.8		19.7	3	71.0	83.5	94.0		25.7	3				
275	5	62.5	78.2	68.4		18.3	3					17.7		66.0	74.3	65.0		16.7	3	63.2	77.3	67.1		21.6	2	69.0	80.5	70.0		28.6	2				
276	5	67.4	73.2	68.6		20.0	0		71.6			20.6		67.0	74.8	65.0		19.3	1	67.1	76.8	71.1		25.0	3	72.0	81.3	75.0		36.6	3	85.4		64.0	1
278	5	60.3	71.4	59.6		12.8	3		74.3			14.6		61.0	77.6	62.0		15.7	2	63.2	75.6	62.6		19.0	3	68.0	81.1	75.0		24.4	1				
280	5	67.0	77.0	68.7		10.4	3		77.7			10.4		68.0	78.3	69.0		13.3	3	64.1	79.1	72.1		16.6	3	71.0	83.2	87.0		22.3	3				
281	5	68.7	74.4	69.2		17.9	3		74.1			19.9	3	69.0	76.1	69.0		21.6	3	65.2	77.4	71.2		25.1	3	76.0	86.7	79.0		29.2	3	85.0		57.0	1
282	5	62.6	73.8	69.5		12.9	3		74.6			11.6						14.6	3	64.7	75.6	66.1		17.2	1	72.0	83.6	71.0		21.8	2				

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1117R.WB1

Table A3 -- Site IF-KY-1, 11-17-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
284	5	64.8	73.7	63.9		27.0	1		72.0			24.0		64.0	74.3	61.0		21.4	2	63.0	74.9	62.7		23.8	2	67.0	82.5	71.0		26.0	3	83.9		57.0	1
287	5	67.8	78.7	64.5		12.8	2		78.4			12.8		67.0	77.4	63.0		15.7	2	66.1	79.5	70.2		20.2	1	70.0	82.4	73.0		25.1	3	83.9		57.0	1
288	5	61.4	73.1	65.2		17.8	1		74.0			21.6		59.0	76.4	64.0		23.9	2	70.2	76.9	66.0		29.7	3	74.0	79.2	73.0		30.2	0				
289	5	69.2	74.2	70.1		11.1	3					10.3		65.0	73.7	70.0		12.4	3	71.3	77.6	70.6		16.4	3					23.4	3				
293	5	68.2	77.8	68.7		14.1	3		75.7			13.9	3	66.0	75.4	69.0		16.6	3	64.8	77.3	70.1		19.1	3	77.0	81.9	79.0		24.5	3	84.4		54.0	1
295	6	66.2	76.7	68.3		29.7	1		76.2			22.4		64.0	78.7	63.0		26.4	2	62.3	78.2	61.1		27.4	2	66.0	80.4	67.0		29.6	2	84.6		59.0	1
296	5	66.2	82.5	68.4		26.5	3					26.4		65.0	73.6	64.0		13.8	3	64.2	77.1	65.1		18.4	3	77.0	82.5	73.0		25.7	3				
297	3	62.9	76.7	63.7		36.9	2		75.9			23.0		59.0	82.6	64.0		18.6	2	63.8	80.7	66.2		23.7	2	75.0	80.5	72.0		27.2	0				
298	5	60.2	71.6	68.5		16.6	0		73.6			15.9		57.0	78.7	60.0		18.0	2	62.2	78.9	63.8		19.9	2	68.0	82.8	79.0		24.6	3	84.7		53.0	1
300	5	63.2	75.3	65.1		16.2	3		67.2			16.8		64.0	70.8	65.0		17.9	3	63.7	77.6	74.2		21.7	3					25.3	3	84.7		53.0	1
301	5	60.8	72.5	62.5		20.4	2		72.6			19.3		61.0	75.9	64.0		21.3	2	67.8	75.3	61.9		27.2	3	77.0	84.1	88.0		29.6	1				
302	5	64.2	72.5	67.5		12.7	3		72.2			11.5		59.0	76.6	65.0		15.9	2	70.2	75.9	65.7		20.4	0	74.0	81.5	78.0		29.0	0	84.2		54.0	0
305	5	63.2	75.3	65.4		17.7	1					16.4		61.0	75.9	63.0		22.6	2	64.7	76.3	65.2		30.2	2	71.0	85.5	83.0		33.8	3				
306	5	64.2	77.0	62.9		24.6	2		74.5			24.6		63.0	78.6	64.0		21.2	2	64.6	76.8	63.1		25.1	3	70.0	84.5	74.0		30.0	3	83.8		56.0	2
307	5	65.4	73.2	69.6		12.4	3		73.1			13.5		64.0	73.2	64.0		18.7	1	61.4	72.9	64.9		22.1	3	70.0	83.6	73.0		26.1	2	83.3		56.0	1
308	5	65.2	82.0	69.1		17.0	2		84.0			17.9		69.0	85.0	69.0		17.4	2	63.2	85.5	65.2		21.8	2	71.0	89.2	70.0		25.2	2	88.0		54.0	2
309	5	62.4	76.4	71.0		12.3	3		72.3			11.6	3	65.0	73.5	63.0		14.1	1	62.8	91.2	65.6		18.0	3	68.0	90.7	70.0		21.3	3				
311	5	67.4	73.7	68.2		17.4	3					17.0		64.0	76.1	64.0		24.1	2	68.3	77.6	64.1		29.0	1	72.0	82.1	70.0		35.5	2				
312	5	58.6	71.6	64.1		14.1	1		70.2			13.8		62.0	71.9	61.0		14.5	1	61.5	71.3	59.5		16.0	1	60.0	81.4	69.0		23.2	2	83.4		52.0	1
314	5	61.3	71.9	68.7		20.0	0		73.5			21.0		60.0	76.4	68.0		25.0	1	62.2	73.0	70.1		31.1	3	66.0	84.7	75.0		29.9	3	84.5		60.0	1
315	5	65.4	80.2	69.2		14.8	2		79.1			14.0		64.0	83.2	64.0		14.7	2	65.7	84.2	64.3		17.6	2	72.0	84.4	74.0		23.7	2				
317	5	68.8	73.2	63.4		14.8	3		74.9			14.8		69.0	78.0	66.0		16.8	3	69.7	77.8	62.7		20.9	3	78.0	83.9	67.0		29.5	0				
318	5	65.4	74.5	64.2		17.4	1		73.9			15.7		66.0	74.2	66.0		17.9	3	64.1	77.8	66.2		20.3	3	78.0	81.2	68.0		26.1	3	83.9		56.0	2
320	5	64.6	74.0	67.8		14.1	3					14.8		67.0	76.4	64.0		18.1	1	64.8	77.9	60.6		21.6	2	62.0	83.3	60.0		26.0	2				
321	5	65.2	81.3	66.4		16.0	2		79.4			16.0		69.0	83.1	68.0		21.3	2	65.5	79.4	64.2		25.8	2	64.0	82.0	69.0		29.8	2				
322	5	64.7	74.8	62.6		20.9	2					19.4		67.0	75.8	62.0		22.6	3	66.1	76.3	59.2		28.1	2	65.0	81.9	67.0		29.0	2				
324	5	63.5	74.7	61.1		17.5	2		72.7			17.1		61.0	75.8	62.0		19.0	3	63.2	77.2	62.1		22.6	2	69.0	81.1	70.0		27.6	2	81.9		59.0	0
325	5	66.8	71.4	67.2		15.7	3		71.4			15.8		65.0	73.7	68.0		17.3	3	63.2	79.4	69.7		22.5	3	78.0	83.1	81.0		29.6	3				
326	5	65.2	73.6	66.4		16.8	3					17.9		68.0	73.7	66.0		16.0	3	69.6	73.8	62.4		18.1	3	72.0	84.0	71.0		24.7	2				
327	5	65.4	81.6	67.8		19.8	2		80.0			20.0		63.0	80.6	64.0		23.4	2	64.1	79.8	65.2		25.2	2	76.0	82.9	71.0		28.3	3				
328	5	62.5	76.2	67.8		16.8	1		75.8			17.7		59.0	76.9	71.0		22.3	3	60.7	76.7	70.2		28.1	3	74.0	81.2	79.0		34.0	0	85.4		64.0	1
329	5	71.1	78.2	62.3		22.3	3		75.5			22.7		68.0	76.1	62.0		23.0	1	66.6	77.2	62.0		27.2	2	78.0	86.1	62.0		27.9	3	85.7		57.0	1
330	5	64.5	72.6	70.1		19.9	0		73.3			19.2		64.0	74.4	66.0		22.5	1	64.8	76.6	63.6		25.2	2	73.0	84.3	70.0		31.5	2				
331	5	63.2	73.3	61.9		12.2	2		77.7			12.2		60.0	77.2	63.0		16.1	2	61.3	73.7	69.4		19.7	3	73.0	84.7	74.0		25.4	3	90.5		58.0	2
332	5	65.8	74.4	65.2		17.5	3					16.4		65.0	75.1	65.0		18.5	2	65.3	73.6	65.8		19.5	3					23.9	3	83.8		55.0	2
333	5	60.1	74.7	68.8		17.8	0		76.1			19.1		62.0	75.5	66.0		20.4	3	61.1	76.1	63.1		22.4	3	71.0	80.1	66.0		23.6	1				
335	5	65.3	75.7	70.2		10.1	3		75.3			10.0		66.0	76.9	67.0		12.1	1	64.4	76.8	63.8		15.8	2	67.0	84.3	75.0		23.9	3				
337	5	67.6	72.9	69.2		10.0	3		69.1			14.6		63.0	72.9	63.0		13.4	1	62.1	76.9	62.8		15.0	2	68.0	83.3	70.0		22.7	2	83.9		56.0	1
340	5	64.8	74.4	67.2		16.6	3					19.4		66.0	71.8	67.0		19.9	3	67.1	73.8	67.5		21.8	3	78.0		69.0		27.2	3	85.3		61.0	2
344	5	64.6	86.4	69.2		14.8	2		84.1			15.7		68.0	83.1	79.0		18.1	3	63.1	88.1	79.4		21.2	3	75.0	89.9	78.0		29.0	2				
345	5	61.7	78.1	64.4		18.8	2		77.2			19.6		63.0	81.1	66.0		20.5	2	64.1	79.2	67.4		24.2	2	75.0	89.3	78.0		27.1	2	83.6		54.0	1
347	5	64.6	72.9	70.1		18.6	3		72.7			19.8		62.0	78.4	68.0		19.9	3	62.7	75.0	72.2		23.6	3	77.0	83.0	86.0		29.2	3				
348	5	64.4	73.2	66.5		16.4	3		72.9			16.8	3	63.0	71.8	65.0		17.4	3	66.1	72.4	64.3		19.9	3	64.0	81.9	78.0		27.6	3	83.3		56.0	1

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1117R.WB1

Table A3 -- Site IF-KY-1, 11-17-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
349	5	62.5	75.4	68.4		13.2	1		76.9			14.4		61.0	78.6	68.0		17.5	2	63.7	77.6	69.4		20.5	3					26.3	3				
351	5	65.6	75.1	67.7		16.7	3					15.8		67.0	78.2	67.0		18.6	3	64.5	77.6	70.1		21.6	3					22.5	3				
352	5	65.4	74.7	66.3		14.0	1		81.6			15.0		66.0	79.2	65.0		19.0	3	65.7	77.8	66.4		22.1	3	74.0	82.9	70.0		29.6	1	83.7		58.0	0
354	5	66.1	73.2	66.4		12.7	3		71.8			11.2	3	70.0	73.4	67.0		14.4	3	68.1	75.2	72.4		19.0	3					24.3	3				
355	5	65.4	75.3	68.2		16.7	1		76.5			16.4		64.0	78.0	67.0		21.4	2	66.5	81.1	67.8		27.9	3	75.0	85.9	87.0		33.7	3				
356	6	64.2	75.7	66.3		19.4	1		74.3			19.7		62.0	74.6	66.0		20.4	3	65.2	74.9	67.4		25.0	3					26.7	3				
357	5	68.3	77.0	60.1		23.0	1		77.9			23.6		66.0	64.6	60.0		26.4	2	64.1	76.3	62.9		31.4	2	72.0	85.1	72.0		32.3	2				
358	5	64.3	74.6	70.1		12.9	3					13.8		66.0	74.6	67.0		18.5	3	63.1	76.0	71.2		19.9	3					23.1	3				
359	5	66.2	75.3	66.2		19.7	3		73.0			17.0	3	64.0	73.9	66.0		19.6	3	67.1	73.2	71.2		22.9	3					26.3	3	82.1		58.0	1

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1117R.WB1

Table A4 – Site IF-KY-1, 11-18-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
422	5	63.4	71.6	67.6		11.8	3		73.5			10.1		64.0	75.1	68.2		10.5	3	68.4	79.4	64.4		16.0	2					23.7	3				
423	5	64.4	75.8	59.2		10.9	3		78.4			10.9		65.6	79.5	64.6		12.7	2	68.3	74.4	61.2		19.1	1	65.0	82.7	64.0		28.1	2	84.0		60.0	1
425	5	63.4	73.3	64.8		16.5	1		73.0			15.1		65.8	73.6	66.3		17.4	1	60.2	77.5	66.3		18.5	3	74.0	84.5	75.0		21.0	1				
428	5	62.5	74.6	64.4		21.4	2					22.2		65.0	74.8	64.1		20.9	1	69.3	76.5	65.9		28.3	1	68.0	79.8	78.0		28.6	0	88.2		58.0	2
428	5	63.7	74.1	62.4		22.2	2	74.0				21.4		63.9	74.9	62.6		21.5	2	73.6	74.6	65.4		27.2	0	70.0	79.2	72.0		27.0	1				
429	5	67.4	75.3	69.6		16.4	0	78.8				15.1		62.9	73.0	62.1		16.0	2	58.7	74.8	65.5		20.2	1	72.0	80.6	66.0		26.6	1				
430	5	65.4	73.7	65.7		18.9	3	73.8				16.9	3	62.7	74.4	63.1		18.2	2	67.4	74.3	66.4		22.0	1	69.0	78.1	68.0		25.7	1	84.7		54.0	1
431	5	63.4	78.6	64.6		21.4	2	78.4				20.6		62.7	75.0	61.6		22.8	2	61.6	73.8	63.3		31.0	2	64.0	81.9	63.0		31.7	2	85.0		63.0	1
433	5	64.3	73.6	64.8		17.3	1	72.4	75.0			16.2		65.0	72.2	66.9		15.6	0	63.6	72.4	65.2		14.9	3	73.0	80.9	75.0		17.7	3	81.6		48.0	2
434	5	65.1	75.4	64.7		19.9	2	75.8	79.4			20.8		65.7	75.6	64.2		19.1	1	67.6	73.8	66.6		24.7	1	67.0	81.9	80.0		25.9	3				
435	5	64.2	75.7	62.4		19.6	2	78.4				18.0		63.0	75.4	62.7		16.9	2	67.3	76.1	61.2		21.3	1	72.0	78.1	70.0		24.7	1	87.4		63.0	2
436	5	65.4	77.6	59.9		17.0	2	75.2	78.5			15.3		61.6	76.1	62.4		17.4	2	64.4	75.5	63.2		22.1	2	64.0	82.1	65.0		25.1	3	81.4		54.0	0
438	5	64.2	78.8	62.5		13.4	3	82.0	85.1			12.8		64.0	80.0	63.2		14.7	2	67.8	81.6	66.2		19.8	2					24.5	3				
440	5	63.1	72.9	65.2		27.0	1	72.6	75.5			26.0		60.5	75.2	60.4		25.5	2	63.4	76.4	60.7		33.3	2	68.0	77.2	64.0		39.7	2				
442	5	62.9	73.0	64.4		19.1	1	73.2	75.9			19.2		58.3	75.7	64.1		20.8	2	64.3	74.2	62.2		26.4	3	62.0	79.1	68.0		32.5	2	87.2		61.0	1
443	5	68.8	82.1	71.2		14.6	2	82.1	86.1			14.2		65.1	84.9	72.0		20.1	3	70.3	84.7	67.6		22.1	2					24.7	3	88.1		66.0	1
444	5	62.5	72.6	65.4		21.8	1					20.2		61.6	73.0	66.2		19.5	1	63.1	79.3	66.2		23.7	3					25.8	3				
445	5	59.2	72.1	65.8		17.8	1	68.1	70.7			16.5		58.0	71.2	60.4		18.4	3	61.9	71.9	67.3		21.5	3	68.0	77.0	61.0		23.1	3				
447	5	67.2	77.2	66.0		12.0	2	76.5	78.0			12.0		63.0	76.8	62.8		14.9	2	63.7	71.1	59.9		19.0	1	66.0	79.3	66.0		23.7	2				
449	5	63.2	74.7	64.4		18.6	2	71.9	73.4			18.8		62.6	73.5	61.7		19.5	2	64.2	76.0	68.1		23.4	1					30.5	3				
451	5	64.1	73.4	63.2		10.7	1	70.1				8.5		63.1	72.5	62.6		9.8	1	60.3	74.9	70.7		11.6	3					13.4	3				
452	5	64.2	76.5	69.6		21.8	1	76.3				21.9		62.7	77.5	63.6		29.7	2	64.3	77.7	61.5		33.1	3					35.3	3				
453	5	64.5	78.1	70.1		22.1	3	77.5	81.1			20.7	3	61.6	79.4	62.7		19.6	2	63.3	77.4	60.1		24.3	2	65.0	80.0	61.0		27.2	2				
454	5	66.2	80.1	66.4		18.6	2	75.3	76.1			20.2						21.9	3	62.1	75.6	66.6		25.3	3					27.9	3				
461	5	65.2	88.0	65.7		20.8	2	87.7	91.2			19.4		60.7	86.5	64.3		18.6	2	64.0	79.9	65.0		25.2	2	71.0	90.1	84.0		20.8	1				
462	5	65.3	76.3	65.5		16.4	3					17.0						17.7	3	65.3	93.5	64.4		22.0	3					27.8	3				
463	5	62.3	78.1	70.4		16.6	1	79.0	82.5			16.6		58.6	80.3	63.9		17.1	2	61.4	78.5	65.2		21.7	2					25.5	3				
464	5	62.1	75.6	69.7		22.0	3	73.8	77.2			23.9	3					21.5	3	63.0	77.6	69.0		25.6	3	73.0	83.4	78.0		30.7	3				
465	5	69.2	74.9	67.0		19.9	3	77.3	80.9			17.9	3	65.2	76.8	65.7		20.5	2	64.2	77.4	66.0		28.3	3	67.0	81.9	65.0		37.0	2				
466	5	64.6	68.9	62.1		15.7	0	67.9	71.1			12.7		62.9	72.7	61.9		13.5	1	61.1	73.0	66.1		17.9	1	70.0	84.4	80.0		22.4	3				
467	5	63.8	75.0	66.9		17.9	3	73.6	76.4			17.5		61.6	73.9	65.5		18.9	1	61.5	74.0	63.7		24.8	3	66.0	83.3	78.0		32.4	3				
468	5	64.9	75.4	69.9		17.0	0	76.3	78.8			17.4		64.2	76.8	65.1		16.2	2	62.8	74.5	67.4		20.5	3	68.0	78.8	73.0		25.5	3				
470	5	68.5	76.5	62.1		21.4	3	75.4	78.5			20.8	3	62.5	75.6	60.5		23.3	2	67.2	73.2	62.5		29.5	1	71.0	81.3	70.0		33.3	2				
471	5	64.6	75.7	68.1		17.1	1	75.8	79.5			16.5		62.1	75.8	60.9		15.2	2	63.5	75.8	64.4		20.3	2	68.0	79.6	67.0		23.8	2	83.4		57.0	1
472	5	69.1	80.4	67.4		16.1	2	78.6	80.1			14.2		65.0	79.0	64.6		16.2	2	63.0	77.6	65.8		21.4	2	71.0	83.1	74.0		26.0	1				
474	5	64.1	77.6	60.4		19.7	3	78.2	80.7			19.6		62.5	78.4	61.7		22.5	2	65.2	77.2	61.1		29.3	2	69.0	79.8	67.0		31.2	2				
475	5	62.7	77.1	70.1		21.0	3	76.7	79.6			20.4		59.8	76.1	68.2		20.0	1	63.1	78.0	67.2		26.1	1	67.0	79.3	70.0		28.2	1				
476	5	63.2	72.9	61.5		16.0	1	75.1	76.5			16.1		64.6	73.1	66.0		18.5	1	63.2	72.9	66.1		26.5	3					29.5	3	83.1		57.0	2
477	5	63.9	79.0	68.2		20.8	3					19.4		65.6	80.5	66.9		25.3	2	66.0	77.6	72.0		29.6	0					31.4	3				
479	5	63.2	74.6	71.1		15.4	3					14.6						10.0	3	62.6	77.2	64.5		15.5	3					22.5	3				
480	5	61.1	73.4	64.2		18.3	3					17.1						16.3	3	61.4	63.4	67.2		20.1	3					26.9	3				
482	5	68.4	75.2	64.6		15.0	1	72.6	75.7			14.4		63.0	75.9	68.2		14.9	3	62.5	74.8	62.2		19.3	3	69.0	77.9	72.0		23.0	0				
483	5	65.2	75.5	69.5		19.7	3					19.0						25.5	3	65.4	76.2	68.5		24.6	3					25.6	3				

