Safer Seward Highway Project
Seward Highway MP 98.5 to 118,
Bird Flats to Rabbit Creek

Project No.: Z566310000/0A31034

Environmental Assessment

Appendix O: Noise Assessment/Evaluation

DRAFT

December 2025

Prepared for:

Alaska Department of Transportation and Public Facilities

Prepared by:

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The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by DOT&PF pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated April 13, 2023, and executed by FHWA and DOT&PF.

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Safer Seward Highway Project
Seward Highway MP 98.5 to 118,
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Traffic Noise Analysis

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April 2025

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Executive Summary

The Alaska Department of Transportation and Public Facilities (DOT&PF), in cooperation with the Alaska Division of the Federal Highway Administration (FHWA), wants to make long-term highway improvements on the Seward Highway between Rabbit Creek Road (Milepost [MP] 118 near Potter Marsh) and Bird Flats (MP 98) to improve safety and eliminate the need for a special Highway Safety Corridor designation. The Proposed Action being evaluated in the Seward Highway MPs 98.5 to 118, Bird Flats to Rabbit Creek Project, also called the Safer Seward Highway Project (Project), environmental assessment is to build a four-lane, divided highway with a separated multi-use pathway.

HDR measured existing traffic noise levels at 13 representative locations within the Project area, and performed vehicle counts and classifications at each of these sites for use in validating the FHWA Traffic Noise Model (TNM) version 2.5. The FHWA TNM was used to predict and evaluate traffic noise levels at representative receptor points (noise prediction sites) under the existing condition as well as the future (2052) Proposed Action and future (2052) No Action alternatives.

The FHWA TNM predicted that peak noise levels would range from 39.6 to 74.9 A-weighted decibels (dBA) at receptors for the 2024 existing conditions scenario. Two residential and 16 recreational receptors are predicted to experience noise impacts under the existing conditions.

The model predicted that peak noise levels would range from 40.8 to 76.1 dBA at receptors under the No Action alternative. Noise level changes between the existing conditions and the No Action alternative at specific receptors range from 0.7 to 1.4 dBA, and are due to changes in traffic volumes anticipated between 2024 and 2052. Three residential and 18 recreational receptors are predicted to experience noise impacts under the No Action alternative.

The model predicted that peak noise levels at modeled receptors would range from 40.8 to 74.5 dBA for the Proposed Action. Noise level changes between the existing condition and the Proposed Action at specific receptors range from a reduction of 11.4 dBA to an increase of 13.1 dBA, and noise level changes between the No Action and Proposed Action alternatives range from a reduction of 12.6 dBA to an increase of 11.9 dBA. These changes are due to changes in traffic volumes, roadway alignments, and shielding.

Six residential and 13 recreational properties are predicted to have a 2052 noise level greater than or equal to the Noise Abatement Criteria(NAC) under the Proposed Action. Table ES-1 shows a summary of the noise analysis results.

HDR evaluated noise abatement for the impacted receptors and found it to be unable to meet DOT&PF feasibility and reasonableness criteria. Therefore, noise abatement is not recommended.

Table ES-1. Receptors impacted by alternative.

FHWA Activity Category	Receptor Land Uses	Impact	Number of Receptors Impacted		
			Existing Conditions (2024)	No Action Alternative (2052)	Proposed Action Alternative (2052)
B	Residential	Approaches or Exceeds NAC	2	3	6
		Substantial Increase	—	—	—
C	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings	Approaches or Exceeds NAC	16	18	13
		Substantial Increase	—	—	—
D	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios	Approaches or Exceeds NAC	—	—	—
		Substantial Increase	—	—	—
E	Hotels, motels, offices, restaurants/bars, and other developed lands; properties or activities not included in A though D or F	Approaches or Exceeds NAC	—	—	—
		Substantial Increase	—	—	—
F	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing	Approaches or Exceeds NAC[a]	—	—	—
		Substantial Increase	—	—	—
G	Undeveloped	Approaches or Exceeds NAC[a]	—	—	—
		Substantial Increase	—	—	—
		Total	**18**	**21**	**19**

[a] There are no NAC for Category F and G lands.

Contents

Tables

Figures

Appendices

Acronyms and Abbreviations

CFR	Code of Federal Regulations
dB	decibel(s)
dBA	A-weighted decibel(s)
DOT&PF	Alaska Department of Transportation and Public Facilities
EA	environmental assessment
FHWA	Federal Highway Administration
$L_{eq(h)}$	hourly equivalent noise level
MP	Milepost
mph	mile(s) per hour
NAC	Noise Abatement Criteria
Project	Seward Highway Mileposts 98.5 to 118, Bird Flats to Rabbit Creek Project; or Safer Seward Highway Project
SLM	sound level meter
TNM	Traffic Noise Model

Key Terminology

Table ES-2. Key terminology.

Term	Definition
A-weighted decibels (dBA)	Decibels with a frequency weighting applied to the sound energy in specific frequency bands to better represent the sensitivity of human hearing, and which is commonly used in environmental acoustical analyses
Dwelling units	Individual properties, such as a single-family residence or an apartment; also referred to as receivers
$L_{eq(h)}$	The average hourly noise level; it is defined as the equivalent steady-state sound level that, in a stated period, contains the same acoustic energy as the time-varying sound level during the same period
Receivers	Individual properties, such as a single-family residence or an apartment; one or more receivers adjacent to the project may be represented in the noise model by a model receptor
Receptor	A discrete point in space that is used in the noise model as a noise prediction site, and which may represent one or more receivers

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1 Introduction and Background

The Alaska Department of Transportation and Public Facilities (DOT&PF), in cooperation with the Alaska Division of the Federal Highway Administration (FHWA), wants to make long-term highway improvements on the Seward Highway between Rabbit Creek Road (Milepost [MP] 118 near Potter Marsh) and Bird Flats (MP 98) to improve safety and eliminate the need for a special Highway Safety Corridor designation. The Proposed Action being evaluated in the Seward Highway MPs 98.5 to 118, Bird Flats to Rabbit Creek Project, also called the Safer Seward Highway Project (Project), environmental assessment (EA) is to build a four-lane, divided highway with a separated multi-use pathway (see Appendix A). Construction of the Proposed Action would:

- Reduce high crash rates and crash severity
- Improve mobility and reliability
- Safely accommodate mixed uses in the corridor

This 2025 traffic noise analysis is in compliance with the FHWA noise abatement regulations in 23 Code of Federal Regulations (CFR) 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*. This assessment is also in compliance with DOT&PF's (2023) *Noise Policy* (Appendix B), which describes the implementation of FHWA noise regulations in Alaska.

2 Project Description

2.1 No Action Alternative

Under the No Action alternative, the Seward Highway between Bird Flats and Rabbit Creek would not be reconstructed to improve safety, increase mobility, and accommodate mixed uses within the corridor. Under the No Action alternative, DOT&PF would likely continue to make highway improvements in discrete locations as needs are identified and funding is available; however, a corridor-wide safety improvement project that would add travel lanes and shift large segments of highway alignment would not occur. The existing Seward Highway, classified as a Rural Principal Arterial roadway and Interstate, has two 12-foot-wide opposing travel lanes and 6- to 8-foot shoulders with rumble strips at the centerline and lane edges. The speed limit posted along much of the Project corridor is 55 miles per hour (mph), except for a short section near the southern terminus of the Project that is posted at 65 mph.

2.2 Proposed Action

The Proposed Action would reconstruct the Seward Highway corridor as a four-lane, divided highway with a 55-mph design speed along the entire 20-mile Project length. The Proposed Action includes three typical road designs: a four-lane, median-divided highway; a four-lane, vertically separated highway; and a four-lane, barrier-divided highway. All typical road designs would include a separated, multi-use pathway, anticipated to be primarily on the waterside of the highway.

The four-lane, median-divided highway design would include 12-foot travel lanes with 4-foot inside shoulders, 8-foot outside shoulders, and a 30-foot depressed median.

The four-lane, vertically separated highway design would include 12-foot travel lanes with 8-foot outside shoulders, 4-foot inside shoulders, and a variable-width median. The southbound lanes would typically be at or near the current roadway elevation, and the northbound lanes would be constructed at a higher elevation (as much as 100 feet above the southbound lanes, with 200 feet separating their inner shoulders) to take advantage of favorable topography such as natural benches to minimize rock cut impacts. Northbound grades would be kept at or below 4 percent to avoid mandatory inclusion of truck climbing lanes.

The four-lane, barrier-divided highway would include 12-foot travel lanes with 8-foot outside shoulders, 4-foot inside shoulders, and a 4-foot area for a barrier (12 feet between nearest opposing travel lanes). The typical barrier used would be a cast-in-place, concrete jersey barrier. Guardrail may be added within areas on the outside of the roadway when adequate space requirements cannot be met.

The Proposed Action would flatten six curves between MPs 105 and 110 (two at Windy Corner, three near Rainbow Point, and one just north of Beluga Point) to reduce curve radii, thereby meeting current design standards for a 55-mph design speed. Turn-lane pockets and acceleration lanes would be constructed where warranted to provide breaks in the divided highway, allowing left-turning movements. Improvements to intersections, culverts and drainage, parking and recreational access, and signage would all occur.

3 Methods

3.1 Understanding Noise

Noise is defined as unwanted or excessive sound. Sound becomes unwanted when it interferes with normal activities such as sleep, work, speech, or recreation. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires. Noise levels from highway traffic are affected by three factors: (1) traffic volume, (2) traffic speed, and (3) the number of trucks in the flow of traffic. Generally, traffic noise increases commensurate with these three factors. For example, the sound from one heavy truck is roughly equivalent to the sound of more than 20 automobiles.

Noise is measured in decibels (dB) on a logarithmic scale. Because human hearing is not equally sensitive to all frequencies of sound, certain frequencies are given more or less "weight." The A-weighted scale for decibels, denoted as dBA, corresponds to the sensitivity range for human hearing. Acoustic terminology has been defined and included at the beginning of this report (see Table ES-2), as well as within the DOT&PF Noise Policy (see Appendix B).

The hourly equivalent noise level ($L_{eq(h)}$), expressed as dBA, is used to analyze traffic noise levels and identify noise impacts in this report. The $L_{eq(h)}$ is defined as the equivalent steady-state sound level that, in a stated period, contains the same acoustic energy as the time-varying sound level during that same period. $L_{eq(h)}$ can be considered the average sound level occurring over a 1-hour period.

Ambient noise level changes of 3 dBA are considered to be at the threshold of perceptible change for most adults with normal hearing, as shown in Table 3-1.

Table 3-1. Logarithmic nature of sound.

Change in $L_{eq(h)}$ Sound Level	Perceived Loudness in the Natural Environment
± 3 dBA	Barely perceptible change
± 5 dBA	Readily perceptible change
± 10 dBA	Considered twice or half as loud

A few general relationships are helpful in understanding how sound is generated and how it travels. From a source (e.g., vehicles on a road) to a receptor (e.g., a residence), noise levels decrease with distance from the noise source. The manner in which noise decreases with distance depends on the following important factors:

- *Geometric spreading from point sources and line sources.* The $L_{eq(h)}$ from a line source (e.g., vehicle traffic on a road) decreases by approximately 3 dBA each time one doubles the distance between the source (road) and the receptor (noise-sensitive land use). For example, if vehicles produce a sound level of 60 dBA at a distance of 100 feet from the road, the sound level would decrease to 57 dBA at 200 feet from the road and 54 dBA at 400 feet from the road.
- *Ground absorption.* Hard surfaces (e.g., pavement) tend to reflect noise, whereas soft surfaces (e.g., vegetation) tend to break up and reduce noise.
- *Atmospheric effects and refraction.* Atmospheric conditions can affect how well noise travels near highways. Wind is the single most important meteorological factor within approximately 500 feet, and vertical air temperature gradients are more important over longer distances. Other factors such as air temperature, humidity, and turbulence can also have significant effects.
- *Shielding by natural and human-made features, noise barriers.* Noise levels can also decrease due to shielding from topographic features (e.g., hills) or structures (e.g., buildings) between the noise source and the receptor.

Table 3-2 shows noise levels associated with common, everyday sources, and explain and illustrate the magnitude of noise levels discussed in this report.

Table 3-2. Common noise sources and levels.

Sound Pressure Level (dBA)	Typical Sources
120	Jet aircraft takeoff at 100 feet
110	Same aircraft at 400 feet
90	Motorcycle at 25 feet
80	Garbage disposal
70	City street corner
60	Conversational speech
50	Typical office
40	Living room (without television)
30	Quiet bedroom at night

3.2 Regulatory Overview

DOT&PF's (2023) *Noise Policy* (Appendix B) states that potential noise impacts must be evaluated for all Type I federal aid and state-funded highway construction, as defined by 23 CFR 772.5 (FHWA n.d.). Type I projects are those projects that involve constructing new highways, reconstructing existing highways by significantly changing either the horizontal or vertical alignment, or increasing the number of through-travel lanes. This Project qualifies as a Type I project because of the construction of new roadway sections as well as changes to the horizontal and vertical alignment.

FHWA assigns different types of land uses to different activity categories based on the type of activities occurring in each respective land use (e.g., residences, schools, churches, commercial land, undeveloped land). Noise Abatement Criteria (NAC) are assigned to each activity category. These NAC represent the maximum traffic noise levels that allow uninterrupted use within each activity category. Table 3-3 lists the seven land use categories and the NAC associated with each.

Table 3-3. Noise Abatement Criteria.

Activity Category	Land Use Activity Description	Evaluation Location	NAC $L_{eq(h)}$	Modified NAC $L_{eq(h)}$[a]
A	Lands on which serenity and quiet are of extraordinary significance as well as serve an important public need, and for which preserving those qualities is essential if the area is to continue to serve its intended purpose	Exterior	57	56
B[b]	Residential	Exterior	67	66
C[b]	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings	Exterior	67	66
D	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios	Interior	52	51
E[b]	Hotels; motels; offices; restaurants/bars; and other developed lands, properties, or activities not included in Categories A through D or F	Exterior	72	71
F	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing	—	—	—
G	Undeveloped lands that are not permitted	—	—	—

[a] Specific NAC for the receptor's activity category as modified by DOT&PF approach definition (within 1 dBA).
[b] Includes undeveloped lands permitted for this activity category.

Traffic noise impacts occur when either:

- Traffic noise levels approach or exceed the FHWA NAC for specific land use types, or
- When the predicted traffic noise levels substantially exceed the existing noise levels.

DOT&PF is responsible for implementing FHWA regulations in Alaska, such as identifying the approach criteria, defining "substantial increase," and considering localized noise abatement. DOT&PF defines "approach" as noise levels within 1 dBA of the NAC, and defines "substantial

increase" as 15 dBA above existing levels. If an adverse noise impact is predicted, FHWA regulations and DOT&PF policy require that noise abatement measures be considered.

3.3 Model

Traffic noise levels were predicted using FHWA's Traffic Noise Model (TNM; Version 2.5). TNM computes highway traffic noise at nearby receptors and aids in the design of mitigation measures, if needed. Inputs to the model include three-dimensional descriptions of road alignments; vehicle volumes in defined vehicle classes (e.g., cars, medium trucks, heavy trucks, buses, motorcycles); vehicle speeds; traffic control devices; and data on the characteristics and locations of specific ground types, topographical features, and other features likely to influence the propagation of vehicle noise between the roadway and receptor. Traffic data inputs are outlined in Appendix C, and TNM input/output files are available electronically from the DOT&PF by request.

Noise levels for the Project were predicted at 103 receptors located at exterior areas of frequent human use. Modeled noise receptor locations are shown in Appendix A, Figures 1 and 2. Modeled noise levels for all analysis conditions were compared with the NACs to determine Project impacts.

3.4 Model Validation Process

HDR measured ambient noise levels at 13 representative locations within the Project study area on August 14 through 17, 2023, using a Larson Davis 831 sound level meter (SLM). HDR field calibrated the SLM using a Larson Davis CAL200 precision acoustic calibrator. All equipment that HDR used for the sound survey was calibrated within the previous year in a laboratory.

HDR selected ambient noise monitoring site locations to capture a representative sample of properties and land use types within the Project area. DOT&PF approved these locations prior to the field survey. HDR completed measurements on August 14 through 17, 2023, at representative outdoor areas of frequent human use. Appendix A, Figure 1 shows the monitoring sites locations. Appendix D provides the field data sheets.

Noise levels were measured in 15-minute intervals, 5 feet above ground level. HDR placed the SLM microphones within the area of potential outdoor use, with no obstructions between the microphone and roadway. HDR conducted three measurements at each location to improve the statistical reliability of the measurement results. HDR recorded observations of traffic volumes by vehicle classes (i.e., cars, medium trucks, heavy trucks, buses, motorcycles) during noise measurements, and made an estimate of average vehicle speed for each location. HDR also took photographs of the SLM microphone placement at each monitoring location.

Meteorological conditions during the three days of the field survey were partly cloudy, with ambient temperatures between 50 and 59 degrees Fahrenheit. Winds were between 2 and 10 mph. No precipitation occurred during the monitoring periods. The roadway surface was dry during noise monitoring (as required by FHWA traffic noise monitoring guidelines).

A change of 3 dBA or less is generally not perceptible to average human hearing. Therefore, the model is considered adequate to represent the existing acoustic environment and can be used

to predict traffic noise levels at Project area sensitive receptors, if the difference between measured and modeled sound levels are within ± 3 dBA. Table 3-4 provides the results for the validation effort. The validation effort showed acceptable agreement with the noise measurements.

Table 3-4. Ambient monitoring and model validation results.

Site	Site Description	Land Use (Activity Category)	Event	Measured $L_{eq(h)}$ Noise Level (dBA)	Model $L_{eq(h)}$ Noise Level (dBA)	Difference
A	Potter Marsh Boardwalk	Recreational (C)	1	68.0	66.4	-1.6
			2	68.9	67.4	-1.5
			3	69.2	67.8	-1.4
B	Potter Section House	Recreational (C)	1	72.1	69.9	-2.2
			2	72.5	69.7	-2.8
			3	71.4	70.3	-1.1
C	Potter Creek Trailhead	Recreational (C)	1	68.6	66.8	-1.8
			2	70.1	68.2	-1.9
			3	69.7	67.1	-2.6
D	McHugh Creek Day Use Area	Recreational (C)	1	68.9	68.5	-0.4
			2	69.2	67.9	-1.3
			3	69.6	68.8	-0.8
E	Beluga Point	Recreational (C)	1	67.9	66.5	-1.4
			2	70.0	68.5	-1.5
			3	70.2	68.0	-2.2
F	Rainbow Private Homes, MP 108.5	Residential (B)	1	67.6	67.3	-0.3
			2	68.4	69.1	0.7
			3	68.5	68.5	0.0
G	Rainbow Trailhead	Recreational (C)	1	65.9	63.4	-2.5
			2	67.1	65.0	-2.1
			3	65.8	63.6	-2.2
H	Fall Creek Trailhead	Recreational (C)	1	70.2	69.0	-1.2
			2	70.1	69.1	-1.0
			3	70.5	68.6	-1.9
I	Indian Mine/Residential	Residential (B)	1	71.0	69.3	-1.7
			2	72.0	70.3	-1.7
			3	70.8	69.1	-1.7
J	Valley Bible Chalet	Worship (C)	1	63.5	61.9	-1.6
			2	66.0	63.5	-2.5
			3	66.2	63.7	-2.5
K	Bird Ridge Trailhead	Recreational (C)	1	69.3	67.9	-1.4
			2	68.6	67.5	-1.1
			3	69.9	68.4	-1.5
L	Bird Creek Motel	Motel (E)	1	68.9	66.5	-2.4
			2	68.5	65.9	-2.6
			3	68.8	66.0	-2.8
M	Bike Path	Recreational (C)	1	68.5	68.8	0.3
			2	66.6	67.4	0.8
			3	68.6	68.3	-0.3

4 Land Use Along the Project Corridor

The Project area is characterized by a variety of land uses: a mix of residential buildings (Activity Category B); recreational and public institutional use activities (Activity Category C); commercial and retail properties (Activity Category E); weigh station and maintenance yard (Activity Category F); and undeveloped lands (Activity Category G). No Activity Category A land uses were identified within the Project area.

5 Model Results

The following sections present the results of the noise analysis for the existing conditions, and the No Action and Proposed Action alternatives. HDR modeled the Project area using 103 noise receptors, located within areas of potential outdoor use within the property or at onsite structures for which HDR identified no obvious use areas.

Appendix A includes maps that show the location of the noise monitoring locations and noise-sensitive receptors with the Proposed Action roadway design.

Table 5-1 identifies the predicted noise levels for each receptor for existing conditions, and the future (2052) No Action and future (2052) Proposed Action alternatives. Table 5-1 identifies receptors showing noise levels that approach within 1 dBA or exceed the NAC, or show an increase at or above 15 dBA.

Table 5-1. Predicted noise levels for existing conditions, and the No Action and Proposed Action alternatives.

Receptor	Location	Land Use (Activity Category)	Modified NAC (dBA)[a]	Existing Noise Levels (dBA)	Future (2052) No Action Noise Levels (dBA)	Future (2052) Proposed Action Noise Levels (dBA)
R-1[b]	15000 Old Seward Highway	Residential (B)	66	65.3	66.0	66.6
R-2	15020 Old Seward Highway	Residential (B)	66	62.2	63.1	63.4
R-3	15040 Old Seward Highway	Residential (B)	66	59.8	60.8	60.5
R-4	2836 Chenoweth Street	Residential (B)	66	56.9	58.1	56.8
R-5	2739 East 154th Avenue	Residential (B)	66	63.7	64.9	64.6
R-6	15400 Seward Highway	Rabbit Creek Shooting Park (E)	71	62.6	63.8	63.6
R-7	2910 East 154th Avenue	Residential (B)	66	54.8	56.0	56.4
R-8	2920 East 154th Avenue	Residential (B)	66	53.0	54.2	54.4
R-9	2999 East 154th Avenue	North Potter Marsh Visitor Facilities (C)	66	57.3	58.5	54.7
R-10[b]	2999 East 154th Avenue	Potter Marsh Boardwalk (C)	66	71.6	72.8	68.6
R-11	16040 Old Seward Highway	Residential (B)	66	40.4	41.6	41.8
R-12	4200 Southpark Bluff Drive	Residential (B)	66	39.6	40.8	40.8

Receptor	Location	Land Use (Activity Category)	Modified NAC (dBA)[a]	Existing Noise Levels (dBA)	Future (2052) No Action Noise Levels (dBA)	Future (2052) Proposed Action Noise Levels (dBA)
R-13[b]	Seward Highway, MP 116.5	AWCR Wildlife Viewing Pullout (C)	66	74.1	75.3	70.9
R-14	16800 Tideview Drive	Residential (B)	66	40.8	42.0	41.9
R-15	16860 Old Seward Highway	Residential (B)	66	41.6	42.8	42.6
R-16	4525 Potter Valley Road	South Potter Marsh Visitor Facilities (C)	66	63.7	64.9	61.6
R-17	4711 Potter Crest Circle	Residential (B)	66	56.2	57.4	63.2
R-18	4701 Potter Crest Circle	Residential (B)	66	53.0	54.1	64.3
R-19	4712 Potter Crest Circle	Residential (B)	66	55.4	56.6	64.0
R-20	18575 Seward Highway	Residential (B)	66	50.7	51.9	59.6
R-21	18621 Seward Highway	Alaska Department of Natural Resources Alaska Division of Mining, Land, and Water, Maintenance Facility (F)	99	50.9	52.1	64.0
R-22[b]	18620 Seward Highway	Potter Section House/Chugach State Park Headquarters (C)	66	70.3	71.5	70.0
R-23[b]	18699 Seward Highway	Potter Creek Trailhead (C)	66	69.8	71.0	68.0
R-24[b,c]	18699 Seward Highway	Turnagain Arm Trail Northern Trailhead (C)	66	66.6	67.8	70.6
R-25[c]	Seward Highway, MP 114.8	DOT&PF Weigh Station (F)	99	70.2	71.4	72.5
R-26	Seward Highway, MP 111.8	McHugh Picnic Area (C)	66	62.1	63.5	58.1
R-27[b]	Seward Highway, MP 111.8	McHugh Creek Trailhead (C)	66	68.3	69.6	67.3
R-28	Seward Highway, MP 110.3	Beluga Point (C)	66	68.5	69.6	64.8
R-29	Seward Highway, MP 110	Sunshine Ridge Rock Climbing Access (C)	66	68.3	69.5	64.0
R-30[c]	Seward Highway, MP 109.8	Pullout/Scenic Overlook (C)	66	74.9	76.1	63.5
R-31	24157 Seward Highway	Residential (B)	66	56.7	57.9	60.7
R-32	24153 Seward Highway	Residential (B)	66	61.7	62.9	63.1
R-33	24153 Seward Highway	Residential (B)	66	63.2	64.4	62.8
R-34[b]	Seward Highway, MP 108.4	Rainbow Trailhead (C)	66	65.9	67.1	66.5
R-35	Seward Highway, MP 108.7	Rainbow Point Scenic Overlook (C)	66	70.2	71.5	63.4
R-36	250 Karalyssa Drive	Residential (B)	66	53.4	54.6	55.4
R-37	200 Karalyssa Drive	Residential (B)	66	53.5	54.7	56.3
R-38	310 Indian Road	Residential (B)	66	56.8	57.9	64.3
R-39	150 Karalyssa Drive	Residential (B)	66	60.8	62.1	64.5
R-40	27635 Seward Highway	Birch & Alder (E)	71	65.4	66.6	63.1
R-41	199 Indian Road	Residential (B)	66	58.4	59.6	61.8
R-42	27655 Seward Highway	Restaurant (E)	71	67.0	68.2	65.6
R-43	219 Reindeer Circle	Residential (B)	66	61.6	62.9	62.4
R-44	27395 Seward Highway	Residential (B)	66	59.8	61.0	61.1

Receptor	Location	Land Use (Activity Category)	Modified NAC (dBA)[a]	Existing Noise Levels (dBA)	Future (2052) No Action Noise Levels (dBA)	Future (2052) Proposed Action Noise Levels (dBA)
R-45	27327 Seward Highway	Residential with onsite business (Turnagain View Lodge & Wedding Venue) (B)	66	50.5	51.7	60.4
R-46	170 Old Johns Road	Residential (B)	66	56.2	57.5	59.4
R-47	27957 Seward Highway	Turnagain Restaurant (E)	71	66.5	67.7	67.0
R-48	28065 Seward Highway	Brown Bear Saloon (E)	71	64.3	65.5	64.5
R-49[b]	27301 Seward Highway	Residence with onsite business (Indian Valley Mine & Gifts) (B)	66	68.5	69.7	66.0
R-50[b]	29025 Seward Highway	Residential (B)	66	66.4	67.7	66.4
R-51	Seward Highway, MP 106.6	Turnagain Arm Trail at Windy (C)	66	59.8	61.0	58.3
R-52[b]	29135 Seward Highway	Valley Bible Chalet (C)	66	66.4	67.7	67.2
R-53[b,c]	28065 Seward Highway	Chugach State Park Indian Creek (C)	66	66.3	67.5	74.5
R-54	Seward Highway, MP 105.6	Falls Creek Trail (C)	66	67.4	68.6	64.9
R-55[a]	Seward Highway, MP 105.6	Falls Creek Trailhead (C)	66	71.2	72.4	67.5
R-56	Seward Highway, MP 102.1	Bird Ridge Trailhead (C)	66	65.0	66.2	64.8
R-57	Seward Highway, MP 101.8	Bird Ridge Access Trail Scenic Overlook (C)	66	60.2	61.4	60.6
R-58[b]	Seward Highway, MP 101.6	Bird Creek Access Trail (C)	66	68.6	69.9	71.9
R-59[b]	Seward Highway, MP 101.2	Bird Creek Overflow Campground (C)	66	58.4	59.6	66.9
R-60[c]	Seward Highway, MP 101.4	Bird Creek Observation/Fishing Platforms (C)	66	62.3	63.5	58.4
R-61	166 Bushnell Road	Residential (B)	66	56.5	57.7	59.0
R-62	171 El Rocko Lane	Residential (B)	66	62.1	63.3	65.4
R-63	Mile 101.2 Seward Highway	Campground Site 12 (C)	66	57.4	58.7	56.5
R-64	176 Steller's Jay Lane	Residential (B)	66	51.1	52.4	56.3
R-65	29398 Seward Highway	Boretide Cabin (C)	66	52.4	53.7	52.2
R-66[b]	129 Steller's Jay Lane	Residential (B)	66	61.8	63.0	66.9
R-67	Mile 101.2 Seward Highway	Campground Site 11 (C)	66	54.6	55.9	54.1
R-68	Mile 101.2 Seward Highway	Campground Site 13 (C)	66	53.1	54.3	52.5
R-69	Mile 101.2 Seward Highway	Campground Site 10 (C)	66	52.3	53.5	51.7
R-70	Mile 101.2 Seward Highway	Campground Site 14 (C)	66	50.9	52.2	50.8
R-71	Mile 101.2 Seward Highway	Campground Site 15 (C)	66	49.5	50.8	49.7

Receptor	Location	Land Use (Activity Category)	Modified NAC (dBA)[a]	Existing Noise Levels (dBA)	Future (2052) No Action Noise Levels (dBA)	Future (2052) Proposed Action Noise Levels (dBA)
R-72	Mile 101.2 Seward Highway	Campground Site 9 (C)	66	48.8	50.0	49.0
R-73	Mile 101.2 Seward Highway	Campground Site 16 (C)	66	48.7	49.9	49.1
R-74	Mile 101.2 Seward Highway	Campground Site 5 (C)	66	50.5	51.7	51.1
R-75	Mile 101.2 Seward Highway	Campground Site 6 (C)	66	49.2	50.4	49.6
R-76	Mile 101.2 Seward Highway	Campground Site 8 (C)	66	48.4	49.7	48.7
R-77	Mile 101.2 Seward Highway	Campground Site 7 (C)	66	48.5	49.7	49.0
R-78	Mile 101.2 Seward Highway	Campground Site 17 (C)	66	48.2	49.4	48.7
R-79	Mile 101.2 Seward Highway	Campground Site 4 (C)	66	54.1	55.3	53.9
R-80	29383 Seward Highway	Essential One Gas Station (E)	71	63.8	65.0	65.1
R-81	Mile 101.2 Seward Highway	Campground Site 3 (C)	66	58.9	60.1	57.1
R-82	Mile 101.2 Seward Highway	Campground Site 2 (C)	66	60.9	62.2	59.2
R-83	Mile 101.2 Seward Highway	Campground Site 18 (C)	66	48.1	49.3	48.6
R-84	Mile 101.2 Seward Highway	Campground Site 20 (C)	66	51.2	52.4	51.0
R-85	Mile 101.2 Seward Highway	Campground Site 19 (C)	66	49.7	50.9	49.8
R-86	Mile 101.2 Seward Highway	Campground Site 21 (C)	66	54.5	55.7	53.3
R-87	Mile 101.2 Seward Highway	Campground Site #1 (C)	66	61.3	62.5	61.7
R-88	Mile 101.2 Seward Highway	Campground Site 22 (C)	66	57.2	58.4	55.9
R-89	Mile 101.2 Seward Highway	Campground Host Site (C)	66	57.7	58.9	56.9
R-90	Mile 101.2 Seward Highway	Campground Information Kiosk (C)	66	62.6	63.8	65.9
R-91	29433 Seward Highway	Bird Creek Motel & RV Park (E)	71	64.7	65.9	67.3
R-92	29398 Seward Highway	Beluga Public Use Cabin (C)	66	52.7	54.0	52.4
R-93[b]	29455 Seward Highway	Residential (B)	66	61.9	63.1	67.3
R-94	191 Konikson Road	Residential (B)	66	55.2	56.4	57.6
R-95	157 Konikson Road	Residential (B)	66	60.7	61.9	65.8
R-96	29521 Seward Highway	Birdhouse Garage (E)	71	64.8	66.0	66.4
R-97	Seward Highway, MP 101.2	Bird Creek Trailhead (C)	66	55.3	56.5	55.4
R-98	210 Auriga Lane	Residential (B)	66	61.6	62.8	61.2
R-99	191 Whispering Bird Lane	Residential (B)	66	53.5	54.7	58.2
R-100[b]	29675 Seward Highway	Residential (B)	66	63.8	65.0	67.5
R-101	158 Whispering Bird Lane	Whispering Bird Studio (C)	66	60.9	62.1	65.1

Receptor	Location	Land Use (Activity Category)	Modified NAC (dBA)[a]	Existing Noise Levels (dBA)	Future (2052) No Action Noise Levels (dBA)	Future (2052) Proposed Action Noise Levels (dBA)
R-102	29859 Seward Highway	Alaska Log Structures (B)	66	59.5	60.7	61.7
R-103[b]	Seward Highway, MP 100	Trail (C)	66	70.6	71.8	71.4

[a] Specific NAC for the receptor's activity category as modified by DOT&PF approach definition (within 1 dBA). For example, for Activity Category B, the NAC is 67 dBA; therefore, the Modified NAC is 66 dBA. As there is no NAC for Activity Category F, the Modified NAC is represented as 99 (no limit) in the table.
[b] An impact is identified for the Proposed Action.
[c] These receptors were relocated as part of the Proposed Action. The 2024 results were evaluated in the existing location while the 2052 Proposed Action results were evaluated in the proposed new location.