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1118R.WB1

Table A4 -- Site IF-KY-1, 11-18-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
484	5	61.1	74.4	59.8		20.8	2		75.2	78.3		18.1		59.7	77.1	61.3		21.2	2	59.6	77.1	62.9		26.8	2	72.0	77.0	74.0		31.0	0				
485	5	67.8	71.0	60.6		15.7	3		71.8	75.6		15.5	3					16.5	3	65.4	73.7	62.5		19.5	3	65.0	76.3	72.0		24.4	0				
486	5	64.2	75.4	66.6		18.5	1		75.6	79.3		18.6		63.4	75.8	61.3		17.1	3	66.1	76.2	63.8		23.0	2					26.0	3				
487	5	67.7	77.9	67.1		21.1	2		80.8	82.8		20.2		64.2	78.8	66.4		21.0	2	62.8	77.5	62.9		27.7	3					29.3	3				
490	5	64.8	73.9	65.3		16.3	1		74.2	76.8		17.1						16.3	3	71.1	75.7	65.0		19.3	3					23.3	3				
494	5	62.2	71.9	62.8		14.5	1		71.7	75.3		12.8		60.1	72.8	59.9		16.7	2	62.0	71.4	58.9		19.8	1	62.0	79.0	63.0		24.1	2	63.6		56.0	2
495	5	62.4	74.6	62.5		19.5	3		74.6	78.7		19.4		62.8	77.4	64.3		18.8	2	61.8	77.6	63.8		24.1	3					30.9	3				
496	5	64.4	76.7	62.2		20.5	2		78.0	81.8		18.5		63.5	76.9	60.5		19.2	2	65.6	76.3	61.2		24.0	2	70.0	79.0	69.0		29.4	1				
497	5	64.2	71.9	66.1		19.4	0		70.4	73.5		18.6		63.2	72.0	63.2		17.9	1	62.1	72.2	64.4		20.5	3					22.1	3	61.8		52.0	1
498	5	62.1	73.0	65.4		22.4	3		72.0	74.9		24.0		61.7	73.5	65.6		24.9	1	62.3	73.0	63.3		30.7	1					35.6	3	67.0		67.0	2
499	5	63.4	73.6	62.6		17.2	2		73.2	76.9		18.6						18.7	3	63.9	76.2	69.4		24.7	1	66.0	84.0	69.0		26.5	3	84.5		60.0	1
501	5	59.8	79.1	67.1		19.3	2		75.4	77.9		20.2		65.6	81.4	57.9		16.0	2	61.9	81.2	62.3		19.8	2	67.0	83.3	62.0		25.2	2				
502	5	62.8	74.7	65.7		15.8	3					15.8		62.1	74.6	64.3		15.7	2	62.2	74.8	61.9		21.0	2	67.0	77.0	70.0		28.1	1				
505	5	66.5	74.1	64.4		15.7	1		73.7	78.4		13.5		65.2	74.4	66.8		15.6	1	64.3	77.0	71.3		19.7	3					24.8	3				
508	5	62.3	74.2	65.4		18.3	1		72.6	75.4		17.6		61.0	75.0	67.4		16.0	1	59.8	75.4	64.2		21.7	3					28.2	3				
508	5	63.1	72.6	62.8		24.0	1		73.7			24.3		62.6	75.6	61.7		25.4	2	58.0	75.2	61.6		33.6	2	69.0	76.0	68.0		36.2	1				
509	5	64.1	72.0	62.6		22.1	1		71.2	73.4		22.1		65.5	73.4	63.6		17.0	1	61.8	73.1	63.0		19.5	2					25.5	3	87.2		54.0	2
510	5	60.6	73.6	65.4		18.3	1		80.4	79.3		17.9	3					19.0	3	59.9	75.3	59.8		26.0	3	65.0	79.0	71.0		28.4	1	83.6		65.0	1
511	5	66.2	85.5	67.1		21.1	2		84.1	85.4		21.2		65.5	81.2	64.0		17.0	2	66.3	84.2	64.1		20.2	2	75.0	81.0	79.0		24.0	3	88.0		57.0	1

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1118R.WB1

Table A5 – Site IF-TN-1, 12-06-94

		Location 1: 60 ft from start						Location 2: 115 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
1	1	64.6	71.6	64.8	76.5	12.3	1	62.0	75.1	72.0		16.9	0	66.1	71.2	60.1		30.4	0	60.1	70.1	55.2		40.6	3	56.5	74.3	59.3	78.9	44.2	3				
2	1	69.2	73.5	64.6	77.9	11.6	0	62.0	71.6	64.0	78.7	18.2	1	58.1	72.7	61.6	66.5	30.1	2	59.4	73.5	60.1	81.3	39.6	3	55.8	74.1	57.1	78.1	50.0	2	71.8		46.0	0
6	1	60.5	69.2	66.9	73.3	14.0	0	62.0	67.3	64.0	75.8	20.8	0	60.7	69.5	60.1	65.6	33.0	1	56.6	70.5	54.0	77.0	42.1	2	55.7	73.5	53.5	78.3	49.1	2	74.6		61.0	2
7	1	57.5	66.3	60.8	71.1	12.1	0	54.0	66.1	63.0	73.5	13.1	3	54.3	68.1	55.5	63.5	26.6	2	52.4	71.1	56.5	76.6	38.4	2	49.5	74.1	57.5	76.3	42.3	2	76.1		54.0	2
8	1	68.2	77.5	66.2	82.5	11.3	1	66.0	75.1	64.0	82.9	17.1	1	63.0	76.0	66.0	71.5	23.7	2	57.1	75.6	62.0	80.6	30.6	2	58.9	74.8	62.3	78.8	38.5	2				
9	1	66.3	70.5	64.2	73.6	19.0	3	66.0	67.8	65.0	76.1	25.1	3	61.7	69.4	64.1	66.8	28.9	3	64.2	73.0	59.4	78.8	40.9	3	63.4	73.6	54.5	77.1	51.4	3	76.2		70.0	2
10	1	69.3	69.9	62.6	74.0	11.9	3	65.0	65.9	62.0	74.6	14.2	3	61.6	62.3	58.2	59.0	21.0	0	53.1	67.5	57.5	75.1	25.5	3	54.3	70.8	49.5	78.1	27.8	2	67.8		41.0	1
11	5	63.9	77.0	64.6	82.2	7.4	2	62.0	77.5	63.0	84.9	10.7	2	61.6	79.5	62.5	72.7	18.3	3	56.6	78.0	56.4	83.9	26.2	3	53.4	79.6	56.4	84.4	32.5	2	83.6		62.0	2
12	1	52.9	66.2	52.6	70.2	12.2	2	53.0	65.4	59.0	72.9	16.0	1	50.2	66.8	56.6	63.0	27.0	3	48.6	68.4	48.1	75.3	37.3	3	56.4	71.8	53.2	76.3	40.6	2				
13	1					16.1	3	69.0	69.6	64.0	77.1	18.9	3	64.2	70.3	64.3	67.6	29.4	3	66.3	71.8	58.4	78.4	38.3	3	61.1	71.9	56.2	78.2	46.4	3				
15	1	63.1	65.2	62.9	70.7	14.4	3	60.0	67.3	65.0	73.9	20.5	3	57.7	69.4	65.2	66.1	33.0	3	61.5	70.2	62.5	76.3	41.6	1	62.3	71.4	62.9	75.7	47.4	1				
16	1	59.2	64.3	58.4	69.3	14.2	0	54.0	64.9	63.0	73.1	20.2	0	53.0	67.6	65.0	65.6	31.3	0	61.4	71.2	54.6	77.5	42.6	1	59.1	73.5	53.3	78.6	52.7	2				
17	1	64.1	68.7	68.3	72.6	13.1	3	64.0	67.0	62.0	75.2	19.8	3	62.3	68.5	62.2	65.3	31.3	3	60.4	72.1	57.4	76.2	40.1	3	63.2	71.1	57.3	75.7	44.3	1				
19	1	60.9	67.3	58.3	72.5	15.3	1	61.0	66.7	57.0	74.5	21.5	0	55.0	70.2	56.6	65.0	31.3	2	54.4	71.1	62.2	76.9	39.6	1	50.9	73.4	55.4	78.1	44.6	2	75.0		54.0	1
20	1	65.3	73.8	65.6	77.3	16.5	1	65.0	73.7	66.0	79.0	27.2	3	67.1	73.1	65.0	69.5	46.0	3	62.2	72.2	62.2	77.9	54.6	3					46.0	3	74.9		57.0	2
21	1	61.0	65.5	63.7	69.7	12.6	3	63.0	69.1	65.0	76.5	16.5	3	57.1	67.3	67.0	65.2	27.1	3	50.3	69.7	61.9	75.2	37.8	1	47.6	72.6	52.0	77.5	45.3	2	73.6		55.0	1
24	1	62.1	65.2	61.9	67.2	16.5	3	62.0	63.6	60.0	71.7	17.8	3	57.0	65.7	55.0	61.2	25.6	1	59.3	67.7	53.9	76.3	34.3	1	53.6	67.2	53.9	72.5	33.3	2	69.2		46.0	1
25	1	60.7	67.7	60.5	71.8	12.6	1	61.0	65.8	59.0	74.3	18.1	0	54.0	68.6	57.2	63.2	29.7	2	50.5	68.5	56.9	74.5	38.8	2	45.2	69.1	56.3	74.8	39.6	2				
26	1	65.2	68.9	62.9	72.5	11.9	3	64.0	65.6	64.0	74.0	16.7	3	60.9	65.1	58.1	64.0	27.0	3	60.7	66.7	58.3	72.6	36.3	1	59.5	69.9	54.3	74.3	41.9	2				
27	1	62.1	66.3	61.4	73.9	13.9	1	64.0	66.2	64.0	76.0	19.7	0	64.7	70.6	61.5	66.4	30.9	0	62.8	69.9	62.9	75.5	40.3	1	66.6	71.9	58.6	75.1	46.8	0	73.0		53.0	2
28	1	66.6	67.8	64.1	72.6	13.8	3	64.0	65.7	61.0	73.7	18.1	3	61.2	66.0	59.1	62.0	27.4	3	59.3	68.8	54.1	73.5	35.4	1					38.1	3	70.6		46.0	1
29	1	67.2	71.7	65.4	73.4	12.3	3	66.0	66.4	66.0	76.4	19.0	3	58.6	71.8	58.6	65.8	31.8	2	57.1	70.3	56.5	76.3	40.1	2	48.5				48.1	0	73.2		62.0	2
30	1	62.4	67.4	65.1	71.1	12.4	3	66.0	67.5	65.0	74.2	18.2	3	62.2	67.0	62.7	64.2	27.6	3	64.2	67.6	60.1	74.2	32.9	3	60.5	106.8	60.7	******	37.6	2				
33	1	68.5	73.5	69.6	74.1	11.0	3	64.0	70.6	65.0	77.4	15.6	3	60.6	70.4	63.0	66.4	26.8	3	63.7	70.3	57.9	76.7	35.1	3	57.1	71.4	57.9	75.7	40.3	2				
34	1	62.4	69.5	59.1	71.6	15.7	1	56.0	64.7	54.0	72.4	21.5	1	51.2	68.2	54.1	62.3	34.3	2	49.6	67.9	58.9	73.4	44.2	1					43.6	3				
35	1	68.2	71.4	64.4	75.8	15.4	3	68.0	72.9	66.0	79.4	20.4	3	57.4	69.5	58.7	65.9	30.8	2	63.1	76.4	63.2	76.9	43.6	2	55.4	72.8	77.2	55.3	43.8	0	71.9		52.0	2
40	1	61.1	64.5	63.9	69.2	11.3	3	63.0		63.0		16.9	3					26.4	3	55.4		62.3		30.6	3	58.5	69.8	62.0	72.2	37.0	1	70.8		44.0	0
41	1	61.0	65.3	60.0	71.0	10.9	3	65.0	68.4	65.0	76.1	18.6	3	59.0	69.9	59.2	74.1	31.7	3	58.4	70.1	66.3	76.2	39.7	3	60.0				53.4	3				
42	1	62.1	72.9	63.2	76.6	11.8	1	61.0	64.9	60.0	73.4	17.4	0	55.1	66.8	59.0	72.0	28.4	1	57.6	69.0	59.6	75.3	35.6	1	58.7	73.9	58.8	85.5	47.0	2	74.0		57.0	2
43	1	60.2	64.9	63.7	65.9	12.9	0	65.0	69.4	66.0	76.2	23.1	0	62.2	71.5	59.0	79.0	34.2	1	64.0	70.1	66.0	76.8	39.4	0	61.5	72.1	65.5	78.9	50.7	1				
45	1	56.5	64.3	58.4	68.6	11.5	0	59.0	62.8	61.0	71.7	18.7	0	59.1	63.9	60.3	56.0	24.7	0	59.9	66.4	56.5	72.3	27.6	1	60.9				34.6	0				
46	1	63.1	70.9	61.2	75.0	13.7	1	64.0	69.8	64.0	77.4	25.4	3	61.0	71.5	57.2	75.4	41.3	2	61.3	70.4	63.1	76.4	41.4	1					49.2	3				
47	1	57.8	69.9	64.3	74.0	17.3	3	58.0	66.2	64.0	76.0	20.3	3	57.2	69.1	56.9	72.5	31.9	2	55.5	69.7	59.0	75.2	43.0	2	58.5	70.0	57.3	74.6	47.7	2				
48	1	57.5	68.5	63.2	73.9	11.6	3	56.0	66.0	61.0	75.5	18.6	1	57.5	68.5	58.2	73.6	30.1	2	58.6	73.8	63.2	78.1	34.4	2	60.2				43.2	0	74.0		51.0	2
49	1	62.1	66.7	64.4	72.1	14.3	3	65.0	69.8	68.0	78.0	24.8	3	59.0	71.2	59.5	75.3	38.4	2	58.0	72.7	60.4	75.2	39.9	2	57.2	74.6	63.3	78.2	54.7	2				
51	1	60.8	67.7	62.1	69.5	9.9	0	58.0	64.9	63.0	71.7	15.2	0	62.0	66.2	64.3	70.6	29.3	0	55.9	69.3	63.2	75.2	39.0	1	58.9	66.6	68.0	74.6	35.2	0				
52	1					6.9	0					24.6	0	62.3	65.9	60.8	69.6	55.8	0	58.1	67.1	62.7	74.5	57.5	0	54.3				37.3	0				
53	1	66.2	72.1	65.1	73.1	23.3	3	63.0	69.6	62.0	76.5	19.8	1	57.0	70.4	58.9	72.7	33.2	2	54.3	71.1	55.6	76.2	39.9	2					48.1	3				
54	1	72.1	74.7	59.6	76.7	14.6	3	66.0		62.0		22.3	3	61.0	69.4	62.0	71.7	30.0	1	55.1		59.8		36.3	0	60.4	71.8	60.5	77.9	44.5	2	74.1		57.0	2
55	1	65.2	67.5	65.5	72.8	13.5	3	65.0	70.4	69.0	76.2	21.7	3	60.2	67.3	62.5	70.4	34.7	0	54.5	68.1	54.8	73.0	38.4	2	55.7	69.7	57.6	75.8	46.2	2				
56	1	70.2	72.1	70.9	74.7	13.2	3	66.0	70.6	67.0	76.5	22.7	3	59.0	66.2	60.0	70.2	32.9	1	61.4	67.9	61.9	74.8	33.4	3	60.5	69.1	65.6	74.5	42.5	0	72.4		60.0	2
57	1	67.5	71.8	70.1	77.6	11.0	3	66.0	69.9	67.0	76.9	17.1	3	66.0	68.2	60.2	71.8	26.3	3	65.9	67.1	58.1	75.3	29.1	0	62.3	69.6	59.2	75.2	37.2	1				
58	1	63.9	68.0	67.6	72.3	14.6	3	63.0		70.0		21.0	3	57.0	67.3	61.0	70.7	34.4	1	55.7	67.1	58.7	69.9	37.0	1	57.8	71.4	58.2	76.9	42.5	2	70.7		54.0	2

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1206R.WB1

Table A5 -- Site IF-TN-1, 12-06-94

		Location 1: 60 ft from start						Location 2: 115 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
59	1	66.8	70.2	65.6	75.7	17.2	0	68.0	70.6	70.0	77.7	23.0	0	71.0	71.5	66.0	73.1	40.5	0	67.2	72.5	65.4	78.6	40.6	0					49.2	0				
60	1	63.2	73.3	64.6	78.1	15.9	1	62.0	71.6	64.0	78.7	24.3	1	67.0	72.3	62.0	74.9	36.7	0	58.2	72.7	57.1	77.4	39.6	2	55.1	72.9	61.2	78.9	48.7	2	72.7		51.0	2
62	1	65.4	67.2	64.4	71.9	13.2	3	61.0	65.2	64.0	73.5	25.3	3	59.0	69.0	63.2	71.4	37.9	0	56.2	69.5	62.4	75.7	34.4	3	55.6				46.5	0				
63	1	70.1	72.9	68.8	77.6	12.6	3	70.0	70.8	67.0	77.2	19.5	3	63.0	68.6	59.0	72.4	28.4	0	58.9	66.5	57.5	73.2	27.4	1	53.9	70.6	55.7	77.6	35.1	3				
64	1	63.0	66.3	61.1	71.2	11.8	3	64.0	66.3	63.0	74.2	18.1	3	60.0	65.6	61.0	67.4	30.8	0	54.4	67.0	60.6	72.9	35.5	1	53.6	70.0	59.2	74.3	44.9	2				
67	1	73.2	76.1	59.9	79.2	12.3	3	70.0	71.0	64.0	77.6	17.4	3	65.0	67.9	59.0	71.3	28.8	0	61.0	68.3	58.0	73.5	34.8	1	54.0	69.6	55.4	75.1	43.0	2	72.2		55.0	2
68	1	70.3	79.3	70.1	83.4	12.9	1	66.0	79.1	64.0	85.4	20.0	2	69.0	83.7	72.0	82.4	34.5	2	63.1	83.3	60.0	85.6	42.5	2	60.2	80.2	59.6	82.6	54.1	2				
69	1	66.2	65.5	66.4	74.2	15.1	3	65.0	69.1	67.0	76.1	21.7	3	63.0	68.2	65.0	69.6	32.8	0	63.0	69.0	60.6	75.8	40.5	1	60.6	69.5	59.2	74.2	49.5	1	73.0		61.0	1
70	1	63.2	65.4	63.6	72.2	11.2	3	63.0	63.7	61.0	72.3	19.3	3	59.0	64.4	58.2	65.2	29.1	0	60.6	64.3	61.4	72.2	26.2	0	59.1				37.6	3				
71	1	70.9	72.3	67.6	78.3	13.5	3	65.0	70.9	69.0	76.9	18.6	3	64.0	70.0	64.4	70.7	33.1	0	58.5	71.4	62.2	73.7	49.1	3	61.2	72.7	63.2	77.1	50.8	1				
72	1	66.2	69.7	62.2	74.4	12.4	0	63.0	68.4	59.0	75.5	19.2	0	58.0	71.0	58.2	71.7	31.7	2	55.8	69.2	67.5	77.5	39.2	0	60.2	70.8	60.5	77.1	43.9	2	74.3		60.0	2
74	1	60.0	67.9	65.4	72.7	14.2	0					24.9	0	64.0	69.4	66.4	72.0	42.0	0	63.2	70.2	68.2	75.1	41.0	0					53.5	3				
76	1	67.7	73.3	70.8	77.3	10.8	0	64.0	71.1	64.0	79.0	19.3	1	67.0	70.0	66.4	71.6	31.9	0	61.6	70.5	62.5	77.0	26.3	1	64.5	72.2	62.5	79.0	37.8	1				
78	1	63.1	72.3	64.0	75.4	14.4	1	63.0	74.3	65.0	80.4	21.7	1	65.0	74.3	65.2	74.9	35.7	1	59.9	69.5	65.1	75.2	37.9	0	54.5	73.0	62.2	77.4	46.9	2				

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1206R.WB1

Table A6 – Site IF-TN-2, 12-07-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
1	5	68.3	77.4	69.2	84.1	11.5	1	69.0	77.8	71.0	86.8	13.5	1	75.0	85.6	75.0	89.4	18.9	2	68.0	83.8	64.2	86.9	24.1	2	80.0	85.2	61.3	91.3	32.6	3				
3	5	64.2	74.5	66.1	81.6	9.5	1	64.0	75.6	63.0	84.4	12.0	2	70.0	88.3	69.0	87.5	17.7	2	69.0	80.5	65.0	84.2	24.5	3	71.8	82.9	75.2	89.9	30.2	1				
4	5	66.3	75.8	63.0	83.9	9.2	1	69.0	77.6	67.0	85.7	12.1	1	70.0	80.3	73.0	85.8	17.5	3	73.0	81.1	66.0	83.6	20.9	3	68.5	83.6	58.0	89.9	25.3	2				
5	5	64.3	69.8	59.4	78.1	8.2	0	63.0	70.0	58.0	76.5	10.4	3		74.5		79.3	12.4	2	64.0	76.6	62.0	80.0	16.2	3	66.0	76.4	66.3	83.8	26.5	2				
6	5	66.2	74.9	62.3	81.9	11.6	1	65.0	76.8	61.0	83.4	14.3	2		78.7		84.2	17.6	2	65.0	76.5	61.1	79.0	23.0	2	71.6	83.3	67.2	87.7	33.6	2	86.2		63.0	1
7	5	68.4	77.6	68.1	84.0	13.0	1	68.0	79.2	70.0	86.2	15.5	1		84.4		87.0	19.1	2	64.0	83.6	64.2	88.0	23.1	3	67.7	82.6	65.0	91.7	34.3	3	86.4		60.0	2
8	5	64.1	77.1	66.4	79.2	8.6	2	63.0	74.4	65.0	82.6	10.0	3	62.0	80.7	67.0	85.0	13.7	2	64.0		67.0		16.9	0	70.8	82.3	60.6	87.9	23.9	2				
9	5	66.1	78.4	67.2	81.2	9.9	1	71.0	73.5	64.0	83.8	10.9	0	71.0	78.8	72.0	88.4	12.9	1	69.0	79.3	67.0	84.0	15.5	2	64.6	82.8	64.9	88.0	23.0	2				
10	5	61.6	78.7	63.2	84.5	12.9	2	65.0	78.1	64.0	85.9	15.5	2	68.0	83.0	73.0	86.7	19.3	2	67.0	84.5	64.0	86.6	24.5	2	73.8	86.0	71.1	91.8	34.9	2	85.7		61.0	2
11	5	63.8	75.7	62.1	83.4	13.0	2	69.0	76.3	65.0	83.1	15.3	1		78.4		74.9	19.4	3	60.0	77.8	69.0	81.7	23.2	3	61.2	81.8	72.4	88.2	28.4	3	87.0		60.0	2
12	5	63.9	73.7	60.7	80.1	13.8	1	64.0	73.6	59.0	80.8	16.2	1	72.0	76.4	66.0	81.5	20.1	0	64.0	77.1	59.0	79.8	28.2	2	66.6	79.8	67.8	85.6	36.8	2	84.0		71.0	2
13	5	65.5	75.5	59.1	82.4	11.9	2	66.0	75.4	59.0	83.1	14.0	1	69.0	79.7	72.0	84.9	17.4	1	61.0	77.4	62.0	82.0	22.0	2	62.6	82.1	63.1	85.2	29.1	2				
14	5	59.1	73.5	60.0	80.7	9.5	2	63.0	70.9	62.0	81.0	11.0	3	66.0	80.0	69.0	83.6	13.7	3	68.0	77.3	67.0	83.1	17.3	2	64.1	86.6	70.1	88.5	25.8	2				
15	5	60.1	73.1	59.8	80.5	10.7	2	63.0	73.8	62.0	82.1	12.7	2	70.0	76.0	68.0	82.9	14.5	1	61.2	75.1	64.0	78.8	14.6	3	63.8	68.6	58.2	69.9	20.7	3	85.1		57.0	2
16	5	59.2	71.1	60.1	79.2	11.8	2	62.0	72.4	93.0	80.6	13.0	0	60.0	77.8	68.0	84.1	16.3	1	84.0	77.3	72.0	80.6	21.2	3	63.1	84.5	66.6	88.7	29.0	3				
17	5	62.1	74.2	64.2	81.6	13.4	2	67.0	75.3	65.0	82.3	15.6	1	66.0	77.3	64.0	82.4	19.2	2	64.5	77.5	64.6	81.7	23.5	3	64.8	81.8	71.1	86.4	32.0	3	86.6		59.0	2
18	5	64.3	74.7	62.1	81.6	18.6	2	67.0	77.4	66.0	83.8	21.6	2	66.0	79.1	67.0	84.2	23.9	2	63.0	79.2	68.5	82.9	28.4	2	66.7	81.8	59.9	88.0	33.8	2	84.8		63.0	2
19	5	61.8	72.7	62.4	79.8	11.1	2	68.0	70.4	61.0	79.5	12.0	3	70.0	75.5	65.0	82.0	15.1	0	65.0	75.1	64.5	79.3	19.2	2	63.3	79.5	59.5	83.5	26.9	2	81.1		52.0	2
20	5	61.6	83.9	70.1	88.9	11.6	2	69.0	83.2	68.0	90.4	14.1	2	63.0	88.6	70.0	92.6	17.7	2	69.0	86.7	69.0	89.9	22.2	2	64.1	89.4	67.3	95.1	31.0	2	88.1		60.0	2
21	5	61.9	72.3	64.5	81.5	10.0	1	63.0	72.0	61.0	81.4	12.1	1	67.0	81.5	65.0	83.6	15.8	2	62.0	76.7	61.0	81.7	20.4	2	66.3	79.2	70.2	84.9	31.7	1				
23	5	64.3	74.9	63.6	82.5	10.4	2	72.0	75.6	67.0	83.0	13.0	0	69.0	84.4	65.0	85.8	16.5	2	71.0	81.0	66.0	83.2	21.5	2	69.0	83.2	69.1	87.8	33.7	2				
24	5	66.2	76.4	67.7	82.5	9.9	1	67.0	74.9	65.0	83.4	17.1	1	66.0	81.4	70.0	85.7	24.4	2	71.0	80.5	66.4	84.3	17.6	1	71.5	81.0	66.5	86.1	28.7	1				
25	5	62.2	79.5	68.7	84.8	11.3	2	64.0	80.6	71.0	86.6	14.3	1	63.0	83.4	72.0	87.4	19.3	3	79.0	82.0	65.0	85.9	26.0	3	78.7	85.6	70.8	91.2	37.2	3	84.8		64.0	1
26	5	64.5	79.5	69.8	84.4	12.4	1	65.0	77.9	67.0	85.8	14.9	2	64.0	84.4	68.0	88.1	18.5	2	68.0	82.6	69.0	86.1	22.8	2	78.4	84.0	76.6	89.6	30.6	3				
27	5	62.1	74.3	61.5	81.2	9.0	2	63.0	76.2	59.0	83.7	11.6	2	67.0	79.9	60.0	85.4	16.4	2	62.0	81.5	59.0	84.6	22.2	2	71.6	82.6	61.3	87.3	32.8	2				
28	5	61.2	78.9	64.6	83.6	20.2	2	65.0	77.9	67.0	84.3	23.2	2	72.0	80.6	68.0	85.2	28.9	1	70.0	84.7	64.0	85.3	33.8	2	71.5	82.8	69.0	87.2	42.4	3				
29	5	65.4	74.9	69.1	82.6	10.2	3	68.0	81.3	71.0	86.3	13.0	3	67.0	82.5	70.0	87.5	16.9	3	68.0	81.7	71.2	85.7	21.9	3	74.6	86.6	68.4	90.4	29.9	3				
30	5	62.6	74.7	65.5	80.3	14.6	1	66.0	76.0	70.0	82.7	17.9	3	64.0	76.6	71.0	83.1	23.2	0	66.0	78.4	68.0	80.2	28.5	3	77.0	84.0	75.4	90.5	38.6	3	82.0		63.0	1
31	5	62.9	74.5	66.4	82.9	10.5	1	66.0	76.4	65.0	84.5	12.2	2	63.0	78.1	70.0	84.5	15.8	1	75.0	77.3	69.0	81.3	20.1	0	71.0	80.2	73.7	85.3	28.7	3				
32	5	61.1	75.3	64.4	82.6	11.6	2	65.0	74.7	64.0	83.0	13.1	1	62.0	78.1	65.0	85.5	16.4	2	66.0	83.2	67.0	85.8	21.3	2	65.4	80.9	69.2	87.1	26.1	2				
34	5	63.4	73.1	65.6	80.2	10.7	1	66.0	75.0	66.0	82.8	12.9	1	65.0	78.4	66.0	85.5	18.3	2	67.0	80.1	67.5	84.4	22.7	3	69.1	81.3	64.1	87.2	30.3	2				
35	5	64.5	76.6	67.2	82.8	9.2	1	67.0	78.5	66.0	85.0	11.0	2	65.0	83.6	66.0	88.8	14.2	3	63.0	81.9	67.0	85.8	18.7	2	68.1	84.9	67.6	90.2	30.2	3				
36	5	65.1	77.1	66.5	83.3	11.6	2	63.0	82.5	68.0	85.6	14.8	2	62.0	81.5	65.0	88.5	20.8	3	66.0	83.3	65.0	86.0	24.2	3	71.1	83.4	71.2	89.8	32.2	2	85.2		60.0	1
37	5	66.1	74.9	67.5	82.2	10.2	1	67.0	74.3	64.0	82.7	12.6	1	70.0		68.0		15.2	3	62.0	79.7	65.5	84.0	19.1	2	89.2	83.3	72.7	91.7	25.7	2				
38	5	64.8	75.3	66.5	81.8	15.0	1	68.0	77.7	65.0	83.7	17.9	1	72.0	79.3	70.0	85.8	21.1	1	71.0	79.8	70.0	83.3	26.2	1	73.6	84.2	68.7	88.1	40.7	2				
39	5	59.6	77.7	67.4	85.6	7.4	2	65.0	78.7	63.0	87.3	9.1	2		67.0			12.0	2	69.0	79.3	68.0	84.4	17.2	2	64.1	79.3	65.2	86.6	27.2	2	82.4		55.0	1
40	5	64.2	77.6	66.7	83.4	15.4	2	65.0	78.8	70.0	82.1	18.4	1	68.0	77.9	70.0	84.8	23.0	3	76.0	81.5	69.0	******	26.7	3	79.8	83.5	66.1	87.9	38.3	0				
41	5	65.4	76.4	69.6	83.3	11.6	1	67.0	78.6	70.0	84.7	14.5	1	68.0	79.2	67.0	85.8	19.2	2	66.0	81.0	65.0	84.8	23.6	2	69.1	83.2	70.1	88.8	31.9	2				
42	5	62.9	72.8	64.3	80.5	12.7	1	66.0	74.3	67.0	81.9	14.8	1	62.0	78.1	68.0	83.0	18.0	1	67.0	77.4	64.0	81.4	23.2	2	72.8	80.9	67.0	85.7	32.7	1				
43	5	63.2	76.9	68.5	83.4	10.7	1	70.0	76.0	69.0	84.4	11.9	1	66.0	81.0	70.0	87.6	15.0	2	69.0	81.4	71.0	85.1	21.4	3	75.9	86.5	65.9	90.6	30.8	3				
44	5	62.9	72.4	64.0	79.6	10.7	1	64.0	72.5	66.0	80.6	12.9	1	63.0	76.0	66.0	83.0	16.2	2	63.0	74.4	65.0	79.0	20.9	1	64.1	79.3	65.7	85.4	28.6	3				
45	5	64.1	77.6	64.5	82.3	15.3	2	71.0	76.6	62.0	83.1	15.9	3	65.0	80.5	64.0	86.0	18.1	2	67.0	79.8	64.0	84.0	21.2	3	68.1	83.0	64.4	88.3	31.4	2				
47	5	63.1	76.4	64.2	82.1	12.6	2	67.0	77.3	65.0	84.0	15.6	2		79.5		84.9	20.3	2	68.0	79.4	68.0	83.9	24.6	3	67.2	81.3	76.0	86.0	30.6	3				

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1207R.WB1

Table A6 -- Site IF-TN-2, 12-07-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
48	5	65.6	76.4	64.7	84.3	11.3	3	74.0	78.2	65.0	84.4	13.5	3	74.0	84.2	68.0	86.7	17.3	3	66.0	80.1	63.0	84.1	21.3	2	69.7	82.1	73.2	87.4	28.9	1				
49	5	66.0	74.3	63.2	81.4	11.7	1	66.0	75.5	65.0	81.7	15.1	1	68.0	76.0	66.0	83.3	17.6	1	63.0	80.1	70.0	83.1	21.9	3	73.7	86.1	72.9	89.4	33.2	3				
50	5	64.4	76.5	65.1	82.0	21.2	2	62.0	71.5	56.0	76.8	27.2	1	62.0	80.7	70.0	84.3	21.1	2	64.0	84.2	69.0	84.2	26.9	3	66.8	86.0	70.6	89.5	38.5	3	80.9		58.0	2
51	5	64.2	77.4	64.8	84.4	11.9	2	67.0	75.3	66.0	84.8	14.2	1	67.0	76.1	66.0	84.3	15.9	2	64.0	76.3	64.0	82.5	17.8	2	71.1	86.6	70.8	89.9	23.4	3	82.0		45.0	1
52	5	60.0	76.4	63.1	83.5	11.3	2	65.0	81.2	60.0	85.1	14.1	2	66.0	76.5	61.0	85.3	16.9	2	69.0	79.0	69.0	84.0	23.6	2	71.3	82.5	70.5	87.5	34.1	2	86.9		59.0	1
53	5	62.8	72.5	64.3	80.5	9.0	1	65.0	74.3	64.0	82.0	11.1	1	64.0	77.4	64.0	84.4	14.5	2	69.0	75.4	69.0	81.0	18.2	3	71.2	78.1	66.4	84.4	24.1	3				
54	5	61.7	76.2	64.4	85.6	8.7	2	63.0	79.3	67.0	86.7	10.4	2	67.0	82.0	70.0	88.4	14.3	3	74.0	81.1	69.0	85.1	20.1	1	69.8	82.3	70.2	91.3	28.9	3				
55	5	65.4	73.6	68.7	80.6	10.1	3	69.0	76.5	70.0	81.4	13.0	3	67.0	75.7	67.0	82.3	16.6	3	76.0	76.9	67.0	80.0	20.5	3	71.0	80.9	69.2	86.0	29.9	1	84.9		60.0	1
56	5	66.2	75.0	67.3	81.9	19.6	3	73.0	75.8	70.0	81.6	19.8	3	70.0	78.5	69.0	84.6	24.9	1	71.0	79.4	69.0	80.1	28.9	3	74.4	82.1	70.8	85.9	40.5	1	80.1		64.0	1
57	5	62.3	72.8	68.1	79.9	17.0	0	63.0	74.9	73.0	81.3	16.6	0	64.0	77.9	71.0	84.2	23.0	3	69.0	80.0	71.0	83.3	27.0	3	75.2	80.4	76.5	85.4	37.6	3				
58	5	64.4	74.3	68.3	82.2	10.6	1	63.0	75.6	66.0	83.6	13.7	1	70.0	85.1	70.0	86.1	17.2	3	69.0	77.3	73.0	82.6	21.0	3	69.0	83.9	68.0	88.9	30.1	3				
59	5	67.2	78.4	68.9	83.2	11.6	3	68.0	87.6	66.0	85.7	13.4	3	68.0	77.8	68.0	84.2	16.0	3	68.0	90.2	69.0	90.6	20.2	2	68.3	82.5	70.0	87.9	30.0	2	86.7		58.0	2
60	5	63.2	72.4	62.2	79.6	8.5	1	63.0	73.9	64.0	81.0	11.3	1	61.0	76.2	64.0	82.7	15.7	2	60.0	76.9	67.0	78.6	19.9	1	64.0	78.8	74.6	83.6	28.9	3				
61	5	64.2	77.6	65.1	84.7	13.6	2	68.0	79.2	64.0	85.7	16.9	2	70.0	80.6		86.3	21.5	2	67.0	81.3	65.0	85.0	26.5	2	67.6	82.9	64.1	87.4	35.6	2	84.2		61.0	1
62	5	64.4	73.6	66.2	79.5	10.5	3	64.0	74.7	68.0	82.9	13.2	3	65.0	75.7	72.0	82.6	17.2	3	77.0	82.0	67.0	84.9	20.6	0	74.4	85.5	75.1	90.0	29.6	3				
63	5	68.9	74.4	71.0	81.2	8.2	0	67.0	78.2	70.0	85.5	9.2	1	65.0	78.8	72.0	86.6	11.0	1	70.0	80.8	73.0	86.9	13.0	3	68.8	82.0	69.1	89.9	17.3	3				
64	5	70.1	75.9	64.2	82.2	14.3	3	69.0	76.7	64.0	81.7	16.5	3	68.0	79.3	67.0	83.5	21.4	2	66.0	80.1	65.0	84.2	27.1	2	69.0	84.5	73.0	89.0	41.0	2				
65	5	67.8	76.0	66.2	87.5	14.0	1	68.0	79.0	67.0	84.2	16.7	2	66.0	80.2	70.0	84.2	20.9	2	64.0	78.7	65.0	83.2	24.6	2	66.1	81.4	66.5	86.2	32.6	2	84.0		55.0	1
66	4	66.5	76.0	64.3	79.7	14.4	3	68.0	74.7	66.0	80.3	16.9	3	68.0	75.3	67.0	82.3	20.6	3	67.0	78.9	64.0	80.8	23.3	1	69.2	79.2	73.0	84.0	37.4	3				
67	5	68.2	74.5	61.0	81.4	10.8	1	68.0	68.8	64.0	68.8	12.6	3	70.0	76.5	68.0	84.0	16.1	1	65.0	79.1	64.0	83.0	20.7	2	69.2	80.2	71.1	86.4	31.2	1				
68	5	68.1	77.5	63.2	82.8	12.5	2	64.0	84.6	66.0	84.9	14.8	2	64.0	79.1	68.0	85.1	19.0	2	64.0	78.5	71.0	82.4	23.2	1	63.9	82.5	73.5	87.8	31.2	1	84.8		55.0	2
69	5	64.0	77.1	61.1	83.5	15.7	2	63.0	79.0	64.0	85.2	17.5	2	62.0	84.9	65.0	86.8	21.5	2	64.0	81.6	67.0	85.6	26.1	2	60.0	82.2	69.3	88.1	35.1	2	88.0		58.0	2
70	5	66.6	77.5	65.4	81.9	11.8	2	72.0	77.9	66.0	84.4	12.9	3	70.0	79.4	69.0	85.4	17.4	1	70.0	80.0	70.0	84.3	28.3	2	72.9	81.3	68.1	86.3	32.6	1	85.5		59.0	2
71	5	65.5	68.4	64.2	76.4	8.3	0	66.0	70.8	64.0	79.2	9.5	0	65.0	74.0	67.0	81.7	13.7	1	65.0	74.2	67.0	80.2	16.1	3	68.6	80.0	70.1	87.1	27.0	3				
72	5	66.2	80.0	68.4	85.0	13.3	2	68.0	83.4	68.0	87.9	15.8	2	70.0	79.7	68.0	86.7	19.9	1	67.0	83.6	67.0	88.4	24.1	3	73.2	84.5	73.7	89.7	31.8	3				
73	5	67.0	73.6	67.6	81.4	10.9	1	64.0	76.7	67.0	83.4	12.6	3	70.0	77.1		85.2	15.6	1	69.0	80.2	71.0	85.0	20.2	1	70.5	82.6	73.4	90.4	30.2	3				
74	5	65.8	76.2	68.4	81.9	16.8	1	70.0	78.2	67.0	83.5	19.0	3	67.0	80.7	68.0	85.0	23.0	3	62.0	80.0	61.0	83.4	26.2	3	74.3	83.9	69.9	89.4	36.2	3				
75	5	68.3	73.9	65.9	80.7	10.8	1	65.0	77.4	67.0	83.0	13.0	2	68.0	77.6	68.0	84.1	16.8	1	68.0	82.0	67.0	85.3	20.3	3					30.8	3				
76	5	68.0	72.6	68.7	76.6	10.2	3	68.0	72.9	71.0	82.8	10.7	3	68.0	77.4	70.0	84.5	14.5	1	69.0	78.6	75.0	82.0	23.8	3	70.2	84.2	71.0	90.3	37.3	3				
77	5	66.5	77.6	65.3	82.6	12.8	2	65.0	79.0	66.0	85.6	14.7	2	69.0	82.2	70.0	87.6	19.1	2	61.7	81.0	66.0	85.1	23.4	2	67.2	83.1	69.5	90.3	31.8	2				
79	5	64.1	74.3	66.2	80.6	11.9	1	68.0	77.2	67.0	83.3	15.1	1	71.0	80.4	70.0	85.2	18.0	3	70.3	76.3	66.1	84.8	22.3	1	73.9	97.6	72.1	94.7	38.1	3				
80	5	67.2	76.4	66.4	83.4	11.6	1	69.0	78.5	65.0	83.1	13.8	3	71.0	80.2	68.0	85.3	18.1	1	68.9	80.5	69.9	85.6	24.0	2	69.7	81.9	71.8	87.1	34.9	2	86.2		61.0	1
81	5	66.3	72.4	68.4	76.2	10.9	0	66.0	73.7	71.0	82.7	10.6	0	67.0	78.7	71.0	86.8	12.7	3	70.7	81.5	70.5	87.6	18.2	3	80.0	82.3	74.8	88.8	28.6	0	86.4		55.0	2
82	5	65.3	77.7	67.4	83.6	10.6	2	69.0	78.2	67.0	84.8	13.5	1	66.0	79.5	68.0	86.0	17.9	2	71.0	79.6	71.5	84.9	23.0	1	69.3	80.9	79.7	88.0	30.0	0	86.1		58.0	1
83	5	69.1	80.7	68.0	89.0	7.4	2	71.0	84.7	67.0	91.2	8.8	2	69.0	83.6	70.0	91.4	11.9	2	70.2	81.6	71.7	88.9	17.5	1	70.5	84.2	71.1	92.6	25.1	3	84.7		48.0	2
84	5					15.9	0	70.0	79.3	71.0	85.9	21.9	1	72.0	81.6	73.0	87.6	21.8	3	75.0	82.1	73.7	87.8	24.9	3					31.6	3	86.5		57.0	2
85	5	65.1	81.5	66.2	87.4	11.5	2	64.0	82.2	67.0	89.0	15.8	2	68.0	82.9	68.0	88.9	19.8	2	71.7	83.8	73.0	88.8	23.6	2					29.7	0	82.9		52.0	1
86	5	67.5	75.1	68.2	83.5	8.8	1	67.0	81.2	66.0	84.7	10.7	3	73.0	76.7	70.0	84.4	13.7	3	69.0	77.7	70.0	83.0	18.4	3					19.2	0	84.1		53.0	1
87	5	63.2	80.7	64.4	78.1	10.9	2	67.0	73.6	64.0	78.2	12.8	1	67.0	75.1	68.0	81.8	16.1	1	61.0	69.0	63.2		20.7	0	64.8	84.2	67.3	93.4	27.0	2				
88	5	68.1	74.8	70.6	83.0	10.3	0	68.0	76.7	69.0	84.1	12.7	1	70.0	83.7	72.0	86.1	16.5	2	65.8	78.9	75.0	84.5	20.8	3	70.4	82.8	68.1	88.8	32.0	2				
89	5	70.3	78.4	66.1	83.3	14.8	1	68.0	78.9	66.0	85.1	17.6	2	70.0	81.9	70.0	87.0	20.6	2	66.0	82.0	74.3	85.7	27.3	1	73.7	84.5	71.0	89.7	35.4	3				
90	5	70.1	77.6	69.2	84.4	12.5	1	69.0	84.5	69.0	86.5	15.1	3	69.0	81.1	73.0	86.4	18.6	1	67.0	80.6	69.3		22.7	3	67.2	84.4	73.9	90.9	32.2	2				
91	5	72.5		65.4		9.6	3	71.0	79.3	66.0	85.6	12.9	1					17.8	0	69.4	80.4	67.3	84.0	22.5	2	72.6	82.2	67.7	86.6	33.0	1	86.0		57.0	1

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1207R.WB1

Table A6 -- Site IF-TN-2, 12-07-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
92	5	66.8	78.2	67.2	83.7	9.5	2	71.0	77.9	72.0	86.1	11.5	0	70.0	81.7	70.0	88.4	14.8	2	68.0	80.1	72.4	86.3	19.6	3	76.8	82.6	73.8	89.0	27.6	0	84.1		55.0	1
93	5	66.2	78.8	68.8	85.6	13.8	2	71.0	79.6	71.0	87.7	14.9	1	73.0	83.4	66.0	89.7	18.1	2	71.0	83.1	70.7	87.9	22.2	2	69.6	85.0	70.0	88.6	30.4	2				
94	5	64.4	74.5	63.6	81.7	10.0	2	66.0	77.6	71.0	83.3	15.9	1	66.0	78.3	66.0	82.3	18.7	2	66.3	80.8	70.7	84.2	22.8	2	62.6	84.0	74.0	88.1	36.9	2				