6 Identification of Noise Impacts

6.1 Existing Conditions

The model identifies that 2 Category B (residential) properties (R-49 and R-50) and 16 Category C (recreational and worship) properties (R-10, R-13, R-22 to R-24, R-27 to R-30, R-35, R-52 to R-55, R-58, and R-103) currently experience noise levels at or above the NAC. Table 6-1 summarizes the impacted receptors and model data for the existing conditions. Table 6-4, at the end of this section, summarizes the number of receptors impacted by Activity Category for each scenario.

Table 6-1. Impacted receptors under existing conditions.

Receptor	Location	Land Use (Activity Category)	Modified NAC (dBA)[a]	Existing Noise Levels (dBA)
R-10	2999 East 154th Avenue	Potter Marsh Boardwalk (C)	66	71.6
R-13	Seward Highway, MP 116.5	AWCR Wildlife Viewing Pullout (C)	66	74.1
R-22	18620 Seward Highway	Potter Section House/Chugach State Park Headquarters (C)	66	70.3
R-23	18699 Seward Highway	Potter Creek Trailhead (C)	66	69.8
R-24	18699 Seward Highway	Turnagain Arm Trail Northern Trailhead (C)	66	66.6
R-27	Seward Highway, MP 111.8	McHugh Creek Trailhead (C)	66	68.3
R-28	Seward Highway, MP 110.3	Beluga Point (C)	66	68.5
R-29	Seward Highway, MP 110	Sunshine Ridge Rock Climbing Access (C)	66	68.3
R-30	Seward Highway, MP 109.8	Pullout/Scenic Overlook (C)	66	74.9
R-35	Seward Highway, MP 108.7	Rainbow Point Scenic Overlook (C)	66	70.2
R-49	27301 Seward Highway	Residence with onsite business (Indian Valley Mine & Gifts) (B)	66	68.5
R-50	29025 Seward Highway	Residential (B)	66	66.4
R-52	29135 Seward Highway	Valley Bible Chalet (C)	66	66.4
R-53	28065 Seward Highway	Chugach State Park Indian Creek (C)	66	66.3
R-54	Seward Highway, MP 105.6	Falls Creek Trail (C)	66	67.4
R-55	Seward Highway, MP 105.6	Falls Creek Trailhead (C)	66	71.2
R-58	Seward Highway, MP 101.6	Bird Creek Access Trail (C)	66	68.6
R-103	Seward Highway, MP 100	Trail (C)	66	70.6

[a] Specific NAC for the receptor's activity category as modified by DOT&PF approach definition (within 1 dBA). For example, for Activity Category B, the NAC is 67 dBA; therefore, the Modified NAC is 66 dBA.

6.2 No Action Alternative

Traffic volumes are anticipated to grow over time, and the model predicts that 3 Category B (residential) properties (R-1, R-49, and R-50) and 18 Category C properties (R-10, R-13, R-22 to R24, R-27 to R-30, R-34, R-35, R-52 to R-56, R-58, and R-103) would experience noise levels at or above the NAC in the year 2052. Eighteen of these 21 properties already experience noise levels that approach or exceed the NAC under existing conditions. Table 6-2 summarizes the receptors and model data under the No Action alternative. Table 6-4, at the end of this section, summarizes the number of receptors impacted.

Table 6-2. Impacted receptors under the future (2052) No Action alternative.

Receptor	Location	Land Use (Activity Category)	Modified NAC (dBA)[a]	Existing Noise Levels (dBA)	Future (2052) No Action Noise Levels (dBA)
R-1	15000 Old Seward Highway	Residential (B)	66	65.3	66.0
R-10	2999 East 154th Avenue	Potter Marsh Boardwalk (C)	66	71.6	72.8
R-13	Seward Highway, MP 116.5	AWCR Wildlife Viewing Pullout (C)	66	74.1	75.3
R-22	18620 Seward Highway	Potter Section House/Chugach State Park Headquarters (C)	66	70.3	71.5
R-23	18699 Seward Highway	Potter Creek Trailhead (C)	66	69.8	71.0
R-24	18699 Seward Highway	Turnagain Arm Trail Northern Trailhead (C)	66	66.6	67.8
R-27	Seward Highway, MP 111.8	McHugh Creek Trailhead (C)	66	68.3	69.6
R-28	Seward Highway, MP 110.3	Beluga Point (C)	66	68.5	69.6
R-29	Seward Highway, MP 110	Sunshine Ridge Rock Climbing Access (C)	66	68.3	69.5
R-30	Seward Highway, MP 109.8	Pullout/Scenic Overlook (C)	66	74.9	76.1
R-34	Seward Highway, MP 108.4	Rainbow Trailhead (C)	66	65.9	67.1
R-35	Seward Highway, MP 108.7	Rainbow Point Scenic Overlook (C)	66	70.2	71.5
R-49	27301 Seward Highway	Residence with onsite business (Indian Valley Mine & Gifts) (B)	66	68.5	69.7
R-50	29025 Seward Highway	Residential (B)	66	66.4	67.7
R-52	29135 Seward Highway	Valley Bible Chalet (C)	66	66.4	67.7
R-53	28065 Seward Highway	Chugach State Park Indian Creek (C)	66	66.3	67.5
R-54	Seward Highway, MP 105.6	Falls Creek Trail (C)	66	67.4	68.6
R-55	Seward Highway, MP 105.6	Falls Creek Trailhead (C)	66	71.2	72.4
R-56	Seward Highway, MP 102.1	Bird Ridge Trailhead (C)	66	65.0	66.2
R-58	Seward Highway, MP 101.6	Bird Creek Access Trail (C)	66	68.6	69.9
R-103	Seward Highway, MP 100	Trail (C)	66	70.6	71.8

[a] Specific NAC for the receptor's activity category as modified by DOT&PF approach definition (within 1 dBA). For example, for Activity Category B, the NAC is 67 dBA; therefore, the Modified NAC is 66 dBA.

6.3 Proposed Action

The model predicts that 6 Category B (residential) properties (R-1, R-49, R-50, R-66, R-93, and R-100) and 13 Category C properties (R-10, R-13, R-22 to R24, R-27, R-34, R-52, R-53, R-55, R-58, R-59, and R-103) would experience noise levels at or above the NAC in the year 2052. Thirteen of these 19 properties already experience noise levels that approach or exceed the NAC under existing conditions. Table 6-3 summarizes the receptors and model data under the Proposed Action. Table 6-4, at the end of this section, summarizes the number of receptors impacted.

Table 6-3. Impacted receptors under the future (2052) Proposed Action .

Receptor	Location	Land Use (Activity Category)	Modified NAC (dBA)[a]	Existing Noise Levels (dBA)	Future (2052) No Action Noise Levels (dBA)	Future (2052) Proposed Action Noise Levels (dBA)
R-1	15000 Old Seward Highway	Residential (B)	66	65.3	66.0	66.6
R-10[b]	2999 East 154th Avenue	Potter Marsh Boardwalk (C)	66	71.6	72.8	68.6
R-13	Seward Highway, MP 116.5	AWCR Wildlife Viewing Pullout (C)	66	74.1	75.3	70.9
R-22	18620 Seward Highway	Potter Section House/Chugach State Park Headquarters (C)	66	70.3	71.5	70.0
R-23	18699 Seward Highway	Potter Creek Trailhead (C)	66	69.8	71.0	68.0
R-24[b]	18699 Seward Highway	Turnagain Arm Trail Northern Trailhead (C)	66	66.6	67.8	70.6
R-27	Seward Highway, MP 111.8	McHugh Creek Trailhead (C)	66	68.3	69.6	67.3
R-34	Seward Highway, MP 108.4	Rainbow Trailhead (C)	66	65.9	67.1	66.5
R-49	27301 Seward Highway	Residence with onsite business (Indian Valley Mine & Gifts) (B)	66	68.5	69.7	66.0
R-50	29025 Seward Highway	Residential (B)	66	66.4	67.7	66.4
R-52	29135 Seward Highway	Valley Bible Chalet (C)	66	66.4	67.7	67.2
R-53[b]	28065 Seward Highway	Chugach State Park Indian Creek (C)	66	66.3	67.5	74.5
R-55	Seward Highway, MP 105.6	Falls Creek Trailhead (C)	66	71.2	72.4	67.5
R-58	Seward Highway, MP 101.6	Bird Creek Access Trail (C)	66	68.6	69.9	71.9
R-59	Seward Highway, MP 101.2	Bird Creek Overflow Campground (C)	66	58.4	59.6	66.9
R-66	129 Steller's Jay Lane	Residential (B)	66	61.8	63.0	66.9
R-93	29455 Seward Highway	Residential (B)	66	61.9	63.1	67.3
R-100	29675 Seward Highway	Residential (B)	66	63.8	65.0	67.5
R-103	Seward Highway, MP 100	Trail (C)	66	70.6	71.8	71.4

[a] Specific NAC for the receptor's activity category as modified by DOT&PF approach definition (within 1 dBA). For example, for Activity Category B, the NAC is 67 dBA; therefore, the Modified NAC is 66 dBA.
[b] These receptors would be relocated as part of the Proposed Action. The 2024 results were evaluated in the existing location, while the 2052 Proposed Action results were evaluated in the proposed new location.

Table 6-4. Receptors impacted.

FHWA Activity Category	Receptor Land Uses	Impact	Number of Receptors Impacted		
			Existing Conditions (2024)	No Action Alternative (2052)	Proposed Action Alternative (2052)
B	Residential	Approaches or Exceeds NAC	2	3	6
		Substantial Increase	—	—	—
C	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings	Approaches or Exceeds NAC	16	18	13
		Substantial Increase	—	—	—
D	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios	Approaches or Exceeds NAC	—	—	—
		Substantial Increase	—	—	—
E	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in Category A through D or F	Approaches or Exceeds NAC	—	—	—
		Substantial Increase	—	—	—
F	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing	Approaches or Exceeds NAC[a]	—	—	—
		Substantial Increase	—	—	—
G	Undeveloped	Approaches or Exceeds NAC[a]	—	—	—
		Substantial Increase	—	—	—
		Total	**18**	**21**	**19**

[a] There are no NAC for Category F and G lands.

7 Noise Abatement Analysis

Noise abatement measures are considered for outdoor use areas, or interior use areas in the case of Activity Category D land uses, where predicted traffic noise levels approach or exceed the applicable NAC, or where predicted traffic noise levels substantially exceed the existing noise levels. Noise abatement measures are considered for these receptors consistent with DOT&PF's (2023) *Noise Policy* guidelines and are evaluated for acoustic feasibility and reasonableness. DOT&PF policy requires abatement for Activity Categories A through E to be feasible and reasonable on their own merits. In general, DOT&PF does not consider abatement measures for Activity Category F (land uses not sensitive to highway traffic noise) or G (undeveloped) lands.

DOT&PF does not evaluate noise abatement measures for existing conditions or the No Action alternative.

7.1 Feasibility Criteria

Acoustic feasibility criteria deal primarily with physics and engineering considerations (i.e., can a substantial noise reduction be achieved given the conditions of a specific location, or is the ability to achieve noise reduction limited by factors such as topography, access requirements for driveways or ramps, the presence of cross streets, or other noise sources in the area?). Noise abatement measures are not feasible if:

- A minimum of 5 dBA or more reduction cannot be achieved for at least three impacted front row receptors; or
- They create a safety hazard to the driving public, protected receptors, or maintenance personnel.

7.2 Reasonableness Criteria

Reasonableness is a more subjective criterion than feasibility. It implies that common sense and good judgment were applied in arriving at a decision. Reasonableness is based on a number of factors, not just one criterion. FHWA noise regulations define three mandatory reasonableness factors that must be evaluated for a noise abatement measure to be considered reasonable; DOT&PF considers these three mandatory reasonableness factors to determine reasonableness:

1. Cost Effectiveness: DOT&PF policy states that the noise abatement measure cost is no more than $45,220 per benefited receptor (2023 dollars), based upon the design engineer's estimate. A benefited receptor is defined as the recipient of an abatement measure that receives a noise reduction at or above the minimum threshold of 5 dBA.
2. Views of the Property Owners and Residents that Benefit from Noise Abatement Measures: DOT&PF will contact all benefited households and property owners to determine the level of interest for a noise abatement measure. At least 60 percent of households and property owners surveyed must want the noise abatement measure.

3. Noise Reduction Design Goal: The DOT&PF noise reduction design goal is a minimum of 7 dBA. Fifty percent or more of the benefitted receptors in the first row of structures must achieve this design goal for the noise abatement to be considered reasonable.

8 Noise Abatement Recommendations

Noise abatement to reduce highway vehicle noise can take a number of physical or operational forms. The most common, and often most cost-effective, approach to mitigating highway noise is the construction of traditional noise walls or barriers. Other methods for reducing highway noise include roadway alignment changes, truck restrictions, speed restrictions, and the acquisition of real property to create a buffer between a highway and the nearest noise sensitive land uses.

Insufficient space exists within the Project roadway right-of-way areas to shift the roadway alignments to reduce highway noise impacts. The cost of acquiring real property as well as displacing existing residents and businesses would not meet the reasonableness criteria per benefitted receiver allowable by DOT&PF's (2023) *Noise Policy*. Decreasing the speed limit or restricting truck use within the Project corridor would not meet the Project's purpose to increase mobility in the corridor.

The model predicts that six residential properties (R-1, R-49, R-50, R-66, R-93, and R-100) and 13 recreational properties (R-10, R-13, R-22 to R24, R-27, R-34, R-52, R-53, R-55, R-58, R-59, and R-103) would experience noise levels at or above the NAC in the year 2052 with the Proposed Action.

For DOT&PF projects, a 5 dBA or more reduction must be achieved for at least three impacted front row receptors for the abatement measure to be considered acoustically feasible. As shown on the maps in Appendix A, there are not three impacted receptors located next to each other to meet the acoustically feasibility requirement. Noise barriers are not proposed as part of this Project.

A feasibility and reasonableness worksheet has been completed for each of the impacted receptors and is included in Appendix E. It summarizes this information and identifies that a noise abatement barrier is not feasible.

9 Statement of Likelihood

As a result of the feasibility and reasonableness analysis conducted as a part of the EA, DOT&PF does not propose noise mitigation for incorporation into the proposed Project. This noise abatement recommendation is preliminary and based upon the feasibility and reasonableness analysis completed at the time of the EA.

Should Project design changes during final design warrant additional or revised noise analysis, that would be performed as part of a re-evaluation of the decision (finding) of the National Environmental Policy Act document. Any changes in the final abatement recommendation would include solicitation of additional public comment as part of the re-evaluation.

10 Construction Noise

DOT&PF's (2023) *Noise Policy* (Appendix B) requires that construction noise be evaluated for Type I federal and state projects, such as the proposed Project. Specifically, it is DOT&PF policy to:

- Identify land uses or activities that may be affected by noise from project construction;
- Determine the measures that are needed in the plans and specifications to minimize or eliminate adverse construction noise impacts to the community; and
- Incorporate the needed abatement measures into the plans and specifications.

Noise sensitive land uses for construction are the same as those residences, recreational, community, and worship locations identified in the traffic noise analysis discussed above. Project construction can be expected to cause short-term noise impacts within areas directly adjacent to construction activity. Construction equipment noise levels are usually measured at 50 feet from the source. Table 10-1 lists some typical noise levels.

Table 10-1. Typical construction equipment noise levels.

Types of Activities	Types of Equipment	Range of Noise Levels at 50 Feet (dBA)
Materials Handling	Concrete mixers	75–87
	Concrete pumps	81–83
	Cranes (movable)	76–87
	Cranes (derrick)	86–88
Stationary Equipment	Pumps	69–71
	Generators	71–82
	Compressors	74–87
Impact Equipment	Pneumatic wrenches	83–88
	Rock drills	81–98
Land Clearing	Bulldozers	77–96
	Dump trucks	82–94
Grading	Scrapers	80–93
	Bulldozers	77–96
Paving	Pavers	86–88
	Dump trucks	82–94

Source: EPA 1971

Construction equipment noise levels decrease by approximately 6 dBA per doubling of distance because of geometric divergence alone, provided a clear line of sight to the equipment exists. For example, a bulldozer creating 80 dBA of noise at 50 feet would have an observed value of 74 dBA at 100 feet and 68 dBA at 200 feet.

Truck traffic on area roadways may increase during construction for the transport of heavy materials and equipment. The EA identifies construction noise abatement measures such as:

- Trucks and heavy equipment associated with the Project will be equipped with mufflers and routed away from residential areas to the extent practicable.
- Operation of construction equipment will be limited to daytime hours when possible. If work during nighttime hours is necessary, the contractor will be required to comply with all local noise ordinances.

- The public will be notified in advance of construction activities.

11 Information for Local Officials

HDR calculated the distance to traffic noise thresholds from the Proposed Action alignment centerline for Activity Category B, C, and E lands within the Project vicinity. This was in support of an effort to prevent future traffic noise impacts on currently undeveloped lands, and to maintain compatibility between highways and future development. As shown in Table 11-1, new residential (Activity Category B) or public facilities, recreational, or worship (Activity Category C) properties constructed within the defined distance to centerline may experience noise levels that approach or exceed the NAC (67 dBA). New commercial properties constructed adjacent to the Seward Highway within the defined distance to centerline may experience noise levels that approach or exceed the NAC (72 dBA).

Table 11-1. Predicted distances to Activity Category B, C, and E NAC thresholds.

Roadway	Roadway Centerline to Activity Category B and C NAC Thresholds (feet)	Roadway Centerline to Activity Category E NAC Threshold (feet)
Seward Highway	Approximately 155	Approximately 75

12 Conclusion

The Project would result in some operational traffic noise and temporary construction noise. Traffic noise is predicted to approach or exceed the NAC at 18 individual receptors under existing conditions, 21 individual receptors under the No Action alternative, and 19 individual receptors under the Proposed Action. Traffic noise is not predicted to substantially increase at any receptors as a result of the Proposed Action.

Noise abatement was considered for each receptor impacted under the Proposed Action. Noise barriers were considered not feasible based upon acoustic performance. Consequently, no noise abatement is recommended for the Proposed Action.

13 References

DOT&PF (Alaska Department of Transportation and Public Facilities)

2023 *Noise Policy*. June 2023.

EPA (United States Environmental Protection Agency)

1971 *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*. December 31, 1971.

FHWA (Federal Highway Administration)

n.d. 23 CFR 772. *Procedures for Abatement of Highway Traffic Noise and Construction Noise*.

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Appendix A. Figures

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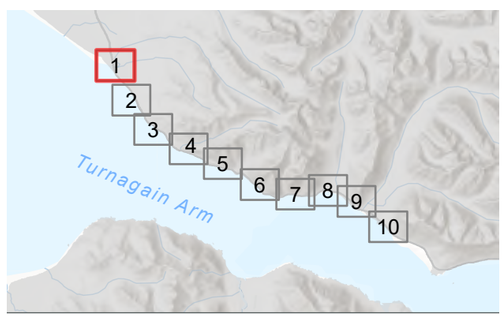
Seward Highway
Traffic Noise Impacts
Page 1 of 10

- Mileposts
- Proposed Roadway Edge of Pavement
- Field Noise Monitoring Location

Noise Receiver Impacts

- Non-Impacted Receiver
- Impacted Receiver
- Stream



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Seward Highway
Traffic Noise Impacts
Page 2 of 10

- Mileposts
- Proposed Roadway Edge of Pavement
- Field Noise Monitoring Location

Noise Receiver Impacts

- Non-Impacted Receiver
- Impacted Receiver
- Non-Noise Sensitive Receiver
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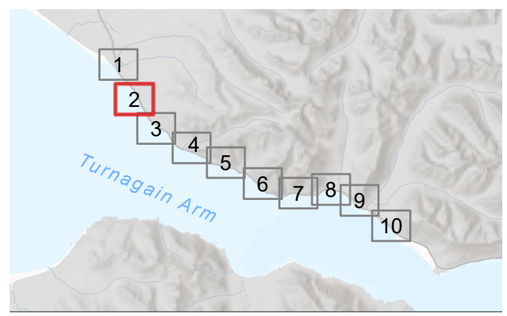

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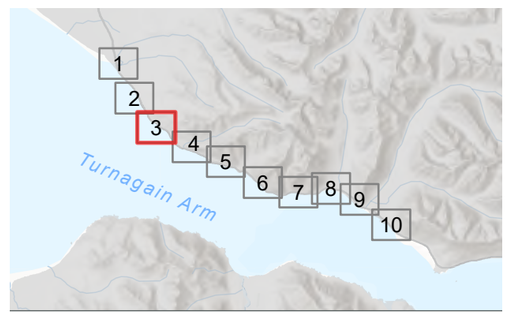
Seward Highway
Traffic Noise Impacts
Page 3 of 10

Mileposts

Proposed Roadway Edge of Pavement



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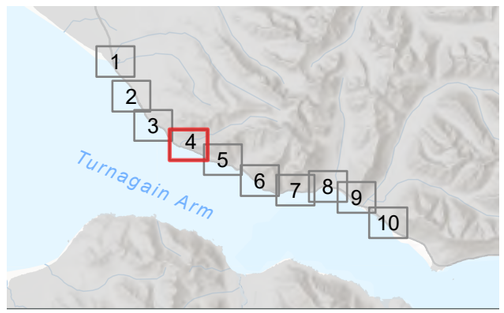
Seward Highway
Traffic Noise Impacts
Page 4 of 10

- Mileposts
- Proposed Roadway Edge of Pavement
- Field Noise Monitoring Location

Noise Receiver Impacts

- Non-Impacted Receiver
- Impacted Receiver
- Stream



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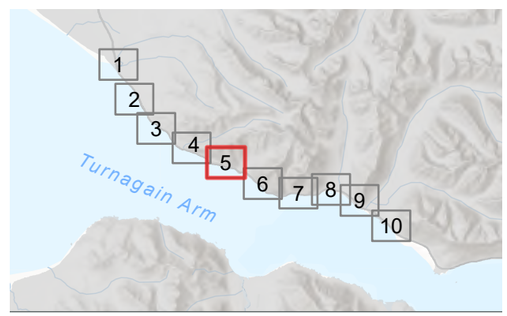
Seward Highway
Traffic Noise Impacts
Page 5 of 10

- Mileposts
- Proposed Roadway Edge of Pavement
- Field Noise Monitoring Location

Noise Receiver Impacts

- Non-Impacted Receiver
- Stream



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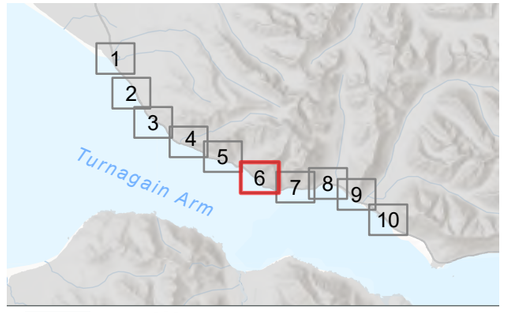
Seward Highway
Traffic Noise Impacts
Page 6 of 10

- Mileposts
- Proposed Roadway Edge of Pavement
- Field Noise Monitoring Location

Noise Receiver Impacts

- Non-Impacted Receiver
- Impacted Receiver
- Stream



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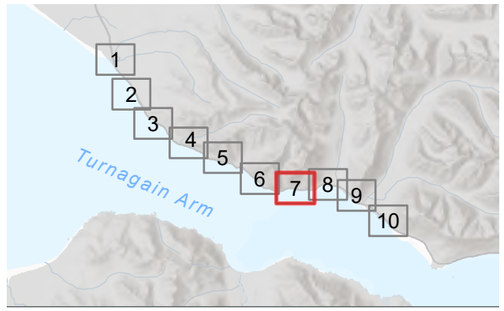
Seward Highway
Traffic Noise Impacts
Page 7 of 10

- Mileposts
- Proposed Roadway Edge of Pavement
- Field Noise Monitoring Location

Noise Receiver Impacts

- Non-Impacted Receiver
- Impacted Receiver
- Stream



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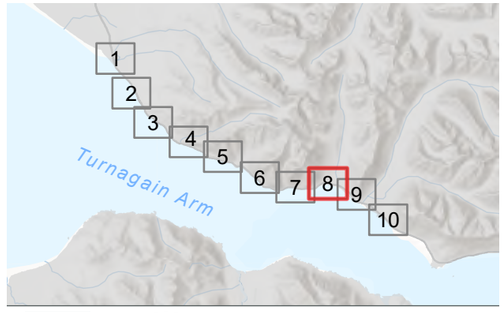
Seward Highway
Traffic Noise Impacts
Page 8 of 10

- Mileposts
- Proposed Roadway Edge of Pavement
- Field Noise Monitoring Location

Noise Receiver Impacts

- Non-Impacted Receiver
- Impacted Receiver
- Stream



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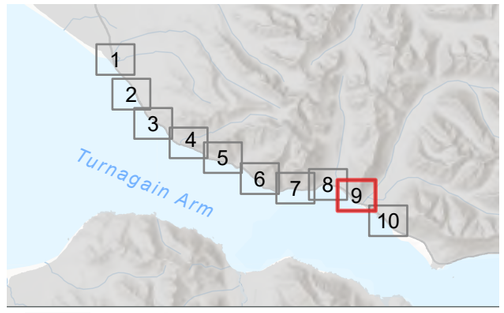
Seward Highway
Traffic Noise Impacts
Page 9 of 10

- Mileposts
- Proposed Roadway Edge of Pavement
- Field Noise Monitoring Location

Noise Receiver Impacts

- Non-Impacted Receiver
- Impacted Receiver
- Stream



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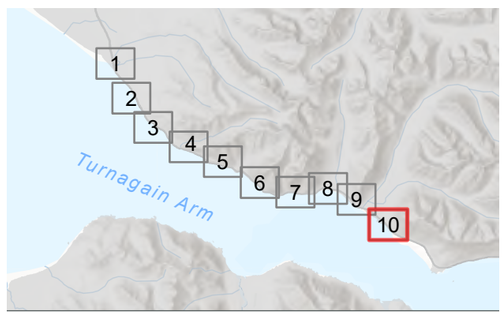
Seward Highway
Traffic Noise Impacts
Page 10 of 10

- Mileposts
- Proposed Roadway Edge of Pavement
- Field Noise Monitoring Location

Noise Receiver Impacts

- Non-Impacted Receiver
- Impacted Receiver



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Appendix B. DOT&PF's (2023) *Noise Policy*

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Alaska Department of Transportation & Public Facilities

Noise Policy

June 2023

ACRONYMS USED IN THIS DOCUMENT

ADT: Average Daily Traffic

ANSI: American National Standards Institute

BR: Benefited Receptor

CE: Categorical Exclusion (as defined in 23 CFR Part 771)

CEI: Cost Effectiveness Index

CFR: Code of Federal Regulations

CPI: Consumer Price Index

dB: Decibel

dBA: Decibel when referring to an A-weighted sound level

DHV: Design Hourly Volume (for traffic)

DOT&PF: Alaska Department of Transportation and Public Facilities

EA: Environmental Assessment (as defined in 23 CFR 771)

EIS: Environmental Impact Statement (as defined in 23 CFR 771)

FHWA: Federal Highway Administration

FHWA TNM: Federal Highway Administration Traffic Noise Model

FONSI: Finding of No Significant Impact (as defined in 23 CFR 771)

LOS: Level of Service

L_{eq}: Equivalent sound level in dBA

$L_{eq}(h)$: One-hour equivalent sound level in dBA

NAC: Noise Abatement Criterion

NEPA: National Environmental Policy Act

NSA: Noise Study Areas

RCNM: Road Construction Noise Model

REM: Regional Environmental Manager

ROD: Record of Decision (as defined in 23 CFR 771)

TABLE OF CONTENTS

1.0 INTRODUCTION

This document contains the Alaska Department of Transportation and Public Facilities (DOT&PF) policy on highway traffic noise and construction noise as it affects the human environment. The policy describes DOT&PF's implementation of the requirements of the Federal Highway Administration (FHWA) Noise Standard at Title 23 Code of Federal Regulations (CFR) Part 772 (see Appendix A.) The policy also addresses how traffic noise is considered on state funded projects. DOT&PF developed this policy, which was then reviewed and approved by FHWA and is considered effective as of the date on the title page. This policy replaces DOT&PF's Noise Policy dated November 2018.