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1207R.WB1

Table A7 -- Site IF-TN-2, 12-08-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
100	5	62.1	74.6	60.0	81.1	14.8	2	63.0	77.0	64.0		15.8	2	67.0	81.7	68.0	84.0	19.7	2	60.0	79.7	60.0	83.9	24.1	2	68.1	81.0	69.0	85.8	32.4	2				
101	5	62.6	74.1	60.2	81.7	13.4	2	64.0	78.9	62.0	81.7	16.3	2	65.0	77.2	62.0	81.9	20.6	2	63.0	77.8	60.0	81.4	24.9	2	61.2	86.9	68.2	86.6	38.5	2				
102	5	62.4	75.0	65.2	82.8	16.5	1	64.0	76.0	67.0	82.4	17.1	1	62.0	81.5	70.0	85.4	19.4	2	62.0	77.6	70.0	81.1	24.2	3	59.0	84.8	74.8	90.3	31.7	3				
103	5	61.8	73.9	66.1	82.0	12.2	1	65.0	78.0	62.0	82.9	13.9	2	60.0	78.3	69.0	83.2	17.7	1	71.0	79.9	64.0	83.8	21.4	1	65.4	80.5	74.0	86.7	29.2	1				
104	5	68.2	80.0	67.0	86.4	14.5	2	70.0	81.8	66.0	87.9	17.1	2	68.0	83.2	69.0	88.5	22.4	2	67.0	84.5	68.0	87.7	26.4	3	73.0	85.2	81.5	91.1	41.9	3				
105	5	69.9	76.0	72.1	82.0	8.2	0	67.0	77.7	71.0	84.3	11.6	3	63.0	79.1	71.0	85.4	17.2	3	73.0	80.2	73.0	85.1	21.5	3	81.0	84.8	78.3	92.8	38.2	3				
106	5	68.9	76.9	71.1	84.3	14.8	0	71.0	78.2	71.0	84.4	16.1	1	65.0	79.6	70.0	84.3	18.1	3	64.0	81.1	73.0	86.5	23.5	3	76.3	80.5	73.3	92.1	40.6	3				
107	5	70.1	74.4	66.4	80.3	18.5	0	70.0	77.1	69.0	83.9	24.9	1	68.0	78.9	70.0	85.2	19.2	3	71.0	79.1	66.0	84.7	22.9	1	70.1	81.8	73.4	88.4	32.6	3	84.5		56.0	1
108	5	66.1	77.4	66.0	83.2	16.1	2	68.0	77.7	64.0	83.9	18.9	1	68.0	81.0	68.0	85.6	23.3	2	71.0	81.9	65.0	85.8	30.2	2	69.8	80.1	69.2	89.1	45.4	2	84.8		65.0	2
109	5	65.1	80.8	62.4	84.8	17.8	2	69.0	81.0	63.0	85.9	19.9	2	68.0	83.5	68.0	88.0	23.8	2	70.0	81.9	69.0	84.6	27.4	2	65.5	80.9	73.4	85.7	34.0	1	84.6		54.0	2
110	5	65.5	81.3	67.1	85.6	17.2	2	65.0	79.2	70.0	83.3	19.0	1	68.0	77.7	73.0	82.5	21.6	3	64.0	83.2	70.0	88.4	24.0	3	77.7	82.5	68.6	87.5	34.9	0	83.3		57.0	1
111	5	62.1	75.9	64.8	82.5	12.7	3	68.0	77.9	67.0	84.0	16.3	1	66.0	78.6	66.0	84.7	20.5	2	65.0	80.7	65.0	83.8	24.1	2	65.6	82.5	78.3	82.7	39.9	0				
112	5	68.8	75.4	65.5	82.1	10.7	3	70.0	76.7	64.0	83.4	13.4	1	68.0	79.7	67.0	85.7	18.0	2	63.0	78.2	61.0	82.6	24.6	2	63.4	83.4	63.7	87.4	35.6	2				
113	5	64.7	77.0	68.8	84.5	8.0	1	67.0	76.8	72.0	85.5	10.3	3	67.0	79.9	74.0	87.0	13.1	3	75.0	80.5	71.0	87.1	15.8	3	75.2	84.5	67.1	88.9	23.9	1	83.3		48.0	1
114	5	64.1	78.7	69.2	83.7	12.6	1	67.0	81.6	71.0	88.7	17.0	2	66.0	83.1	74.0	87.3	21.7	3	77.0	82.3	74.0	85.7	25.6	0	70.2	82.6	70.0	87.2	35.2	2	87.7		59.0	2
115	5	66.5	76.7	69.3	83.8	8.4	1	68.0	78.9	69.0	85.2	9.6	1	66.0	80.3	72.0	87.0	12.2	1	64.0	86.7	67.0	89.6	17.0	2	71.6	97.1	69.5	98.7	33.7	2	92.8		62.0	2
116	5	62.0	73.6	67.1	81.5	10.1	1	69.0	73.8	66.0	82.8	11.7	0	69.0	77.5		83.9	14.9	1	67.0	76.3	63.0	81.8	19.3	1	71.8	78.4	66.5	85.4	26.9	1				
117	5	67.5	79.2	68.6	85.4	11.4	2	69.0	80.8	62.0	88.1	14.3	2	71.0	82.9	67.0	87.9	18.4	2	69.0	84.2	65.0	85.6	23.9	2	71.3	83.0	67.2	88.0	36.7	2	84.2		60.0	2
118	5	68.5	74.1	7.1	78.7	10.2	0	68.0	74.9	67.0	81.8	11.7	1	66.0	76.0	73.0	84.7	13.9	0	74.0	79.8	75.0	84.7	18.3	0	71.8	83.3	78.7	90.5	27.8	0	84.8		54.0	1
119	5	62.1	75.0	65.4	82.5	10.8	1	62.0	76.7	67.0	83.1	12.4	3	60.0	77.7	70.0	84.2	15.8	3	67.0	78.1	65.0	83.3	19.4	2	67.5	83.3	72.2	89.4	28.5	2	84.1		55.0	1
120	5	63.3	72.9	65.2	80.6	11.6	1	69.0	73.6	68.0	80.0	14.1	0	70.0	75.3	66.0	81.6	17.5	0	67.0	76.7	61.0	80.8	22.9	1	61.6	82.6	70.4	76.2	31.7	3	81.7		53.0	1
121	5	69.1	78.0	68.3	84.4	12.7	1	69.0	75.2	78.0		17.7	3	69.0	79.4	69.0	86.0	17.3	3	80.0	83.9	69.0	88.3	21.7	3	73.6	84.7	72.6	88.7	32.5	2				
122	5	65.9	79.8	68.3	86.4	6.4	2	66.0	81.3	68.0	88.6	7.2	2	71.0	82.8	74.0	89.7	11.2	3	77.0	83.3	70.0	86.9	18.8	3	72.7	85.6	70.4	90.0	26.4	3	86.6		54.0	2
123	5	66.2	74.1	69.5	80.1	18.9	0	72.0	76.5	69.0	85.4	20.1	1	72.0	82.9	72.0	87.8	24.8	2	74.0	80.0	74.0	84.8	26.5	1					35.4	0				
125	5	68.1	76.4	64.6	84.8	13.4	2	70.0	79.5	68.0	85.7	16.4	1	68.0	82.7	73.0	89.5	19.8	1	66.0	82.8	74.0	86.3	25.3	3	76.6	87.0	72.1	94.0	35.9	3				
126	5	66.6	77.8	65.4	83.1	12.5	2	65.0	77.1	66.0	83.6	15.3	2	65.0	82.7	72.0	90.6	20.1	2	72.0	82.8	69.0	86.4	22.4	3	76.6	81.1	67.6	86.8	33.3	0				
127	5	60.1	73.2	63.0	80.8	9.4	2	67.0	76.5	64.0	83.5	13.0	1	65.0	81.7	68.0	88.5	19.1	2	66.0	81.3	77.0	85.4	25.6	3	70.4	83.4	71.4	89.0	32.9	3	91.6		64.0	2
128	5	60.0	83.5	63.2	82.4	13.0	2	65.0	79.2	66.0	83.4	15.3	2	65.0	79.2	69.0	84.7	20.2	2	65.0	80.2	76.0	85.5	24.0	3	64.6	82.9	74.3	89.1	31.2	3				
129	5	66.8	76.6	63.1	82.8	11.0	1	65.0	78.1	64.0	84.0	13.9	2					17.8	0	69.0	82.9	67.0	84.0	21.5	2	59.7	81.1	64.4	85.9	28.2	2	88.1		57.0	2
131	5	66.8	81.8	67.5	86.3	12.2	2	67.0	83.2	64.0	89.1	15.2	2	66.0	83.0	68.0	90.8	18.4	2	66.0	83.4	69.0	86.0	23.6	2	73.7	85.4	71.4	89.5	32.7	2				
132	5	67.5	79.6	69.6	87.2	12.2	2	73.0	82.3	70.0	87.1	13.4	1	73.0	81.6	66.0	89.4	17.6	1	71.0	80.3	75.0	85.0	22.7	3	71.8	87.5	70.5	91.5	32.6	3	85.2		57.0	2
133	5	65.5	77.6	66.2	85.7	9.1	2	69.0	81.2	67.0	87.1	11.1	2	70.0	81.6	70.0	93.1	15.4	3	74.0	82.2	66.0	68.0	20.6	1	71.0	82.5	69.0	86.9	31.5	2				
134	5	64.8	74.3	65.3	81.9	8.8	1	64.0	77.4	67.0	84.7	11.4	2	70.0	81.2	68.0	86.9	15.1	2	66.0	83.2	67.0	84.6	19.6	2	63.9	83.1	65.6	86.3	30.0	2				
135	5	65.1	78.3	64.3	83.3	10.5	2	64.0	77.0	65.0	84.3	13.5	2	66.0	81.6	69.0	86.1	17.5	3	73.0	82.3	71.0	87.0	22.5	1	70.1	84.4	74.5	88.8	30.3	1	85.8		56.0	1
136	5	63.5	77.6	69.9	82.9	14.5	1	68.0	78.2	61.0	83.4	16.3	2	68.0	80.0	65.0	85.8	20.5	2	68.0	79.9	61.0	83.8	26.9	2	64.0	82.5	62.4	86.0	34.9	2				
137	5	64.6	77.5	71.1	83.8	9.8	1	68.0	80.6	73.0	86.1	12.3	3	75.0	83.4	69.0	89.2	16.1	3	71.0	84.3	69.0	88.6	21.6	3	74.1	85.4	75.5	91.6	32.0	3	87.6		60.0	2
138	5	64.6	72.5	63.2	82.2	10.7	1	63.0	69.3	65.0	71.5	12.9	3	68.0	77.0	71.0	84.7	17.7	1	63.0	81.2	69.0	85.0	21.0	2	74.9	81.9	72.3	88.8	30.5	1	85.7		57.0	2
141	5	67.5	72.4	66.2	81.3	7.8	0	67.0	73.0	62.0	80.9	9.5	3	69.0	77.6	64.0	84.0	13.5	1	65.0	87.4	64.0	83.5	18.0	2	61.1	80.2	66.0	85.6	26.0	2				
142	5	69.1	76.5	68.2	82.8	35.0	1	67.0	79.0	65.0	84.7	18.6	2	69.0	78.7	68.0	85.4	31.8	3	71.0	81.8	68.0	85.8	32.6	2	69.6	84.1	65.6	88.7	28.5	2	86.5		60.0	2
143	5	64.4	78.4	67.4	83.4	13.2	2	64.0	79.3	67.0	84.4	17.1	2	64.0	81.1	70.0	85.3	23.1	2	63.0	81.0	66.0	85.1	27.6	3	62.9	84.0	72.2	88.6	34.3	3	87.2		59.0	2
144	5	66.3	77.8	68.4	83.7	10.4	3	67.0	77.6	69.0	85.3	13.0	3	70.0	81.9	70.0	87.2	16.6	3	78.0	81.7	66.0	87.0	23.4	3	73.0	83.0	72.4	87.5	31.1	2				
145	5	61.1	75.8	69.3	81.5	9.6	1	64.0	77.5	67.0	83.0	11.5	2	58.0	77.7	67.0	84.4	15.3	2	67.0	79.7	74.0	79.1	18.9	0	74.5	83.2	74.6	86.4	28.4	3	83.6		58.0	2
146	5	62.1	72.4	63.2	81.6	8.7	1	64.0	73.4	60.0	82.4	9.3	1	58.0	77.2	66.0	84.6	12.5	2	64.0	76.6	64.0	83.6	16.7	2	68.0	80.2	67.7	85.5	24.5	2	86.0		52.0	2

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1208R.WB1

Table A7 -- Site IF-TN-2, 12-08-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
150	5	66.9	76.8	68.7	81.8	15.4	2	66.0	76.9	73.0	83.7	20.4	3	65.0	80.4	77.0	86.2	21.2	3	74.0	84.7	67.0	88.6	25.5	3	76.7	82.0	73.3	82.7	35.2	0				
151	5	70.1	76.0	67.7	83.6	11.3	0	71.0	76.9	68.0	84.2	11.9	0	70.0	80.8	72.0	86.4	15.9	1	67.0	81.8	72.0	86.5	20.6	3	71.2	82.8	71.7	88.7	28.9	2	83.2		55.0	2
152	5	61.6	78.8	69.2	83.8	9.9	1	66.0	77.1	66.0	85.2	11.3	2	65.0	79.0	70.0	86.3	15.0	3	75.0	80.1	75.0	82.7	19.6	3	71.6	86.1	70.5	90.4	30.2	3	85.7		62.0	2
153	5	67.1	75.5	67.2	82.4	9.5	1	70.0	76.8	63.0	84.4	12.6	3	69.0	79.7	65.0	85.0	19.4	2	68.0	79.1	66.0	82.8	25.4	2	62.8	83.4	67.7	86.5	38.4	2	87.7		65.0	2
154	5	63.9	78.8	64.5	83.6	16.6	2	67.0	81.6	64.0	85.9	19.0	3	72.0	79.7	68.0	86.0	23.5	3	75.0	87.0	62.0	87.2	26.4	2	72.6	84.2	73.1	88.3	35.4	2				
155	5	62.1	76.4	64.4	83.4	12.0	2	68.0	76.6	62.0	82.6	16.7	1	65.0	77.2	66.0	83.7	18.1	2	64.0	76.5	65.0	80.9	23.0	2	65.1	82.3	69.6	86.3	30.4	2	85.0		59.0	2
156	5	66.3	80.7	68.5	85.8	12.7	2	66.0	80.7	61.0	85.9	15.7	2	65.0	83.3	65.0	87.6	20.1	2	62.0	82.0	71.0	86.0	25.2	2	70.2	81.6	69.1	87.2	32.3	2				
157	5	70.1	74.9	68.8	83.4	10.1	0	67.0	77.2	68.0	83.7	13.2	3	70.0	79.2	76.0	89.0	19.2	3	74.0	80.3	69.0	83.3	25.4	1	68.1	83.0	69.1	88.0	31.9	2	86.0		63.0	2
160	5	68.3	75.5	62.0	81.7	10.7	1	69.0	76.4	62.0	82.1	12.5	1	66.0	78.9	80.0	84.0	16.3	2	64.0	78.8	61.0	81.5	21.6	2	63.4	80.6	67.4	85.7	27.6	2	82.4		52.0	1
161	5	63.9	74.6	63.9	82.9	8.9	2	64.0	77.5	65.0	84.3	10.7	2					14.2	3	75.0	81.6	64.0	84.7	20.5	3	70.0	80.6	71.2	85.4	28.3	1				
162	5	65.2	76.6	65.1	84.2	8.6	2	71.0	77.8	63.0	84.9	10.9	1	68.0	81.0	63.0	86.9	15.2	2	68.0	80.5	68.0	85.4	20.3	2	71.4	82.2	69.0	86.4	26.0	3	89.1		62.0	2
163	5	60.7	71.4	63.1	78.3	8.3	3	61.0	79.4	66.0	79.4	8.9	3	62.0	74.7	66.0	82.0	12.5	3	65.0	80.8	69.0	84.5	17.8	3	71.2	84.0	69.7	91.1	22.9	3	79.8		50.0	1
164	5	60.1	79.2	63.2	85.1	14.6	2	58.0	67.7	62.0	71.7	15.6	0	68.0	76.6	63.0	78.3	19.2	1	68.0	80.1	71.0	85.1	26.2	1	72.2	73.1	71.8	72.7	30.9	3	85.0		58.0	0
165	5	67.2	79.9	66.3	85.9	13.7	2	65.0	79.7	68.0	86.1	16.1	2	61.0	83.6	68.0	86.9	18.9	2	74.0	81.5	70.0	86.2	27.2	3	75.7	84.0	66.5	90.8	32.4	3				
166	5	68.8	74.6	66.2	83.1	7.7	3	71.0	77.7	62.0	84.5	9.2	3	64.0	78.7	61.0	84.4	15.2	3	62.0	80.1	63.0	82.4	21.6	3	67.3	81.3	64.5	85.5	27.7	2				
169	5	62.9	74.0	61.7	80.8	10.7	2	62.0	74.8	58.0	81.5	12.7	2	61.0	77.1	60.0	82.9	17.0	2	59.0	77.9	61.0	82.2	23.7	2	66.1	80.2	62.6	84.0	28.9	2	84.4		52.0	2
170	5	67.5	76.6	66.3	83.2	11.8	1	72.0	78.2	60.0	84.0	14.1	3	68.0	81.6	60.0	85.2	18.7	2	65.0	77.6	66.0	82.8	24.5	2	68.5	81.1	70.2	86.2	29.0	2				
171	5	63.1	75.9	65.5	71.1	9.6	2	67.0	76.9	62.0	83.3	11.7	1	66.0	80.6	62.0	86.4	16.5	2	70.0	86.4	63.0	87.2	23.9	2	68.6	85.4	65.8	89.2	30.7	2				
172	5	64.4	76.6	65.4	83.7	13.9	3	64.0	76.5	62.0	84.6	14.6	2	64.0	80.1	64.0	86.0	19.3	2	73.0	81.0	63.0	84.2	28.2	1	69.6	82.5	75.7	87.6	32.5	1	85.7		64.0	2
173	5	62.1	74.6	67.4	81.8	12.6	1	65.0		70.0		16.0	3		78.4	74.0	84.7	21.3	3	71.0	82.5	71.0	84.9	29.8	3	76.1	84.9	70.5	89.0	39.3	1	80.8		67.0	1
175	5	68.2	75.4	66.6	81.8	14.4	3	71.0	77.3	66.0	83.2	15.8	3	68.0	79.0	64.0	84.7	21.6	2	73.0	79.4	65.0	82.9	29.5	3	64.1	83.9	66.6	88.0	38.1	2	86.3		62.0	2
176	5	63.5	74.3	64.4	82.5	10.6	1	66.0	78.2	68.0	83.2	12.7	2	63.0	77.3	70.0	85.3	18.2	3	65.0	83.0	71.0	84.8	26.2	2	65.3	84.7	69.7	89.1	34.0	2				
177	5	64.4	78.1	65.9	83.7	12.8	2	67.0	79.5	67.0	84.1	14.2	2	64.0	80.5	65.0	85.9	19.6	2	65.0	81.0	67.0	85.0	27.6	3	68.7	83.4	77.2	86.9	32.5	1				
178	5	69.2	77.5	69.5	84.4	13.3	3	73.0	79.7	70.0	85.2	14.7	3	73.0	79.1		85.7	18.6	3	74.0	80.6	69.0	85.3	25.4	3	73.2	80.8	75.5	88.6	32.3	3				
179	5	66.6	76.6	65.5	84.5	10.8	3	75.0	70.8	61.0	76.2	12.8	3	72.0		66.0		17.0	3	67.0	77.5	66.0	82.1	25.2	2	67.8	82.6	68.3	86.6	31.8	2	85.9		56.0	2
181	5	67.2	75.9	68.8	82.1	16.6	3	68.0	76.3	70.0	83.0	16.8	3	68.0	79.2	74.0	85.4	19.4	3	75.0	83.3	76.0	86.9	28.0	3	76.3	73.1	70.6	74.0	35.6	3	87.9		67.0	2
182	4	64.2	73.5	64.0	79.4	15.1	1	67.0	74.2	68.0	80.5	17.0	3	66.0	75.1	71.0	82.9	21.2	3	67.0	80.0	73.0	83.1	30.0	3	68.1	84.5	71.6	89.2	42.2	3	78.4		62.0	0
183	5	67.7	71.5	68.0	78.2	10.8	3	65.0	73.7	68.0	80.7	11.2	3	66.0	75.6	64.0	82.5	15.7	3	73.0	76.3	64.0	81.3	22.4	3	68.1	80.1	71.3	86.4	30.2	1				
184	5	64.0	74.7	66.0	82.0	8.6	1	64.0	75.4	65.0	83.0	11.5	2	68.0	76.7	65.0	83.8	14.6	3	68.0	75.0	64.0	80.4	20.9	1	63.9	81.3	70.2	87.3	26.8	2				
186	5	64.2	77.4	66.5	83.3	14.7	2	65.0	76.9	65.0	83.7	17.1	3	65.0	81.5	65.0	86.1	20.2	3	71.0	78.9	64.0	82.7	27.6	1	67.7	83.1	65.3	87.5	34.2	2	84.8		58.0	2
187	5	60.5	73.1	62.2	79.8	14.4	2	64.0	74.2	63.0	80.6	15.9	2	65.0	75.0	64.0	81.8	19.1	2	65.0	86.5	65.0	84.4	25.4	3	69.2	82.6	73.7	88.8	31.7	1				
188	5	69.1	73.2	68.8	79.9	8.1	3	68.0	74.1	70.0	84.0	8.2	3	66.0	76.7	72.0	85.5	12.0	3	73.0	76.9	64.0	81.5	20.2	0	69.3	81.8	72.5	87.4	30.3	1				
189	5	66.8	75.6	61.6	82.5	8.5	1	68.0	76.7	64.0	84.2	10.7	1	68.0	76.5	65.0	83.8	15.3	1	69.0	78.8	67.0	83.6	21.9	1	70.4	82.4	69.5	87.6	30.1	2	88.3		61.0	2
191	5	63.5	78.0	61.4	82.3	12.5	2	64.0	79.8	62.0	84.4	13.8	2	61.0	79.2	63.0	84.4	18.0	2	62.0	81.0	62.0	85.4	23.8	2	68.7	83.0	66.6	87.3	31.4	2	88.2		61.0	2
192	5	65.1	74.9	69.8	80.7	10.4	0	63.0	76.6	65.0	83.7	12.7	2	60.0	78.6	68.0	84.7	16.7	2	69.0	85.3	69.0	84.9	23.8	2	67.7	81.4	72.1	86.4	30.1	1				
193	5	70.1	76.0	66.0	82.1	15.2	0	71.0	76.9	65.0	83.3	18.3	3	68.0	78.3	65.0	83.8	23.2	2	67.0	78.9	68.0	83.3	31.1	2	69.5	82.4	74.4	88.4	37.2	1	87.8		66.0	1
194	5	69.1	76.2	67.8	83.9	10.8	1	72.0	77.4	61.0	84.2	11.7	3	69.0	78.8	63.0	86.0	15.1	1	69.0	77.2	69.0	80.4	20.7	1	63.0	79.8	65.3	85.7	24.2	2				
195	5	71.2	78.6	72.4	83.3	10.3	1	74.0	77.3	71.0	83.3	13.7	3	73.0	79.5	70.0	85.3	21.5	3	73.0	81.0	68.0	85.5	29.1	3	75.7	83.1	70.2	87.4	38.6	1	84.5		63.0	1
198	4	72.1	75.6	71.0	80.4	13.0	0	72.0	77.1	69.0	83.6	15.0	3	69.0	78.1	65.0	84.2	16.6	1	67.0	76.3	63.0	81.0	27.6	1	67.3	78.4	65.0	83.5	33.7	2				
197	4	68.4	72.2	71.7	79.4	9.3	3	67.0	75.3	64.0	82.7	10.9	3		75.9		83.1	15.7	3	71.0	83.3	65.0	82.2	23.4	3	65.1	80.4	71.8	86.2	33.2	3				
198	5	65.3	76.0	63.3	83.6	9.8	2	65.0	76.7	64.0	84.0	11.0	2	63.0	79.2	65.0	85.6	14.9	3	67.0	79.0	67.0	83.5	21.7	2	74.4	83.7	65.8	88.7	32.6	1	86.8		69.0	2
200	5	64.4	74.5	66.8	80.6	13.5	1	63.0	79.4	67.0	83.0	15.7	3	64.0	79.7	73.0	84.6	21.0	1	62.0	80.6	67.0	84.0	31.2	3	67.6	84.4	71.1	89.1	41.0	3				
201	5	66.4	77.6	64.1	82.9	13.1	2	64.0	80.3	67.0	85.5	14.9	3	64.0	80.7	64.0	86.0	16.0	3	67.0	81.3	64.0	85.7	24.2	2	62.2	83.4	67.4	88.0	30.7	2	85.2		55.0	2