During the rapid expansion of the Interstate Highway System and other roadways in the 20th century, communities began to recognize highway traffic noise and construction noise as important environmental impacts. In the 1972 Federal-aid Highway Act, Congress required FHWA to develop a noise standard for new Federal-aid highway projects. While providing national criteria and requirements for all highway agencies, the FHWA Noise Standard gives highway agencies flexibility that reflects state-specific attitudes and objectives in approaching the problem of highway traffic and construction noise. This document contains DOT&PF's policy on how highway traffic and construction noise impacts are defined, how noise abatement is evaluated, and how noise abatement decisions are made.

The FHWA Noise Standard requires noise abatement measures be considered when traffic noise impacts are identified for Type I federal projects, as defined in 23 CFR 772.5. Noise abatement measures found to be feasible and reasonable must be constructed for Type I federal projects. Feasible and reasonable noise abatement measures are eligible for federal-aid participation at the same ratio or percentage as other eligible project costs. As part of NEPA's requirement to consider the environmental effects of federally funded projects, the impact determinations and abatement considerations will be used to support development of the NEPA document.

2.0 PURPOSE

This policy outlines the DOT&PF program to implement the FHWA Noise Standards found in 23 CFR 772. These standards include traffic noise prediction requirements, noise analyses, noise abatement criteria, and requirements for informing local officials. Where FHWA has given DOT&PF flexibility in implementing the standard, this policy describes the DOT&PF approach to implementation. This policy also defines how the DOT&PF addresses traffic noise in State-funded projects.

The State of Alaska does not have any traffic noise regulations. It is the DOT&PF policy to follow the federal standards for traffic noise prediction requirements and noise analyses. Federal noise abatement criteria are followed to determine whether noise impacts exist and if abatement is feasible and reasonable; however, the decision to provide noise abatement on State-funded projects follows slightly different procedures (see Section 9.0 of this policy, *State-Funded Projects*).

3.0 DEFINITIONS

A-Weighted Decibel (dBA): An expression of the relative loudness of sounds as perceived by the human ear. The sound level measured in decibels with a frequency weighting network corresponding to the A-scale on a standard Type 1 or 2 sound level meter as specified by ANSI S1.4-1983 (R2006)/ANSI S1.4a-1985 (R2006,) American National Standard Specification for Sound Level meters (or latest version.) This is the most widely used weighting system for assessing transportation-related noise because it best approximates sound as heard by the normal human ear.

Acoustically Representative: A receptor location that represents the same land use category and magnitude of noise as another location. Proper acoustical representation includes nearly the same roadway geometry, topography, traffic flow, and distance from source to receptor.

Benefited Receptor: A receptor that receives at least a 5dBA noise reduction from an abatement measure.

Common Noise Environment: A group of receptors within the same Activity Category in 23 CFR 772, Table 1 that are exposed to similar noise sources and levels; traffic volumes, traffic mix, and speed; and topographic features. Generally, common noise environments occur between two secondary noise sources such as interchanges, intersections, and cross-roads.

Date of Development: The date at which land is permitted for development.

Date of Public Knowledge: The date of approval of the Categorical Exclusion (CE), the Finding of No Significant Impact (FONSI), the Record of Decision (ROD), or in the case of a state-funded project, approval of the State Environmental Checklist.

Decibel (dB): A unit of sound pressure level, which denotes the ratio between two sound pressures; the number of decibels is 10 times the base 10 logarithm of this ratio.

Design Hourly Volume (DHV): The 30^{th} highest hourly volume of the future year traffic assigned for the design, expressed in vehicles per hour.

Design Year: The future year used to estimate the probable traffic volume for which a highway is designed. This is determined by adding the project's design life to the anticipated date of construction completion.

Existing Noise Levels: The representative worst noise hour (as defined below) level resulting from the combination of natural and mechanical sources and human activity usually present in a particular area.

Feasibility: The combination of acoustical and engineering factors considered in the evaluation of a noise abatement measure.

Federal-aid Project: Any project utilizing federal funds for one or more phases (*i.e.*, Environmental, Design, Right of Way, or Construction) or that is otherwise subject to federal approval.

Field Measurement Point: Physical noise measurement site within the noise study boundary used to validate TNM and document existing noise levels. A field noise measurement point may also serve as a receiver in the TNM.

First Row Receptors: The first parcel that exhibits the qualities of a receptor that is directly adjacent to the roadway

Impacted Receptor: The recipient that has a traffic noise impact.

L_{eq}: The equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same time period, with $L_{eq}(h)$ being the L_{eq} for one hour.

Multifamily Dwelling: A residential structure containing more than one residence. Each residence with a private exterior space in a multifamily dwelling shall be counted as one receptor when determining impacted receptors and benefited receptors, and in determining barrier reasonableness.

Noise Analysis Boundary: Limits of analysis for the proposed project(s). Boundaries typically extend 500 feet on either side of a proposed projects improvements; however, some geometric conditions and traffic volumes/mixes may cause noise impacts beyond 500 feet. The boundaries must encompass all potential noise impacts.

Noise Barrier: A physical obstruction constructed between the highway noise source and the noise sensitive receptor(s) that lowers the noise level by reducing the transmission of sound, including stand-alone noise walls, noise berms (earth or other material), and combination berm/wall systems.

Noise Contour: A line on a map representing points of equal sound level (similar to ground elevation contour lines on a topographic map).

Noise Reduction Design Goal: The minimum desired sound level reduction, determined by calculating the difference between future build noise levels with and without abatement. The DOT&PF noise reduction design goal is 7 dBA.

Permitted: A definite commitment to develop land with an approved specific design of land use activities as evidenced by the issuance of a building permit.

Property Owner: An individual or group of individuals that holds a title, deed, or other legal documentation of ownership of a property or a residence.

Reasonableness: The combination of social, economic, and environmental factors considered in the evaluation of a noise abatement measure.

Receiver: A modeling point in the FHWA Traffic Noise Model (TNM) at which sound levels are predicted. An individual receiver may represent multiple receptors.

Receptor: A discrete or representative location (such as a residence or an activity area on a parcel of land) being studied for noise impacts.

Residence: A dwelling unit, such as a single family home or each dwelling unit in a multifamily dwelling.

Resident: Someone who resides at a dwelling unit. May not necessarily be the owner of the dwelling unit.

State-funded Project: A project that is solely funded by state monies appropriated by the Alaska State Legislature and requires no federal approvals for implementation.

Statement of Likelihood: A statement provided in the environmental clearance document based on the feasibility and reasonableness analysis completed at the time the environmental document is being approved.

Substantial Noise Increase: One of two types of highway traffic noise impacts. For a Type I project, DOT&PF defines it as an increase in design year noise levels of 15 or more dBA over the existing noise level.

Traffic Noise Impacts: Design year build condition noise levels that approach or exceed the Noise Abatement Criteria (NAC) listed in Table 1 in 23 CFR 772 for the future build condition; or design year build condition noise levels that create a substantial noise increase (defined above) over existing noise levels. The DOT&PF defines “approach” as one dBA below the NAC.

Type I Project: As defined in 23 CFR 772:

(1) The construction of a highway on new location; or,

(2) The physical alteration of an existing highway where there is either:

(i) Substantial Horizontal Alteration. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition; or,

(ii) Substantial Vertical Alteration. A project that removes shielding therefore exposing the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor; or,

(3) The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a HOV lane, High-Occupancy Toll (HOT) lane, bus lane, or truck climbing lane; or,

(4) The addition of an auxiliary lane, except when the auxiliary lane is a turn lane; or,

(5) The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,

(6) Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or,

(7) The addition of a new or substantial alteration of a weigh station, rest stop, ride-

share lot or toll plaza.
(8) If a project is determined to be a Type I project under this definition, the entire project area as defined in the environmental document is a Type I project.

Type II Project: A Federal or Federal aid highway project for noise abatement on an existing highway. For a Type II project to be eligible for Federal-aid funding, the highway agency must develop and implement a Type II program in accordance with section 772.7(e). DOT&PF does not have a Type II program.

Type III Project: A Federal or Federal aid highway project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.

Worst Noise Hour: A period of 60 minutes within a 24-hour day that reflects the noisiest hour resulting from the maximum amount of traffic traveling at the greatest speed. The worst noise hour may be when the vehicle mix is dominated by truck traffic rather than a high volume of automobile traffic.

4.0 APPLICABILITY

This Noise Policy applies to all Federal or Federal Aid Highway Projects authorized under Title 23, United States Code; therefore, this Noise Policy applies to any highway or multimodal project that:

1. Requires FHWA approval regardless of funding sources, or

2. Is funded with Federal Aid highway funds. This includes Federal or Federal-aid projects that are administered by Local Public Agencies as well as Alaska DOT&PF.

All projects without an approved noise report before the 2023 Noise Policy update adoption date shall use the 2023 Noise Policy. Projects that have an approved noise report under the 2018 Noise Policy may continue to use the existing noise report or prepare a new noise report using the 2023 update. Projects that have an approved noise report under the 2018 Noise Policy shall utilize Section 6.7.1 of the 2023 Noise Policy for documenting project design changes or reevaluations. Projects that have an approved noise report under the 2018 Noise Policy have three years from the adoption date of the 2023 Noise Policy update to obtain an Authority to Proceed with Construction; otherwise, the noise report shall be updated to conform to the 2023 Noise Policy update.

4.1 Type I Projects

The requirements of this policy apply uniformly and consistently to all Type I federal projects, Type I State-funded projects (see Section 9.0 of this policy), and Type I Toll Authority projects within the State of Alaska. If a project is determined to be a Type I project under the definition outlined in 23 CFR 772.5, then the entire project area as defined in the environmental document is a Type I project.

4.2 Type II Projects

DOT&PF has elected not to participate in the voluntary Type II noise program; therefore, no noise analyses will be completed for Type II projects. Type II projects are not discussed further in this policy.

4.3 Type III Projects

Type III projects are those projects that neither meet the definition of a Type I or Type II project nor require a noise analysis or consideration of noise abatement. However, it may be necessary to consider conducting a construction noise analyses in certain circumstances (*e.g.*, pile driving near residences). Construction noise is discussed in Section 8.0 of this policy.

5.0 ANALYSIS OF TRAFFIC NOISE IMPACTS

In order to accurately plan a project timeline, it is important to determine early on in project scoping if a noise analysis is necessary.

5.1 Minimum Qualifications for Noise Analysts

DOT&PF highway traffic noise analyses must be performed by qualified personnel who have successfully completed training in the area of highway noise analysis and are proficient in the use of the latest version of the FHWA-approved traffic noise modeling software. These personnel must have experience conducting noise analysis studies for highway transportation projects and have a working knowledge of this policy and the regulations outlined in 23 CFR 772.

5.2 General Requirements for All Type I Projects

All Type I projects require a noise analysis; however, projects may not require the same level of analysis. This policy describes three levels of analyses:

- Narrative Analysis – a non-quantitative analysis of noise impacts where noise impacts are not anticipated.
- Screening Analysis – a streamlined quantitative analysis where noise impacts are unlikely or abatement actions are clearly not feasible and/or reasonable.
- Detailed Analysis – a comprehensive quantitative analysis where noise impacts are possible and noise abatement may be feasible and reasonable.

Coordination with the Statewide Environmental Office (SEO) is required before a narrative or screening analysis is conducted. Failure to coordinate with the SEO may result in a need to reanalyze the project using a detailed analysis. There are limitations to the narrative and screening procedures, and they are not applicable to all projects. The appropriate level of noise analysis will depend on the presence of noise sensitive land uses (existing or permitted), probable occurrence of highway traffic noise impacts, the potential for noise abatement measures, and/or noise-related public controversy. The levels of analysis are described in detail in Sections 5.4 through 5.6 of this policy.

For Type I projects, a traffic noise analysis is required for all build alternatives under detailed study in the NEPA process. All reasonable alternatives that have been carried forward for detailed analysis and were not rejected as unreasonable during the alternatives screening process will be analyzed for noise impacts. For Environmental Impact Statements or other studies that will examine broad corridors, the appropriate scope and methodology of the noise analysis should be discussed with participating agencies early in the project planning process.

A Type I traffic noise analysis generally consists of the following steps, which are described in more detail in subsequent sections of this policy:

1. Identify noise analysis boundaries and receptors by land use Activity Category (Section 5.3) and distance to the edge of the closest travel lane of the proposed project;
2. Determine existing noise levels at a representative subset of receptors;
3. Predict future “build” noise levels at a larger representative subset of receptors. Predict future “no-build” noise levels for the proposed project;
4. Determine traffic noise impacts;
5. Evaluate abatement feasibility and reasonableness if there are traffic noise impacts;
6. Address coordination with local officials;
7. Address construction noise; and
8. Prepare the noise analysis report (Section 6.7).

Noise impact modeling and abatement evaluation/design for DOT&PF projects require use of an approved version of the FHWA Traffic Noise Model (FHWA TNM) or another model determined by FHWA to be consistent with the methodology of the FHWA TNM, pursuant to 23 CFR 772.9(a).

If any segment or component of an alternative meets the definition of a Type I project, then the entire alternative is considered to be Type I and is subject to these noise analysis requirements. The noise analysis boundaries will be consistent with project limits, from the beginning of the project to the end of the project based on logical termini for that specific project (BOP to EOP).

5.3 Land Use Activity Categories

Federal land use activity categories are defined in 23 CFR 772. DOT&PF has accepted the FHWA definition of these activity categories (Appendix B, Table 1). Noise analyses must address each activity category present within the noise analysis boundaries. If undeveloped land has been permitted for development (*e.g.*, a building permit has been issued on or before the date of public knowledge), that land should be assigned to the appropriate activity category and analyzed in the same manner as developed lands in that category.

Activity Category A: Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.

Activity Category B: Residential (single-family and multi-family homes). Noise receivers should be located in exterior areas that receive frequent human use (*e.g.*, patios, balconies, playgrounds, gardens, etc.). When an area of frequent use cannot be determined, an area mid-way between the residence and the right-of-way line should be chosen. For apartment buildings, second-floor or higher balconies should be used in addition to ground floor units. For any shared-use exterior areas, the number of residential equivalents will be equal to the total number of dwelling units in multi-family building(s).

Activity Category C: Exterior areas of non-residential lands such as schools, parks, cemeteries, etc., as listed in Appendix B. Receivers should be located in areas that receive the most frequent human use and represent the typical use of the area. Since impact determinations are based on each area of frequent human use, the number of areas impacted should be calculated and an equivalent number of residential units should then be calculated to assess the feasibility and reasonableness of abatement measures. The equivalent number of residential units is calculated by determining the average residential lot size for the vicinity and dividing it into the non-residential area, for a total number of residential units. For example, if a park has an area of 87,120 square feet, and the average residential lot size is 60 feet by 200 feet, or 12,000 square feet, use 8 equivalent residential units to assess the feasibility and reasonableness of a proposed abatement measure. Receiver placement for non-residential use sites is similar to that of the residential analysis. Receivers should be placed at the closest location to the highway right of way (ROW) line where outdoor activity normally occurs to determine if the NAC is exceeded. In addition, receivers should be placed at locations away from the ROW line to determine the extent of impact and to consider sensitive receptors if the NAC are exceeded at the ROW line.

Activity Category D: Interiors of certain Category C facilities, such as those listed in Appendix B. Interior receptor locations should only be used if there are no reasonable exterior (Category C) receptor options. Only consider the interior levels at these land uses after fully completing an analysis of any outdoor activity areas or determining that exterior abatement measures are not feasible or reasonable. Interior receptor areas (rooms) closest to the noise sources should be analyzed first when compared to the 52 dBA criteria for the category.

This will involve:

1.) Identify the expected noise reduction due to the composition of the building envelope: Table 6-1 found in the FHWA publication HEP-18-065, Noise Measurement Handbook Final Report (2018):

www.fhwa.dot.gov/environment/noise/measurement/handbook.cfm#toc492990722

2.) Determine if interior noise levels should assume an open-window or closed window conditions. Consider windows open unless there is firm knowledge that the windows are in fact kept closed almost every day of the year.

3.) If the expected reductions cannot be determined as identified in #1 or #2, physical measurements of the amount of noise reduction provided by the building envelope will be conducted consistent with methodology found in the FHWA publication HEP-18-065, Noise Measurement Handbook Final Report (2018).

Activity Category E: Exteriors of developed lands that are less sensitive to highway noise that are not included in Categories A-D or F. Noise measurements will be taken and predictions will be made at locations that receive the most frequent use. Category E are specifically excluded from Category D and no interior noise analysis is required. The USDOT/FDOT research publication, A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations (2009), shall be used to assess whether noise abatement is feasible and/or reasonable.

Activity Category F: Land uses that are not sensitive to highway noise (examples listed in Appendix B). No highway noise analysis is required under 23 CFR 772 for Activity Category F land uses. The noise analysis report should identify any Category F land uses by name, location, and type of land use.

Activity Category G: Undeveloped lands that are not permitted. Land permitted for development (*e.g.,* a building permit has been issued on or before the date of public knowledge) shall be analyzed under the Activity Category for that type of development. When possible, use the filed plat to choose receptor locations representing the exterior areas of frequent human use. For residential plats, determine if each lot represents a single-family or multifamily dwelling. Choose representative receptor locations for second row residences as well (these receptors may be grouped two or three at a time.)

For lands not permitted for development by the date of public knowledge, DOT&PF shall determine future noise levels pursuant to 23 CFR 772.17(a). For detailed noise analyses, this analysis should report (at a minimum) the distances from the proposed edge of the near travel lane out to where worst noise hour $L_{eq}(h)$ levels of 60 and 64 dBA are modeled to occur. The results shall be documented in the project environmental documentation and in the noise analysis report, when applicable. Federal participation in noise abatement measures will not be considered for Category G lands unless another future Type I project is planned adjacent to such lands.

5.4 Narrative Analysis for Type I Projects

A narrative analysis is a qualitative analysis that may be completed for Type I projects where noise-related impacts are not anticipated. If there are no receptors that could potentially be exposed to traffic noise impacts, a narrative analysis is appropriate, and no further analysis is required.

If there are receptors that could potentially be exposed to traffic noise impacts, and the project has the potential to adversely affect the acoustic environment based on an evaluation of the following factors below, a quantitative analysis (i.e., screening or detailed analysis) is required and a narrative analysis is not applicable.

- The identification of any existing activities, developed lands, and undeveloped lands for which development is permitted which may be affected by noise from the proposed project;
- Change of traffic volume (greater than 10%);
- Change of traffic composition (increased truck volumes);
- Change of traffic speed (greater than 10 miles per hour);
- Change of geometric relationships (either horizontal or vertical) between the roadway facility and receptors;
- Projects on new location;
- Change in distribution of traffic patterns; and/or;
- Public controversy based on noise-related issues or perceptions.

It is impossible to identify and account for every special consideration that may arise on a specific highway project and address it in the corresponding noise analysis; therefore, the list above is to be used as a guide and should not be considered comprehensive.

A narrative analysis will consist of a discussion of the proposed project, its relationship to receptors (if present) and why further analysis is not required. If no receptors are present, a brief statement should be included that summarizes the fact that there are no noise-sensitive land uses within the noise analysis boundaries. Depending on the project circumstances, some analysis may be required to justify the results of the narrative analysis and to document the non-significance of the change in the acoustical environment (*e.g.,* noise measurements or using a simplified two-dimensional FHWA TNM run to assess the worst-case conditions).

If local officials associated with undeveloped lands in the project area could benefit from information regarding future noise levels for planning purposes, then that information still needs to be provided even if a narrative analysis has been performed. This can be done using the simplified modeling procedure described in Section 5.5, below.

5.5 Screening Analysis for Type I Projects

For some Type I projects, a screening analysis may be appropriate. The screening analysis is a streamlined procedure in which either FHWA's Traffic Noise Screening Tool or simplified TNM modeling is used to predict traffic noise levels and make a conservative estimation of noise impacts. This procedure can be effective for reducing time and resources associated with a detailed analysis. If a project passes the screening analysis, additional noise analysis under 23 CFR 772 is normally not necessary. If a project is considered controversial, a detailed analysis (see "Detailed Analysis") is warranted regardless of whether the screening procedure indicates otherwise.

A screening analysis is generally appropriate for projects where the following conditions occur:

- No noise impacts are anticipated;
- Noise impacts are anticipated but potential noise abatement actions will clearly not be feasible and reasonable.

Typically, these will be rural highway projects with uncontrolled access, few receptors, and large distances between receptors.

For example, acoustical feasibility (Section 6.4.1) requires that at least three receptors be protected by a continuous proposed noise barrier that guarantees at least a 5 dBA reduction in noise. If there are less than three receptors in the area where noise abatement is being considered, then no further analysis of noise abatement is required.

5.5.1 FHWA Traffic Noise Screening Tool

The FHWA's Traffic Noise Screening Tool and its associated User's Guide can assist in determining if a more detailed study is needed for a given project by modeling a worst-case scenario for a given project area. This tool has been designed to evaluate noise levels for simple sites that are likely to fall below the levels that would trigger a detailed study.

> *The Screening Tool should only be used if the site is flat with only hard ground (pavement) or soft ground (lawn) between the source and the receiver. The roads involved should be straight and have a constant gradient no more than +/- eight percent (± 8%). The Screening Tool computes noise levels using average pavement for a receiver that is five feet above the ground and at a user-defined distance from the roads. Sites that require, for example, terrain lines, barriers, multiple ground types or curved roads should use a more comprehensive tool like the FHWA's Traffic Noise Model.*

5.5.2 Simplified TNM Modeling

TNM modeling can still be performed and the models may be simpler than for a detailed analysis. There are several simplifying measures that can be used in screening TNM template models, including using flat ground elevation data with straight-line roads. Receptors will be offset perpendicularly from the center of the model roads at distances that represent the distances from project roads to the nearest noise-sensitive receptors, and/or spaced at 50-foot intervals out to 500 feet to identify distances to NAC approach levels. The model roads will extend a minimum of 1,500 feet past the model receptors at each end of the study area.

The following items must be considered when using a screening analysis:

- Model validation is not required, but the need for onsite noise measurements will be determined on a case by case basis;
- Non-traffic noise sources important to the analysis area must be taken into account;

- Existing conditions for the analysis area must be modeled to determine if future noise levels may increase by 15 dBA or more;
- All of the future alternatives under consideration for the project must be modeled;
- Future noise levels must be evaluated for noise impacts according to the criteria in Section 3;
- If design year noise levels are 64 dBA or less or if noise levels are not predicted to increase more than 10 dBA over existing, then the screening analysis is sufficient;
- Traffic noise abatement actions will not be modeled;
- Noise measurements may be needed to justify results of a screening analysis that has identified impacts and feasible abatement appears unlikely.

This procedure can be used for Type I projects void of sensitive receptors in order to satisfy the requirement of analyzing noise impacts for undeveloped lands for use in local noise compatible planning (see Sections 5.4 and 5.6.4 of this policy).

The decision to use a screening analysis in place of a detailed analysis should be made carefully. If the screening procedure is passed and no need for a detailed analysis is indicated, the results of the screening procedure are documented in a Noise Analysis report. If impacts are noted and abatement is clearly NOT feasible (*e.g.,* driveway access), the screening procedure should suffice and a detailed analysis is not needed. However, impacts and the rationale for determining that noise abatement would not be feasible and reasonable must be clearly documented in a Noise Analysis report. If a project does not pass the screening procedure or if warranted by other conditions (*e.g.,* public controversy), a detailed noise impact analysis must be performed.

5.6 Detailed Analysis for Type I Projects

A detailed noise analysis is the level of analysis performed for DOT&PF Type I projects when a narrative or screening analysis has been determined to not be appropriate. DOT&PF's processes for determining which projects qualify for a narrative or screening level analysis are described in Sections 5.4 and 5.5, respectively.

5.6.1 Identification of Analysis Boundaries, Noise Study Areas, and Receptors

Noise analysis boundaries must encompass all potential impacts. Potential benefits and impacts outside of the project limits may also need to be considered (*e.g.*, changes in traffic volumes on other facilities due to the proposed project). All land uses within the noise analysis boundaries are identified and assigned to the appropriate Activity Categories.

It is usually beneficial on large projects to group land uses together into smaller noise study areas for the purposes of noise modeling and abatement evaluation. A noise study area (NSA) is generally not longer than a mile. Decision factors for dividing a project into NSAs include the extents of individual neighborhoods or residential subdivisions, major terrain features, location of large tracts of undeveloped lands, and boundaries defining major changes in land use. Individual receptor locations within the

land uses are also chosen, as outlined above in Section 5.3, Land Use Activity Categories.

5.6.2 Determination of Existing Noise Levels and Model Validation

For projects on new alignments, determine the worst noise hour existing noise levels (including non-highway traffic noise sources) for developed land uses and activities by field noise measurements. For projects on existing alignments, existing noise levels can be determined by modeling, although field measurements are recommended.

5.6.2.1 Ambient Noise Level Measurements

Field measurements are conducted in accordance with procedures outlined in FHWA's Noise Measurement Field Guide-Final Report (FHWA-HEP-18-066) or the most recent available protocols. Field measurement points are generally a subset of all identified receptors, and should be chosen to be acoustically representative of a grouping of similarly located receptors.

Noise measurements typically consist of a series of 15-minute measurements (minimum of two at roughly the same time of day). If these measurements differ by more than 3 dBA, a third measurement is needed, unless the variation can be explained by specific noise events that occurred during the measurement period.

On rural or smaller widening road projects, there may be fewer receptors, such that a determination of existing noise levels along the entire project may not be necessary. One approach to this situation is to make a longer term measurement (including peak traffic periods and daytime off-peak periods) at one measurement location close to the existing road. The results can then be used to determine the worst noise hour. Short term measurements taken at other locations during this longer term measurement can be adjusted later to represent the worst noise hour based on data from the longer term measurement location. While ambient noise level measurements should be made during the worst noise hour, it may not always be practical to do so in rural areas of Alaska.

5.6.2.2 Model Validation

Model validation is done by comparing measured noise levels with modeled noise levels using the same traffic volumes, mix, and speeds tallied during field noise measurements. Noise measurements for model validation do not have to be during the worst noise hour, but should not be made during periods of slow-moving traffic congestion.

Validation measurement locations should be representative of first-row receptor locations and should not be blocked by buildings or terrain features. Two or three measurements of at least 15 minutes in length are made at each location. Directional traffic classification counts and average travel speeds of the five FHWA TNM vehicle types are made during each measurement. Pavement type must be noted and used in FHWA TNM.

For a FHWA TNM run of an NSA to be considered valid, two of the three modeled levels at each validation location must be within +/-3 dBA of the corresponding measured levels. When a discrepancy is over 3 dBA, the model input data should be examined for errors and refinements made. If a measured/modeled difference remains over 3 dBA after revision of the model, the discrepancy (and potential explanation) is noted in the noise analysis report.

5.6.3 Prediction of Future Noise Levels

Future condition noise predictions are made for each alternative under consideration, including the no-build alternative, using the latest version of the FHWA TNM program. Design year traffic conditions representing the worst noise hour (generally, Level of Service (LOS) C or D,) are used. Highway traffic noise analysis should consider absolute noise levels as well as substantial increases in noise levels for abatement evaluations.

Where appropriate, take into account any seasonal variations in traffic. Use the guidance in Section 5.3 of this policy when choosing receptors for modeling as receivers in FHWA TNM. Loss of existing shielding of the roadway due to topography, buildings, or vegetation that may be eliminated when the roadway is built should be taken into account.

5.6.4 Determination of Future Noise Levels on Undeveloped Lands

Design year noise levels based on design hourly volumes need to be predicted for Category G lands. This can be done using the simplified modeling procedure described in Section 5.5 of this policy. At a minimum, this analysis should report the distances from the proposed edge of the near travel lane out to where worst hour $L_{eq}(h)$ levels of 60 and 64 dBA are modeled to occur. These results are then provided to local public agencies to assist them in planning.

Creation of noise contours for undeveloped lands will be considered on an individual project basis. Noise contours may only be used for project alternative screening or for land use planning purposes. They may not be used for determining highway traffic noise impacts.

5.6.5 Determination of Traffic Noise Impacts

For Type I projects, noise impacts must be determined for all Activity Category A-E land uses in the analysis area. Impacts occur when a proposed project results in a substantial noise increase or when the predicted design year noise levels approach, meet, or exceed the NAC. As defined in Section 3.0, a “substantial noise increase” occurs when a design year noise level ($L_{eq}(h)$) is predicted to increase 15 or more dBA above the existing level and “approach” means a design year noise level is predicted to be one decibel below the NAC for Activity Categories A-E (Appendix B, Table 1). When one or both impact type(s) occur, noise abatement measures must be evaluated for Type I projects.

6.0 ANALYSIS OF NOISE ABATEMENT MEASURES

Depending upon the date of public knowledge of the project and the Activity Category of the receptors, traffic noise abatement measures are to be considered when traffic noise impacts have been identified through the noise analysis process, with the exceptions noted in Sections 5.4 and 5.5.

6.1 Date of Public Knowledge

The date of public knowledge of a proposed transportation project is used to determine whether noise abatement should be considered as part of the project. This date, as defined in 23 CFR 772, is the date that a NEPA decision document was approved for the project. DOT&PF will only consider abatement measures if the impacted receptor was developed or permitted for development before the date of public knowledge.

6.2 Abatement Considerations

Noise abatement measures must be found to be both feasible and reasonable in order to be included in a proposed project. A Noise Abatement Recommendation Worksheet (located in Appendix C) should be completed to assist in the decision-making process. Feasibility and reasonableness are each described in detail later in this section.

For Type I projects that have had a Detailed Noise Analysis conducted, DOT&PF will evaluate noise abatement when traffic noise impacts are predicted for land use Activity Categories A-E, with some exceptions as noted in Section 5.3. When an impact is identified, noise abatement measures will be evaluated after first considering whether project design changes (*e.g*., altering the horizontal and/or vertical alignment) may reduce or eliminate the impact.

6.3 Possible Noise Abatement Measures

Federal funds may be used for the following noise abatement measures when traffic noise impacts have been identified and abatement measures have been determined to be feasible and reasonable, pursuant to 23 CFR 772.13(d). The costs of such measures may be included in Federal-aid participation project costs with the Federal share being the same as that for the system on which the project is located.

The following noise abatement measures may be considered for incorporation into a Type I project to reduce traffic noise impacts.

(1) Construction of noise barriers, including acquisition of property rights, either within or outside the highway right-of-way. Landscaping is not a viable noise abatement measure.
(2) Traffic management measures including, but not limited to, traffic control devices and signing for prohibition of certain vehicle types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive lane designations.
(3) Alteration of horizontal and vertical alignments.

(4) Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development which would be adversely impacted by traffic noise.
(5) Noise insulation of Activity Category D land use facilities listed in Table 1. Post-installation maintenance and operational costs for noise insulation are not eligible for Federal-aid funding.

Alternative (quieter) pavement is not a FHWA-approved noise abatement measure for Federal-aid projects and consequently cannot be used as noise abatement on Federal-aid projects. DOT&PF may consider using alternative pavements to reduce traffic noise on State-funded projects (see Section 9.0 of this policy).

At this time, DOT&PF does not use absorptive treatments as a functional enhancement of noise barriers.

6.4 Feasibility

Determinations of noise abatement measure feasibility are made by considering whether a certain amount of noise reduction can be achieved by the measure and whether the measure is possible to design and construct.

6.4.1 Acoustical Feasibility

Acoustical feasibility refers to the minimum number of impacted receptors that must receive 5 dBA highway traffic noise reduction for a proposed abatement measure to be feasible. For DOT&PF projects, a 5 dBA or more reduction must be achieved for at least three impacted front row receptors in order for the abatement measure to be considered acoustically feasible.

If significant non-highway noise sources exist in the project area, such as rail lines or airports, noise barrier effectiveness may be compromised. These situations will be carefully evaluated to determine if a noise barrier for the highway noise sources is feasible.

6.4.2 Engineering Feasibility

Noise abatement measures are not feasible if they create a safety hazard to the driving public, protected receptors, or maintenance personnel. The project development team will consult with the appropriate DOT&PF functional groups when determining whether it is possible to design and construct a noise abatement measure. Noise abatement measures should be consistent with the following general design principles:

- Noise abatement measures should be located beyond the recovery zone of the traveled way; if a noise abatement measure must be located within the recovery zone, a traffic barrier may be warranted.
- Noise abatement measures may not block the recommended sight distance (Alaska Highway Preconstruction Manual, Chapter 11) between vehicles and intersecting roadways or on/off-ramps.
- Protrusions on noise abatement measures near a traffic lane should be avoided.

- Facings on noise abatement measures that can become dislodged, or barrier components that could shatter during an accident, or facings that create excessive glare should be avoided.
- Access should be provided to all sides of noise abatement measures to allow for maintenance activities to take place.

All noise abatement measures should consider the design principles outlined in the FHWA Highway Traffic Noise: Analysis and Abatement Guidance (FHWA-HEP-10-025) and the FHWA Noise Barrier Design Handbook.

6.5 Reasonableness

The following three reasonableness factors must be evaluated in order for a noise abatement measure to be considered reasonable, pursuant to 23 CFR 772.13:

1) Viewpoints of the property owners and residents of the benefited receptors.
2) Cost Effectiveness.
3) Noise Reduction Design Goal.

These three reasonableness factors must collectively be achieved in order for a noise abatement measure to be deemed reasonable. Refer to Section 9.0 for a list of additional optional reasonableness factors that may be used only on State-funded projects.

6.5.1 Viewpoints of the property owners and residents of the benefited receptors

Public involvement for noise abatement is required for all categories of environmental document. To determine the views of benefited households and property owners, DOT&PF will contact all benefited households and property owners to determine the level of interest for a noise abatement measure. This contact can be in the form of a mail out questionnaire, phone call survey, or door to door interviews - whichever is most practical and cost effective for the size of the proposed project.

Noise abatement will be carried forward if there is a 60% majority of viewpoints received in support of the barrier. If a property has multiple dwelling units, the owner(s) of the multi-unit dwelling will provide input for the property as a whole, not for each individual dwelling unit. A second outreach attempt will be made if the response rate is less than 40% of all possible respondents.

6.5.2 Cost Effectiveness

The noise abatement measure cost is no more than $45,220[1] per benefited receptor, based upon the design engineer's estimate. This is determined by counting all receptors (including owner-occupied, rental units, mobile homes, and businesses) benefited by the noise abatement measure in any subdivision and/or given development and dividing that number into the total cost of the noise abatement measure. A benefited receptor is defined as the recipient of an abatement measure that receives a noise reduction at or above the minimum threshold of 5 dBA. Each unit in a multi-family building will be counted as a separate receptor. Cost per benefited receptor must be reanalyzed at a regular interval, not to exceed 5 years.

When the design engineer determines abatement measure cost, the estimate will include all items necessary for the construction of the noise abatement measure. Examples of cost items that should be included are traffic control (related to the noise barrier), drainage modification, foundations, retaining walls and right-of-way. Include a cost item only if it is directly related to the construction of the noise abatement measure[2]. If a necessary project feature such as a retaining wall is included, then that cost will not be added into the noise abatement construction cost estimate. If the project incorporates visual mitigation such as the use of a transparent barrier with surface texture, the additional cost will not be included in the abatement construction cost estimate for the purpose of determining reasonableness. Aesthetic treatments, such as artwork, re-vegetation, landscaping, and barrier treatments will not be included in the abatement measure cost estimate for the purpose of determining reasonableness.

6.5.3 Noise Reduction Design Goal

The DOT&PF noise reduction design goal is 7 dBA. At least 50 percent of the benefited receptors in the first row of structures must achieve this design goal for the noise abatement to be considered reasonable. If this design goal is not attainable, then the noise abatement cannot be carried forward. Refer to Section 9.0 for a list of additional criteria that apply only to State-funded projects.

6.5.4 Noise Abatement Recommendation Worksheet

A noise abatement recommendation worksheet (Appendix C) will be filled out for each NSA in the noise analysis. The Regional Environmental Manager (REM) will approve and sign the worksheets. If an abatement measure is determined to not be feasible, then the reasonableness analysis section of the worksheet does not need to be

[1] DOT&PFs April 2018 cost per benefited receptor was adjusted for inflation (CPI April 2023) to $45,220 cost per benefited receptor.

[2] DOT&PF will need to provide proof to the FHWA Division Office that the cost of any of these are solely and directly related to the noise abatement measure.

completed. Likewise, if it is determined that the abatement measure is not reasonable, the feasibility portion of the worksheet does not have to be filled out.

DOT&PF will only implement a noise abatement measure if it has been determined to be both feasible and reasonable. The REM will recommend or not recommend that a noise abatement measure be implemented. The recommendation worksheet will be submitted to the Project Manager (PM) who will sign the recommendation worksheet. If the PM does not approve the recommendation, then the Preconstruction Engineer will resolve the dispute. The Preconstruction Engineer only needs to sign the noise abatement recommendation worksheet if alternative pavements are recommended as abatement on State-funded projects. The REM will ensure that the recommendation is included in the project's environmental document.

6.6 Third Party Funding

For Type I Federal-aid projects, third party funding cannot be used if the noise abatement would require the additional funding in order to be considered feasible and/or reasonable. Third party funding can be used to pay for additional features such as landscaping, aesthetic treatments, and functional enhancements for noise barriers that have already been determined to be feasible and reasonable.

6.7 Information Required for a NEPA Decision

It is important to maintain accurate and complete documentation of noise impact analyses and any decisions to provide noise abatement. The noise analysis reports for Type I projects are stand-alone documents. Information is taken from the noise analysis report to support the NEPA analysis and decision. The specific information required is outlined in 23 CFR 772.13.

Decisions to provide or not provide noise abatement must be well-explained and defensible. Prior to the NEPA decision, DOT&PF must identify and document:

1) Where noise impacts are predicted to occur;
2) The prospective noise abatement measures that are feasible and reasonable, and are likely to be incorporated into the project; and
3) Noise impact locations for which no abatement appears to be feasible and reasonable.

For noise abatement measures that have been found to be feasible and reasonable, a statement of likelihood, similar to the following, should be included in the environmental document narrative in the interest of public disclosure:

"As a result of the feasibility and reasonableness analysis conducted as a part of the environmental document, the DOT&PF proposes to incorporate the following noise abatement measures (type, locations) into the proposed project. These noise abatement recommendations are preliminary and based upon the feasibility and reasonableness analysis completed at the time the environmental document. Final recommendations for noise abatement will be based upon the feasibility and reasonable analysis conducted during the detailed design of the project. Any changes in the final abatement

recommendations will result in the reevaluation of the approved NEPA document and the solicitation of additional public comment."

The noise analysis report should include a description of each abatement measure considered, a discussion of the anticipated costs, problems, and disadvantages associated with that abatement measure, and a discussion of the anticipated benefits. The noise analysis must be appended to the environmental document, and should be in the following general format:

Cover Page
Table of Contents
Summary
Project Background
Purpose of Analysis
Methods
    Model
    Validation Process
Description of Land Use Categories along the Corridor
Results
Identification of Noise Impacts
Noise Abatement Analysis
Abatement Recommendations
Statement of Likelihood
Construction Noise
Conclusion
Appendices
    DOT&PF NOISE POLICY
    TNM Model inputs/outputs and supporting CAD/design files

6.7.1 Post-NEPA Documentation

Noise analyses are typically conducted during the NEPA process before final design. Post-NEPA verification of the validation of the noise study report may be necessary following final design. This is typically done with a project reevaluation. Qualified personnel can determine whether project design changes warrant additional or revised Noise analysis. If project changes are minor, then it may not be necessary to modify the noise analysis. A summary statement should be included in the reevaluation documenting the validity of the noise analysis report.

If final design warrants revisions for noise abatement, this will be included in the project reevaluation. If it is determined that any noise abatement measure recommendation is no longer valid, then the affected public will be notified, and the environmental document will be reevaluated or supplemented as appropriate. If a project has been modified such that a new noise analysis is required, the most current Noise Policy and FHWA regulation must be used.

6.7.2 Inventory and Reporting of Abatement Measures

DOT&PF SEO will maintain an inventory of all constructed noise abatement measures and will on a periodic basis provide the Alaska Division of FHWA the parameters outlined in 23 CFR 772.13(f). DOT&PF will enter the data into a spreadsheet as abatement measures are implemented.

6.8 Design-Build Projects

For design-build projects, as with any DOT&PF project, DOT&PF is ultimately responsible for the NEPA decisions and as such, noise abatement measures must be considered, developed, and constructed in accordance with the provisions of 23 CFR 772, 23 CFR 636.109, and this policy.

7.0 INFORMATION FOR LOCAL OFFICIALS

In an effort to reduce future traffic noise impacts on currently undeveloped lands and to maintain compatibility between highways and future development, DOT&PF will provide the results of Type I highway traffic noise analyses to local officials within whose jurisdiction the highway project is located (23 CFR 772.17). With regard to undeveloped lands that have not been permitted for development, the results will include, at a minimum, the distances from the proposed edge of the traveled way to where the design year $L_{eq}(h)$ of 60 and 64 dBA are predicted to occur.

Typically, the design engineering manager or Environmental Impact Analyst provides the project final traffic noise technical report to local officials. Local officials may include local planning, zoning and/or building permit offices as well as Metropolitan Planning Organizations or transportation planning regions. Transmittal is made after the environmental decision document is signed. The report might be the final NEPA traffic noise technical report or a report that was done during final design. If subsequent modeling results in changes to the contour information after original transmittal, the later traffic noise technical report will also be sent to the local official with an updated email or cover letter explaining the update.

8.0 CONSTRUCTION NOISE

Construction of a highway project may cause localized, short-duration noise impacts. Construction noise can adversely affect people living in the area. Analysis and mitigation of construction noise impacts will be addressed when noise and vibration issues arise during project development or if complaints are received by the public. See 2006 FHWA Construction Noise Handbook (FHWA-HEP-06-015) for more information.

For all Type I Federal and State Projects, it is DOT&PF policy to:

(a) Identify land uses or activities that may be affected by noise from construction of the project. The identification is to be performed during the project development studies.

(b) Determine the measures that are needed in the plans and specifications to minimize or eliminate adverse construction noise impacts to the community. This determination shall include a weighing of the benefits achieved and the overall adverse social, economic, and environmental effects and costs of the abatement measures.
(c) Incorporate the needed abatement measures in the plans and specifications.

The REM, Environmental Impact Analyst and design engineering manager will coordinate to incorporate appropriate mitigation measures for construction noise as determined appropriate by DOT&PF. These may be incorporated into the plans and specifications and may include measures such as requirements for staging areas, time periods where no noise generating activities can occur, and public outreach requirements.

In the event that construction noise complaints occur during the course of construction activities, measures will be taken by the Construction Project Engineer, in consultation with the REM, to resolve the problem to the extent practical. Measures might include locating stationary construction equipment as far from nearby noise sensitive receivers as possible, shutting off idling equipment, rescheduling construction operations to avoid periods of noise annoyance, notifying nearby residents whenever extremely noisy operations will be occurring, and installing permanent or portable acoustic abatement measures around stationary construction noise sources.

In some cases, there are no alternatives to conducting construction activities during the night, on weekends, or on holidays. When deemed necessary, DOT&PF will make every effort to notify the public prior to conducting these activities. Public involvement in these cases should occur during design and throughout the construction duration. In some communities, local ordinances may restrict noise generating activities. DOT&PF and its contractor(s) will comply with local noise ordinances and acquire any necessary noise permits for construction activities prior to their initiation.

While construction noise modeling is not regularly done for Type I noise studies, the FHWA Roadway Construction Noise Model (RCNM) may be used to predict noise levels from various types of equipment and construction activities. In some cases (*e.g.*, pile driving near residences), construction noise modeling may be warranted for Type III projects as well.

9.0 STATE-FUNDED PROJECTS

In general, the same methods are followed in the identification of noise impacts for Type I State-funded projects as for Type I Federal-aid projects. Results of noise analyses will be documented in the State Project Environmental Checklist. If noise abatement is determined to be feasible and reasonable, then the REM will make a recommendation to the Preconstruction Engineer. The Preconstruction Engineer will decide whether the recommended abatement measure will be constructed. Abatement will be provided only if it meets the feasibility and reasonableness criteria of this policy and the

Preconstruction Engineer determines that the state funded appropriation can accommodate the expenditure.

In addition to the reasonableness factors outlined for Federal-aid projects in Section 6.5 above, the following optional reasonableness factors may be used to increase the cost allowed on State-funded projects:

1) Date of development.
2) Length of time receivers have been exposed to highway traffic noise impacts.
3) Exposure to higher absolute traffic noise levels.
4) Changes between existing and future build conditions.
5) Percentage of mixed zone development.
6) Use of noise compatible planning concepts by the local government.

No single optional reasonableness factor shall be used to determine that a noise abatement measure is unreasonable.

In addition to the criteria outlined for Federal-aid projects in Section 6.5.3 above, the following noise reduction design goal criteria apply only to State-funded projects:

1) Development vs. Highway Timing. At least 50 percent of impacted receptors in the development (subdivision, apartment complex, etc.) were built before initial construction of the highway. The date of development is an important part of the determination of reasonableness. More consideration is given to developments that were built before the highway was built.
2) Development Existence. At least 50 percent of impacted receptors in the development have existed for at least 10 years. More consideration is given to residents who have experienced traffic noise impacts for long periods of time.
3) Absolute Predicted Build Noise Level. The predicted future build noise levels are at least 66 dBA. More consideration should be given to areas with higher absolute traffic noise levels. Absolute noise levels typically found along highways, 60-75 dBA, are deemed undesirable and cause complaints from adjacent residents. In general, the higher the absolute noise, the more complaints.
4) Relative Predicted Build Noise Level. The predicted future build noise levels are at least 10 dBA greater than the existing noise levels. More consideration is given to areas with larger increases over existing noise levels. This gives greater consideration to projects for highways on new location and major reconstruction than it does to projects of smaller magnitude. For most people, a 3 dBA increase is barely perceptible, a 5 dBA increase is readily perceptible, and a 10 dBA increase doubles the perceived loudness of the noise.
5) Build vs. No-Build Noise Levels. The future build noise levels are at least 5 dBA greater than the future no-build noise levels. More consideration should be given to areas where larger changes in traffic noise levels are expected to occur if the project is constructed than if it is not.
6) Land use. Land use is not changing rapidly and there are local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors.

DOT&PF may consider using alternative pavements to reduce traffic noise on State-funded projects. However, the decision to provide such a measure will be made by the Preconstruction Engineer.

10.0 UPDATES TO POLICY

This policy is effective upon signature and replaces the Alaska DOT&PF November 2018 Noise Policy. Changes to the policy will be made as needed, or every 5 years at a minimum, per FHWA recommendation.

Placeholder page for FHWA approval letter/memo

REFERENCES

- FHWA Construction Noise Handbook (FHWA-HEP-06-015, 2006): https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/

- FHWA Highway Noise Barrier Design Handbook (2000): https://www.fhwa.dot.gov/environment/noise/noise_barriers/design_construction/design/

- FHWA Noise Measurement Handbook (FHWA-HEP-18-065, 2018): https://www.fhwa.dot.gov/environment/noise/measurement/fhwahep18065.pdf

- FHWA Noise Measurement Field Guide-Final Report (FHWA-HEP-18-066, 2018): https://www.fhwa.dot.gov/environment/noise/measurement/fhwahep18066.pdf

- FHWA Highway Traffic Noise: Analysis and Abatement Guidance (FHWA-HEP-10-025, 2011): https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf

- FHWA Noise Model Website: https://www.fhwa.dot.gov/environment/noise/traffic_noise_model/

- USDOT/FDOT A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations (2009): https://www.fhwa.dot.gov/environment/noise/noise_barriers/abatement/reasonableness_2009/

APPENDIX A - FHWA 23 CFR 772

Code of Federal Regulations

Current as of October 12, 2018

Title 23 → Chapter I → Subchapter H → Part 772

PART 772—PROCEDURES FOR ABATEMENT OF HIGHWAY TRAFFIC NOISE AND CONSTRUCTION NOISE

Contents

AUTHORITY: 23 U.S.C. 109(h) and (i); 42 U.S.C. 4331, 4332; sec. 339(b), Pub. L. 104-59, 109 Stat. 568, 605; 49 CFR 1.48(b).

SOURCE: 75 FR 39834, July 13, 2010, unless otherwise noted.

§772.1 Purpose.

To provide procedures for noise studies and noise abatement measures to help protect the public's health, welfare and livability, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways approved pursuant to title 23 U.S.C.

§772.3 Noise standards.

The highway traffic noise prediction requirements, noise analyses, noise abatement criteria, and requirements for informing local officials in this regulation constitute the noise standards mandated by 23 U.S.C. 109(1). All highway projects which are developed in conformance with this regulation shall be deemed to be in accordance with the FHWA noise standards.

§772.5 Definitions.

Benefited receptor. The recipient of an abatement measure that receives a noise reduction at or above the minimum threshold of 5 dB(A), but not to exceed the highway agency's reasonableness design goal.

Common Noise Environment. A group of receptors within the same Activity Category in Table 1 that are exposed to similar noise sources and levels; traffic volumes, traffic mix, and speed; and topographic features. Generally, common noise environments occur between two secondary noise sources, such as interchanges, intersections, cross-roads.

Date of public knowledge. The date of approval of the Categorical Exclusion (CE), the Finding of No Significant Impact (FONSI), or the Record of Decision (ROD), as defined in 23 CFR part 771.

Design year. The future year used to estimate the probable traffic volume for which a highway is designed.

Existing noise levels. The worst noise hour resulting from the combination of natural and mechanical sources and human activity usually present in a particular area.

Feasibility. The combination of acoustical and engineering factors considered in the evaluation of a noise abatement measure.

Impacted Receptor. The recipient that has a traffic noise impact.

L10. The sound level that is exceeded 10 percent of the time (the 90th percentile) for the period under consideration, with L10(h) being the hourly value of L10.

Leq. The equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same time period, with Leq(h) being the hourly value of Leq.

Multifamily dwelling. A residential structure containing more than one residence. Each residence in a multifamily dwelling shall be counted as one receptor when determining impacted and benefited receptors.

Noise barrier. A physical obstruction that is constructed between the highway noise source and the noise sensitive receptor(s) that lowers the noise level, including stand alone noise walls, noise berms (earth or other material), and combination berm/wall systems.

Noise reduction design goal. The optimum desired dB(A) noise reduction determined from calculating the difference between future build noise levels with abatement, to future build noise levels without abatement. The noise reduction design goal shall be at least 7 dB(A), but not more than 10 dB(A).

Permitted. A definite commitment to develop land with an approved specific design of land use activities as evidenced by the issuance of a building permit.

Property owner. An individual or group of individuals that holds a title, deed, or other legal documentation of ownership of a property or a residence.

Reasonableness. The combination of social, economic, and environmental factors considered in the evaluation of a noise abatement measure.

Receptor. A discrete or representative location of a noise sensitive area(s), for any of the land uses listed in Table 1.

Residence. A dwelling unit. Either a single family residence or each dwelling unit in a multifamily dwelling.

Statement of likelihood. A statement provided in the environmental clearance document based on the feasibility and reasonableness analysis completed at the time the environmental document is being approved.

Substantial construction. The granting of a building permit, prior to right-of-way acquisition or construction approval for the highway.

Substantial noise increase. One of two types of highway traffic noise impacts. For a Type I project, an increase in noise levels of 5 to 15 dB(A) in the design year over the existing noise level.

Traffic noise impacts. Design year build condition noise levels that approach or exceed the NAC listed in Table 1 for the future build condition; or design year build condition noise levels that create a substantial noise increase over existing noise levels.

Type I project. (1) The construction of a highway on new location; or,

(2) The physical alteration of an existing highway where there is either:

(i) Substantial Horizontal Alteration. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition; or,

(ii) Substantial Vertical Alteration. A project that removes shielding therefore exposing the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor; or,

(3) The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a HOV lane, High-Occupancy Toll (HOT) lane, bus lane, or truck climbing lane; or,

(4) The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane; or,

(5) The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,

(6) Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or,

(7) The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza.

(8) If a project is determined to be a Type I project under this definition then the entire project area as defined in the environmental document is a Type I project.

Type II project. A Federal or Federal-aid highway project for noise abatement on an existing highway. For a Type II project to be eligible for Federal-aid funding, the highway agency must develop and implement a Type II program in accordance with section 772.7(e).

Type III project. A Federal or Federal-aid highway project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.

§772.7 Applicability.

(a) This regulation applies to all Federal or Federal-aid Highway Projects authorized under title 23, United States Code. Therefore, this regulation applies to any highway project or multimodal project that:

(1) Requires FHWA approval regardless of funding sources, or

(2) Is funded with Federal-aid highway funds.

(b) In order to obtain FHWA approval, the highway agency shall develop noise policies in conformance with this regulation and shall apply these policies uniformly and consistently statewide.

(c) This regulation applies to all Type I projects unless the regulation specifically indicates that a section only applies to Type II or Type III projects.

(d) The development and implementation of Type II projects are not mandatory requirements of section 109(i) of title 23, United States Code.

(e) If a highway agency chooses to participate in a Type II program, the highway agency shall develop a priority system, based on a variety of factors, to rank the projects in the program. This priority system shall be submitted to and approved by FHWA before the highway agency is allowed to use Federal-aid funds for a project in the program. The highway agency shall re-analyze the priority system on a regular interval, not to exceed 5 years.

(f) For a Type III project, a highway agency is not required to complete a noise analysis or consider abatement measures.

§772.9 Traffic noise prediction.

(a) Any analysis required by this subpart must use the FHWA Traffic Noise Model (TNM), which is described in "FHWA Traffic Noise Model" Report No. FHWA-PD-96-010, including Revision No. 1, dated April 14, 2004, or any other model determined by the FHWA to be consistent with the methodology of the FHWA TNM. These publications are incorporated by reference in accordance with section 552(a) of title 5, U.S.C. and part 51 of title 1, CFR, and are on file at the National Archives and Record Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030 or go to *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.* These documents are available for copying and inspection at the Federal Highway Administration, 1200 New Jersey Avenue, SE., Washington, DC 20590, as provided in part 7 of title 49, CFR. These documents are also available on the FHWA's Traffic Noise Model Web site at the following URL: *http://www.fhwa.dot.gov/environment/noise/index.htm.*

(b) Average pavement type shall be used in the FHWA TNM for future noise level prediction unless a highway agency substantiates the use of a different pavement type for approval by the FHWA.

(c) Noise contour lines may be used for project alternative screening or for land use planning to comply with §772.17 of this part, but shall not be used for determining highway traffic noise impacts.

(d) In predicting noise levels and assessing noise impacts, traffic characteristics that would yield the worst traffic noise impact for the design year shall be used.

§772.11 Analysis of traffic noise impacts.

(a) The highway agency shall determine and analyze expected traffic noise impacts.

(1) For projects on new alignments, determine traffic noise impacts by field measurements.

(2) For projects on existing alignments, predict existing and design year traffic noise impacts.

(b) In determining traffic noise impacts, a highway agency shall give primary consideration to exterior areas where frequent human use occurs.

(c) A traffic noise analysis shall be completed for:

(1) Each alternative under detailed study;

(2) Each Activity Category of the NAC listed in Table 1 that is present in the study area;

(i) *Activity Category A.* This activity category includes the exterior impact criteria for lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential for the area to continue to serve its intended purpose. Highway agencies shall submit justifications to the FHWA on a case-by-case basis for approval of an Activity Category A designation.