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1208R.WB1

Table A7 -- Site IF-TN-2, 12-08-94

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start						Location 5: 800 ft from start						Constant Flow Location			
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	Lmax (dB)	SEL (dB)	Speed (mph)	ET
202	5	64.3	77.6	67.8	82.4	10.7	1	64.0	77.7	64.0	85.1	12.4	2	66.0	81.3	70.0	86.6	16.4	2	66.0	81.3	70.0	85.2	23.5	2	70.4	83.6	70.0	88.4	32.3	2	86.3		58.0	2
203	5	68.8	80.3	70.1	84.4	10.9	3	73.0	82.0	71.0	86.5	13.0	1	65.0	81.3	68.0	88.8	14.8	2	72.0	86.8	82.0	88.6	19.0	2	66.2	86.2	72.7	90.7	25.3	3	89.2		57.0	2
204	5	67.3	78.8	69.1	86.0	10.5	1	67.0	73.3	65.0	81.3	12.9	3	71.0	75.8	65.0	81.8	15.1	3	67.0	75.5	67.0	80.8	20.3	1	75.8	78.5	71.8	86.5	26.6	0				
205	5	68.4	77.2	69.1	82.4	10.8	1	66.0	76.9	64.0	84.8	13.0	2	64.0	83.4	64.0	87.7	17.2	3	78.0	88.6	66.0	88.6	25.1	2	70.1	84.1	69.5	88.2	32.1	2	82.1		55.0	2
206	5	65.5	78.1	64.3	81.5	10.1	2	65.0	78.9	67.0	82.2	11.5	3	64.0	78.5	65.0	84.5	16.0	2	67.0	80.0	65.0	83.4	23.9	2	64.2	84.5	67.6	87.9	29.7	3	85.1		60.0	2
207	5	66.1	76.7	66.6	83.2	11.2	1	66.0	79.0	63.0	84.4	12.6	2	83.0	79.8	65.0	86.1	16.4	2	68.0	79.6	69.0	83.9	23.3	2	66.0	81.9	71.1	87.3	27.2	2	87.0		56.0	2
208	5	65.5	77.0	67.4	82.5	9.9	1	68.0	80.6	67.0	85.8	13.4	2	71.0	83.5	66.0	87.2	20.0	2	74.0	80.5	66.0	83.5	27.4	1	70.0	82.2	76.0	87.0	34.3	1	85.8		58.0	2
209	5	65.2	75.3	66.1	80.1	11.8	1	71.0		64.0		13.9	3	69.0	78.5	63.0	85.1	19.0	1	67.0	78.0	63.0	81.4	27.4	2	66.1	83.4	65.7	85.3	30.6	2				
210	5	66.1	76.0	66.5	81.1	8.0	1	66.0	78.1	65.0	84.6	9.7	3	64.0	78.1	62.0	85.4	13.8	2	67.0	77.6	69.0	81.6	21.4	1	69.0	81.5	71.6	86.7	31.2	1				
211	5	65.9	78.0	66.1	83.0	8.7	1	71.0	79.1	66.0	85.6	11.3	1	71.0	81.7	69.0	87.5	15.6	2	69.0	81.4	75.0	86.1	21.7	1	66.0	86.7	73.7	91.7	30.8	3				
213	5	65.9	78.4	67.2	83.4	12.5	2	71.0	79.6	69.0	85.7	14.5	1	68.0	79.6	72.0	86.3	19.2	1	65.0	80.5	79.0	84.6	27.3	3	75.3	84.5	76.1	92.1	32.1	3	85.9		58.0	1
214	5	68.5	79.2	64.3	82.4	11.4	2	68.0	78.5	69.0	84.2	12.9	1	65.0	78.4	64.0	84.6	17.6	2	61.0	78.8	70.0	82.6	24.8	3	70.6	82.6	70.3	87.9	28.5	2	83.9		55.0	2
216	4	63.6	74.0	65.1	77.1	10.9	1	64.0	74.6	64.0	81.0	13.2	3	70.0	73.2	65.0	79.8	18.7	3	68.0	72.3	66.0	75.9	22.4	0	69.5	79.3	70.3	85.5	28.8	3				
217	5	68.6	75.6	68.1	82.2	7.6	1	69.0	76.7	69.0	85.3	9.3	1	66.0	81.5	66.0	86.2	11.4	2	78.0	81.4	68.0	84.4	16.6	0	72.1	83.3	72.7	90.6	24.1	2				
218	5	66.1	75.7	64.5	82.3	12.3	1	67.0	76.9	66.0	82.6	13.7	1	65.0	75.0	67.0	82.4	15.9	1	63.0	77.4	71.0	82.2	20.6	1	72.2	84.5	72.4	90.5	23.7	3	84.6		55.0	2
219	5	67.5	76.9	66.3	82.2	15.3	3	71.0	79.2	68.0	85.7	16.1	3	72.0	78.6	65.0	85.7	19.8	3	73.0	80.5	70.0	83.8	26.1	1	68.8	84.2	72.1	88.9	33.1	2	88.5		64.0	2
220	5	66.2	77.8	66.3	82.1	12.4	2	64.0	77.2	67.0	84.7	14.9	2	65.0	82.9	66.0	88.0	20.1	2	70.0	81.5	67.0	85.3	30.1	2	68.7	86.0	69.8	90.0	36.0	2	86.9		60.0	2
221	5	68.3	76.4	66.5	82.2	8.4	1	70.0	81.9	63.0	86.1	10.6	3	68.0	79.9	62.0	86.5	15.3	2	69.0	79.4	65.0	83.5	23.7	2	67.5	82.0	66.7	85.7	31.0	2	84.5		55.0	2
222	5	66.5	71.8	63.1	78.8	10.8	0	65.0	74.5	64.0	80.7	12.8	1	64.0	76.2	66.0	82.5	17.3	2	64.0	76.7	67.0	80.4	24.9	1	70.5	80.9	72.2	87.3	29.7	1				
223	5	67.1	78.4	68.3	84.1	11.4	3	72.0	79.0	67.0	86.3	13.3	3	71.0	80.0	67.0	85.6	16.4	1	70.0	80.9	75.0	84.4	21.3	0	68.8	85.2	77.8	92.4	27.6	3	85.9		58.0	2
224	5	67.8	78.1	68.1	83.4	12.4	2	66.0	77.9	70.0	85.4	14.4	1	63.0	80.8	74.0	86.6	18.5	3	80.0	82.9	72.0	86.5	26.3	3	72.6	84.5	70.4	88.7	33.6	3	86.9		59.0	2
225	5	67.2	75.6	66.6	81.9	11.8	1	71.0	77.5	63.0	84.2	13.3	3	71.0	78.2	69.0		18.9	3	65.0	78.7	65.0	82.9	27.0	2	68.2	82.2	70.4	87.2	32.8	2				
226	5	65.6	77.2	66.9	82.1	11.0	2	65.0	79.2	67.0	84.7	12.1	2	65.0	79.8	66.0	85.6	17.4	3	70.0	77.5	76.0	84.0	25.7	3	71.2	83.0	70.6	89.6	30.3	3	86.3		58.0	2
227	5	62.2	72.6	63.1	79.3	11.0	1	65.0	75.0	64.0	81.7	12.3	2	64.0	76.2	70.0	83.3	16.1	1	65.0	79.2	75.0	84.3	22.2	3	74.6	81.0	77.4	82.7	30.2	3				
228	5	72.2	75.8	66.8	82.0	14.5	0	74.0	76.2	67.0	83.2	15.9	3	72.0	78.5	67.0	84.9	20.2	3	71.0	77.9	67.0	82.0	27.9	3	74.0	82.2	74.2	87.6	30.3	3				
229	5	65.5	74.4	67.2	80.4	10.8	3	67.0	75.4	64.0	81.7	12.1	3	67.0	74.8	67.0	82.4	16.8	3	66.0	75.3	67.0	79.5	22.4	3	63.1	78.5	68.8	85.2	25.9	1	84.5		55.0	2
230	5	66.5	76.1	63.1	80.8	11.7	1	66.0	75.3	64.0	82.9	12.7	1	64.0	78.1	63.0	84.2	13.4	2	64.0		74.0		19.4	0	67.4	81.6	70.0	88.5	27.2	2	83.1		56.0	2

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN1208R.WB1

Table A8 – Site IF-FL-1, 02-03-95

		Location 1: 100 ft from start						Location 2: 200 ft from start						Location 3: 400 ft from start						Location 4: 600 ft from start						Location 5: 1000 ft from start					
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET
2	3	62.0	76.2	66.0	82.6	12.3	2	61.0	77.6	55.0	96.2	18.2	2	67.0	80.6	65.0	82.6	30.6	2	65.2	79.0	70.6	82.7	25.5	1	62.0	75.5	54.0	79.5	26.7	2
3	2	60.0	68.6	67.0	72.6	15.7	0	58.0	72.1	59.0	87.7	23.3	2					31.5		58.2	72.8	61.5	77.8	42.8	2	63.0	75.6	61.0	76.8	43.4	2
4	2		70.4	66.0	73.4	18.2	3	61.0	73.9	58.0	87.0	26.2	2	69.0		62.0		34.1		67.6	72.7	67.1	78.4	49.0	0	61.0	71.9	62.0	67.9	51.6	1
5	4	56.0	69.5	67.0	73.6	10.4	0	56.0	76.0	66.0	94.5	17.0	2	64.0	85.7	70.0	84.4	24.4	2	50.1	78.4	73.1	80.3	37.3	0	60.0	76.5	56.0	77.9	40.7	2
6	3	61.0	77.7	76.0	81.8	9.6	0	55.0	80.2	64.0	97.4	16.2	2	59.0	81.2	73.0	84.8	23.5	1	59.0	78.4	66.5	82.8	33.6	2	58.0	79.0	64.0	79.9	33.7	2
8	3	61.0	74.3	71.0	79.4	11.2	0	66.0	76.4	65.0	93.0	19.0	2	67.0	77.4	67.0	80.4	25.9	2	61.5	74.3	68.1	81.1	34.8	1	56.0	75.8	60.0	79.0	36.9	2
10	3	62.0	77.4	77.0	81.8	14.8	0	66.0	80.6	64.0	95.9	21.4	2	68.0	80.0	74.0	83.7	31.0	0	73.1	77.8	68.1	82.7	40.5	1	56.0	80.3	63.0	81.9	43.5	2
11	2	63.0	78.9	72.0	82.6	18.5	1	68.0	80.6	60.0	94.8	24.8	2	67.0	81.0	76.0	83.9	33.6	0	57.6	79.3	71.1	83.1	49.0	1	61.0	80.5	58.0	81.4	47.3	2
12	2	59.0	66.6	61.0	66.2	12.3	0	61.0	67.9	66.0	84.5	17.5	0	60.0	70.9	67.0	76.1	22.7	0	61.7	70.6	64.9	78.0	34.0	1	56.0	73.3	53.0	77.0	35.4	2
13	2	54.0	74.0	62.0	78.4	17.1	2	51.0	78.0	63.0	89.8	28.2	2	62.0	77.5	71.0	81.0	34.2	1	57.8	80.0	68.2	82.8	41.5	2	50.0	76.5	64.0	78.5	44.3	2
15	3	62.0	77.8	67.0	83.5	11.1	2	63.0	76.9	62.0	93.6	16.2	2	64.0	81.7	63.0	86.0	22.5	2	66.1	82.3	70.0	87.3	28.5	2	66.0	79.5	60.0	82.4	31.9	2
16	3		76.0	75.0	82.3	10.6	3	58.0	79.3	60.0	94.1	18.3	2	60.0	79.6	71.0	83.1	26.9	1	69.2	79.2	69.0	82.6	39.5	2	56.0	79.9	60.0	82.6	42.2	2
18	2	57.0	74.1	72.0	78.3	15.8	0	58.0	78.4	60.0	90.2	23.3	2	61.0	77.2	67.0	79.9	34.5	2	64.0	73.5	58.4	76.8	48.5	1	47.0	74.2	59.0	76.3	48.0	2
19	2	59.0	60.1	62.0	75.8	14.3	2	52.0	59.0	55.0	59.7	21.9	0	63.0	77.0	65.0	80.6	28.9	2	53.1	78.1	69.8	88.0	45.8	1	61.0	75.5	59.0	78.1	45.2	2
20	2	50.0	65.2	57.0	71.2	12.6	1	57.0	69.8	61.0	85.8	18.3	1	60.0	72.2	66.0	76.6	23.5	1	54.5	71.9	65.2	78.3	33.2	1	60.0	71.6	61.0	75.5	32.7	2
21	2	62.0	73.5	60.0	79.7	14.0	2	64.0	74.3	58.0	90.8	22.8	2	60.0	78.1	64.0	79.7	31.2	2	55.4	73.9	62.0	79.4	38.8	2	55.0	75.5	55.0	76.4	48.6	2
22	3	56.0		63.0		10.6	3	64.0	73.2	63.0	77.2	16.4	1	58.0	69.3	60.0	78.9	22.2	1	57.7	76.0	68.1	82.2	30.4	1	54.0	76.9	61.0	80.5	35.4	2
23	2	61.0	68.8	57.0	73.1	19.4	1	60.0	72.9	57.0	74.4	29.3	2	60.0	73.3	60.0	76.0	34.7	2	52.5	72.7	61.7	77.6	56.8	2	51.0	73.8	49.0	75.0	61.2	2
24	3	59.0	76.0	66.0	80.7	12.3	1	62.0	78.8	64.0	93.0	15.2	2	69.0	78.7	68.0	82.2	24.8	1	48.8	77.6	70.3	82.1	41.6	1	50.0	77.5	61.0	80.0	39.8	2
25	2	64.0	71.6	62.0	77.0	20.2	1	65.0	74.4	62.0	85.8	30.6	1	64.0	75.5	66.0	78.3	35.9	1	62.8	72.3	65.9	79.4	44.7	1	61.0	73.8	64.0	75.6	54.5	1
26	2	56.0	74.1	62.0	77.8	12.2	2	64.0	76.2	58.0	90.9	18.2	2	62.0	76.5	66.0	80.2	24.6	2	56.3	77.8	70.1	81.2	30.6	1	55.0	75.2	59.0	79.0	34.8	2
27	2	57.0	76.9	63.0	80.9	16.7	2	64.0	76.1	63.0	90.7	26.3	2	61.0	77.3	68.0	81.1	32.5	1	50.2	74.8	69.8	79.3	39.5	0	58.0	57.9	62.0	77.7	42.8	3
28	1	56.0	64.1	57.0	68.0	21.1	1	57.0	68.0	54.0	79.5	30.9	2	60.0	69.4	58.0	70.8	39.7	2	53.2	69.8	56.3	72.2	52.2	2					57.7	
29	2	54.0	73.4	71.0	79.5	16.6	0	65.0	76.5	69.0	89.2	23.9	1	68.0	75.7	69.0	80.4	29.6	1	65.0	75.6	70.0	81.6	42.4	0	65.0	78.6	62.0	78.6	47.6	2
30	2	57.0	79.1	67.0	84.1	13.2	2	62.0	83.8	67.0	98.8	20.0	2	64.0	85.6	74.0	90.2	27.9	2	49.0	83.3	76.2	87.5	37.8	1	62.0	82.7	69.0	85.3	41.1	2
31	3	59.0	79.8	69.0	85.1	12.3	2	55.0	80.5	59.0	96.7	16.6	2	61.0	80.7	69.0	85.0	26.1	2	65.9	79.9	65.2	84.0	35.5	2	55.0	80.8	61.0	82.8	37.6	2
33	1	58.0	63.6	61.0	64.6	23.9	0	56.0	68.8	54.0	80.9	32.3	2	56.0	72.9	61.0	75.2	86.1	2	56.1	70.9	59.1	75.7	74.1	2	60.0	71.3	63.0	72.5	42.3	1
34	2	62.0	74.5	64.0	77.8	17.9	2	64.0	76.5	61.0	91.3	25.2	2	63.0	76.6	64.0	80.1	31.4	2	69.1	73.4	66.2	80.5	36.8	0	61.0	72.3	53.0	69.1	49.1	2
35	2	66.0	77.4	70.0	79.5	13.7	1	64.0	79.7	62.0	94.6	21.6	2					31.3		61.2	78.8	72.5	88.4	40.8	1	67.0	79.2	68.0	81.2	46.4	2
36	3	62.0	78.8	65.0	78.2	13.3	2	59.0	78.7	64.0	94.0	20.3	2	65.0	81.6	66.0	84.2	28.6	2	73.3	79.5	72.1	86.0	36.5	1	68.0	79.9	58.0	82.3	43.4	2
37	2	55.0	69.8	56.0	75.1	14.4	2	50.0	73.3	56.0	87.1	21.9	2	55.0	73.1	65.0	77.9	39.6	1	54.1	72.0	64.2	76.9	32.3	1	57.0	73.1	53.0	76.0	29.4	2
38	3	60.0	82.5	69.0	87.6	10.5	2	55.0	82.6	66.0	100.2	16.7	2	61.0	83.8	65.0	88.6	25.7	2	60.2	81.1	74.2	86.3	35.0	1	59.0	83.1	57.0	86.9	37.0	2
41	2	69.0	72.5	64.0	77.4	16.2	0					25.4		65.0	75.1	64.0	78.4	34.9	2	62.5	74.7	67.6	82.5	44.7	1	69.0	73.2	60.0	75.8	47.0	0
42	2	59.0	64.4	64.0	67.6	20.8	0	56.0	68.4	62.0	79.5	30.4	1	59.0	70.1	62.0	73.6	38.7	1	54.8	70.1	61.3	74.8	45.9	1	51.0	72.3	62.0	72.6	52.5	2
43	2	54.0	77.3	62.0	81.5	15.4	2	54.0	74.9	56.0		23.8	2	56.0	70.9	64.0	84.0	31.4	1	50.7	77.5	71.5	80.3	40.0	0	53.0	79.9	61.0	81.6	42.9	2
44	2	63.0	66.5	55.0	70.1	19.6	0	52.0	60.7	57.0	65.1	29.0	0	62.0		63.0		37.2		67.2	82.7	64.0	86.2	41.4	2	63.0	72.6	62.0	75.5	51.0	1
45	3	62.0	86.3	74.0	90.5	8.3	2	61.0	86.8	62.0	105.4	15.9	2	62.0	88.7	72.0	91.6	24.7	2	56.1	91.4	77.6	91.2	31.3	2	60.0	91.6	63.0	91.2	40.2	2
46	2	58.0	86.3	60.0	90.8	14.6	2	57.0	76.4	58.0	92.7	22.3	2	63.0	76.6	70.0	79.7	31.3	1	63.4	74.1	66.4	79.1	50.0	1	65.0	74.5	56.0	77.0	51.2	1
47	2	57.0	76.9	63.0	82.3	16.5	2	61.0	77.8	60.0	93.4	25.5	2	60.0	77.9	67.0	81.9	34.4	2	58.3	78.3	67.1	86.7	42.7	2	54.0	78.6	64.0	81.1	49.2	2
48	2	59.0	72.5	61.0	78.9	8.4	2	59.0	73.6	66.0	97.1	14.4	1	61.0	76.5	70.0	82.4	20.9	1	68.7	75.1	69.5	82.2	28.5	0	61.0	74.6	57.0	77.3	33.1	2
49	2	63.0	75.1	61.0	79.2	14.2	2	61.0	74.3	62.0	91.0	22.2	2					29.1		67.0	73.7	64.5	78.9	39.0	1	55.0	74.2	64.0	76.5	44.3	2
50	3	64.0	80.8	70.0	84.9	12.0	2	65.0	81.8	62.0	99.2	17.8	2	62.0	81.2	68.0	86.4	24.6	2	70.1	84.1	75.0	86.5	31.9	1	61.0	81.5	62.0	84.3	36.3	2
51	3	61.0	76.1	68.0	79.8	13.8	1	61.0	76.9	59.0	92.0	21.3	2	63.0	76.4	68.0	81.4	26.8	1	65.7	74.1	69.0	78.8	34.7	1	52.0	74.6	55.0	77.1	39.1	2