(ii) *Activity Category B.* This activity category includes the exterior impact criteria for single-family and multifamily residences.

(iii) *Activity Category C.* This activity category includes the exterior impact criteria for a variety of land use facilities. Each highway agency shall adopt a standard practice for analyzing these land use facilities that is consistent and uniformly applied statewide.

(iv) *Activity Category D.* This activity category includes the interior impact criteria for certain land use facilities listed in Activity Category C that may have interior uses. A highway agency shall conduct an indoor analysis after a determination is made that exterior abatement measures will not be feasible and reasonable. An indoor analysis shall only be done after exhausting all outdoor analysis options. In situations where no exterior activities are to be affected by the traffic noise, or where the exterior activities are far from or physically shielded from the roadway in a manner that prevents an impact on exterior activities, the highway agency shall use Activity Category D as the basis of determining noise impacts. Each highway agency shall adopt a standard practice for analyzing these land use facilities that is consistent and uniformly applied statewide.

(v) *Activity Category E.* This activity category includes the exterior impact criteria for developed lands that are less sensitive to highway noise. Each highway agency shall adopt a standard practice for analyzing these land use facilities that is consistent and uniformly applied statewide.

(vi) *Activity Category F.* This activity category includes developed lands that are not sensitive to highway traffic noise. There is no impact criteria for the land use facilities in this activity category and no analysis of noise impacts is required.

(vii) *Activity Category G.* This activity includes undeveloped lands.

(A) A highway agency shall determine if undeveloped land is permitted for development. The milestone and its associated date for acknowledging when undeveloped land is considered

permitted shall be the date of issuance of a building permit by the local jurisdiction or by the appropriate governing entity.

(B) If undeveloped land is determined to be perrmitted, then the highway agency shall assign the land to the appropriate Activity Category and analyze it in the same manner as developed lands in that Activity Category.

(C) If undeveloped land is not permitted for development by the date of public knowledge, the highway agency shall determine noise levels in accordance with 772.17(a) and document the results in the project's environmental clearance documents and noise analysis documents. Federal participation in noise abatement measures will not be considered for lands that are not permitted by the date of public knowledge.

(d) The analysis of traffic noise impacts shall include:

(1) Identification of existing activities, developed lands, and undeveloped lands, which may be affected by noise from the highway;

(2) For projects on new or existing alignments, validate predicted noise level through comparison between measured and predicted levels;

(3) Measurement of noise levels. Use an ANSI Type I or Type II integrating sound level meter;

(4) Identification of project limits to determine all traffic noise impacts for the design year for the build alternative. For Type II projects, traffic noise impacts shall be determined from current year conditions;

(e) Highway agencies shall establish an approach level to be used when determining a traffic noise impact. The approach level shall be at least 1 dB(A) less than the Noise Abatement Criteria for Activity Categories A to E listed in Table 1 to part 772;

(f) Highway agencies shall define substantial noise increase between 5 dB(A) to 15 dB(A) over existing noise levels. The substantial noise increase criterion is independent of the absolute noise level.

(g) A highway agency proposing to use Federal-aid highway funds for a Type II project shall perform a noise analysis in accordance with §772.11 of this part in order to provide information needed to make the determination required by §772.13(a) of this part.

§772.13 Analysis of noise abatement.

(a) When traffic noise impacts are identified, noise abatement shall be considered and evaluated for feasibility and reasonableness. The highway agency shall determine and analyze alternative noise abatement measures to abate identified impacts by giving weight to the benefits and costs of abatement and the overall social, economic, and environmental effects by using feasible and reasonable noise abatement measures for decision-making.

(b) In abating traffic noise impacts, a highway agency shall give primary consideration to exterior areas where frequent human use occurs.

(c) If a noise impact is identified, a highway agency shall consider abatement measures. The abatement measures listed in §772.15(c) of this part are eligible for Federal funding.

(1) At a minimum, the highway agency shall consider noise abatement in the form of a noise barrier.

(2) If a highway agency chooses to use absorptive treatments as a functional enhancement, the highway agency shall adopt a standard practice for using absorptive treatment that is consistent and uniformly applied statewide.

(d) *Examination and evaluation of feasible and reasonable noise abatement measures for reducing the traffic noise impacts.* Each highway agency, with FHWA approval, shall develop feasibility and reasonableness factors.

(1) *Feasibility*: (i) Achievement of at least a 5 dB(A) highway traffic noise reduction at impacted receptors. The highway agency shall define, and receive FHWA approval for, the number of receptors that must achieve this reduction for the noise abatement measure to be acoustically feasible and explain the basis for this determination; and

(ii) Determination that it is possible to design and construct the noise abatement measure. Factors to consider are safety, barrier height, topography, drainage, utilities, and maintenance of the abatement measure, maintenance access to adjacent properties, and access to adjacent properties (*i.e.* arterial widening projects).

(2) *Reasonableness*:(i) *Consideration of the viewpoints of the property owners and residents of the benefited receptors.* The highway agency shall solicit the viewpoints of all of the benefited receptors and obtain enough responses to document a decision on either desiring or not desiring the noise abatement measure. The highway agency shall define, and receive FHWA approval for, the number of receptors that are needed to constitute a decision and explain the basis for this determination.

(ii) *Cost effectiveness of the highway traffic noise abatement measures.* Each highway agency shall determine, and receive FHWA approval for, the allowable cost of abatement by determining a baseline cost reasonableness value. This determination may include the actual construction cost of noise abatement, cost per square foot of abatement, the maximum square footage of abatement/benefited receptor and either the cost/benefited receptor or cost/benefited receptor/dB(A) reduction. The highway agency shall re-analyze the allowable cost for abatement on a regular interval, not to exceed 5 years. A highway agency has the option of justifying, for FHWA approval, different cost allowances for a particular geographic area(s) within the State, however, the highway agancy must use the same cost reasonableness/construction cost ratio statewide.

(iii) *Noise reduction design goals for highway traffic noise abatement measures.* When noise abatement measure(s) are being considered, a highway agency shall achieve a noise reduction

design goal. The highway agency shall define, and receive FHWA approval for, the design goal of at least 7 dB(A) but not more than 10 dB(A), and shall define the number of benefited receptors that must achieve this design goal and explain the basis for this determination.

(iv) The reasonableness factors listed in §772.13(d)(5)(i), (ii) and (iii), must collectively be achieved in order for a noise abatement measure to be deemed reasonable. Failure to achieve §772.13(d)(5)(i), (ii) or (iii), will result in the noise abatement measure being deemed not reasonable.

(v) In addition to the required reasonableness factors listed in §772.13(d)(5)(i), (ii), and (iii), a highway agency has the option to also include the following reasonableness factors: Date of development, length of time receivers have been exposed to highway traffic noise impacts, exposure to higher absolute highway traffic noise levels, changes between existing and future build conditions, percentage of mixed zoning development, and use of noise compatible planning concepts by the local government. No single optional reasonableness factor can be used to determine reasonableness.

(e) Assessment of Benefited Receptors. Each highway agency shall define the threshold for the noise reduction which determines a benefited receptor as at or above the 5 dB(A), but not to exceed the highway agency's reasonableness design goal.

(f) *Abatement measure reporting*: Each highway agency shall maintain an inventory of all constructed noise abatement measures. The inventory shall include the following parameters: type of abatement; cost (overall cost, unit cost per/sq. ft.); average height; length; area; location (State, county, city, route); year of construction; average insertion loss/noise reduction as reported by the model in the noise analysis; NAC category(s) protected; material(s) used (precast concrete, berm, block, cast in place concrete, brick, metal, wood, fiberglass, combination, plastic (transparent, opaque, other); features (absorptive, reflective, surface texture); foundation (ground mounted, on structure); project type (Type I, Type II, and optional project types such as State funded, county funded, tollway/turnpike funded, other, unknown). The FHWA will collect this information, in accordance with OMB's Information Collection requirements.

(g) Before adoption of a CE, FONSI, or ROD, the highway agency shall identify:

(1) Noise abatement measures which are feasible and reasonable, and which are likely to be incorporated in the project; and

(2) Noise impacts for which no noise abatement measures are feasible and reasonable.

(3) *Documentation of highway traffic noise abatement*: The environmental document shall identify locations where noise impacts are predicted to occur, where noise abatement is feasible and reasonable, and locations with impacts that have no feasible or reasonable noise abatement alternative. For environmental clearance, this analysis shall be completed to the extent that design information on the alterative(s) under study in the environmental document is available at the time the environmental clearance document is completed. A statement of likelihood shall be included in the environmental document since feasibility and

reasonableness determinations may change due to changes in project design after approval of the environmental document. The statement of likelihood shall include the preliminary location and physical description of noise abatement measures determined feasible and reasonable in the preliminary analysis. The statement of likelihood shall also indicate that final recommendations on the construction of an abatement measure(s) is determined during the completion of the project's final design and the public involvement processes.

(h) The FHWA will not approve project plans and specifications unless feasible and reasonable noise abatement measures are incorporated into the plans and specifications to reduce the noise impact on existing activities, developed lands, or undeveloped lands for which development is permitted.

(i) For design-build projects, the preliminary technical noise study shall document all considered and proposed noise abatement measures for inclusion in the NEPA document. Final design of design-build noise abatement measures shall be based on the preliminary noise abatement design developed in the technical noise analysis. Noise abatement measures shall be considered, developed, and constructed in accordance with this standard and in conformance with the provisions of 40 CFR 1506.5(c) and 23 CFR 636.109.

(j) Third party funding is not allowed on a Federal or Federal-aid Type I or Type II project if the noise abatement measure would require the additional funding from the third party to be considered feasible and/or reasonable. Third party funding is acceptable on a Federal or Federal-aid highway Type I or Type II project to make functional enhancements, such as absorptive treatment and access doors or aesthetic enhancements, to a noise abatement measure already determined feasible and reasonable.

(k) On a Type I or Type II projects, a highway agency has the option to cost average noise abatement among benefited receptors within common noise environments if no single common noise environment exceeds two times the highway agency's cost reasonableness criteria and collectively all common noise environments being averaged do not exceed the highway agency's cost reasonableness criteria.

§772.15 Federal participation.

(a) *Type I and Type II projects.* Federal funds may be used for noise abatement measures when:

(1) Traffic noise impacts have been identified; and

(2) Abatement measures have been determined to be feasible and reasonable pursuant to §772.13(d) of this chapter.

(b) *For Type II projects.* (1) No funds made available out of the Highway Trust Fund may be used to construct Type II noise barriers, as defined by this regulation, if such noise barriers were not part of a project approved by the FHWA before the November 28, 1995.

(2) Federal funds are available for Type II noise barriers along lands that were developed or were under substantial construction before approval of the acquisition of the rights-of-ways for, or construction of, the existing highway.

(3) FHWA will not approve noise abatement measures for locations where such measures were previously determined not to be feasible and reasonable for a Type I project.

(c) *Noise abatement measures.* The following noise abatement measures may be considered for incorporation into a Type I or Type II project to reduce traffic noise impacts. The costs of such measures may be included in Federal-aid participating project costs with the Federal share being the same as that for the system on which the project is located.

(1) Construction of noise barriers, including acquisition of property rights, either within or outside the highway right-of-way. Landscaping is not a viable noise abatement measure.

(2) Traffic management measures including, but not limited to, traffic control devices and signing for prohibition of certain vehicle types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive lane designations.

(3) Alteration of horizontal and vertical alignments.

(4) Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development which would be adversely impacted by traffic noise. This measure may be included in Type I projects only.

(5) Noise insulation of Activity Category D land use facilities listed in Table 1. Post-installation maintenance and operational costs for noise insulation are not eligible for Federal-aid funding.

§772.17 Information for local officials.

(a) To minimize future traffic noise impacts on currently undeveloped lands of Type I projects, a highway agency shall inform local officials within whose jurisdiction the highway project is located of:

(1) Noise compatible planning concepts;

(2) The best estimation of the future design year noise levels at various distances from the edge of the nearest travel lane of the highway improvement where the future noise levels meet the highway agency's definition of “approach” for undeveloped lands or properties within the project limits. At a minimum, identify the distance to the exterior noise abatement criteria in Table 1;

(3) Non-eligibility for Federal-aid participation for a Type II project as described in §772.15(b).

(b) If a highway agency chooses to participate in a Type II noise program or to use the date of development as one of the factors in determining the reasonableness of a Type I noise abatement measure, the highway agency shall have a statewide outreach program to inform local officials and the public of the items in §772.17(a)(1) through (3).

§772.19 Construction noise.

For all Type I and II projects, a highway agency shall:

(a) Identify land uses or activities that may be affected by noise from construction of the project. The identification is to be performed during the project development studies.

(b) Determine the measures that are needed in the plans and specifications to minimize or eliminate adverse construction noise impacts to the community. This determination shall include a weighing of the benefits achieved and the overall adverse social, economic, and environmental effects and costs of the abatement measures.

(c) Incorporate the needed abatement measures in the plans and specifications.

Table 1 to Part 772—Noise Abatement Criteria

[Hourly A-Weighted Sound Level_decibels (dB(A))[1]]

Activity category	Activity Leq(h)	Criteria[2] L10(h)	Evaluation location	Activity description
A	57	60	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[3]	67	70	Exterior	Residential.
C[3]	67	70	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	55	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.

E[3]	72	75	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F				Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G				Undeveloped lands that are not permitted.

[1]Either Leq(h) or L10(h) (but not both) may be used on a project.

[2]The Leq(h) and L10(h) Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures.

[3]Includes undeveloped lands permitted for this activity category.

APPENDIX B - Land Use Activity Categories and Noise Abatement Criteria

Table 1. Land Use Activity Categories and Noise Abatement Criteria

Activity Category	Activity Criteria[1] $L_{eq}(h)$, dBA	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[2]	67	Exterior	Residential.
C[2]	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E[2]	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A–D or F.
F	---	---	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	---	---	Undeveloped lands that are not permitted.

[1]Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures.

[2]Includes undeveloped lands permitted for this activity category.

APPENDIX C - Feasibility and Reasonableness Worksheet

Feasibility and Reasonableness Worksheet Example

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:

_____

Receiver ID No.(s):

_____

Location/Description:

_____

Activity Category type:

_____

Noise Abatement Criteria for this Activity Category (Leq) (Table 1, DOT&PF Noise Policy, Appendix B)**:**

_____

Existing Noise Level (Leq):

_____

Future Build Noise Level (Leq):

_____

Future No-Build Noise Level:

_____

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)?: Yes☐ No☐

Highway Traffic Noise Abatement Feasibility and Reasonableness Analysis:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☐

Is the proposed noise abatement measure engineering feasible? Yes☐ No☐

Reasonableness

Is the proposed noise abatement measure considered reasonable? Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No☐
4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐No☐

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

_____

What is the basis for this recommendation?

_____

_____ _____

Regional Environmental Manager Date

_____ _____

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

_____ _____

Preconstruction Engineer[3] Date

[3] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

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Appendix C. Traffic Data Summary

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Table C-1. Existing traffic data summary.

TNM Roadway Segment Identifier	PHV	Speed Limit (mph)	Vehicle Mix				
			91.97% Cars	4.84% MTs	2.72% HTs	0.28% Buses	0.19% Motorcycles
Existing Traffic TNM 1							
SB Seward (154th 2 PotterValley)2	1,058	55	973	51	29	3	2
NB Seward (PotterValley 2 154th)2	949	55	873	46	26	3	2
SH_Seward_01	—	—	—	—	—	—	—
SH_Seward_02	—	—	—	—	—	—	—
SH_Seward_03	—	—	—	—	—	—	—
SH_Seward_04	—	—	—	—	—	—	—
SB Seward (154th 2 PotterValley)3	1,058	55	973	51	29	3	2
LT SB Seward (154th 2 PotterValley)	91	55	84	4	2	0	0
SB Seward (154th 2 PotterValley)4	967	55	889	47	26	3	2
NB Seward (PotterValley 2 154th)1	949	55	873	46	26	3	2
SH_Seward_05	—	—	—	—	—	—	—
SH_Seward_06	—	—	—	—	—	—	—
SH_Seward_07	—	—	—	—	—	—	—
SB Seward (PotterV 2 McHughCrk)1	978	55	899	47	27	3	2
NB Seward (McHughCrk 2 PotterV)4	897	55	825	43	24	3	2
SH_Seward_08	—	—	—	—	—	—	—
TL_Seward_02	1	55	1	0	0	0	0
NB Seward (McHughCrk 2 PotterV)3	897	55	825	43	24	3	2
SH_Seward_09	—	—	—	—	—	—	—
SH_Seward_10	—	—	—	—	—	—	—
SH_Seward_11	—	—	—	—	—	—	—
SB Seward (PotterV 2 McHughCrk)2	978	55	899	47	27	3	2
NB Seward (McHughCrk 2 PotterV)1	897	55	825	43	24	3	2
NB Seward (McHughCrk 2 PotterV)2	897	55	825	43	24	3	2
TL_Seward_03	18	55	17	1	0	0	0
TL_Seward_04	—	—	—	—	—	—	—
NB Seward (PotterValley 2 154th)3	949	55	873	46	26	3	2
NB Seward (PotterValley 2 154th)in	473	55	435	23	13	1	1
NB Seward (PotterValley 2 154th)out	473	55	435	23	13	1	1
LT NB Seward (PotterValley 2 154th)	3	55	3	0	0	0	0
SH_Seward_52	—	—	—	—	—	—	—
SH_Seward_53	—	—	—	—	—	—	—
SH_Seward_54	—	—	—	—	—	—	—
SB Seward (154th 2 PotterValley)out	489	55	450	24	13	1	1
SB Seward (154th 2 PotterValley)1	978	55	899	47	27	3	2
SH_Seward_55	—	—	—	—	—	—	—
NB Seward (N of 154th)out1	501	55	460	24	14	1	1

TNM Roadway Segment Identifier	PHV	Speed Limit (mph)	Vehicle Mix				
			91.97% Cars	4.84% MTs	2.72% HTs	0.28% Buses	0.19% Motorcycles
NB Seward (N of 154th)in1	501	55	460	24	14	1	1
SH_Seward_56	—	—	—	—	—	—	—
SH_Seward_57	—	—	—	—	—	—	—
SH_Seward_58	—	—	—	—	—	—	—
SB Seward (N of 154th)out1	556	55/65	511	27	15	2	1
SB Seward (N of 154th)in1	556	55/65	511	27	15	2	1
RT SB Seward (N of 154th)	23	55	21	1	1	0	0
LT SB Seward (N of 154th)	50	55	46	2	1	0	0
SB Seward (N of 154th)out2	520	55/65	478	25	14	1	1
SB Seward (154th 2 PotterValley)in	489	55	450	24	13	1	1
SB Seward (N of 154th)in2	520	55/65	478	25	14	1	1
SS_154th	149	25	137	7	4	0	0
SS_PotterValley	9	25	8	0	0	0	0
SS_OldSewardHwy	—	—	—	—	—	—	—
SS_PMWS	—	—	—	—	—	—	—
Existing Traffic TNM 2							
SH_Seward_10	—	—	—	—	—	—	—
SH_Seward_11	—	—	—	—	—	—	—
SB Seward (PotterV 2 RainbowTH)1	967	55	889	47	26	3	2
NB Seward (RainbowTH 2 PotterV)1	843	55	775	41	23	2	2
SH_Seward_12	—	—	—	—	—	—	—
SS_McHughCreek	78	5	72	4	2	0	0
SS_BelugaPoint	93	5	86	5	3	0	0
SS_ChoimViewpoint	—	—	—	—	—	—	—
SS_RainbowValley	6	5	6	0	0	0	0
SH_Seward_13	—	—	—	—	—	—	—
Existing Traffic TNM 3							
SB Seward (RainbowTH 2 FallsCrk)1	922	55	848	45	25	3	2
NB Seward (RainbowTH 2 FallsCrk)1	785	55	722	38	21	2	1
SH_Seward_12	—	—	—	—	—	—	—
SH_Seward_13	—	—	—	—	—	—	—
SH_Seward_14	—	—	—	—	—	—	—
SH_Seward_15	—	—	—	—	—	—	—
Existing Traffic TNM 1							
SH_Seward_16	—	—	—	—	—	—	—
SH_Seward_17	—	—	—	—	—	—	—
SH_Seward_18	—	—	—	—	—	—	—
SH_Seward_19	—	—	—	—	—	—	—
SH_Seward_20	—	—	—	—	—	—	—
SH_Seward_21	—	—	—	—	—	—	—
SB Seward (FallsCrk 2 IndianRd)1	920	55	846	45	25	3	2
SH_Seward_22	—	—	—	—	—	—	—
SH_Seward_23	—	—	—	—	—	—	—
SB Seward (Boretide 2 IndianCrkTH)1	893	55	821	43	24	3	2
SB Seward (IndianRd 2 Boretide)1	890	55	819	43	24	2	2
SH_Seward_24	—	—	—	—	—	—	—
SH_Seward_25	—	—	—	—	—	—	—

TNM Roadway Segment Identifier	PHV	Speed Limit (mph)	Vehicle Mix				
			91.97% Cars	4.84% MTs	2.72% HTs	0.28% Buses	0.19% Motorcycles
SB Seward (IndianRd 2 Boretide)2	883	55	812	43	24	2	2
TL_Seward_05	7	55	6	0	0	0	0
SH_Seward_26	—	—	—	—	—	—	—
SH_Seward_27	—	—	—	—	—	—	—
SH_Seward_28	—	—	—	—	—	—	—
SH_Seward_29	—	—	—	—	—	—	—
SB Seward (IndianCrkTH 2 BirdRgeTH)1	889	55	818	43	24	2	2
SH_Seward_30	—	—	—	—	—	—	—
SB Seward (BirdRgeTH 2 BirdCreek)1	889	55	818	43	24	2	2
SB Seward (BirdCreek 2 StellersJay)1	888	55	817	43	24	2	2
SH_Seward_31	—	—	—	—	—	—	—
TL_Seward_06	—	—	—	—	—	—	—
SH_Seward_32	—	—	—	—	—	—	—
TL_Seward_07	3	55	3	0	0	0	0
SH_Seward_33	—	—	—	—	—	—	—
SH_Seward_34	—	—	—	—	—	—	—
SH_Seward_35	—	—	—	—	—	—	—
SB Seward (BirdCreek 2 StellersJay)2	888	55	817	43	24	2	2
SH_Seward_36	—	—	—	—	—	—	—
SH_Seward_37	—	—	—	—	—	—	—
SH_Seward_38	—	—	—	—	—	—	—
SB Seward (BirdCreek 2 StellersJay)3	888	55	817	43	24	2	2
SH_Seward_39	—	—	—	—	—	—	—
SB Seward (StellersJay 2 SawmillRd)1	879	55	808	43	24	2	2
SB Seward (BirdCreek 2 StellersJay)4	888	55	817	43	24	2	2
SH_Seward_40	—	—	—	—	—	—	—
SH_Seward_41	—	—	—	—	—	—	—
SH_Seward_42	—	—	—	—	—	—	—
TL_Seward_08	—	—	—	—	—	—	—
TL_Seward_09	—	—	—	—	—	—	—
NB Seward (KoniksonRd 2 SawmillRd)1	763	55	702	37	21	2	1
SH_Seward_43	—	—	—	—	—	—	—
SB Seward (SawmillRd 2 KoniksonRd)1	895	55	823	43	24	3	2
SH_Seward_44	—	—	—	—	—	—	—
SH_Seward_45	—	—	—	—	—	—	—
SH_Seward_46	—	—	—	—	—	—	—
NB Seward (S of KoniksonRd)4	763	55	702	37	21	2	1
SB Seward (S of KoniksonRd)2	888	55	817	43	24	2	2
SB Seward (S of KoniksonRd)1	888	55	817	43	24	2	2
SH_Seward_47	—	—	—	—	—	—	—
NB Seward (S of KoniksonRd)3	763	55	702	37	21	2	1
SH_Seward_48	—	—	—	—	—	—	—
SH_Seward_49	—	—	—	—	—	—	—

TNM Roadway Segment Identifier	PHV	Speed Limit (mph)	Vehicle Mix				
			91.97% Cars	4.84% MTs	2.72% HTs	0.28% Buses	0.19% Motorcycles
NB Seward (S of KoniksonRd)2	763	55	702	37	21	2	1
SH_Seward_50	—	—	—	—	—	—	—
NB Seward (S of KoniksonRd)1	763	55	702	37	21	2	1
SB Seward (S of KoniksonRd)3	888	55	817	43	24	2	2
SH_Seward_51	—	—	—	—	—	—	—
SB Seward (S of KoniksonRd)out1	444	55	408	21	12	1	1
SB Seward (S of KoniksonRd)out2	444	55	408	21	12	1	1
NB Seward (S of KoniksonRd)in1	382	55	351	18	10	1	1
NB Seward (S of KoniksonRd)out1	382	55	351	18	10	1	1
SS_IndianValley	—	—	—	—	—	—	—
SS_IndianRoad	67	5	62	3	2	0	0
SS_KaralyssaDr	—	—	—	—	—	—	—
SS_BoretideRd	45	25	41	2	1	0	0
SS_RandDr	—	—	—	—	—	—	—
SS_OldJohnsRd	—	—	—	—	—	—	—
SS_BushnellRd	—	—	—	—	—	—	—
SS_ElRockoLn	—	—	—	—	—	—	—
SS_StellersJayLn	16	25	15	1	0	0	0
SS_SawmillRd	82	25	75	4	2	0	0
SS_KoniksonRd	13	25	12	1	0	0	0
SS_AurigaRd	—	—	—	—	—	—	—
SS_WhisperingBirdLn	—	—	—	—	—	—	—
NB Seward (IndianRd 2 FallsCrk)1	789	55	726	38	21	2	1
NB Seward (Boretide 2 IndianRd)2	789	55	726	38	21	2	1
NB Seward (Boretide 2 IndianRd)1	789	55	726	38	21	2	1
SB Seward (IndianCrkTH 2 Boretide)1	890	55	819	43	24	2	2
NB Seward (BirdRgeTH 2 IndianCrkTH)1	776	55	714	38	21	2	1
ML_Seward_22	776	55	714	38	21	2	1
NB Seward (BirdCreek 2 BirdRidgeTH)1	772	55	710	37	21	2	1
NB Seward (StellersJay 2 BirdCreek)5	769	55	707	37	21	2	1
NB Seward (StellersJay 2 BirdCreek)4	772	55	710	37	21	2	1
NB Seward (StellersJay 2 BirdCreek)3	772	55	710	37	21	2	1
NB Seward (StellersJay 2 BirdCreek)2	772	55	710	37	21	2	1
NB Seward (StellersJay 2 BirdCreek)1	772	55	710	37	21	2	1
NB Seward (SawmillRd 2 StellersJay)1	770	55	708	37	21	2	1
NB Seward (KoniksonRd 2 SawmillRd)2	763	55	702	37	21	2	1

Notes: HT = heavy truck; mph = mile(s) per hour; MT = medium truck; PHV = Peak Hourly Volume; TNM = Traffic Noise Model

Table C-2. Future (2052) No Action alternative traffic data summary.

Roadway Segment	PHV	Speed Limit (mph)	Vehicle Mix				
			91.97% Cars	4.84% MTs	2.72% HTs	0.28% Buses	0.19% Motorcycles
Future No Action Traffic TNM 1							
SB Seward (154th 2 PotterValley)2	1,398	55	1,286	68	38	4	3
NB Seward (PotterValley 2 154th)2	1,254	55	1,153	61	34	4	2
SH_Seward_01	—	—	—	—	—	—	—
SH_Seward_02	—	—	—	—	—	—	—
SH_Seward_03	—	—	—	—	—	—	—
SH_Seward_04	—	—	—	—	—	—	—
SB Seward (154th 2 PotterValley)3	1,398	55	1,286	68	38	4	3
LT SB Seward (154th 2 PotterValley)	120	55	110	6	3	0	0
SB Seward (154th 2 PotterValley)4	1,278	55	1,175	62	35	4	2
NB Seward (PotterValley 2 154th)1	1,254	55	1,153	61	34	4	2
SH_Seward_05	—	—	—	—	—	—	—
SH_Seward_06	—	—	—	—	—	—	—
SH_Seward_07	—	—	—	—	—	—	—
SB Seward (PotterV 2 McHughCrk)1	1,293	55	1,189	63	35	4	2
NB Seward (McHughCrk 2 PotterV)4	1,185	55	1,090	57	32	3	2
SH_Seward_08	—	—	—	—	—	—	—
TL_Seward_02	1	55	1	0	0	0	0
NB Seward (McHughCrk 2 PotterV)3	1,161	55	1,068	56	32	3	2
SH_Seward_09	—	—	—	—	—	—	—
SH_Seward_10	—	—	—	—	—	—	—
SH_Seward_11	—	—	—	—	—	—	—
SB Seward (PotterV 2 McHughCrk)2	1,293	55	1,189	63	35	4	2
NB Seward (McHughCrk 2 PotterV)1	1,185	55	1,090	57	32	3	2
NB Seward (McHughCrk 2 PotterV)2	1,185	55	1,090	57	32	3	2
TL_Seward_03	24	55	22	1	1	0	0
TL_Seward_04	—	—	—	—	—	—	—
NB Seward (PotterValley 2 154th)3	1,254	55	1,153	61	34	4	2
NB Seward (PotterValley 2 154th)in	625	55	575	30	17	2	1
NB Seward (PotterValley 2 154th)out	625	55	575	30	17	2	1
LT NB Seward (PotterValley 2 154th)	4	55	4	0	0	0	0
SH_Seward_52	—	—	—	—	—	—	—
SH_Seward_53	—	—	—	—	—	—	—
SH_Seward_54	—	—	—	—	—	—	—
SB Seward (154th 2 PotterValley)out	646.5	55	595	31	18	2	1
SB Seward (154th 2 PotterValley)1	1,293	55	1,189	63	35	4	2
SH_Seward_55	—	—	—	—	—	—	—
NB Seward (N of 154th)out1	662	55	608	32	18	2	1

Roadway Segment	PHV	Speed Limit (mph)	Vehicle Mix				
			91.97% Cars	4.84% MTs	2.72% HTs	0.28% Buses	0.19% Motorcycles
NB Seward (N of 154th)in1	662	55	608	32	18	2	1
SH_Seward_56	—	—	—	—	—	—	—
SH_Seward_57	—	—	—	—	—	—	—
SH_Seward_58	—	—	—	—	—	—	—
SB Seward (N of 154th)out1	687	55/65	631	33	19	2	1
SB Seward (N of 154th)in1	735	55/65	676	36	20	2	1
RT SB Seward (N of 154th)	30	55	28	1	1	0	0
LT SB Seward (N of 154th)	66	55	61	3	2	0	0
SB Seward (N of 154th)out2	687	55/65	631	33	19	2	1
SB Seward (154th 2 PotterValley)in	647	55	595	31	18	2	1
SB Seward (N of 154th)in2	687	55/65	631	33	19	2	1
SS_154th	196	25	180	9	5	1	0
SS_PotterValley	6	25	6	0	0	0	0
SS_OldSewardHwy	—	—	—	—	—	—	—
SS_PMWS	—	—	—	—	—	—	—
Future No Action Traffic TNM 2							
SH_Seward_10	—	—	—	—	—	—	—
SH_Seward_11	—	—	—	—	—	—	—
SB Seward (PotterV 2 RainbowTH)1	1,278	55	1,175	62	35	4	2
NB Seward (RainbowTH 2 PotterV)1	1,114	55	1,025	54	30	3	2
SH_Seward_12	—	—	—	—	—	—	—
SS_McHughCreek	103	5	95	5	3	0	0
SS_BelugaPoint	123	5	113	6	3	0	0
SS_ChoimViewpoint	—	—	—	—	—	—	—
SS_RainbowValley	8	5	7	0	0	0	0
SH_Seward_13	—	—	—	—	—	—	—
Future No Action Traffic TNM 3							
SB Seward (RainbowTH 2 FallsCrk)1	1,218	55	1,120	59	33	3	2
NB Seward (RainbowTH 2 FallsCrk)1	1,037	55	954	50	28	3	2
SH_Seward_12	—	—	—	—	—	—	—
SH_Seward_13	—	—	—	—	—	—	—
SH_Seward_14	—	—	—	—	—	—	—
SH_Seward_15	—	—	—	—	—	—	—
Future No Action Traffic TNM 1							
SH_Seward_16	—	—	—	—	—	—	—
SH_Seward_17	—	—	—	—	—	—	—
SH_Seward_18	—	—	—	—	—	—	—
SH_Seward_19	—	—	—	—	—	—	—
SH_Seward_20	—	—	—	—	—	—	—
SH_Seward_21	—	—	—	—	—	—	—
SB Seward (FallsCrk 2 IndianRd)1	1,215	55	1,117	59	33	3	2
SH_Seward_22	—	—	—	—	—	—	—
SH_Seward_23	—	—	—	—	—	—	—
SB Seward (Boretide 2 IndianCrkTH)1	1,180	55	1,085	57	32	3	2
SB Seward (IndianRd 2 Boretide)1	1,176	55	1,082	57	32	3	2
SH_Seward_24	—	—	—	—	—	—	—
SH_Seward_25	—	—	—	—	—	—	—

Roadway Segment	PHV	Speed Limit (mph)	Vehicle Mix				
			91.97% Cars	4.84% MTs	2.72% HTs	0.28% Buses	0.19% Motorcycles
SB Seward (IndianRd 2 Boretide)2	1,167	55	1,073	56	32	3	2
TL_Seward_05	9	55	8	0	0	0	0
SH_Seward_26	—	—	—	—	—	—	—
SH_Seward_27	—	—	—	—	—	—	—
SH_Seward_28	—	—	—	—	—	—	—
SH_Seward_29	—	—	—	—	—	—	—
SB Seward (IndianCrkTH 2 BirdRgeTH)1	1,175	55	1,081	57	32	3	2
SH_Seward_30	—	—	—	—	—	—	—
SB Seward (BirdRgeTH 2 BirdCreek)1	1,175	55	1,081	57	32	3	2
SB Seward (BirdCreek 2 StellersJay)1	1,173	55	1,079	57	32	3	2
SH_Seward_31	—	—	—	—	—	—	—
TL_Seward_06	—	—	—	—	—	—	—
SH_Seward_32	—	—	—	—	—	—	—
TL_Seward_07	4	55	4	0	0	0	0
SH_Seward_33	—	—	—	—	—	—	—
SH_Seward_34	—	—	—	—	—	—	—
SH_Seward_35	—	—	—	—	—	—	—
SB Seward (BirdCreek 2 StellersJay)2	1,173	55	1,079	57	32	3	2
SH_Seward_36	—	—	—	—	—	—	—
SH_Seward_37	—	—	—	—	—	—	—
SH_Seward_38	—	—	—	—	—	—	—
SB Seward (BirdCreek 2 StellersJay)3	1,173	55	1,079	57	32	3	2
SH_Seward_39	—	—	—	—	—	—	—
SB Seward (StellersJay 2 SawmillRd)1	1,161	55	1,068	56	32	3	2
SB Seward (BirdCreek 2 StellersJay)4	1,173	55	1,079	57	32	3	2
SH_Seward_40	—	—	—	—	—	—	—
SH_Seward_41	—	—	—	—	—	—	—
SH_Seward_42	—	—	—	—	—	—	—
TL_Seward_08	—	—	—	—	—	—	—
TL_Seward_09	—	—	—	—	—	—	—
NB Seward (KoniksonRd 2 SawmillRd)1	1,008	55	927	49	27	3	2
SH_Seward_43	—	—	—	—	—	—	—
SB Seward (SawmillRd 2 KoniksonRd)1	1,183	55	1,088	57	32	3	2
SH_Seward_44	—	—	—	—	—	—	—
SH_Seward_45	—	—	—	—	—	—	—
SH_Seward_46	—	—	—	—	—	—	—
NB Seward (S of KoniksonRd)4	1,008	55	927	49	27	3	2
SB Seward (S of KoniksonRd)2	1,173	55	1,079	57	32	3	2
SB Seward (S of KoniksonRd)1	1,173	55	1,079	57	32	3	2
SH_Seward_47	—	—	—	—	—	—	—
NB Seward (S of KoniksonRd)3	1,008	55	927	49	27	3	2
SH_Seward_48	—	—	—	—	—	—	—
SH_Seward_49	—	—	—	—	—	—	—

Roadway Segment	PHV	Speed Limit (mph)	Vehicle Mix				
			91.97% Cars	4.84% MTs	2.72% HTs	0.28% Buses	0.19% Motorcycles
NB Seward (S of KoniksonRd)2	1,008	55	927	49	27	3	2
SH_Seward_50	—	—	—	—	—	—	—
NB Seward (S of KoniksonRd)1	1,008	55	927	49	27	3	2
SB Seward (S of KoniksonRd)3	1,173	55	1,079	57	32	3	2
SH_Seward_51	—	—	—	—	—	—	—
SB Seward (S of KoniksonRd)out1	587	55	539	28	16	2	1
SB Seward (S of KoniksonRd)out2	587	55	539	28	16	2	1
NB Seward (S of KoniksonRd)in1	504	55	464	24	14	1	1
NB Seward (S of KoniksonRd)out1	504	55	464	24	14	1	1
SS_IndianValley	—	—	—	—	—	—	—
SS_IndianRoad	89	5	82	4	2	0	0
SS_KaralyssaDr	—	—	—	—	—	—	—
SS_BoretideRd	58	25	53	3	2	0	0
SS_RandDr	—	—	—	—	—	—	—
SS_OldJohnsRd	—	—	—	—	—	—	—
SS_BushnellRd	—	—	—	—	—	—	—
SS_ElRockoLn	—	—	—	—	—	—	—
SS_StellersJayLn	20	25	18	1	1	0	0
SS_SawmillRd	108	25	99	5	3	0	0
SS_KoniksonRd	17	25	16	1	0	0	0
SS_AurigaRd	—	—	—	—	—	—	—
SS_WhisperingBirdLn	—	—	—	—	—	—	—
NB Seward (IndianRd 2 FallsCrk)1	1,043	55	959	50	28	3	2
NB Seward (Boretide 2 IndianRd)2	1,043	55	959	50	28	3	2
NB Seward (Boretide 2 IndianRd)1	1,043	55	959	50	28	3	2
SB Seward (IndianCrkTH 2 Boretide)1	1,176	55	1,082	57	32	3	2
NB Seward (BirdRgeTH 2 IndianCrkTH)1	1,025	55	943	50	28	3	2
ML_Seward_22	1,025	55	943	50	28	3	2
NB Seward (BirdCreek 2 BirdRidgeTH)1	1,020	55	938	49	28	3	2
NB Seward (StellersJay 2 BirdCreek)5	1,016	55	934	49	28	3	2
NB Seward (StellersJay 2 BirdCreek)4	1,020	55	938	49	28	3	2
NB Seward (StellersJay 2 BirdCreek)3	1,020	55	938	49	28	3	2
NB Seward (StellersJay 2 BirdCreek)2	1,020	55	938	49	28	3	2
NB Seward (StellersJay 2 BirdCreek)1	1,020	55	938	49	28	3	2
NB Seward (SawmillRd 2 StellersJay)1	1,017	55	935	49	28	3	2
NB Seward (KoniksonRd 2 SawmillRd)2	1,008	55	927	49	27	3	2

Notes: HT = heavy truck; mph = mile(s) per hour; MT = medium truck; PHV = Peak Hourly Volume; TNM = Traffic Noise Model

Table C-3. Future (2052) Proposed Action traffic data summary.

Roadway Segment	PHV	Speed Limit (mph)	Vehicle Mix				
			91.97% Cars	4.84% MTs	2.72% HTs	0.28% Buses	0.19% Motorcycles
Future Proposed Action Traffic							
SB Seward (N of 154th)out1	735	65/55	676	36	20	2	1
SB Seward (N of 154th)in1	735	65/55	676	36	20	2	1
RT SB Seward (N of 154th)	30	55	28	1	1	0	0
LT SB Seward (N of 154th)	66	55	61	3	2	0	0
SB Seward (N of 154th)out2	687	55	631	33	19	2	1
SB Seward (N of 154th)in2	687	55	631	33	19	2	1
NB Seward (N of 154th)out1	662	55/65	608	32	18	2	1
NB Seward (N of 154th)in1	662	55/65	608	32	18	2	1
SB Seward (154th 2 PotterValley)out1	699	55	643	34	19	2	1
SB Seward (154th 2 PotterValley)in1	699	55	643	34	19	2	1
SB Seward (154th 2 PotterValley)out2	637	55	585	31	17	2	1
SB Seward (154th 2 PotterValley)in2	637	55	585	31	17	2	1
LT from SB Seward to PotterValley	125	55	115	6	3	0	0
NB Seward (154th 2 PotterValley)out1	627	55	577	30	17	2	1
NB Seward (154th 2 PotterValley)in1	627	55	577	30	17	2	1
NB Seward (154th 2 PotterValley)out2	625	55	575	30	17	2	1
NB Seward (154th 2 PotterValley)in2	625	55	575	30	17	2	1
LT from NB Seward to 154th	4	55	4	0	0	0	0
SB Seward (PotterV 2 SectionH)out1	429	55	395	21	12	1	1
SB Seward (PotterV 2 SectionH)mid1	429	55	395	21	12	1	1
SB Seward (PotterV 2 SectionH)in1	429	55	395	21	12	1	1
NB Seward (PotterV 2 SectionH)out1	593	55	545	29	16	2	1
NB Seward (PotterV 2 SectionH)in1	593	55	545	29	16	2	1
SB Seward (SectionH 2 McHugh)out1	639	55	588	31	17	2	1
SB Seward (SectionH 2 McHugh)in1	639	55	588	31	17	2	1
SB Seward (SectionH 2 McHugh)out2	621	55	571	30	17	2	1
SB Seward (SectionH 2 McHugh)in2	621	55	571	30	17	2	1
LT from SB Seward to McHugh Creek	36	55	33	2	1	0	0
NB Seward (SectionH 2 McHugh)out1	562	55	517	27	15	2	1
NB Seward (SectionH 2 McHugh)in1	562	55	517	27	15	2	1
SB Seward (McHugh 2 BelugaN)out1	420	55	386	20	11	1	1
SB Seward (McHugh 2 BelugaN)mid1	420	55	386	20	11	1	1

Roadway Segment	PHV	Speed Limit (mph)	Vehicle Mix				
			91.97% Cars	4.84% MTs	2.72% HTs	0.28% Buses	0.19% Motorcycles
SB Seward (McHugh 2 BelugaN)in1	420	55	386	20	11	1	1
SB Seward (McHugh 2 BelugaN)out2	630	55	579	30	17	2	1
SB Seward (McHugh 2 BelugaN)in2	630	55	579	30	17	2	1
NB Seward (McHugh 2 BelugaN)out1	360	55	331	17	10	1	1
NB Seward (McHugh 2 BelugaN)mid1	360	55	331	17	10	1	1
NB Seward (McHugh 2 BelugaN)in1	360	55	331	17	10	1	1
NB Seward (McHugh 2 BelugaN)out2	540	55	496	26	15	2	1
NB Seward (McHugh 2 BelugaN)in2	540	55	496	26	15	2	1
SB Seward (BelugaN 2 SunshineR)out	611	55	561	30	17	2	1
SB Seward (BelugaN 2 SunshineR)in	611	55	561	30	17	2	1
NB Seward (BelugaN 2 SunshineR)out1	525	55	483	25	14	1	1
NB Seward (BelugaN 2 SunshineR)in1	525	55	483	25	14	1	1
NB Seward (BelugaN 2 SunshineR)out2	525	55	483	25	14	1	1
NB Seward (BelugaN 2 SunshineR)in2	525	55	483	25	14	1	1
LT from NB Seward to Sunshine	0	55	0	0	0	0	0
SB Seward (SunsheR 2 RainbowV)out1	611	55	562	30	17	2	1
SB Seward (SunsheR 2 RainbowV)in1	611	55	562	30	17	2	1
LT from SB Seward to Rainbow ValleyR	8	55	7	0	0	0	0
SB Seward (SunsheR 2 RainbowV)out2	608	55	559	29	17	2	1
SB Seward (SunsheR 2 RainbowV)in2	608	55	559	29	17	2	1
NB Seward (SunsheR 2 RainbowV)out1	512	55	470	25	14	1	1
NB Seward (SunsheR 2 RainbowV)in1	512	55	470	25	14	1	1
SB Seward (RainbowV 2 WindyC)out1	407	55	374	20	11	1	1
SB Seward (RainbowV 2 WindyC)mid1	407	55	374	20	11	1	1
SB Seward (RainbowV 2 WindyC)in1	407	55	374	20	11	1	1
SB Seward (RainbowV 2 WindyC)out2	610	55	561	30	17	2	1
SB Seward (RainbowV 2 WindyC)in2	610	55	561	30	17	2	1
NB Seward (RainbowV 2 WindyC)out	518	55	476	25	14	1	1
NB Seward (RainbowV 2 WindyC)in	518	55	476	25	14	1	1

Roadway Segment	PHV	Speed Limit (mph)	Vehicle Mix				
			91.97% Cars	4.84% MTs	2.72% HTs	0.28% Buses	0.19% Motorcycles
SB Seward (WindyC 2 FallsCreek)out	609	55	560	29	17	2	1
SB Seward (WindyC 2 FallsCreek)in	609	55	560	29	17	2	1
NB Seward (WindyC 2 FallsCreek)out	519	55	477	25	14	1	1
NB Seward (WindyC 2 FallsCreek)in	519	55	477	25	14	1	1
SB Seward (FallsCrk 2 Boretide)out1	608	55	559	29	17	2	1
SB Seward (FallsCrk 2 Boretide)in1	608	55	559	29	17	2	1
LT from SB Seward to Boretide Rd	54	55	50	3	1	0	0
SB Seward (FallsCrk 2 Boretide)out2	586	55	538	28	16	2	1
SB Seward (FallsCrk 2 Boretide)in2	586	55	538	28	16	2	1
NB Seward (FallsCrk 2 Boretide)out	522	55	480	25	14	1	1
NB Seward (FallsCrk 2 Boretide)in	522	55	480	25	14	1	1
SB Seward (BoreT 2 BirdRidgeTH)out1	396	55	365	19	11	1	1
SB Seward (BoreT 2 BirdRidgeTH)mid1	396	55	365	19	11	1	1
SB Seward (BoreT 2 BirdRidgeTH)in1	396	55	365	19	11	1	1
SB Seward (BoreT 2 BirdRidgeTH)out2	595	55	547	29	16	2	1
SB Seward (BoreT 2 BirdRidgeTH)in2	595	55	547	29	16	2	1
NB Seward (BoreT 2 BirdRidgeTH)out	513	55	471	25	14	1	1
NB Seward (BoreT 2 BirdRidgeTH)in	513	55	471	25	14	1	1
SB Seward (BirdRTH 2 BirdCrkPrk)out1	588	55	540	28	16	2	1
SB Seward (BirdRTH 2 BirdCrkPrk)in1	588	55	540	28	16	2	1
NB Seward (BirdRTH 2 BirdCrkPrk)out1	510	55	469	25	14	1	1
NB Seward (BirdRTH 2 BirdCrkPrk)in1	510	55	469	25	14	1	1
SB Seward (BirdCrkPrk 2 Sawmill)out1	391	55	360	19	11	1	1
SB Seward (BirdCrkPrk 2 Sawmill)mid1	391	55	360	19	11	1	1
SB Seward (BirdCrkPrk 2 Sawmill)in1	391	55	360	19	11	1	1
SB Seward (BirdCrkPrk 2 Sawmill)out2	587	55	539	28	16	2	1
SB Seward (BirdCrkPrk 2 Sawmill)in2	587	55	539	28	16	2	1
LT from SB Seward 2 Sawmill Rd	45	55	41	2	1	0	0
SB Seward (BirdCrkPrk 2 Sawmill)out3	585	55	538	28	16	2	1

Roadway Segment	PHV	Speed Limit (mph)	Vehicle Mix				
			91.97% Cars	4.84% MTs	2.72% HTs	0.28% Buses	0.19% Motorcycles
SB Seward (BirdCrkPrk 2 Sawmill)in3	585	55	538	28	16	2	1
NB Seward (BirdCrkPrk 2 Sawmill)out1	340	55	313	16	9	1	1
NB Seward (BirdCrkPrk 2 Sawmill)mid1	340	55	313	16	9	1	1
NB Seward (BirdCrkPrk 2 Sawmill)in1	340	55	313	16	9	1	1
NB Seward (BirdCrkPrk 2 Sawmill)out2	510	55	469	25	14	1	1
NB Seward (BirdCrkPrk 2 Sawmill)in2	510	55	469	25	14	1	1
SB Seward (S of Sawmill)out1	405	55	372	20	11	1	1
SB Seward (S of Sawmill)mid1	405	55	372	20	11	1	1
SB Seward (S of Sawmill)in1	405	55	372	20	11	1	1
SB Seward (S of Sawmill)out2	608	55	559	29	17	2	1
SB Seward (S of Sawmill)in2	608	55	559	29	17	2	1
NB Seward (S of Sawmill)out1	505	55	464	24	14	1	1
NB Seward (S of Sawmill)in1	505	55	464	24	14	1	1
SB PotterValley Frontage	0	25	0	0	0	0	0
NB PotterValley Frontage	0	25	0	0	0	0	0
WB Boretide Frontage (W of Boretide)	34	25	31	2	1	0	0
EB Boretide Frontage (W of Boretide)	100	25	92	5	3	0	0
WB Boretide Frontage (E of Boretide)	34	25	31	2	1	0	0
EB Boretide Frontage (E of Boretide)	25	25	23	1	1	0	0
WB Sawmill Frontage (W of Sawmill)	69	25	63	3	2	0	0
EB Sawmill Frontage (W of Sawmill)	76	25	70	4	2	0	0
WB Sawmill Frontage (E of Sawmill)	62	25	57	3	2	0	0
EB Sawmill Frontage (E of Sawmill)	46	25	42	2	1	0	0

Notes: HT = heavy truck; mph = mile(s) per hour; MT = medium truck; PHV = Peak Hourly Volume; TNM = Traffic Noise Model

Appendix D. Ambient Noise Monitoring Data

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HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 009

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 6/15/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	LD831	0003256
Microphone/Preamp	LD377B02/PRM831	346677/077115
Calibrator	LD CAL200	17291

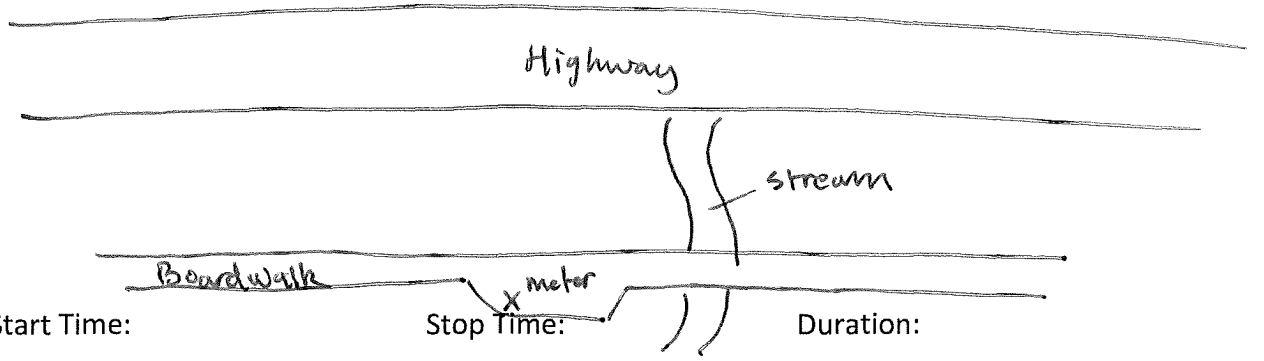
SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: "A"-1 Boardwalk near Seward Hwy

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

61° 4' 34" N
149° 49' 5" W



Start Time: 8:00 (AM) PM

Stop Time: 8:15 (AM) PM

Duration: 15 Min

Wind Speed/Direction: 3 mph NW

Percentiles: L10: 71.9, L50: 65.3

Temperature: 52° F

Humidity: 96%

Calibration results before: -0.01 dBA and after +0.14 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	44	1	2	0	0
SB	60	9	3	0	0

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 103 61516

SITE/READING NO.: A-1 009 PERSONNEL: PB, JM

LOCATION/ADDRESS: Potter Marsh Boardwalk DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS: Culvert near meter makes some noise ~ 53 dB when no traffic - won't affect Leq
1	8:00	67.7			
2	01	68.7			Some birds audible w/ no traffic
3	02	68.1			
4	03	66.4			
5	04	70.0			
6	05	68.4			
7	06	68.0			
8	07	67.8			Pedestrians walked by, quietly said hello
9	08	67.7			Pedestrians, segull atop nearby light pole
10	09	60.0	√	Plane	Plane in distance at end of minute
11	10	64.2	√	Plane, seagulls	Plane noise ~ 63 dB, birds
12	11	69.4			Plane, quieter now
13	12	70.2			
14	13	67.6			Larger jet overhead, noise still traffic dominated
15	14	68.9			Another small plane
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 68.0 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 010

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	See previous sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: A-2 Potter Marsh Boardwalk

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See previous sheet

Start Time: 8 : 18 (AM) PM

Stop Time: 8 : 33 (AM) PM

Duration: 15 min

Wind Speed/Direction: 3 mph NW

Percentiles: L10: 72.2, L50: 66.8

Temperature: 52°F

Humidity: 96%

Calibration results before: -0.01 dBA and after +0.14 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	62	5	1	0	0
SB	68	10	4	1	0

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: A-2 010 PERSONNEL: PB, JM

LOCATION/ADDRESS: Potter Marsh Boardwalk DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	8:18	68.0			
2	19	59.2			Low traffic
3	20	69.9			Double-trailer passby
4	21	69.6			Traffic picked up
5	22	70.0			
6	23	69.0			
7	24	66.8			Tractor passby, bird calls
8	25	65.2			Large construction trucks
9	26	72.4			plane in distance ↙
10	27	66.8			
11	28	69.1			
12	29	67.6			
13	30	69.6			
14	31	69.6			
15	32	69.5			Pedestrians walked by - quiet
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 68.9 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 011

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: A-3, Potter Marsh Boardwalk

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See A-1 sheet

Start Time: 8:35 (AM) PM

Stop Time: 8:50 (AM) PM

Duration: 15 minutes

Wind Speed/Direction: 3 mph NW

Percentiles: L10: 72.1, L50: 67.2

Temperature: 52° F

Humidity: 96%

Calibration results before: -0.01 dBA and after +0.14 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	59	3	2	0	0
SB	76	16	3	0	1

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: A-3 011 PERSONNEL: PB / JM

LOCATION/ADDRESS: Potter Marsh Boardwalk DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	8:35	69.5			
2	36	70.2			Big truck carrying construction equipment
3	37	70.6			
4	38	67.1			Bird calls, quiet pedestrian chatter
5	39	68.0			Plane in distance
6	40	67.8			
7	41	72.6			Pedestrian, double-trailer passby
8	42	68.3	√	Talking	Pedestrians talking
9	43	66.7	√	Talking	Stopped to ask questions - few seconds
10	44	69.7			
11	45	66.0			
12	46	68.3			Pedestrian
13	47	69.7			
14	48	70.5			Bird calls
15	49	68.6			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 69.2 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 012

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: B-1 State Park Headquarters

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See B-2 sheet

Start Time: 9 : 16 (AM) PM

Stop Time: 9 : 31 (AM) PM

Duration: 15 minutes

Wind Speed/Direction: 2 mph SW Percentiles: L10: 76.1, L50: 68.7

Temperature: 55°F Humidity: 83%

Calibration results before: +0.14 dBA and after -0.10 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	29	2	1	Ø	Ø
SB	107	9	4	Ø	Ø

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Highway

JOB NO.: 10361516

SITE/READING NO.: B-1 Seward 012

LOCATION/ADDRESS: Potter Section House

PERSONNEL: PB, JM, LS

DATE: 8/15/2023

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	9:16	73.8			
2	9:17	72.9			
3	9:18	69.1			
4	9:19	73.7			
5	9:20	73.4			
6	9:21	67.3			
7	9:22	72.4			
8	9:23	69.6			
9	9:24	70.2			
10	9:25	70.9			
11	9:26	75.6			
12	9:27	71.1			
13	9:28	69.7			
14	9:29	72.5			
15	9:30	71.6			
16	—	52.4			
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 72.0 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 013

Project Description: Seward Hwy, MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM, LS

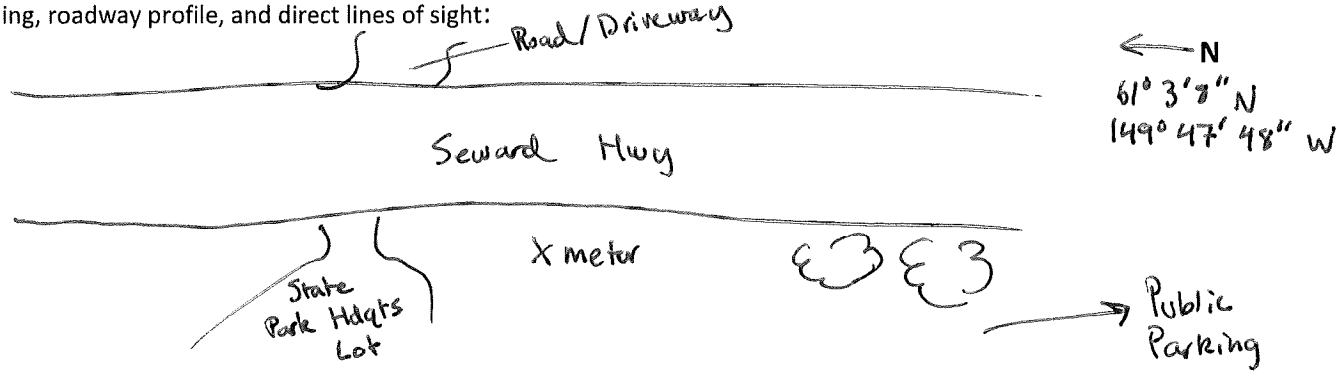
Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: B-2, Potter Section House

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time:	Stop Time:	Duration:
9 :38 (AM) PM	9 :53 (AM) PM	15 minutes

Wind Speed/Direction: 2 mph SW Percentiles: L10: 76.5, L50: 69.7

Temperature: 55°F Humidity: 83%

Calibration results before: +0.14 dBA and after -0.10 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	64	4	1	Ø	Ø
SB	77	7	3	2	Ø

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: B-2 0013 PERSONNEL: PB/JM/LS

LOCATION/ADDRESS: Potter Section House DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	9:38:53	72.9			
2	9:39	73.3			
3	9:40	74.8			small plane overhead
4	9:41	68.7			
5	9:42	74.1			
6	9:43	70.1			small plane
7	9:44	76.0			malfunctioning car/rumbling loudly
8	9:45	73.2			
9	9:46	68.2			
10	9:47	71.0			
11	9:48	70.5	✓		small plane
12	9:49	73.5	✓		small plane
13	9:50	72.0			
14	9:51	68.6			quiet sounds perceptible - stream & birds
15	9:52	71.6			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 72.4 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 014

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: B-3, Potter Section House

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See Sheet B-2.