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN417NB.WB1

Table A8 -- Site IF-FL-1, 02-03-95

		Location 1: 100 ft from start						Location 2: 200 ft from start						Location 3: 400 ft from start						Location 4: 800 ft from start						Location 5: 1000 ft from start					
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET
52	2		67.8	63.0	72.4	17.7	3	63.0	69.0	60.0	84.0	26.4	0	61.0	71.4	69.0	75.3	33.5	0	64.1	78.9	69.7	82.9	45.0	1	63.0	71.1	65.0	73.9	49.6	1
53	3	62.0	78.1	63.0	81.9	12.8	2	62.0	77.6	61.0	92.6	20.1	2	65.0	79.3	67.0	82.7	28.3	2	65.3	77.8	70.0	81.6	35.7	1	59.0	77.9	60.0	81.0	38.5	2
54	2	63.0	67.2	59.0	71.9	21.5	0	64.0	66.5	58.0	82.1	28.3	0	68.0	79.0	71.0		33.1	1	57.8	80.9	61.9	85.0	45.5	2	66.0	69.9	60.0	72.2	51.7	1
55	3	54.0	78.4	58.0	81.9	13.3	2	65.0	79.9	61.0	92.4	19.7	2	64.0	78.0	65.0	81.9	28.7	2	54.5	76.3	71.2	79.8	37.2	0	65.0	77.9	60.0	79.7	41.4	2
56	3	64.0	78.3	66.0	84.7	11.0	2	58.0	79.0	54.0	98.3	16.2	2	57.0	61.4	65.0	85.9	22.6	2	67.0	78.8	70.8	83.1	33.5	1	50.0	80.9	54.0	82.9	36.2	2
59	2	59.0	64.8	56.0	69.5	18.6	0	61.0	68.4	57.0	81.6	28.0	1	62.0	69.4	62.0	74.5	34.3	1	65.9	74.3	62.5	78.7	40.8	1	55.0	70.0	51.0	72.0	44.3	2
60	3	60.0	79.2	63.0	83.8	13.9	2	65.0	78.6	61.0	94.4	19.4	2	58.0	82.5	67.0	84.1	27.7	2	62.1	79.3	73.1	83.4	40.7	1	53.0	81.9	55.0	83.3	45.7	2
61	3					13.2		59.0	76.4	71.0		21.2	0	62.0	77.2	72.0	81.9	29.4	0	62.9	76.8	72.7	83.4	40.5	0					42.1	
62	2	63.0	68.8	61.0	72.6	13.5	0					20.3		61.0	69.7	61.0	80.7	27.2	1					32.6						21.4	
63	2	59.0	68.0	62.0	72.4	15.6	0	61.0	68.2	62.0	81.8	24.3	1	72.0	77.9	77.0	82.0	32.4	0	69.7	75.4	64.3	82.0	38.6	0	62.0	70.3	63.0	71.1	42.4	1
64	3					15.6		61.0		65.0		23.4		65.0	81.8	68.0	84.6	31.2	2	65.1	81.4	72.2	86.2	39.9	1	57.0	82.0	61.0	83.3	45.8	2
65	2	58.0	71.7	62.0	77.0	20.1	1	64.0	75.3	69.0	84.2	30.0	1	59.0	76.2	71.0	79.6	32.7	0	58.1	72.9	66.1	81.9	43.2	1	59.0	74.2	60.0	75.3	45.5	2
66	2	60.0	67.6	62.0	73.6	16.7	0	64.0	77.1	64.0	86.6	24.5	2	66.0	76.4	70.0	77.3	33.7	1	62.6	83.1	62.4	82.4	47.2	2	59.0	73.6	58.0	75.2	52.7	2
67	3	61.0	79.7	66.0	82.3	14.2	2	61.0	80.8	65.0	94.0	19.6	2	59.0	81.9	70.0	84.4	26.6	2	68.2	82.1	73.3	81.7	42.9	1	60.0	79.6	69.0	81.9	45.5	2
68	2	61.0	72.9	66.0	75.4	13.6	1	59.0	75.4	72.0	79.6	22.6	0	61.0	73.5	74.0	78.5	30.2	3	55.4	74.9	74.1	79.1	39.0	0	55.0	73.6	70.0	76.4	44.3	0
69	2	59.0	71.1	65.0	77.7	14.3	1	59.0	65.4	62.0		22.6	0	58.0	74.4	59.0	78.2	31.4	2	61.2	75.9	70.2	78.8	36.0	0	62.0	77.3	66.0	78.3	48.2	2
70	2	64.0	78.3	67.0	81.9	14.3	2	65.0	79.3	65.0	94.3	22.4	2	70.0	82.1	69.0	83.7	30.8	2	81.4	80.8	72.0	84.2	38.7	1	61.0	77.9	70.0	78.7	41.5	1
71	4	64.0	88.1	71.0	87.9	31.7	2	73.0	91.3	68.0	100.5	45.0	2					50.4		65.5	83.7	73.1	85.5	64.6	2	66.0	86.1	65.0	86.0	64.3	2
72	3	62.0	75.7	60.0	81.0	12.0	2	61.0	76.3	62.0	91.7	16.9	2	61.0	77.7	65.0	82.2	23.9	2	64.6	75.1	66.3	81.3	35.2	1	62.0	77.0	61.0	79.1	39.1	2
73	2	62.0	76.5	66.0	81.6	16.6	2	61.0	78.1	67.0	92.9	28.1	2	65.0	79.3	68.0	82.6	38.1	2	61.3	78.0	69.1	81.4	42.4	1	60.0	75.8	63.0	77.2	44.6	2
74	3	61.0	74.3	64.0	81.3	9.1	2	65.0	74.6	63.0	92.1	14.0	1	62.0	76.1	65.0	82.3	18.7	2	51.8	72.9	69.6	80.3	25.3	0	61.0	80.6	67.0	82.5	27.9	2
75	2	59.0	72.0	61.0	75.2	19.5	2	60.0	75.8	63.0	87.4	27.3	2	70.0	74.2	68.0	74.7	36.4	1	63.2	76.1	66.4	79.7	44.9	1	52.0	73.7	61.0	75.0	51.9	2

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN417NB.WB1

Table A9 -- Site IF-FL-2, 02-02-95

		Location 1: 100 ft from start						Location 2: 200 ft from start						Location 3: 400 ft from start						Location 4: 800 ft from start						Location 5: 1000 ft from start					
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET
200	3					13.6		60.0	80.1	61.0	83.3	19.4	2					26.9		62.2	78.7	64.7	81.8	37.2	2					42.9	
202	1					24.3		60.0	71.5	60.0	76.0	33.2	2					47.8		60.2	71.5	70.3	73.5	51.4	0	60.0	72.0	65.0	73.7	53.2	1
203	3					13.1		66.0	80.7	67.0	87.7	19.4	2					21.4		65.7	80.8	80.6	85.8	32.4	0	67.0	81.2	72.0	85.9	32.7	1
204	2					13.7		56.0	77.4	69.0	82.1	20.8	1					29.9		62.5	78.4	69.8	80.1	36.5	1	56.0		67.0		52.3	3
205	1					18.3		55.0	68.0	55.0	72.0	24.8	2					33.6		61.7	67.3	58.9	69.8	44.8	0	57.0	67.1	62.0	69.4	46.4	0
206	2					16.6		62.0	76.7	63.0	80.3	24.1	2					31.5		57.0	76.2	66.4	79.4	45.8	1	64.0	75.7	65.0	78.5	43.4	2
207	2					15.8		57.0	77.5	67.0	82.6	23.4	2					33.0		53.1	75.1	70.9	78.5	49.4	0	60.0	74.2	66.0	76.6	46.4	1
208	3					15.2		66.0	82.0	66.0	85.2	20.3	2					28.0		67.1	80.5	69.2	84.0	42.6	2	67.0	77.9	69.0	80.0	41.9	1
209	3					10.2		60.0	77.2	61.0	80.9	15.4	2					20.9		67.9	80.5	69.2	87.6	33.1	2	58.0	75.6	69.0	85.3	31.5	1
211	3					11.5		57.0	76.5	62.0	79.7	17.9	2					26.9		56.2	80.5	78.8	84.0	34.1	0	62.0	76.1	68.0	79.9	32.5	1
212	3					8.9		69.0	80.2	69.0	83.8	14.7	2					36.3		57.9	75.2	71.2	82.0	48.7	0	57.0	77.4	69.0	80.7	49.3	1
213	2					19.2		68.0	80.3	65.0	84.6	27.4	2					34.9		58.9	79.5	72.2	83.9	38.8	1	68.0	79.8	68.0	83.6	37.4	2
214	3					17.4		64.0	80.5	63.0	84.4	25.7	2					32.9		62.2	80.7	73.3	84.8	38.2	1	68.0	81.4	65.0	83.6	36.7	2
215	3					13.9		57.0	80.2	74.0	85.6	20.0	2					24.7		58.8	82.7	74.1	85.2	36.9	1	68.0	80.6	66.0	83.4	39.1	2
216	3					19.8		67.0	81.0	66.0	85.5	22.7	2					26.4		62.1	82.7	74.2	86.5	36.5	1	66.0	80.1	66.0	83.0	39.4	2
217	3					13.5		62.0	75.9	62.0	81.0	18.8	2					31.8		61.2	77.5	64.2	80.6	44.3	2	55.0	77.4	60.0	80.4	49.6	2
218	3					11.2		62.0	77.4	66.0	82.9	15.6	2					20.6		58.2	77.2	71.2	85.2	32.5	1	67.0	78.0	68.0	84.8	36.8	1
219	1					29.7		60.0	67.1	59.0	71.6	26.3	1					36.8		59.2	71.8	66.0	77.5	51.9	0	58.0	69.1	61.0	72.8	51.2	1
220	3					12.4		63.0	78.1	61.0	83.4	16.2	2					26.3		62.3	75.6	69.2	81.4	39.9	1	58.0	76.6	63.0	80.4	37.9	2
222	3					15.9		60.0	80.8	65.0	84.8	24.6	2					29.4		55.1	79.0	71.2	83.6	42.6	1	62.0	80.1	61.0	83.8	39.9	2
223	2					14.1		60.0	77.6	67.0	81.6	21.5	2					30.0		56.1	75.3	69.1	79.6	45.5	1	55.0	75.0	70.0	79.2	44.2	0
225	2					15.3		66.0	84.9	62.0	83.8	22.5	2					27.1		54.6	85.6	76.1	89.1	40.5	1	61.0	78.6	64.0	82.5	39.8	2
226	3					12.5		69.0	82.6	69.0	87.5	19.6	2					30.1		62.3	88.2	80.7	90.5	35.2	1	73.0	84.6	73.0	87.6	36.5	2
227	2					12.0		58.0	72.9	63.0	79.6	19.4	1					26.3		51.2	88.2	68.2	90.6	40.3	2	55.0	74.3	69.0	77.6	39.1	0
228	3					10.4		62.0	78.9	65.0	83.9	15.9	2					24.5		65.1	78.1	69.4	80.6	35.0	1	57.0	78.1	62.0	81.1	37.6	2
229	3					9.0		59.0	84.9	68.0	91.1	13.7	2					19.0		59.0	91.3	68.2	94.2	29.2	0	68.0	89.2	74.0	92.6	31.4	2
230	2					16.2		57.0	72.0	59.0	76.8	22.8	2					27.1		61.2	72.5	67.2	77.3	37.5	0	57.0	72.8	64.0	75.9	36.1	1
231	3					16.7		56.0	78.1	61.0	83.0	23.5	2					29.6		65.6	77.4	71.1	82.7	45.7	0	55.0	78.2	62.0	80.9	45.2	2
232	3					13.1		57.0	65.6	67.0	91.4	19.2	2					25.0		66.2	84.8	80.2	88.7	38.8	0	64.0	84.9	63.0	88.4	37.1	2
233	2					17.1		64.0	77.1	63.0	81.5	24.8	2					34.3		65.2	75.8	72.2	80.3	46.2	0	59.0	75.5	62.0	78.4	49.3	2
234	3					11.1		61.0	80.6	69.0	85.0	16.2	2					23.8		53.6	78.3	73.1	82.5	37.0	0	63.0	77.5	63.0	81.8	35.5	2
235	3					15.3		57.0	77.9	62.0	81.4	22.8	2					30.0		61.2	78.1	74.6	81.2	42.0	0	63.0	76.6	62.0	79.0	43.2	2
236	2					17.7		66.0	73.4	61.0	78.5	23.1	1					33.0		58.2	74.2	69.2	77.9	41.5	0	58.0	75.0	60.0	77.4	42.0	2
237	3					13.9		60.0	77.8	69.0	83.0	20.4	1					27.9		54.2	77.9	74.2	81.6	43.8	0	60.0	77.9	62.0	81.0	44.0	2
239	1					25.4		59.0	65.1	48.0	66.9	27.4	1					38.4		45.2	67.3	54.1	69.0	50.7	2					54.6	
240	3					14.2		60.0	79.7	60.0	83.9	16.7	2					24.1		66.2	77.2	72.0	82.0	33.1	0	57.0	76.3	69.0	80.4	34.5	1
241	2					19.3		63.0	74.6	53.0	76.9	27.4	2					41.8		68.5		62.5		53.0						51.3	
242	3					31.0		62.0	73.8	64.0	80.6	26.1	1					21.6		51.4	78.0	78.2	82.3	38.2	2	58.0	76.1	68.0	81.4	38.6	2
243	3					13.8		65.0	76.5	62.0	81.0	20.0	2					28.2		62.0	77.3	72.3	80.3	37.4	0	67.0	77.7	74.0	80.7	37.4	0
245	2					15.3		58.0	73.4	66.0	77.6	23.8	0					32.6		52.9	73.6	66.6	76.8	44.6	1	52.0	74.1	65.0	77.5	43.6	1
246	3					14.4		64.0	77.0	60.0	82.7	20.4	2					28.2		64.6	78.9	74.2	83.1	37.8	0	65.0	77.6	64.0	80.3	38.8	2
248	2					13.1		60.0	81.6	75.0	87.4	19.3	1					24.2		59.1	82.6	76.5	85.6	28.0	1	64.0	81.9	69.0	85.6	28.2	2
249	3					14.4		60.0	80.6	62.0	84.3	21.2	2					33.6		52.1	80.0	64.2	82.4	43.7	2	63.0	79.4	65.0	81.2	44.7	2

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN417SB.WB1

Table A9 -- Site IF-FL-2, 02-02-95

		Location 1: 100 ft from start						Location 2: 200 ft from start						Location 3: 400 ft from start						Location 4: 800 ft from start						Location 5: 1000 ft from start					
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET
250	2	64.0	72.1	58.0		33.8	1	57.0	76.1	60.0	78.1	24.3	2					32.7		51.3	72.0	65.6	76.5	38.3	1	57.0	72.1	56.0	75.3	44.7	2
251	2	56.0	66.0	63.0	84.6	9.7	0	54.0	68.2	57.0	74.9	15.7	2					23.2		55.9	73.9	64.9	79.1	32.4	1	60.0	81.1	62.0		33.1	2
253	3	61.0	81.1	64.0	98.5	13.2	2	61.0	78.7	60.0	84.4	17.9	2					26.2		67.4	77.1	67.7	83.2	39.2	1	62.0	74.2	66.0	73.8	38.8	1
254	3	62.0	80.1	66.0	95.4	13.6	2	61.0	80.5	60.0	85.5	19.4	2					27.6		63.4	80.2	66.5	83.6	35.5	2	61.0	78.5	63.0	79.8	37.0	2
255	2					19.7		57.0	68.4	57.0	74.6	22.9	2					32.8		58.1	70.1	66.7	75.1	48.0	0	59.0	83.9	60.0	76.0	46.8	2
260	3	70.0	79.3	61.0	85.2	16.6	1	61.0	77.6	70.0	79.8	25.7	1	52.0	79.9	60.0	82.1	29.0	2	65.5	77.3	65.4	87.3	39.6	2	63.0	78.5	65.0	78.3	37.5	2
261	3					14.2		64.0	78.8	72.0	81.9	20.5	1					27.7		55.8	78.1	76.1	80.3	39.2	3	60.0	78.0	68.0	80.7	41.7	1
263	1	58.0	70.8	54.0	75.4	25.1	2	56.0	66.7	62.0	69.7	36.8	0					42.5		53.1	68.7	62.1	72.9	43.3	1	55.0	69.9	61.0	72.5	43.3	1
264	3	67.0	79.8	63.0	87.1	21.1	2	66.0	77.9	72.0	81.8	29.3	0					27.5		55.5	81.5	77.2	84.9	36.3	0	63.0	83.0	70.0	85.7	37.4	2
265	3					11.4		60.0	80.1	63.0	83.0	15.0	2					14.2		66.1	81.6	72.3	87.3	21.3	1	76.0	79.4	74.0	85.4	25.8	0
266	3	72.0	78.7	62.0	83.5	18.7	1	68.0	78.3	72.0	82.6	28.7	1	61.0	78.6	65.0	79.3	29.7	2	63.8	76.5	68.1	81.8	45.5	1	65.0	78.4	65.0	77.4	44.4	2
267	2	67.0	81.5	74.0	84.8	16.9	1	67.0	79.4	71.0	82.6	24.3	1	57.0	81.6	63.0	84.2	25.7	2	68.1	74.8	71.1	80.3	33.8	0	61.0	75.7	68.0	80.1	34.6	1
268	3	68.0	76.5	72.0	82.5	25.7	1	63.0	78.8	65.0	81.1	39.5	2	55.0	81.7	61.0	84.1	32.9	2	54.1	77.1	69.1	80.0	44.4	1	57.0	77.9	70.0	80.9	43.9	1
269	3	65.0	75.7	72.0	82.3	14.9	0	63.0	77.6	71.0	79.6	20.1	1	61.0	79.1	63.0	83.4	24.2	2	69.9	80.8	67.1	84.1	34.5	2	62.0	76.8	65.0	80.4	37.0	2
271	2	71.0	75.2	72.0	80.6	30.6	0	61.0	75.7	63.0	78.6	43.9	2	57.0	75.7	59.0	78.1	34.0	2	52.6	74.1	66.4	78.7	42.1	1	66.0	74.8	63.0	78.7	42.6	1
272	2	68.0	73.4	67.0	80.5	12.3	0	64.0	76.3	65.0	80.8	18.5	2	58.0	76.8	59.0	81.8	20.4	2	59.2	75.2	73.1	81.5	27.0	0	62.0	76.8	65.0	81.3	28.3	2
273	1					31.1						40.0		54.0	67.6	58.0	69.3	41.5	2	54.1	75.4	62.2	82.4	44.4	2	61.0		61.0		47.1	3
275	3					11.8		54.0	83.4	64.0	86.6	14.0	2	74.0	80.5	80.0	85.6	23.9	0	68.1	80.1	75.1	84.7	39.7	0	62.0	81.8	72.0	85.2	41.1	1
276	3	67.0	75.3	68.0	81.8	9.0	1	56.0	76.8	60.0	84.0	13.8	2	57.0	73.7	68.0	81.4	18.7	0	58.1	75.6	73.1	82.4	26.3	0	65.0	76.3	65.0	81.2	27.9	2
280	2	62.0	75.8	73.0	79.8	13.1	0	57.0	80.2	58.0	81.3	18.1	2					21.6		58.0	73.9	70.4	79.1	33.8	0	61.0	74.9	65.0	78.9	33.0	1
281	3	67.0	79.0	67.0	82.7	13.8	2	62.0	76.5	60.0	80.3	18.3	2	55.0	74.1	64.0	79.6	24.2	1	53.4	77.5	68.8	81.4	39.0	1	67.0	72.0	63.0	77.3	38.6	0
282	3	69.0	77.1	73.0	82.7	17.9	0	62.0	77.7	64.0	79.4	26.3	2	62.0	78.2	77.0	80.4	31.3	2	58.3	78.0	72.2	81.2	43.7	1	62.0	82.0	65.0	82.2	45.9	2
283	3	69.0	85.5	80.0	90.6	14.4	0	66.0	84.8	68.0	89.4	19.8	2					23.8		69.2	84.2	77.7	89.9	33.0	1	66.0	84.8	71.0	88.4	35.2	2
284	3	73.0		69.0		14.9		60.0	70.9	61.0		21.3	1	55.0	78.6	74.0	80.7	24.7	0	64.1	79.0	70.1	82.8	39.7	1	55.0	78.8	61.0	81.4	41.5	2
286	4	69.0	74.0	68.0	77.0	21.8	0	64.0	73.8	59.0	76.8	30.3	1					34.7		68.1	73.4	64.5	80.5	45.7	0	62.0	72.3	62.0	74.5	47.7	2
287	3	65.0	78.1	72.0	82.5	12.8	0	60.0	76.9	59.0	82.1	19.0	2	58.0	76.4	61.0	81.9	21.4	2	71.5	76.2	71.2	82.2	34.3	0	63.0	78.6	63.0	80.1	36.4	2
288	2	63.0	71.7	66.0	78.6	14.2	0	60.0	73.1	57.0	77.6	20.1	2	57.0	71.4	65.0	78.5	24.5	0	62.9	71.4	66.7	80.1	28.4	0	57.0	71.5	62.0	75.5	33.0	1
289	2	66.0	77.3	75.0	82.9	17.3	0	59.0	79.7	64.0	81.1	12.7	2	62.0	75.7	66.0	81.2	25.7	1	58.5	75.8	69.1	82.1	32.3	1	67.0	75.8	69.0	78.5	36.3	1
290	4	69.0	77.1	71.0	82.5	14.6	0	70.0	76.6	66.0	80.9	21.3	1	68.0	76.1	68.0	84.6	20.5	1	58.1	77.1	72.4	84.4	29.9	0	66.0	74.3	65.0	79.0	32.0	1
291	3	64.0	83.2	76.0	87.7	12.1	1	61.0	87.6	59.0	89.6	18.6	2	60.0	83.3	65.0	87.5	26.3	2	59.1	82.0	76.1	86.4	35.4	0	67.0	82.5	66.0	85.6	37.9	2
293	3	70.0	93.5	78.0	88.6	22.0	2	61.0	86.2	61.0	85.4	32.4	2	68.0	79.2	69.0	84.0	26.4	1	59.4	77.8	76.1	82.4	34.2	0	65.0	81.8	66.0	84.0	36.3	2
294	3	69.0	78.0	72.0	83.1	19.4	0	66.0	77.5	59.0	81.6	26.4	2	67.0	79.5	65.0	82.6	26.1	2	57.1	77.6	70.2	82.7	38.3	1	65.0	78.0	64.0	79.7	36.6	2
295	3	65.0	78.3	69.0	80.2	13.4	1	62.0		58.0		21.1		64.0	76.5	63.0	81.1	27.7	2	65.5	75.4	66.7	80.8	33.7	1	60.0	74.9	62.0	79.0	37.7	2
298	3	70.0	77.2	71.0	82.4	18.3	0	69.0	77.5	62.0	80.4	26.6	1	70.0	87.5	71.0	92.6	32.1	2	65.9	75.4	68.7	81.8	42.6	1	65.0	75.5	63.0	79.2	44.7	2
297	2	65.0	68.9	66.0	73.9	16.2	0	62.0	68.7	63.0	73.0	24.1	0	63.0	71.0	66.0	78.4	28.6	0	61.9	79.2	70.1	81.1	33.5	1	60.0	73.4	67.0	76.7	36.1	1
299	3	67.0	77.6	71.0	81.7	16.5	1	64.0	76.6	63.0	80.9	24.1	2	61.0	74.3	70.0	79.2	29.9	0	60.7	79.2	72.8	81.2	38.0	1	61.0	75.7	64.0	78.7	41.9	2
299	2	67.0	70.5	67.0	71.5	14.4	0	64.0	74.2	60.0	76.6	21.7	2	66.0		66.0		30.8						37.2		71.0	72.3	65.0	76.4	37.4	0
300	2	66.0	69.9	66.0	73.7	11.4	0					23.0		60.0	72.3	64.0	78.1	41.0	1					37.2		57.0	76.5	60.0	74.7	35.7	2
302	2	73.0	81.1	71.0	84.0	17.2	1	63.0	76.2	58.0	79.7	24.4	2	62.0	72.4	66.0	76.6	31.8	0	62.7	80.8	65.1	84.7	43.4	2	61.0	75.7	64.0	78.1	47.7	2
303	2	65.0	74.1	66.0	76.4	14.7	0	61.0	73.1	62.0	77.6	22.8	2	63.0	72.1	64.0	79.0	31.4	1	62.5	74.4	64.7	81.3	41.1	1	66.0	69.9	63.0	74.9	41.0	0
304	3	77.0	81.6	70.0	84.8	13.0	0	63.0	77.8	63.0	81.9	21.6	2	62.0	76.8	71.0	81.5	29.3	0	59.5	78.6	74.8	81.8	40.4	2	60.0	77.3	66.0	80.1	39.5	2
305	3	69.0	77.8	70.0	81.9	12.1	1	64.0	78.3	63.0	82.5	17.8	2	61.0	76.6	67.0	82.3	23.9	1	66.7	77.1	73.2	82.3	33.5	0	62.0	77.0	71.0	80.9	34.3	0
306	2	65.0	71.5	66.0	75.2	17.2	0	60.0	70.5	61.0	75.9	24.7	2	66.0	71.0	66.0	76.8	27.9	0	67.7	79.6	69.7	84.1	37.8	2	58.0	74.4	62.0	77.6	38.6	2