Start Time: 10:03 (AM) PM

Stop Time: 10:20 (AM) PM

Duration: 17 minutes

Wind Speed/Direction: 2 mph SW

Percentiles: L10: 76.1, L50: 67.1

Temperature: 55° F

Humidity: 83%

Calibration results before: -0.14 dBA and after -0.10 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	59	2	3	0	0
SB	93	13	2	0	1

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 10361516

SITE/READING NO.: B-3/014 PERSONNEL: PB/JM/LS

LOCATION/ADDRESS: Potter Section House DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	V or X	Other Noise Sources	COMMENTS
1	10:03	71.8			Jet in distance.
2	04	68.7			
3	05	69.0			
4	06	71.6			
5	07	72.7			Distant plane
6	08	68.6			
7	09	73.7			Double. - trailer passby
8	10	68.9			Car enters state park lot + leaves
9	11	74.7	X	Train	Train starts - 3 car passenger train w/ horn
10	12	87.3	X	Train	Train ends
11	13	68.8			
12	14	70.7			
13	15	71.1			
14	16	72.2			
15	17	70.2			
16	19	74.5			
17	20	72.1			
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 76.5 SUBSET Leq = 71.4

V = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 015

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB / JM / LS

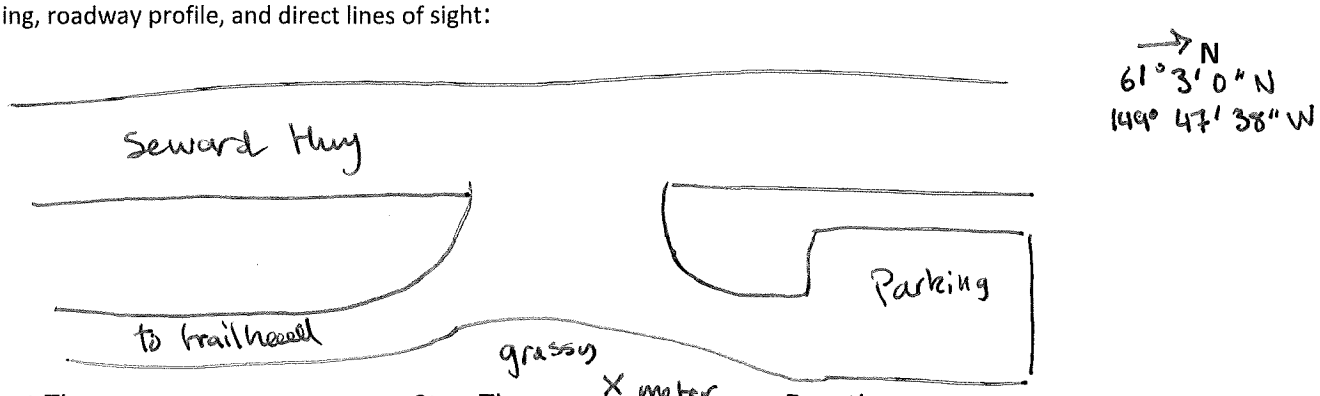
Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: C-1 Potter Creek Trailhead

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: 10 : 37 (AM) PM Stop Time: 10 : 52 (AM) PM Duration: 15 minutes

Wind Speed/Direction: 2 mph NW Percentiles: L10 : 72.7, L50: 65.6

Temperature: 55°F Humidity: 81 %

Calibration results before: -0.10 dBA and after +0.02 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	40	4	2	1	1
SB	84	4	5	0	1

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 10361516

SITE/READING NO.: C-1 015

PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Potter Creek Trailhead Parking

DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	10:37	70.1			
2	38	68.1			
3	39	66.6			
4	40	66.0			
5	41	70.7			
6	42	71.2			Plane in distance
7	43	65.8			
8	44	69.2			Plane overhead ~62 dB
9	45	67.4			
10	46	70.5			
11	47	68.7			
12	48	68.8			
13	49	67.4			
14	50	63.4			Lighter traffic
15	51	68.6			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 68.6 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 016

Project Description: Seward Hwy MP 98.5 - 116

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first Sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: C-2 Potter Creek Trailhead

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See C-1 sheet

Start Time: 10 : 57 (AM) PM

Stop Time: 11 : 12 (AM) PM

Duration: 15 minutes

Wind Speed/Direction: 2 mph NW Percentiles: L10: 73.7, L50: 67.2

Temperature: 55°F Humidity: 81%

Calibration results before: -0.10 dBA and after +0.04 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	65	6	6	0	1
SB	90	15	3	0	0

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 96.5-118

JOB NO.: 10361516

SITE/READING NO.: C-2 016

PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Potter Creek Trailhead

DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	10:57	70.9			Double-trailer passby
2	58	70.3			Plane overhead
3	59	68.9			
4	11:00	73.4			
5	11:01	68.9			Plane overhead
6	02	68.6			Double-trailer passby
7	03	73.3	√	Parking lot car	Car started & left parking lot next to meter
8	04	69.0			
9	05	70.4			Car honked
10	06	71.2			
11	07	66.5			Plane in distance
12	08	66.6			
13	09	70.7			
14	10	67.3			
15	11	67.5			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 70.1 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 017

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB/JM/LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: C-3 Potter Creek Trailhead

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See C-1 sheet

Start Time: 11 : 20 (AM) PM

Stop Time: 11 : 35 (AM) PM

Duration: 15 minutes

Wind Speed/Direction: 2 mph NW Percentiles: L10: 73.8, L50: 66.7

Temperature: 55° Humidity: 81%

Calibration results before: -0.10 dBA and after +0.02 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	72	8	3	0	1
SB	79	7	1	0	0

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 111.8

JOB NO.: 10361516

SITE/READING NO.: C-3 017

PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Potter Creek Trailhead

DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	11:20	70.8			
2	21	68.4			
3	22	65.2			Lighter traffic
4	23	69.8			
5	24	66.9			
6	25	67.4			
7	26	70.3			
8	27	65.2			
9	28	69.3			
10	29	71.0			
11	30	75.7			Double-trailer passby, helicopter overhead
12	31	66.3			
13	32	68.5			
14	33	68.0			
15	34	69.0			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 69.7 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 016

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM, LS

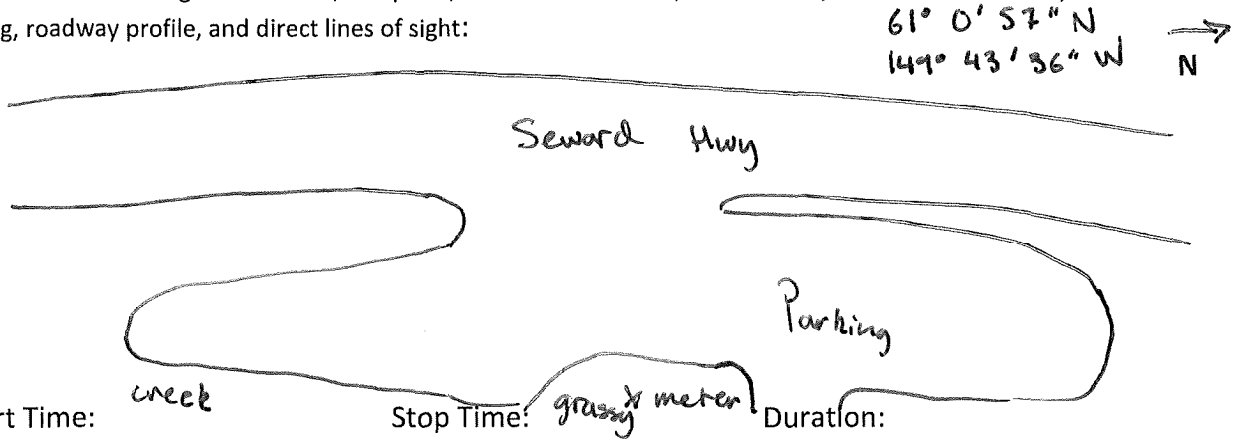
Equipment	Type	Serial #
Sound Level Meter	See first sheet	-
Microphone/Preamp	-	-
Calibrator		-

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: D-1 McHugh Day Use Area

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: 11 :52 (AM) PM Stop Time: 12 :07 AM (PM) Duration: 15 minutes

Wind Speed/Direction: 2 mph SE Percentiles: L10: 72.7, L50: 66.4

Temperature: 56° F Humidity: 71%

Calibration results before: 10.02 dBA and after -0.02 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	66	11	2	6	1
SB	83	6	3	0	1

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 10361516

SITE/READING NO.: D-1 018 PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: McHugh Creek Parking DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	V or X	Other Noise Sources	Nearby creek noise ~ 56 dB COMMENTS
1	11:52	64.5			Plane overhead
2	53	69.9			
3	54	62.5			
4	55	68.4			
5	56	69.1			
6	57	71.2			
7	58	66.4			RV + cars enter parking lot
8	59	69.8			Honk
9	12:00	68.2			
10	12:01	71.3			
11	02	69.9			
12	03	67.6			
13	04	69.6			Car leaving lot
14	05	69.1			Car leaving lot
15	06	68.6			
16					A MT
17				SB into lot	4 1
18				NB leaving	2 0
19				SB leaving	1 0
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 68.9 SUBSET Leq =

V = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 019

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	-	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: D-2 McHugh Day Use Area

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See D-1 sheet

Start Time: 12:12 AM (PM)

Stop Time: 12:27 AM (PM)

Duration: 15 minutes

Wind Speed/Direction: 2 mph SE Percentiles: L10: 73.3, L50: 66.8

Temperature: 56°F Humidity: 71%

Calibration results before: +0.02 dBA and after -0.02 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	59	12	2	1	0
SB	72	10	1	0	0

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: D-2 019 PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: McHugh Day Use Parking DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	12:12	63.2			
2	13	66.6			
3	14	70.9			
4	15	69.4			
5	16	71.9			
6	17	72.1	✓	Plane	Plane overhead
7	18	69.2			Car leaving parking lot
8	19	55.7			
9	20	68.2			Cars entering lot
10	21	70.8			Car entering lot
11	22	69.3			
12	23	69.6			
13	24	70.7			Car entering lot
14	25	67.0			
15	26	64.2			Car leaving lot
16					A MT
17				SB into lot	4 6
18				NB into lot	1 0
19				SB leaving	1 0
20				NB leaving	2 0
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 69.2 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 020

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: D-3 McHugh Day Use Area

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See D-1 sheet

Start Time: 12 : 30 AM (PM)

Stop Time: 12 : 45 AM (PM)

Duration: 15 minutes

Wind Speed/Direction: 2 mph SE Percentiles: L10: 73.4, L50: 68.5

Temperature: 56°F Humidity: 71%

Calibration results before: +0.02 dBA and after -0.02 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	77	13	1	0	3
SB	60	13	2	0	0

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Highway MP 98.5 - 118

JOB NO.: 103615 16

SITE/READING NO.: D-3 020 PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: McHugh Day Use Parking lot DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	12:30	64.1			Plane overhead
2	31	68.0			
3	32	71.7	X	Planes	3 overhead planes
4	33	71.4			Car entering lot
5	34	72.7			
6	35	72.2			
7	36	71.9			
8	37	69.7			
9	38	68.2			
10	39	67.6			Car leaving lot & entering
11	40	63.9			Car entering lot
12	41	61.1			Few Cars
13	42	68.7			
14	43	70.0			
15	44	70.5			
16					A
17				SB into lot	3
18				NB into lot	1
19				SB leaving	2
20				NB leaving	0
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 69.4 SUBSET Leq = 69.6

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 029

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM

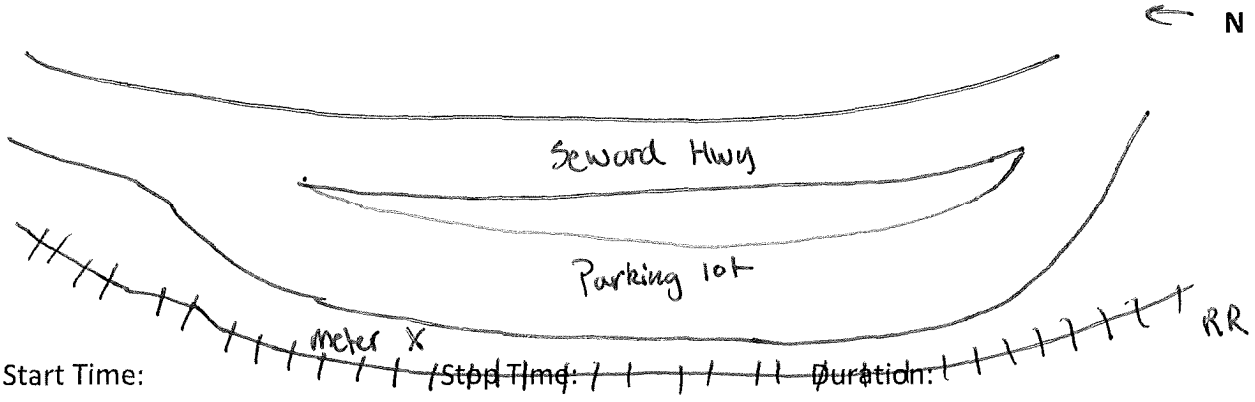
Equipment	Type	Serial #
Sound Level Meter	See First Sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: E-1 Beluga Point

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: ~~Stop Time:~~ ~~Duration:~~

8 :07 (AM) PM 8 :22 (AM) PM 15 minutes

Wind Speed/Direction: 2 mph E Percentiles: L10 : 72.2, L50 : 62.6

Temperature: 50° F Humidity: 96%

Calibration results before: -0.07 dBA and after +0.02 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	27	2	1	1	0
SB	54	7	2	0	0

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP: 98.5-118

JOB NO.: 10361516

SITE/READING NO.: E-1 029 61° 0' 26" N PERSONNEL: PB, JM

LOCATION/ADDRESS: Beluga Point 149° 41' 42" W DATE: 8/16/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	V or X	Other Noise Sources	COMMENTS: Moved location down parking lot to avoid tourist activity @ viewing area
1	8:07	65.6			
2	08	71.2			
3	09	64.5			
4	10	60.8			
5	11	69.3			
6	12	63.5			
7	13	69.2			
8	14	68.6			
9	15	68.2			
10	16	72.2			Truck pulls in, idles, opens roll-up door
11	17	67.1			
12	18	65.8			
13	19	65.3			
14	20	67.7			
15	21	66.0			
16					↓ included in counts
17					Cars into pullout: IIII
18					MT: 1
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 67.9 SUBSET Leq =

V = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 030

Project Description: Seward Hwy MP 98.5 -118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: E-2 Beluga Point

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See E-1 Sheet

Start Time: Stop Time: Duration:

8 : 25 (AM) PM 8 : 40 (AM) PM 15 minutes

Wind Speed/Direction: 2 mph E Percentiles: L10 : 74.6 , L50 : 65.6

Temperature: 50° F Humidity: 96%

Calibration results before: -0.07 dBA and after +0.02 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	23	6	6	0	0
SB	82	11	7	0	0

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 -118

JOB NO.: 10361516

SITE/READING NO.: E-2/030 PERSONNEL: PB, JM

LOCATION/ADDRESS: Beluga Point DATE: 8/16/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	8:25	70.5			
2	26	72.7			
3	27	70.5			
4	28	68.6			Car in lot w/ music - loud bass
5	29	46.6			No cars this minute
6	30	65.7			
7	31	72.5			
8	32	67.9			
9	33	70.2			Truck engine braking during passby
10	34	80.6	X		"
11	35	69.8			
12	36	67.2			People talking near meter
13	37	70.1			
14	38	73.2			Plane overhead
15	39	68.9			
16				included in count	
17				cars into lot:	~~IIII~~ IIII II
18				MT:	II
19				HT:	
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 72.3 SUBSET Leq = 70.0

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 031

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: E-3 Beluga Point

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See E-1 sheet

Start Time: 8:44 (AM) PM

Stop Time: 8:59 (AM) PM

Duration: 15 minutes

Wind Speed/Direction: 2 mph E

Percentiles: L10: 74.3, L50: 67.2

Temperature: 50° F

Humidity: 96%

Calibration results before: -0.07 dBA and after 0.02 dBA

Traffic Count Roadway: Seward Highway

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	33	3	2	1	0
SB	95	11	4	0	1

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Highway MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: E-3 / 631 PERSONNEL: PB, JM

LOCATION/ADDRESS: Beluga Point DATE: 8/16/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	8:44	71.2			
2	45	72.6			
3	46	64.3			
4	47	75.0			
5	48	66.9			
6	49	67.9			Plane in distance
7	50	70.3			
8	51	70.5			
9	52	69.0			
10	53	68.7			
11	54	65.7			
12	55	70.4			
13	56	65.3			
14	57	70.7			
15	58	71.3			
16				included in count	
17				Cars into lot:	𝍸 𝍸 ||
18				MT:	
19				HT:	
20				Bus	
21				M:	1
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 70.2 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 021

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM

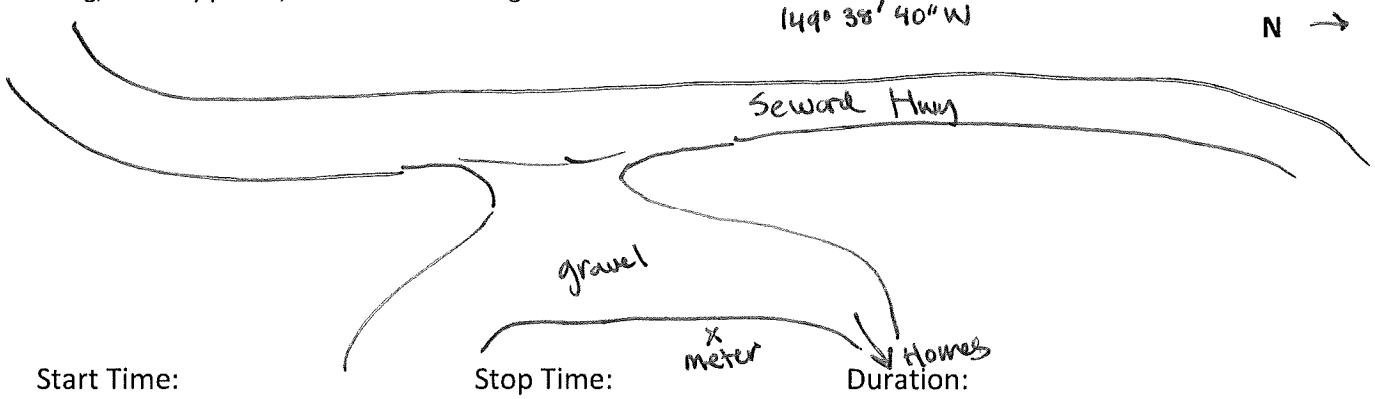
Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST **SLOW**

WEIGHTING (circle one) **A** Lin.

Location Description: Driveway turnout @ MP 108.5 F-1, Rainbow private homes

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: 1:52 AM PM Stop Time: 2:07 AM PM Duration: 15 minutes

Wind Speed/Direction: 6 mph SE Percentiles: L10: 70.9, L50, 66.0

Temperature: 59° F Humidity: 70%

Calibration results before: -0.02 dBA and after -0.05 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	68	7	1	0	0
SB	72	5	1	2	0

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 10361516

SITE/READING NO.: F-1 021

PERSONNEL: PB, JM

LOCATION/ADDRESS: MP 106.5

DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS Occasional activity from houses on hill
1	1:52	68.6			
2	53	66.4			
3	54	68.0			
4	55	67.1			
5	56	62.2			
6	57	55.9			Plane overhead
7	58	68.4			
8	59	71.5			Breezy, wind through grass & trees
9	2:00	66.6			Plane overhead
10	2:01	66.0			
11	02	68.1			Plane in distance
12	03	63.4			
13	04	69.1			Car from S driveway to Hwy, double-trailer
14	05	69.3			
15	06	65.1			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 67.6 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 022

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: Rainbow Private Homes MP 108.5, F-2

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See F-1 sheet

Start Time: 2:08 AM (PM)

Stop Time: 2:23 AM (PM)

Duration: 15 minutes

Wind Speed/Direction: 6 mph SE Percentiles: L10: 71.8, L50: 67.6

Temperature: 59°F Humidity: 70%

Calibration results before: -0.02 dBA and after -0.05 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	83	22	0	0	1
SB	85	7	1	2	0

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 103615.16

SITE/READING NO.: F-2 / 022

PERSONNEL: PB, JM

LOCATION/ADDRESS: MP 108.5

DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	2:08	70.2			Heavier traffic than last measurement
2	09	70.3			
3	10	63.9			
4	11	63.3			Lighter traffic, some birds chirping
5	12	64.8			
6	13	69.1			Double-trailer truck engine braking
7	14	68.8			
8	15	67.1			
9	16	70.9			
10	17	66.5			Gusty, wind noise in trees
11	18	66.0			
12	19	68.0			Truck entered south driveway, then left
13	20	69.9			
14	21	70.7			
15	22	66.9			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 69.4 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 023

Project Description: Seward Hwy MP 98.5-113

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: F-3, Rainbow Private Homes MP 108.5

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See F-1 sheet

Start Time: 2 : 25 AM (PM)

Stop Time: 2 : 40 AM (PM)

Duration: 15 minutes

Wind Speed/Direction: 6 mph SE

Percentiles: L10 : 72.3, L50 : 66.3

Temperature: 59° F

Humidity: 70 %

Calibration results before: -0.02 dBA and after -0.05 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	84	14	1	0	0
SB	61	10	2	0	0

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: F-3/023 PERSONNEL: PB, JM

LOCATION/ADDRESS: MP 108.5 DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	2:25	62.2			
2	26	67.6			
3	27	64.4			
4	28	67.3			
5	29	65.3			Less traffic
6	30	69.5			More cars, car pulls into S driveway
7	31	69.8			
8	32	68.2			
9	33	66.4			
10	34	66.3			
11	35	72.1			Large truck passby
12	36	68.7			
13	37	69.4			
14	38	68.4			
15	39	71.2			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 68.4 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 032

Project Description: Seward Hwy MP 98.5 -114

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	See First Sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

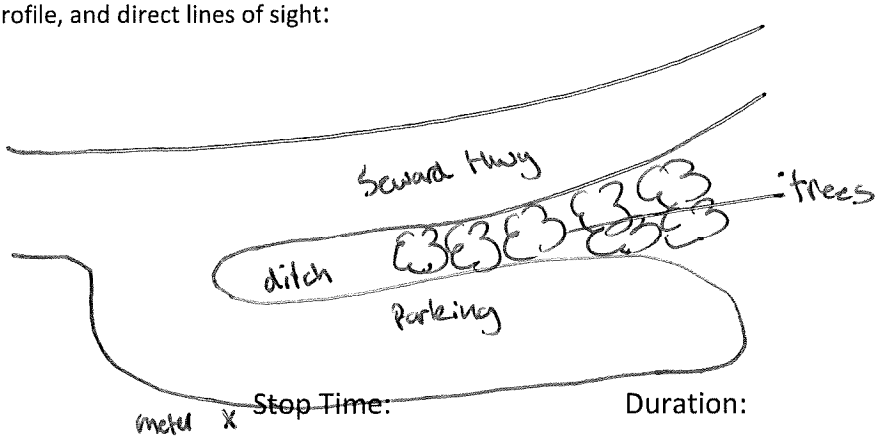
SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: G-1 Rainbow Trailhead

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

60° 59' 59" N
149° 38' 23" W



Start Time: 9 : 09 (AM) PM

~~Stop Time:~~ 9 : 24 (AM) PM

Duration: 15 minutes

Wind Speed/Direction: 5 mph NE.

Percentiles: L10: 69.5, L50: 64.0

Temperature: 53°F

Humidity: 85%

Calibration results before: +0.02 dBA and after -0.03 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	45	6	1	1	0
SB	90	12	2	0	0

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: G-1/032 PERSONNEL: PB, JM

LOCATION/ADDRESS: Rainbow trailhead DATE: 8/17/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	9:09	66.9			
2	9:10	65.1			
3	9:11	66.2			Plane overhead
4	12	62.8			
5	13	64.3			
6	14	67.2			
7	15	66.5			Plane overhead
8	16	66.1			
9	17	66.2			
10	18	64.7			
11	19	66.0			
12	20	67.7			
13	21	67.2			
14	22	64.1			Car into parking lot
15	23	64.9			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 65.9 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 033

Project Description: Seward Hwy MP 98.5 -118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: G-2 Rainbow Trailhead

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See G-1 sheet

Start Time: 9 : 26 (AM) PM

Stop Time: 9 : 41 (AM) PM

Duration: 15 minutes

Wind Speed/Direction: 5 mph NE

Percentiles: L10: 70.7, L50: 64.8

Temperature: 53° F

Humidity: 85%

Calibration results before: +0.02 dBA and after -0.03 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	59	4	2	0	0
SB	88	15	9	0	1

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 103615 16

SITE/READING NO.: G-2/033 PERSONNEL: PB, JM

LOCATION/ADDRESS: Rainbow trailhead DATE: 8/16/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	9:26	65.0			
2	27	62.5			
3	28	65.9			Squeky break car in parking lot
4	29	62.8			dog barking on trail
5	30	69.1			
6	31	65.4			Car leaving parking lot
7	32	70.0			
8	33	66.2			
9	34	69.7			Car entering parking lot
10	35	67.8			
11	36	67.6			
12	37	65.3			
13	38	64.7			
14	39	67.9			
15	40	68.2			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 67.1 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 034

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: G-3 Rainbow Trailhead

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See G-1 sheet

Start Time: 9 : 54 (AM) PM

Stop Time: 10 : 09 (AM) PM

Duration: 15 minutes

Wind Speed/Direction: 5 mph NE

Percentiles: L10 : 69.7 , L50 : 62.6

Temperature: 53° F

Humidity: 85%

Calibration results before: +0.02 dBA and after -0.03 dBA

Traffic Count Roadway: Seward Highway

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	42	3	2	0	1
SB	90	10	3	1	1

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 10361516

SITE/READING NO.: G-3/034 PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Rainbow Trailhead DATE: 8/17/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	9:54:40	68.6			
2	9:55	65.8			
3	9:56	68.5			
4	9:57	66.0		jet overhead	
5	9:58	64.9			
6	9:59	64.1			
7	10:00	65.6			
8	10:01	63.9			
9	10:02	63.9			
10	10:03	63.8			
11	10:04	60.7		small plane ↓	
12	10:05	63.1			
13	10:06	66.5			
14	10:07	63.7			
15	10:08	63.7			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 65.8 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 024

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM

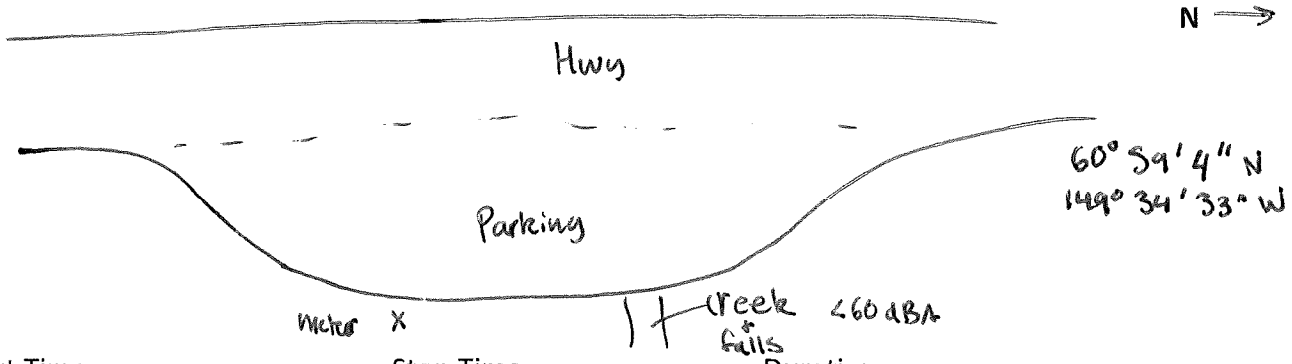
Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: H-1 Fall Creek Trailhead

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: 2:55 AM (PM) Stop Time: 3:12 AM (PM) Duration: 17 minutes