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN417SB.WB1

Table A9 -- Site IF-FL-2, 02-02-95

		Location 1: 100 ft from start						Location 2: 200 ft from start						Location 3: 400 ft from start						Location 4: 800 ft from start						Location 5: 1000 ft from start					
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET
307	3					22.7		61.0	78.9	58.0	80.7	33.7	2	62.0	75.0	68.0	80.0	35.5	1			63.5		43.5		68.0	69.7	65.0	67.1	43.5	0
308	2					19.2		63.0	76.8	62.0	79.6	29.0	2	65.0	74.0	66.0	79.1	34.2	1	57.2	74.3	68.5	79.6	49.6	0	65.0	75.7	66.0	78.6	49.4	1
309	3	67.0	76.8	68.0	83.9	16.0	1	59.0	76.7	60.0	84.7	26.3	2	63.0	76.5	68.0	80.7	30.7	1	68.2	76.4	70.2	81.5	35.5	1	64.0	77.1	64.0	80.4	43.0	2

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN417SB.WB1

Table A10 -- Site IF-FL-2, 01-31-95

		Location 1: 100 ft from start						Location 2: 200 ft from start						Location 3: 400 ft from start						Location 4: 800 ft from start						Location 5: 1000 ft from start					
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET
1	3					15.3		69.0	77.5	64.0		20.7	1					22.1		53.6	74.1	60.2		33.9	2	60.0	77.6	70.0		37.1	1
4	2	70.0				18.7		62.0	77.8	57.0		28.0	2		74.2			32.7		54.2	78.3	67.7		48.2	2	64.0	76.4	68.0		47.6	1
5	1	64.0				22.7		55.0	68.7	54.0		29.6	2					39.4		54.4	73.3	65.5		55.4	1	57.0	69.3	65.0		57.7	0
6	1	61.2				20.7		56.0	67.8	55.0		26.8	2		68.7			35.1		59.7	72.3	64.9		47.0	1	59.0	70.6	68.0		46.2	0
9	3	78.9				13.7		62.0	81.4	63.0		16.9	2		76.3			23.6		57.0	83.4	72.1		38.7	2	64.0	79.3	67.0		39.6	2
10	1	63.5				14.5		61.0	68.6	57.0		17.3	0		66.1			23.4		48.8	79.3	69.1		41.1	2					39.5	
11	3	74.7				14.6		57.0	78.3	58.0		18.2	2		77.0			25.5		59.1	79.5	70.7		38.2	1	61.0	75.5	65.0		40.6	2
13	3	70.3				12.0		59.0	82.0	60.0		13.9	2		81.0			17.9		53.5	82.4	76.6		25.9	0	68.0	78.6	72.0		25.9	2
14	1	66.4				23.2		55.0	69.1	60.0		23.1	1		69.5			35.5		55.2	74.0	65.6		43.2	1	58.0	73.6	68.0		46.1	0
15	3	77.3				19.1		62.0	79.6	61.0		22.6	2		74.3			32.5						36.0		63.0	78.9	71.0		43.1	1
16	1	64.9				20.3		59.0	66.7	58.0		26.0	1		67.0			41.6		49.4	74.5	68.9		48.9	0	58.0	70.2	60.0		54.4	2
18	3	77.7				14.9		64.0	81.4	65.0		19.6	2		78.3			29.4		60.2	83.7	68.0		42.3	2	64.0	81.4	71.0		45.1	2
19	2	72.2				17.7		59.0	72.2	59.0		21.3	2		72.3			34.0		57.2	83.7	68.6		36.9	2	60.0	74.0	62.0		42.5	2
20	1	66.6				24.4		51.0	66.2	58.0		23.2	1		69.5			34.0		57.5	69.5	61.2		48.0	1	52.0	70.1	66.0		49.7	0
21	2	71.3				17.7		58.0	71.1	52.0		23.3	2		70.9			31.7		52.0	78.1	64.0		39.6	2	59.0	74.6	70.0		41.6	0
22	1	60.5				20.7		52.0	67.1	52.0		24.0	2		67.6			36.2		46.1	73.1	62.6		54.6	2	61.0	74.5	62.0		57.8	2
23	1	69.4				25.5		55.0	71.8	54.0		35.0	2		71.0			51.0		60.7	73.7	64.0		55.7	1	60.0	71.7	62.0		60.8	1
24	3	79.5				16.8		59.0	80.4	59.0		23.2	2		78.3			33.9		63.8	81.8	71.4		40.1	2	63.0	82.1	67.0		43.9	2
25	1	69.7				20.8		54.0	65.0	54.0		26.4	2		64.7			34.6		68.0	70.9	65.3		45.7	0	52.0	68.8	60.0		46.4	1
26	1	64.5				19.9		54.0	65.8	54.0		25.3	2		67.5			38.1		70.8	74.3	60.9		43.2	0	64.0	70.3	62.0		47.9	1
27	1	73.7				22.0		52.0	69.3	61.0		27.3	1		76.1			41.7		50.4	74.3	59.4		49.0	2	55.0	74.4	63.0		55.3	2
29	1	62.4				22.6		54.0	69.1	63.0		31.8	0		65.4			45.6		63.8	71.8	64.3		53.6	1	68.0	71.6	68.0		58.3	0
30	1	61.3				26.5		62.0	68.8	58.0		30.1	1		67.5			38.9		64.0	72.1	64.8		52.2	1	64.0	72.6	63.0		57.9	1
31	3	73.1				14.5		57.0	77.9	59.0		19.6	2		75.7			29.1		58.1	78.6	68.7		35.8	1	64.0	78.7	71.0		39.5	1
32	2	75.2				14.2		62.0	77.1	63.0		19.0	2		71.4			26.5		59.9	75.5	69.9		39.2	0	61.0	75.0	71.0		53.3	0
33	2	72.3				12.6		50.0	79.8	50.0		16.7	2		79.6			26.2		52.3	80.1	69.9		35.5	2	59.0	80.7	65.0		45.7	2
35	3	72.7				13.8		58.0	74.5	61.0		19.8	2		72.3			25.7		55.0	73.9	67.0		29.9	1	59.0	73.9	66.0		44.6	1
36	1	64.6				57.5		58.0	66.9	61.0		46.3	0		67.5			48.0		64.9	72.7	67.0		38.4	0	63.0	72.5	72.0		51.6	0
37	1	62.2				20.2		56.0	67.3	54.0		27.8	1		67.7			41.2		62.7	70.2	54.5		48.1	2	53.0	71.9	55.0		57.0	2
38	3	77.4				18.3		62.0	78.4	70.0		22.1	1		73.0			34.0		61.6	75.2	70.4		36.5	0	63.0	77.5	75.0		47.9	0
39	1	61.2				15.8		56.0	66.7	60.0		21.5	1		65.2			30.7		65.2	76.4	67.2		38.2	1	65.0	70.6	66.0		45.7	0
41	3	75.3				20.2		59.0	81.3	59.0		28.5	2		81.0			27.6		79.2	93.1	74.5		37.5	2	65.0	82.3	69.0		45.5	2
42	3	79.9				15.1		57.0	83.2	54.0		20.4	2		81.1			30.5		63.1	93.1	70.5		41.5	2	63.0	81.8	68.0		49.8	2
43	1	64.9				22.1		53.0	67.7	61.0		34.0	1		69.6			37.1		60.3	70.9	62.1		46.8	1	61.0	74.3	64.0		60.3	2
44	1	65.2				10.7		55.0	70.9	69.0		28.3	0		72.5			56.1		55.2	75.9	61.1		33.5	2	70.0	78.7	64.0		55.8	1
46	3	76.5				15.3		61.0	79.9	59.0		23.1	2		79.2			32.0		59.2	79.2	72.4		42.0	1	63.0	80.6	69.0		75.1	2
47	3	88.0				14.4		60.0	90.6	70.0		21.6	2		87.2			27.2		66.2	75.4	69.2		30.9	1	73.0	88.6	71.0		37.9	2
48	1	63.6				22.7		62.0	67.2	60.0		30.5	0		68.1			34.9		62.5	69.6	59.8		44.3	1	59.0	70.4	62.0		56.1	1
49	1	59.5				17.5		56.0	63.6	59.0		29.0	0		64.5			43.8		61.6	67.5	62.9		44.6	0	59.0	69.1	59.0		57.6	2
50	2	69.1				17.2		58.0	78.0	66.0		26.2	2		71.6			28.4		51.5	78.7	72.9		37.3	0	69.0	74.5	68.0		50.4	0
52	4	63.5				17.8		61.0	72.3	63.0		24.9	1		73.4			28.5		63.3	74.6	72.2		37.2	0	67.0	74.6	70.0		48.3	0
53	2	64.3				17.3		63.0	71.5	63.0		25.3	1		73.3			32.7		65.6	73.9	70.1		41.9	0	62.0	74.7	68.0		67.1	1
54	3	72.5				11.2		55.0	76.1	66.0		15.6	1		92.9			21.5		57.4	82.3	70.3		28.9	2	69.0	95.3	73.0		42.6	2

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN417S2.WB1

Table A10 -- Site IF-FL-2, 01-31-95

		Location 1: 100 ft from start						Location 2: 200 ft from start						Location 3: 400 ft from start						Location 4: 800 ft from start						Location 5: 1000 ft from start					
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET
55	1		63.0			20.5		59.0	65.4	59.0		29.4	0		66.0			41.9		65.2	69.2	61.6		47.0	0	65.0	70.6	61.0		66.8	0
56	1					23.5		59.0	74.7	67.0		35.2	1					48.2		59.8	75.0	69.7		50.8	1					67.2	3
57	3		75.0			10.0		58.0	79.0	66.0		14.5	2		74.9			18.8		66.8	81.3	73.2		25.1	1	68.0	77.7	66.0		28.1	1
58	3		79.1			13.6		62.0	84.5	61.0		21.4	2		78.5			28.4		63.2	79.5	69.0		34.6	2	72.0	80.1	69.0		49.1	1
60	3		80.8			18.1						24.2			75.9			28.3		59.9	80.4	66.1		35.6	2	68.0	80.0	67.0		37.8	2
61	3		80.1			14.6		56.0	82.6	65.0		22.0	2		81.3			25.5		62.1	81.3	70.1		33.0	2	67.0	80.7	69.0		42.0	2
62	3		82.3			16.7		63.0	81.4	65.0		24.8	2		78.9			27.6		62.7	79.4	68.2		34.0	2	70.0	78.8	70.0		49.3	1
63	3		72.9			13.7		59.0	75.6	61.0		20.2	2		74.3			22.9		69.6	80.1	63.2		32.3	2	67.0	74.1	66.0		40.6	1
64	2		67.1			18.6		63.0	76.7	63.0		28.0	2		72.8			34.1		66.1	73.1	62.7		39.1	1	68.0	73.0	65.0		62.8	1
65	3		78.3			16.3		60.0	79.5	63.0		26.4	2		74.2			38.2		62.2	76.5	66.8		49.2	1	70.0	76.8	66.0		70.4	1
66	2		82.6			16.2		57.0	83.3	67.0		24.4	2		81.4			32.6		59.9	82.5	70.5		37.3	2	60.0	83.4	65.0		58.6	2
67	3		80.6			14.2		63.0	82.3	67.0		21.9	2		78.4			26.8		63.8	81.5	71.1		37.1	2	63.0	79.3	71.0		52.4	2
68	3		73.5			14.0		64.0	79.5	61.0		20.7	2		75.4			27.0		63.1	81.4	71.5		38.5	1	63.0	83.4	69.0		64.5	2
69	2		68.8			17.1		63.0	83.1	65.0		24.3	2		76.9			29.3		59.3	82.9	74.6		35.5	1	66.0	83.5	69.0		48.7	2
70	3		73.6			18.7		60.0	76.5	66.0		28.3	2		73.4			35.6		68.5	82.9	69.1		40.7	2	60.0	77.6	70.0		54.9	1
71	3		71.7			16.1		61.0	74.3	65.0		23.3	1		71.4			28.0		66.1	73.3	67.5		36.5	0	67.0	76.1	70.0		44.3	1
72	1		68.8			17.9		59.0	75.3	63.0		26.5	2		71.4			34.0		53.5	71.6	66.5		41.0	0	57.0	72.7	61.0		55.1	2
73	3		73.6			13.0		65.0	75.2	65.0		19.9	1		70.9			28.3		66.5	73.3	63.3		34.0	1	62.0	75.6	63.0		50.4	2
74	3		77.0			15.7		62.0	78.8	65.0		22.6	2		77.0			27.9		56.5	79.4	75.4		33.8	0	62.0	77.2	62.0		54.8	2
75	3		78.2			17.8		64.0	80.3	67.0		26.8	2		78.6			34.7		63.5	78.8	71.3		41.8	1	62.0	80.8	66.0		59.9	2
76	3		69.5			12.0		59.0	75.6	63.0		17.4	2		68.3			23.8		57.2	76.9	72.5		30.7	0	66.0	76.3	68.0		39.8	2
77	3		75.2			16.0		61.0	75.2	66.0		23.2	1		74.7			29.6		62.9	74.3	68.7		37.8	0	63.0	77.8	66.0		54.1	2
79	2		66.4			17.5		58.0	74.3	61.0		26.6	2		75.5			40.1		55.1	80.0	66.4		48.7	3	71.0	76.8	64.0		66.8	0

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FIN417S2.WB1

Table A11 -- Site IF-FL-3, 02-01-95

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start					
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET
1	1	55.9	78.8	62.2	15.8	15.7	2					22.7		46.0	64.0	54.0	70.0	23.4	1		62.5			42.4	
2	1	51.6	71.2	58.9	16.5	25.8	2		62.2			23.2		52.0	64.0	53.0	66.0	29.0	2		61.1			54.4	
3	1	55.4	61.4	58.2	17.3	21.4	0		59.7			22.9		45.0	62.0	47.0	64.5	27.4	2		64.4			49.5	
5	1	55.2	75.6	65.4	19.3	23.4	2		54.6			24.8		48.0	65.0	50.0	66.5	25.5	2		63.1			58.8	
6	1	54.7	72.0	60.7	17.6	18.8	2		59.7			24.2		49.0	62.0	50.0	57.5	25.9	2		57.6			43.0	
7	2	65.9	77.1	73.2	18.0	20.4	0		73.4			25.8		50.0	73.0	53.0	75.5	29.8	2		72.3			64.6	
8	1	68.2	81.8	70.5	11.3	21.0	2					19.9		49.0	64.0	48.0	65.5	40.1	2		65.7			60.2	
9	1	60.2	71.3	64.3	20.4	19.7	1		66.0			27.9		48.0	64.0	46.0	64.0	24.4	2		62.6			39.0	
10	1	57.5	72.0	62.5	22.6	17.8	2		59.4			32.6		51.0	58.0	49.0	60.8	28.7	1		60.0			53.1	
12	1	57.9	66.7	60.1	28.7	18.8	1		61.3			43.8		50.0	61.0	51.0	64.8	34.1	1		62.1			65.1	
13	1	50.1	68.9	62.5	14.9	19.7	1		57.8			22.2		45.0	60.0	46.0	63.4	24.6	2		51.8			32.3	
14	1	52.1	58.9	55.0	18.4	23.8	0		57.2			22.4		47.0	64.0	49.0	64.0	21.3	2		61.6			49.0	
17	1	62.1	66.2	70.1	14.0	26.9	0		63.3			22.2		48.0	63.0	48.0	66.8	38.9	2		61.5			62.0	
18	1	52.6	68.4	62.1	22.8	28.8	1		62.1			28.8		46.0	64.0	48.0		26.9	2		61.2			54.0	
19	1	52.1	70.3	58.9	18.0	24.4	2		59.5			23.8		49.0	59.0	47.0	63.8	27.2	1		60.8			56.0	
20	2	54.1	66.2	60.2	19.8	29.5	0		65.5			25.8		47.0	65.0	48.0	68.5	30.2	2		63.2			65.4	
21	1	59.7	65.7	61.2	16.3	26.3	0		52.2			20.9						25.1			53.3			47.4	
22	1	57.2	71.4	64.0	16.4	27.1	1		65.0			21.0		49.0		50.0		26.4	3		64.5			54.0	
23	1	53.5	63.2	56.2	17.2	25.8	1		59.2			20.9		50.0	63.0	51.0	66.4	24.9	0		54.8			50.3	
24	1	56.0	64.0	59.0	12.5	22.6	0					18.0		49.0	61.0	51.0	67.5	27.7	1		53.9			52.8	
25	1	59.0	67.4	66.0	14.3	20.7	0		58.9			19.8		47.0	69.0	49.0	66.0	28.4	2		50.5			45.0	
26	1	54.5	73.0	69.2	17.6	25.8	0		65.7			22.2		49.0	72.0	52.0	68.0	32.7	2		55.6			57.9	
27	1	62.5	67.7	64.5	15.2	23.0	0		66.7			18.9		48.0	68.0	50.0	72.4	23.6	2		63.3			40.7	
29	1	61.5	73.6	71.5	16.3	21.0	0		57.2			25.0		52.0	66.0	50.0	66.0	30.9	2		64.1			55.1	
31	1	56.1	62.8	56.1	14.9	23.0	0		50.8			20.3		50.0	60.0	46.0	64.5	26.0	1		58.3			54.5	
32	1	52.9	68.3	65.2	20.2	21.4	0		66.7			26.3						25.7			66.4			58.4	
33	1	54.0	63.0	59.0	15.3	19.7	0		56.2			21.0		49.0	60.0	50.0	64.5	25.3	1		59.7			48.7	
34	1	59.0	69.4	62.5	12.0	15.5	1		66.2			16.6		50.0	68.0	52.0	71.0	20.8	2		63.9			34.2	
35	1	53.5	63.5	58.0	12.3	17.5	0		55.8			17.4		49.0	65.0	51.0	64.0	21.3	2		57.7			49.3	
36	1	59.0	66.1	62.2	17.2	25.8	0		59.2			21.3		51.0	61.0	51.0	66.0	24.6	1		59.3			56.0	
37	1	57.0	66.3	63.1	17.9	19.4	0		63.4			25.0		51.0	66.0	52.0	67.5	26.8	2		64.7			54.9	
38	1				14.9	19.4			59.3			22.0		49.0	69.0	50.0	67.5	26.6	2		61.0			57.0	
39	1	58.2	79.2	67.2	20.1	21.8	2		62.0			29.0		49.0	62.0	51.0	67.5	31.5	2		54.0			70.7	
40	1	55.2	65.5	62.4	15.9	22.1	0		54.7			21.2		51.0	59.0	50.0	62.5	25.4	1		50.7			56.0	
41	1	54.5	69.3	65.4	19.6	26.9	0		66.3			22.9		50.0	66.0	51.0	71.5	19.2	2		53.8			40.7	
42	1	53.0	65.1	60.2	19.7	19.7	0		52.5			28.7		50.0	77.0	50.0	69.5	27.3	2		52.8			60.0	
43	1	58.0	67.1	65.2	19.3	23.0	0		64.6			26.8		48.0	66.0	50.0	68.5	30.5	2		63.9			66.8	
44	1	52.0	60.7	57.0	14.4	14.8	0		61.6			21.1		50.0	65.0	51.0	67.0	25.9	2		62.9			44.9	
45	1	56.0	73.2	69.0	14.3	16.3	0		71.0			23.0		50.0	74.0	51.0	77.0	32.5	2		69.9			62.6	
46	1				16.9	21.4			60.2			24.6		50.0	61.0	50.0	66.5	26.5	2		62.4			62.9	
47	1	51.9	55.8	54.0	13.5	23.0	0		54.5			15.4		49.0	61.9	50.0	68.0	18.0	2		56.1			36.9	
48	1	56.0	67.1	62.0	17.4	18.0	0		65.4			23.7		53.0	69.0	66.0		20.9	0					38.9	
49	1	53.0	65.0	59.0	21.2	19.4	0		59.9			28.4		50.0	61.0	49.0	66.0	25.1	2		60.2			57.8	

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FINCAMP.WB1

Table A11 -- Site IF-FL-3, 02-01-95

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start					
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET
50	1	54.0	65.3	62.0	9.3	19.1	0		62.8			30.2						61.3			53.2			53.8	
51	1	54.0	65.3	60.0	16.9	20.0	0		59.5			24.2		51.0	61.0	52.0	65.5	27.4	1		56.1			53.8	
52	1	55.0	61.5	60.0	15.2	21.0	0		61.9			22.5		50.0	59.0	51.0	65.5	30.2	1		61.6			60.4	
53	1	57.0	65.1	62.0	17.6	20.7	0		61.2			25.0		50.0	68.0	52.0	67.0	28.7	2		63.6			62.0	
54	1	54.0	65.6	60.0	14.4	17.5	0		61.1			19.4		49.0	66.0	51.0	68.0	21.0	2		61.0			47.9	
55	1	58.0	73.5	68.0	16.0	14.6	0		66.7			23.0		52.0	68.0	52.0	72.5	23.5	2		57.0			58.1	
56	1	57.0	71.5	65.0	16.5	26.2	1		52.6			24.4		50.0	61.0	51.0	65.5	31.1	1		62.4			60.4	
57	1	52.0	69.2	64.0	20.3	24.3	0		64.9			27.5		49.0	65.0	51.0	68.0	30.3	2		61.4			61.0	
58	1	58.0	70.5	66.0	15.3	24.9	0		66.6			20.0						30.9			68.5			58.5	
59	1	53.0	73.1	68.0	23.1	23.4	0		67.9			31.0		53.0	71.0	54.0	73.5	34.6	2		74.4			89.6	
60	1	53.0	71.1	61.0	19.1	24.9	2		61.7			24.7		51.0	70.0	50.0	65.0	28.1	2		59.7			71.3	
61	1	55.0	66.5	59.0	20.6	20.4	1		60.1			29.1		51.0	61.0	52.0	65.8	27.2	1		55.6			55.4	
62	1	51.3	62.9	60.0	19.3	23.0	0		60.1			25.0		49.0	54.0	49.0	51.0	25.5	0		55.1			54.9	
64	1	54.2	74.6	64.2	15.6	22.1	2		59.4			22.3		48.0	64.0	49.0	65.6	29.4	2		59.9			53.9	
65	1	54.3	68.7	66.4	20.8	23.8	0		66.4			27.1		51.0	68.0	52.0	70.5	28.6	2		66.6			79.5	
66	1	55.2	67.4	61.6	11.4	16.8	0		61.3			15.7		50.0	68.0	52.0	72.8	20.3	2		59.9			40.3	
67	1	54.5	74.7	64.7	18.4	25.8	1		57.4			24.2		49.0	62.0	50.0	65.0	30.2	2		59.1			53.8	
68	1	59.6	74.9	67.3	12.9	24.6	1		56.3			15.3		49.0	62.0	51.0	67.0	24.0	2		54.3			45.4	
69	1	54.2	72.9	70.2	27.7	27.5	0					38.0		50.0	72.0	51.0	73.8	39.1	2		59.0			77.4	
70	1	55.3	67.0	65.1	19.8	23.0	0		63.1			27.9		50.0	65.0	52.0	69.5	32.8	2		67.3			71.5	
71	1	52.4	67.0	60.2	18.1	22.5	1		64.9			23.2		49.0	66.9	51.0	71.3	24.4	2		51.6			56.6	
72	1	53.7	67.0	60.5	16.6	21.0	1		63.8			23.3		50.0	65.0	50.0	68.5	27.1	2		64.1			58.1	
73	1	52.3	63.6	62.3	14.4	16.6	0		53.2			19.1		48.0	68.5	51.0	70.6	23.1	2		56.9			43.1	
74	1	54.5	64.4	61.5	19.6	24.4	0		62.3			25.2		50.0	61.0	51.0	66.2	28.0	1		50.6			70.4	
75	1	56.2	63.1	57.2	19.6	27.5	0		56.9			24.6		50.0	61.0	49.0	66.6	25.7	2					45.8	
76	1	54.2	62.7	60.2	19.9	30.3	0		61.9			24.6		50.0	61.8	51.0	66.0	28.2	2		63.3			58.1	
77	1	53.4	65.2	59.0	16.6	27.5	1		66.7			23.7		50.0	62.6	50.0	67.7	27.3	2					57.6	
78	1	51.3	60.4	57.2	17.5	23.8	0		56.5			24.7		49.0	63.0	50.0	65.8	30.1	2		60.3			61.3	
79	1	52.5	68.7	59.0	14.8	26.4	1		59.4			18.7		50.0	66.0	49.0	68.4	26.1	2		62.9			54.4	
80	1	52.5	69.9	67.7	16.6	23.0	0		61.4			24.6		49.0	60.0	47.0	65.0	27.0	2		61.1			50.1	
82	1	54.2	71.4	64.8	24.4	24.4	1		64.5			33.8		50.0	64.0	49.0	67.8	33.0	2		64.8			71.1	
83	1	54.5	76.6	77.2	17.0	23.8	0		75.7			23.7		55.0	79.0	53.0	81.8	31.5	2		76.3			59.1	
84	1				17.4	21.7			66.6			24.3		56.0	69.0	51.0	73.5	28.7	2		67.9			51.8	
85	1	54.5	66.0	63.5	19.0	24.4	0		64.9			26.2		52.0	66.0	50.0	69.0	31.6	2		54.7			55.8	
86	1	52.6	67.3	60.0	15.4	24.4	1		53.1			25.0		51.0	67.0	52.0	70.0	40.4	2		61.1			72.7	
87	1	54.5	63.6	63.5	13.9	23.0	0		61.9			22.1		50.0	63.0	51.0	68.5	36.0	2		64.6			55.9	
88	1	52.0	61.9	60.2	16.9	24.8	0		60.0			23.3		50.0	62.0	51.0	64.5	28.1	2		56.9			46.9	
89	1	52.5	65.8	61.8	15.2	25.3	0		61.1			21.2		50.0	60.0	50.0	65.0	31.1	1		62.0			57.3	
90	1	53.8	67.2	63.2	14.6	21.8	0		63.5			23.0		49.0	67.0	50.0	70.5	35.1	2		55.5			61.4	
91	1	53.5	69.4	68.2	20.0	25.8	0		59.9			27.4		49.0	62.0	50.0	66.0	30.4	2		60.9			51.9	
92	1	53.5	63.6	59.5	12.1	19.7	0		58.1			18.8		52.0	62.0	51.0	69.8	28.9	1		61.2			50.1	
93	1	52.4	69.2	68.6	20.5	25.8	0		69.5			28.0		51.0	70.0	50.0	72.5	34.9	2		71.3			74.5	
94	1	61.2	69.7	67.2	17.8	26.9	0		71.5			24.0		52.0	71.0	50.0	74.0	35.3	2		68.7			69.6	

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FINCAMP.WB1

Table A11 -- Site IF-FL-3, 02-01-95

		Location 1: 50 ft from start						Location 2: 100 ft from start						Location 3: 200 ft from start						Location 4: 400 ft from start					
EVENT ID	Volpe Type	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET	LminB (dB)	Lmax (dB)	LminA (dB)	SEL (dB)	Speed (mph)	ET
95	1	53.1	65.0	57.1	11.7	20.0	1		53.9			16.9		50.0	62.0	49.0	65.0	25.9	2		56.4			51.6	
96	1	49.8	67.6	64.5	14.0	18.5	0		58.2			22.4		49.0	59.7	51.0	65.4	30.1	1		60.8			57.0	
97	1	52.6	67.8	65.1	10.8	19.4	0		61.9			22.2		50.0	63.0	50.0	68.0	40.9	2		63.2			72.2	
98	1	59.3	74.0	73.3	31.7	31.0	0		76.6			43.5		52.0	74.0	55.0	75.8	41.4	2		73.5			83.9	
99	1	57.2	70.2	68.0	17.2	24.3	0		66.3			25.7		54.0	66.5	51.0	64.1	39.0	2		65.5			75.6	
100	1	59.2	62.7	60.2	14.2	25.6	0		60.6			23.2		53.0	65.4	55.0	55.8	37.6	2		63.7			53.5	

Note: 1 ft = 0.305 m; 1 mph = 1.609 km/h; see first page of Appendix for heading definitions File:FINCAMP.WB1

APPENDIX B -- STATISTICAL AND REGRESSION RESULTS PRINTOUTS

The following tables summarize the statistics for the sampled data and for the regression analysis. The tables are as follows:

Site: IF-KY-1

TOTAL OBSERVATIONS: 617

	LMAX	SPEED
N OF CASES	617	617
MINIMUM	70.600	9.700
MAXIMUM	93.400	39.700
RANGE	22.800	30.000
MEAN	77.275	21.082
VARIANCE	14.768	27.004
STANDARD DEV	3.843	5.197
STD. ERROR	0.155	0.209
SKEWNESS(G1)	1.104	0.433
KURTOSIS(G2)	1.637	0.021
SUM	47678.500	13007.400
C.V.	0.050	0.246
MEDIAN	76.500	20.600

Site: IF-TN-1

TOTAL OBSERVATIONS: 110

	LMAX	SPEED
N OF CASES	110	110
MINIMUM	64.700	11.300
MAXIMUM	83.700	54.700
RANGE	19.000	43.400
MEAN	71.046	34.026
VARIANCE	11.572	125.507
STANDARD DEV	3.402	11.203
STD. ERROR	0.324	1.068
SKEWNESS(G1)	1.161	-0.460
KURTOSIS(G2)	2.347	-0.680
SUM	7815.100	3742.900
C.V.	0.048	0.329
MEDIAN	70.700	35.650

Site: IF-TN-2

TOTAL OBSERVATIONS: 618

	LMAX	SPEED
N OF CASES	618	618
MINIMUM	67.000	6.400
MAXIMUM	97.100	41.000
RANGE	30.100	34.600
MEAN	79.233	19.082
VARIANCE	11.334	59.209
STANDARD DEV	3.367	7.695
STD. ERROR	0.135	0.310
SKEWNESS(G1)	0.339	0.671
KURTOSIS(G2)	0.977	-0.469
SUM	48965.700	11792.800
C.V.	0.042	0.403
MEDIAN	79.000	17.350

Site: All Florida Sites, Automobiles

TOTAL OBSERVATIONS: 186

	LMAX	SPEED
N OF CASES	186	186
MINIMUM	58.000	11.346
MAXIMUM	81.800	60.848
RANGE	23.800	49.502
MEAN	67.969	31.809
VARIANCE	25.195	144.446
STANDARD DEV	5.019	12.019
STD. ERROR	0.368	0.881
SKEWNESS(G1)	0.181	0.751
KURTOSIS(G2)	-0.455	-0.323
SUM	12642.300	5916.560
C.V.	0.074	0.378
MEDIAN	68.000	28.176

Site: All Florida Sites, Medium Trucks

TOTAL OBSERVATIONS: 242

	LMAX	SPEED
N OF CASES	242	242
MINIMUM	65.000	8.380
MAXIMUM	88.200	62.787
RANGE	23.200	54.407
MEAN	75.892	32.875
VARIANCE	15.574	131.173
STANDARD DEV	3.946	11.453
STD. ERROR	0.254	0.736
SKEWNESS(G1)	0.300	0.089
KURTOSIS(G2)	0.159	-0.876
SUM	18365.900	7955.712
C.V.	0.052	0.348
MEDIAN	75.700	33.007

Site: All Florida Sites, Heavy Trucks

TOTAL OBSERVATIONS: 341

	LMAX	SPEED
N OF CASES	341	341
MINIMUM	69.300	8.268
MAXIMUM	95.300	54.869
RANGE	26.000	46.601
MEAN	79.289	29.972
VARIANCE	11.515	115.588
STANDARD DEV	3.393	10.751
STD. ERROR	0.184	0.582
SKEWNESS(G1)	1.246	-0.012
KURTOSIS(G2)	3.563	-1.059
SUM	27037.600	10220.291
C.V.	0.043	0.359
MEDIAN	78.900	31.152

Site: IF-KY-1

ITERATION	LOSS	PARAMETER VALUES
0	.6346087D+05	.5000D+01
1	.8431175D+04	.7646D+01
2	.8420587D+04	.7641D+01
3	.8420587D+04	.7641D+01

DEPENDENT VARIABLE IS LMAX

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE
REGRESSION	3676826.507	1	3676826.507
RESIDUAL	8420.587	616	13.670
TOTAL	3693439.450	617	
CORRECTED	9096.886	616	

RAW R-SQUARED (1-RESIDUAL/TOTAL) = 0.998
CORRECTED R-SQUARED (1-RESIDUAL/CORRECTED) = 0.074

PARAMETER	ESTIMATE	A.S.E.	LOWER <95%> UPPER
C	7.641	0.018	7.606 7.675

Site: IF-TN-1

ITERATION	LOSS	PARAMETER VALUES
0	.3412642D+06	.5000D+01
1	.6874944D+04	.7915D+01
2	.6871695D+04	.7917D+01
3	.6871695D+04	.7917D+01

DEPENDENT VARIABLE IS LMAX

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE
REGRESSION	3877514.969	1	3877514.969
RESIDUAL	6871.695	617	11.137
TOTAL	3886669.230	618	
CORRECTED	6993.216	617	

RAW R-SQUARED (1-RESIDUAL/TOTAL) = 0.998
CORRECTED R-SQUARED (1-RESIDUAL/CORRECTED) = 0.017

PARAMETER	ESTIMATE	A.S.E.	LOWER <95%> UPPER
C	7.917	0.014	7.891 7.944

Site: IF-TN-2

ITERATION	LOSS	PARAMETER VALUES
0	.6785463D+04	.5000D+01
1	.5977512D+04	.6621D+01
2	.5975524D+04	.6637D+01
3	.5975524D+04	.6637D+01

DEPENDENT VARIABLE IS LMAX

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE
REGRESSION	639922.343	1	639922.343
RESIDUAL	5975.524	109	54.821
TOTAL	556495.810	110	
CORRECTED	1261.374	109	

RAW R-SQUARED (1-RESIDUAL/TOTAL) = 0.989
CORRECTED R-SQUARED (1-RESIDUAL/CORRECTED) = 0.000

PARAMETER	ESTIMATE	A.S.E.	LOWER <95%>	UPPER
C	6.637	0.183	6.274	7.000

Site: All Florida Sites, Automobiles

ITERATION	LOSS	PARAMETER VALUES
0	.1604645D+05	.3000D+01
1	.4280451D+04	.6580D+01
2	.4279863D+04	.6578D+01
3	.4279863D+04	.6578D+01

DEPENDENT VARIABLE IS LMAX

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE
REGRESSION	874165.137	1	874165.137
RESIDUAL	4279.863	185	23.134
TOTAL	863950.010	186	
CORRECTED	4661.035	185	

RAW R-SQUARED (1-RESIDUAL/TOTAL) = 0.995
CORRECTED R-SQUARED (1-RESIDUAL/CORRECTED) = 0.082

PARAMETER	ESTIMATE	A.S.E.	LOWER <95%>	UPPER
C	6.578	0.049	6.481	6.676

Site: All Florida Sites, Medium Trucks

ITERATION	LOSS	PARAMETER VALUES
0	.1636520D+05	.5000D+01
1	.4654511D+04	.7412D+01
2	.4652613D+04	.7409D+01
3	.4652613D+04	.7409D+01

DEPENDENT VARIABLE IS LMAX

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE
REGRESSION	1418545.350	1	1418545.350
RESIDUAL	4652.613	241	19.305
TOTAL	1397580.890	242	
CORRECTED	3753.275	241	

RAW R-SQUARED (1-RESIDUAL/TOTAL) = 0.997
CORRECTED R-SQUARED (1-RESIDUAL/CORRECTED) = 0.000

PARAMETER	ESTIMATE	A.S.E.	LOWER <95%> UPPER
C	7.409	0.041	7.329 7.490

Site: All Florida Sites, Heavy Trucks

ITERATION	LOSS	PARAMETER VALUES
0	.3022642D+05	.5000D+01
1	.4769052D+04	.7783D+01
2	.4766540D+04	.7785D+01
3	.4766540D+04	.7785D+01

DEPENDENT VARIABLE IS LMAX

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE
REGRESSION	2169900.727	1	2169900.727
RESIDUAL	4766.540	340	14.019
TOTAL	2147703.500	341	
CORRECTED	3915.190	340	

RAW R-SQUARED (1-RESIDUAL/TOTAL) = 0.998
CORRECTED R-SQUARED (1-RESIDUAL/CORRECTED) = 0.000

PARAMETER	ESTIMATE	A.S.E.	LOWER <95%> UPPER
C	7.785	0.027	7.731 7.838

Automobiles: All Sites

ITERATION	LOSS	PARAMETER VALUES
0	.1130839D+05	.6000D+01
1	.6006276D+04	.6697D+01
2	.6005021D+04	.6701D+01
3	.6005021D+04	.6701D+01

DEPENDENT VARIABLE IS LMAX

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE
REGRESSION	1429161.603	1	1429161.603
RESIDUAL	6005.021	295	20.356
TOTAL	1420445.820	296	
CORRECTED	6576.851	295	

RAW R-SQUARED (1-RESIDUAL/TOTAL) = 0.996
CORRECTED R-SQUARED (1-RESIDUAL/CORRECTED) = 0.087

PARAMETER	ESTIMATE	A.S.E.	LOWER	<95%>	UPPER
C	6.701	0.037	6.628		6.773

Medium Trucks: Sites IF-FL-1, IF-FL-2

ITERATION	LOSS	PARAMETER VALUES
0	.1343140D+05	.6000D+01
1	.4657566D+04	.7418D+01
2	.4652613D+04	.7409D+01
3	.4652613D+04	.7409D+01

DEPENDENT VARIABLE IS LMAX

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE
REGRESSION	1418545.351	1	1418545.351
RESIDUAL	4652.613	241	19.305
TOTAL	1397580.890	242	
CORRECTED	3753.275	241	

RAW R-SQUARED (1-RESIDUAL/TOTAL) = 0.997
CORRECTED R-SQUARED (1-RESIDUAL/CORRECTED) = 0.000

PARAMETER	ESTIMATE	A.S.E.	LOWER	<95%>	UPPER
C	7.409	0.041	7.329		7.490

Heavy Trucks (0% grade): Sites IF-TN-2, IF-FL-1, IF-FL-2

ITERATION	LOSS	PARAMETER VALUES
0	.1193352D+06	.6000D+01
1	.1063276D+05	.7834D+01
2	.1062744D+05	.7837D+01
3	.1062744D+05	.7837D+01

DEPENDENT VARIABLE IS LMAX

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE
REGRESSION	6034399.189	1	6034399.189
RESIDUAL	10627.440	958	11.093
TOTAL	6034372.730	959	
CORRECTED	10909.111	958	

RAW R-SQUARED (1-RESIDUAL/TOTAL) = 0.998
CORRECTED R-SQUARED (1-RESIDUAL/CORRECTED) = 0.026

PARAMETER	ESTIMATE	A.S.E.	LOWER <95%>	UPPER
C	7.837	0.013	7.812	7.862

Heavy Trucks (0% and 4% grades): Sites IF-KY-1, IF-TN-2, IF-FL-1, IF-Fl-2

ITERATION	LOSS	PARAMETER VALUES
0	.1729781D+06	.6000D+01
1	.2014910D+05	.7746D+01
2	.2009171D+05	.7757D+01
3	.2009171D+05	.7757D+01

DEPENDENT VARIABLE IS LMAX

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE
REGRESSION	9707879.316	1	9707879.316
RESIDUAL	20091.710	1575	12.757
TOTAL	9727812.180	1576	
CORRECTED	21474.838	1575	

RAW R-SQUARED (1-RESIDUAL/TOTAL) = 0.998
CORRECTED R-SQUARED (1-RESIDUAL/CORRECTED) = 0.064

PARAMETER	ESTIMATE	A.S.E.	LOWER <95%>	UPPER
C	7.757	0.011	7.736	7.778

7. REFERENCES

1. Menge, C.W., C.F. Rossano, G.S. Anderson and C.J. Bajdek, "FHWA Traffic Noise Model Technical Manual Version 1.0," (to be published).

2. Fleming, G.G., A.S. Rapoza, C.S.Y. Lee, *Development of National Reference Energy Mean Emission Levels for the FHWA Traffic Noise Model (FHWA-TNM), Version 1.0*, Report #DOT-VNTSC-FHWA-96-2, U.S. Department of Transportation, Cambridge, MA, November 1995.

3. *Grade Effects on Traffic Flow Stability and Capacity*, National Cooperative Highway Research Program Report No. 185, National Academy of Sciences, Washington, D.C., 1978.

4. Anderson, G.S., A.S. Rapoza, W. Bowlby, and R.L. Wayson, *FHWA Traffic Noise Model: Field Data Requirements Report*, draft report, U.S. Department of Transportation, Cambridge, MA, March 1995.

*U.S. Government Printing Office: 1997 - 500-649