Wind Speed/Direction: 9mph SE Percentiles: L10: 74.0, L50: 68.2

Temperature: 57° F Humidity: 72%

Calibration results before: -0.05 dBA and after +0.07 dBA

Traffic Count Roadway: Seward Highway

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	111	13	2	0	0
SB	76	4	2	1	0

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: Seward Highway

SITE/READING NO.: H-1/024 PERSONNEL: PB, JM

LOCATION/ADDRESS: Fall Creek Trailhead DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	Creek waterfall ~ 75 feet away COMMENTS Audible, but traffic much louder
1	2:55	69.9			
2	56	70.1			
3	57	67.2			
4	58	66.8			
5	59	70.5			Lots of traffic
6	3:00	73.2			|
7	3:01	72.0			|
8	02	74.8			|
9	03	68.3			Traffic slightly lower
10	04	70.5			
11	05	70.3	X	Talking	Curious Hiker asking about project
12	06	72.4	X	Talking	" "
13	07	65.5			Car departing trailhead
14	08	66.6			
15	09	69.7			Birds chirping
16	10	68.7			
17	11	68.5			
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 70.4 SUBSET Leq = 70.2

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 025

Project Description: Seward Hwy MP 98.5 -118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: H-2 Fall Creek Trailhead

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See H-1 sheet

Start Time: 3 : 14 AM (PM)

Stop Time: 3 : 29 AM (PM)

Duration: 15 minutes

Wind Speed/Direction: 9mph SE Percentiles: L10 : 73.9, L50 : 67.9

Temperature: 57° F Humidity: 72%

Calibration results before: -0.05 dBA and after +0.07 dBA

Traffic Count Roadway: _____

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	116	10	2	0	0
SB	63	6	3	2	1

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 -118

JOB NO.: 103615 16

SITE/READING NO.: H-2/025 PERSONNEL: PB, JM

LOCATION/ADDRESS: Fall Creek Trailhead DATE: 8/15/24

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	3:14	72.6			Traffic lower than last measurement
2	15	65.9			
3	16	60.3			People talking @ falls
4	17	70.7			Tractor pulled into lot
5	18	71.5			↑ idling in lot, leaving
6	19	64.5			
7	20	72.0			
8	21	72.6			Car pulling into lot, honked when locked
9	22	69.8			
10	23	67.1			
11	24	70.7			Car pulling into lot
12	25	72.1			Car door closing
13	26	69.4			
14	27	69.6			Car leaving lot
15	28	69.2			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 70.1 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 026

Project Description: Seward Hwy MP 98.5 -118

Noise Source: Seward Hwy Date: 8/15/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: H-3 Fall Creek Trailhead

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See H-1 sheet

Start Time: 3:31 AM (PM)

Stop Time: 3:46 AM (PM)

Duration: 15 minuts

Wind Speed/Direction: 9 mph SE Percentiles: L10: 74.1, L50: 68.7

Temperature: 57° F Humidity: 72%

Calibration results before: 57° F dBA and after +0.07 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	100	14	1	0	0
SB	61	6	1	1	0

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy 98.5-118

JOB NO.: 103 61516

SITE/READING NO.: 4-3/026 PERSONNEL: PB, JM

LOCATION/ADDRESS: Fall Creek Trailhead DATE: 8/15/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	3:31	71.8			
2	32	71.6			
3	33	71.6			Car pulled into lot
4	34	71.2			
5	35	62.8			People talking at falls
6	36	70.1			
7	37	70.1			Talking @ falls
8	38	68.5			
9	39	72.9			
10	40	71.7			
11	41	68.0			Car leaves trailhead
12	42	70.1			Car pulled into lot, doors shut
13	43	71.9			Car leaves lot
14	44	68.4			
15	45	68.4			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 70.5 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 035

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM, LS

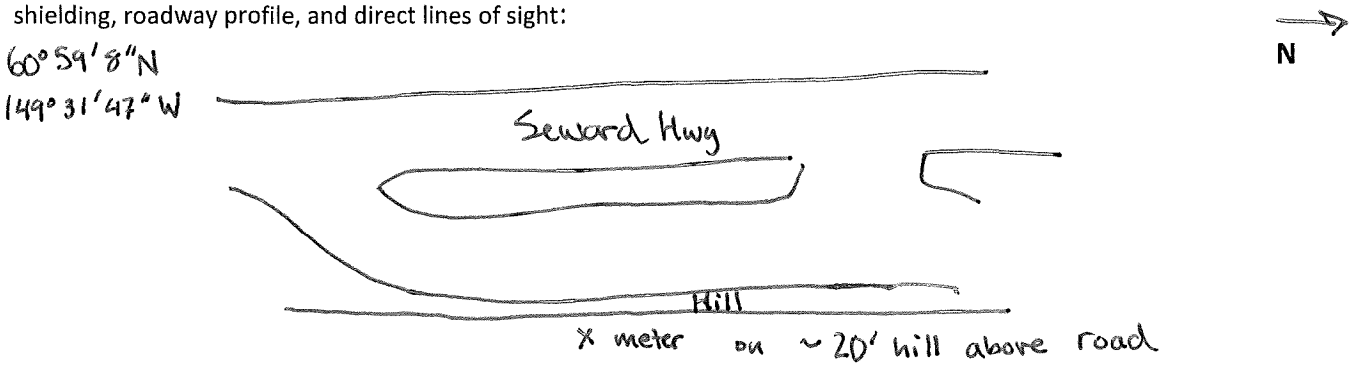
Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: I-1 Indian Mine Gift Shop

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: Stop Time: Duration:

10 : 40 (AM) PM 10 : 55 (AM) PM 15 minutes

Wind Speed/Direction: 6 mph NE Percentiles: L10: 74.7, L50: 69.7

Temperature: 54°F Humidity: 76%

Calibration results before: -0.03 dBA and after +0.06 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	42	7	1	0	0
SB	113	19	2	0	2

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 10361516

SITE/READING NO.: I-1/035 PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: DATE: 8/17/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	Nearby chickens occasionally ~60 dBA COMMENTS Traffic noise still dominates
1	10:40	69.3			
2	41	73.1			
3	42	72.5			
4	43	71.0			Plane in distance
5	44	70.6			
6	45	68.8			
7	46	73.4			
8	47	71.9			
9	48	71.5			
10	49	70.9			
11	50	68.7			
12	51	71.7			Plane overhead
13	52	72.2			
14	53	67.9			
15	54	67.2			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 71.0 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 036

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: I-2 Indian Mine

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See I-1 sheet

Start Time: 10 : 57 (AM) PM

Stop Time: 11 : 12 (AM) PM

Duration: 15 minutes

Wind Speed/Direction: 6 mph NE

Percentiles: L10: 75.6, L50: 69.6

Temperature: 54°

Humidity: 76%

Calibration results before: -0.03 dBA and after +0.06 dBA

Traffic Count Roadway: Seward Highway

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	63	8	5	2	2
SB	96	16	5	0	0

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy 98.5 -118

JOB NO.: 103615l6

SITE/READING NO.: I-2/036 PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Indian Valley Mine DATE: 8/17/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	Chicken noise has stopped COMMENTS
1	10:57	69.7			Windchimes as wind picks up
2	58	72.8			
3	59	67.6			
4	11:00	73.3			
5	11:01	71.0			
6	02	61.3			Bird noise, car turned around in lot
7	03	72.6			
8	64	73.1			
9	05	70.9			Plane in distance.
10	06	76.4			More bird activity, loud truck
11	07	70.3			
12	08	71.3			Windchimes
13	09	72.4			
14	10	72.1			
15	11	70.8			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 72.0 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 037

Project Description: Seward Highway MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: I-3 Indian Mine

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See I-3 sheet

Start Time: 10 :40 (AM) PM

Stop Time: 10 :55 (AM) PM

Duration: 15 minutes

Wind Speed/Direction: 6 mph NE

Percentiles: L10: 74.2, L50 69.2

Temperature: 54°

Humidity: 76%

Calibration results before: -0.03 dBA and after +0.06 dBA

Traffic Count Roadway: _____

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	53	3	4	0	0
SB	104	10	2	2	2

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: I-3/037 PERSONNEL:

LOCATION/ADDRESS: Indian Valley Mine DATE: 8/17/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	11:13	71.8			
2	14	69.3			Squeaky car
3	15	71.8			
4	16	71.1			
5	17	71.4			Windchimes
6	18	66.0			Plane in distance
7	19	73.2			
8	20	72.5			
9	21	72.2			Bird noise
10	22	70.3			
11	23	68.1			Windchimes & birds
12	24	70.7			Activity behind gift shop
13	25	70.7			" "
14	26	70.2			People talking nearby
15	27	66.9			" "
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 70.8 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 038

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

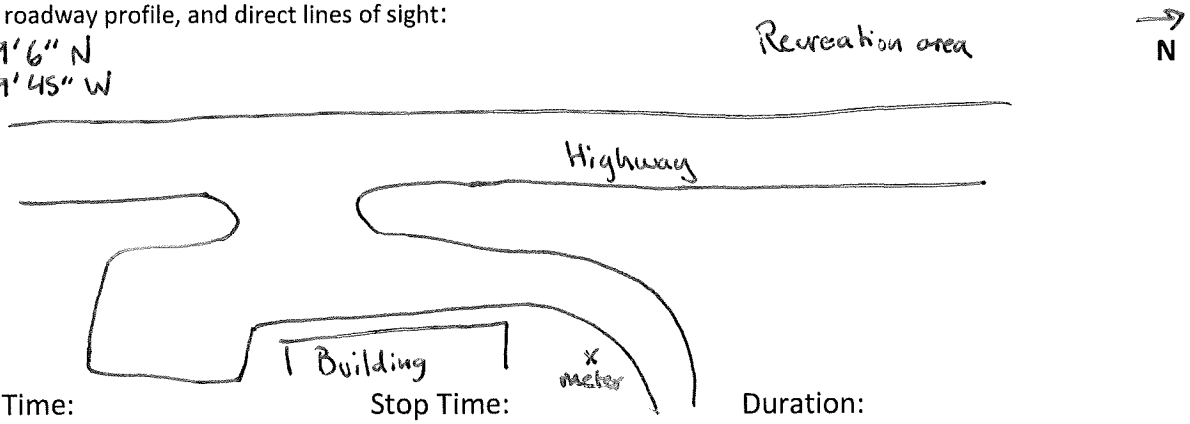
SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: J-1 Valley Bible Chalet

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

60° 59' 6" N
149° 29' 45" W



Start Time: Stop Time: Duration:

11 : 50 (AM) PM 12 : 08 AM (PM) 18 minutes

Wind Speed/Direction: 7 mph NW Percentiles: L10: 67.2, L50: 61.5

Temperature: 56° F Humidity: 69%

Calibration results before: +0.06 dBA and after -0.18 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	45	7	0	1	1
SB	107	10	3	1	0

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: J-1 / 038 PERSONNEL:

LOCATION/ADDRESS: Valley Bible Chalet DATE: 8/17/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	11:50	64.3	X	Train	Train started going by
2	51	69.8	X	Train	Train
3	52	61.5			
4	53	62.6	X	Train Horn	Train horn blows in distance
5	54	64.9			
6	55	62.5			
7	56	60.1			
8	57	66.5			
9	58	63.1			
10	59	60.4			
11	12:00	59.9			
12	12:01	61.8			
13	02	66.3			
14	03	65.3			
15	04	59.2			
16	05	64.9			
17	06	63.1			
18	07	64.0			
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 64.2 SUBSET Leq = 63.5

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 039

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: J-2 Valley Bible Chalet

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See J-1 sheet

Start Time: 12 : 10 AM (PM)

Stop Time: 12 : 25 AM (PM)

Duration: 15 minutes

Wind Speed/Direction: 7 mph NW Percentiles: L10 : 68.9 , L50 : 64.5

Temperature: 56° F Humidity: 69 %.

Calibration results before: + 0.06 dBA and after -0.18 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	88	14	6	0	0
SB	105	12	2	4	1

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: J-2/039 PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Valley Bible Chalet DATE: 8/17/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	12:10	66.8			
2	11	67.3			
3	12	66.9			
4	13	68.5			
5	14	66.7			
6	15	63.8			Plane overhead
7	16	63.2			
8	17	65.4			
9	18	67.7			
10	19	63.8			Plane overhead
11	20	67.4			Plane overhead
12	21	62.3			
13	22	65.2			
14	23	65.4			
15	24	63.4			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 66.0 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 040

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: J-3 Valley Bible Chalet

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See J-1 sheet

Start Time: 12 : 29 AM (PM)

Stop Time: 12 : 44 AM (PM)

Duration: 15 minutes

Wind Speed/Direction: 7 mph NW

Percentiles: L10: 69.2, L50: 64.9

Temperature: 56°F

Humidity: 69 %

Calibration results before: +0.06 dBA and after -0.18 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	107	16	6	Ø	1
SB	86	8	5	1	2

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 10361516

SITE/READING NO.: J-3 PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Valley Bible Chalet DATE: 8/17/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	12:29:50	63.3			
2	12:30	64.0			
3	12:31	69.1			
4	12:32	68.5			
5	12:33	67.2			
6	12:34	67.7			
7	12:35	66.1			
8	12:36	64.7			
9	12:37	66.0			
10	12:38	67.2			
11	12:39	68.9			sharp wind gusts
12	12:40	62.8			
13	12:41	61.9			
14	12:42	61.2			
15	12:43	63.1			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 66.1 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 041

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM, LS

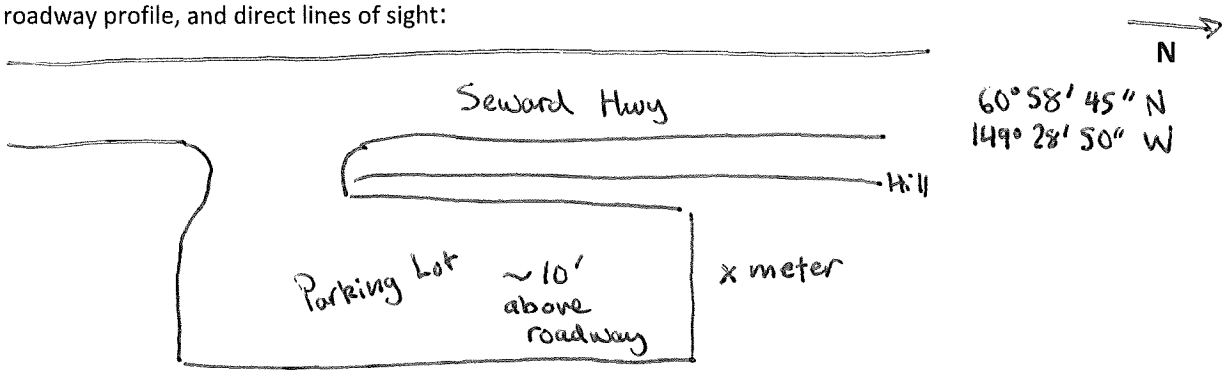
Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: K-1, Bird Ridge Trailhead

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: 1:02 AM (PM) Stop Time: 1:18 AM (PM) Duration: 16 minutes

Wind Speed/Direction: 8mph NW Percentiles: L10: 73.1, L50: 67.5

Temperature: 58° F Humidity: 65%

Calibration results before: -0.18 dBA and after +0.14 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	67	13	2	0	1
SB	100	14	3	1	1

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 10361516

SITE/READING NO.: K-1/041 PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Bird Ridge Trailhead DATE: 8/17/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	1:02	68.8			
2	03	66.2			
3	04	71.1			
4	05	67.9			
5	06	68.8			Plane overhead
6	07	63.3			
7	08	68.9			
8	09	70.1			
9	10	69.2	X	Backup alarm	Truck Backing and leaving
10	11	69.3			Birds / Insects
11	12	69.1			
12	13	73.3			
13	14	69.1			
14	15	70.8			
15	16	69.0			
16	17	66.9			
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 69.3 SUBSET Leq = 69.3

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 042

Project Description: Seward Hwy MP 98.5 -118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: K-2, Bird Ridge Trailhead

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See K-2 sheet

Start Time: 1:33 AM (PM) Stop Time: 1:48 AM (PM) Duration: 15 minutes

Wind Speed/Direction: 8 mph NW Percentiles: L10: 72.4, L50: 66.4

Temperature: 58° F Humidity: 65%

Calibration results before: -0.18 dBA and after +0.14 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	61	9	3	0	1
SB	91	12	2	0	3

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: K-2 / 042 PERSONNEL: PB, JM

LOCATION/ADDRESS: Bird Ridge Trailhead DATE: 8/17/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	1:33	67.2			
2	34	65.0			
3	35	66.2			
4	36	70.1			
5	37	70.0			
6	38	68.5			
7	39	70.5			
8	40	68.2			
9	41	69.2			
10	42	67.9			
11	43	69.0			
12	44	66.9			
13	45	69.2			
14	46	66.4			
15	47	70.4			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 68.6 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 043

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/17/23 Personnel: PB, JM

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: K-3 Bird Ridge Trailhead

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See K-1 sheet

Start Time: 1 : 49 AM (PM)

Stop Time: 2 : 04 AM (PM)

Duration: 15 minutes

Wind Speed/Direction: 8 mph NW Percentiles: L10 : 73.3, L50 : 68.5

Temperature: 58° F Humidity: 65 %

Calibration results before: -0.18 dBA and after +0.14 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	81	21	5	0	0
SB	98	12	2	1	1

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: K-3/043 PERSONNEL: PB, JM

LOCATION/ADDRESS: Bird Ridge Trailhead DATE: 8/17/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	V or X	Other Noise Sources	COMMENTS
1	1:49	67.9			
2	50	70.2			
3	51	70.6			
4	52	69.0			Plane overhead
5	53	69.2			
6	54	72.1			
7	55	72.1			
8	56	70.3			
9	57	67.6			
10	58	70.1			
11	59	71.5			
12	2:00	67.5			Car enters lot w/ barking dog
13	01	69.7			Hiker @ car w/ dog
14	02	68.6			" " , Plane overhead
15	03	67.6			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 69.9 SUBSET Leq =

V = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 006

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/14/23 Personnel: PB, JM, LS

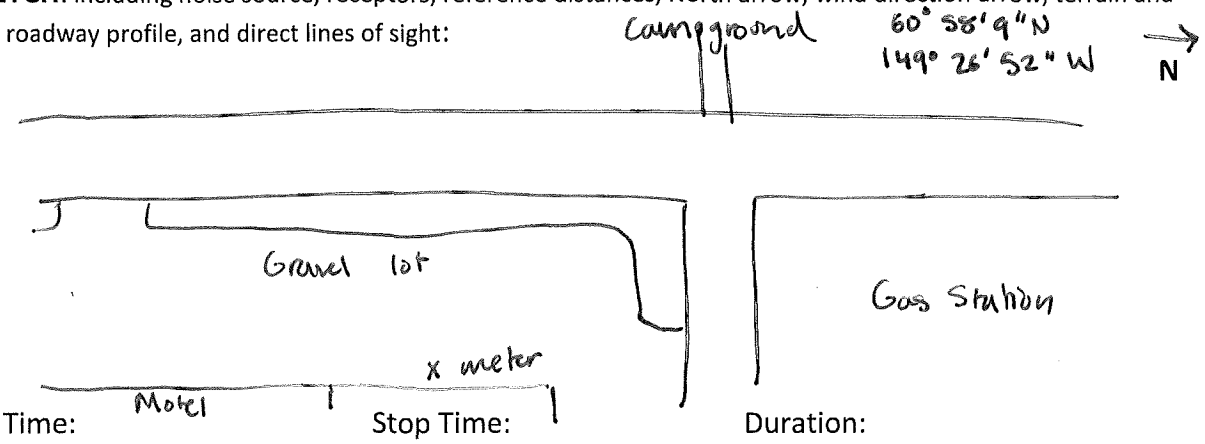
Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: L-1 Motel Lot

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:



Start Time: 1:31 AM PM Stop Time: 1:46 AM PM Duration: 15 minutes

Wind Speed/Direction: 10 mph SE Percentiles: L10: 72.6, L50: 67.7

Temperature: 55° F Humidity: 72%

Calibration results before: 10.08 dBA and after 10.02 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	104	25	3	1	0
SB	69	8	2	2	0

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: L-1 606

PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Bird Creek Motel

DATE: 8/14/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS Gas station activity generally not audible
1	1:31	55.2			
2	32	65.3	✓	Plane	Plane noise
3	33	66.7			
4	34	61.8			
5	35	69.7			Occassional wind gusts
6	36	71.0			Heavier traffic
7	37	70.0			Heavier traffic
8	38	67.7			
9	39	69.3			Chirping bird
10	40	69.6			
11	41	70.6			
12	42	67.6			
13	43	69.9			Some cars hitting rumble strips, double trailer truck
14	44	71.8			truck with rattly trailer
15	45				A MT HT B M
16				Seward SB L	5 1 0 0 0
17				Seward NB R	4 1 0 0 0
18				Sawmill R	2 0 0 0 0
19				Sawmill L	3 2 0 0 0
20				Seward SB R	———
21				Seward NB L	0 1 0 0 0
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 68.9 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 007

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/14/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See First sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST **SLOW**

WEIGHTING (circle one) (A) Lin.

Location Description: L-2 Bird Creek Motel

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See L-1 sheet

Start Time: 1:51 AM (PM)

Stop Time: 2:06 AM (PM)

Duration: 15 minutes

Wind Speed/Direction: 10 mph SE

Percentiles: L10: 72.0, L50: 66.6

Temperature: 55° F

Humidity: 72%

Calibration results before: +0.08 dBA and after +0.02 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	55	16	4	0	0
SB	97	8	3	5	0

*Note roadway direction in table

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 10361516

SITE/READING NO.: L-2 007

PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Bird Creek Motel

DATE: 8/14/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	1:52	72.4			Heavier traffic
2	53	68.5			
3	54	67.5			Birds behind motel
4	55	63.6			Lighter traffic, side x side @ gas station
5	56	64.1			Birds
6	57	64.8			
7	58	68.0			Some periods with lighter traffic
8	59	66.9			" "
9	2:00	69.0			Double trailer truck passby
10	2:01	63.8			
11	02	68.7			Plane overhead - not loud
12	03	70.3			
13	04	70.6			
14	05	69.0			Gusty, Plane in distance
15	06	69.3			
16					A MT HT B M
17				Seward SB R	1 0 0 0 0
18				Seward SB L	3 0 0 0 0
19				Seward NB R	2 0 0 0 0
20				Seward NB L	———
21				Sawmill L	3 0 0 0 0
22				Sawmill R	———
23				Campground L	———
24				Campground R	1 0 0 0 0
25					
26					
27					
28					
29					
30					

TOTAL Leq = 69.5 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 008

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/14/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	"	—
Calibrator	"	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: L-3 Bird Creek Motel

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See L-1 Sheet

Start Time: 2 : 19 AM (PM)

Stop Time: 2 : 34 AM (PM)

Duration: 15 minutes

Wind Speed/Direction: 10 mph SE Percentiles: L10: 72.4, L50: 67.3

Temperature: 55 °F Humidity: 72%.

Calibration results before: +0.08 dBA and after +0.02 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	63	16	3	0	1
SB	81	6	5	5	1

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 10361516

SITE/READING NO.: L-3 008 PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Bird Creek Motel DATE: 8/14/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	2:~~11~~19	69.4			Lighter traffic.
2	2:12	68.5			" "
3	13	69.8			
4	14	70.6			
5	15	68.6			
6	16	71.1			Loud trucks
7	17	66.3			Plane in distance, gusty
8	18	69.9			
9	19	66.2			
10	20	66.9			Truck idling in distance
11	21	68.0			
12	22	69.3			
13	23	67.8			
14	24	68.3	✓	plane	Car into Motel lot, plane overhead
15	34 25	69.1			
16					
17					A MT HT B M
18				Seward SB R	
19				Seward SB L	3 1 0 0 0
20				Seward NB R	6 0 0 0 0
21				Seward NB L	1 0 0 0 0
22				Sawmill R	2 0 0 0 0
23				Samill L	2 0 0 0 0
24				Sawmill thru	1 0 0 0 0
25				Campground R	
26				Campground L	1 0 0 0 0
27					
28					
29					
30					

+9 min reset measurement

TOTAL Leq = 68.8 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 003

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/14/2023 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	LD831	0003256
Microphone/Preamp	LD377B02 / PRM831	346677/077115
Calibrator	LD CAL200	17291

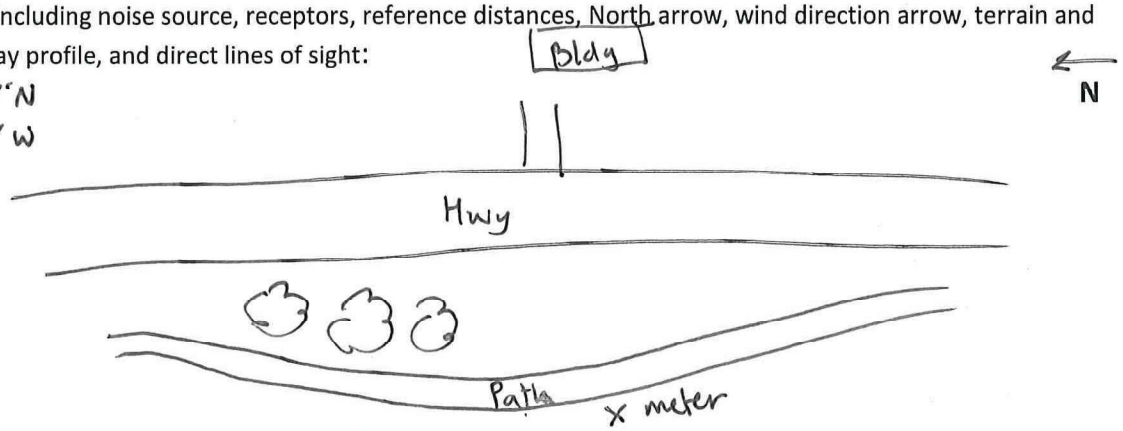
SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: Bike Path West of Hwy (M)

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

60° 57' 42" N
149° 25' 55" W



Start Time: 12 : 00 AM (PM)

Stop Time: 12 : 15 AM (PM)

Duration: 15 min

Wind Speed/Direction: 10 mph SE

Percentiles: L10: 73.6, L50: 66.5

Temperature: 54° F

Humidity: 76%

Calibration results before: -0.11 dBA and after -0.05 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	73	15	5	2	0
SB	97	14	4	1	1

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 10361516

SITE/READING NO.: M-1

PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Bike Path

DATE: 8/14

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	12:00	71.3			Woodworking audible across street faintly when traffic is low
2	12:01	69.0			
3	02	63.6			
4	03	66.1			Bikers Passed x 2
5	04	68.2			
6	05	64.3			
7	06	63.7			
8	07	68.9			
9	08	68.9			Occasional bird chirps
10	09	73.0			
11	10	69.9			
12	11	70.1			
13	12	69.9			
14	13	61.7			Longer periods w/ no passbys
15	14	61.7			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 69.8 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 004

Project Description: Seward Hwy MP 98.5 - 118

Noise Source: Seward Hwy Date: 8/14/2023 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: M-2, Bike path

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See M-1 sheet

Start Time: 12 : 26 AM (PM)

Stop Time: 12 : 41 AM (PM)

Duration: 15 minutes

Wind Speed/Direction: 10 mph SE Percentiles: L10: 70.2, L50: 64.1

Temperature: 54° F Humidity: 76%

Calibration results before: -0.11 dBA and after -0.05 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	37	8	2	1	1
SB	70	16	5	1	0

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5 - 118

JOB NO.: 10361516

SITE/READING NO.: M - 2 004

PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Bike Path

DATE: 8/14/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS
1	12:26	65.7			Generally lighter traffic than 1st measure
2	27	68.0			" "
3	28	65.9			
4	29	68.9			More RV's
5	30	68.3			
6	31	65.4			
7	32	55.7			Very light traffic
8	33	69.2			
9	34	67.4			Double trailer truck passby - loud
10	35	67.9			Normal traffic again
11	36	66.1			A couple cars hitting rumble strips
12	37	63.3			
13	38	66.6			Breeze through trees audible
14	39	66.3			
15	40	62.9			Chainsaw noise faint
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 66.6 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

Reading: 005

Project Description: Seward Hwy MP 98.5-118

Noise Source: Seward Hwy Date: 8/14/23 Personnel: PB, JM, LS

Equipment	Type	Serial #
Sound Level Meter	See first sheet	—
Microphone/Preamp	—	—
Calibrator	—	—

SLM SETTINGS (circle one) FAST (SLOW)

WEIGHTING (circle one) (A) Lin.

Location Description: M-3 Bike Path

SITE SKETCH: Including noise source, receptors, reference distances, North arrow, wind direction arrow, terrain and shielding, roadway profile, and direct lines of sight:

N

See M-1 sheet

Start Time: 12:50 AM (PM)

Stop Time: 1:05 AM (PM)

Duration: 15 minutes

Wind Speed/Direction: 10 mph SE Percentiles: L10: 71.9, L50: 66.1

Temperature: 54° F Humidity: 76%

Calibration results before: -0.11 dBA and after -0.05 dBA

Traffic Count Roadway: Seward Hwy

	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
NB	78	14	3	1	0
SB	75	8	6	2	1

***Note roadway direction in table**

HDR

SHORT-TERM TRAFFIC NOISE MONITORING LOG SHEET

PROJECT: Seward Hwy MP 98.5-118

JOB NO.: 10361516

SITE/READING NO.: M-3 005

PERSONNEL: PB, JM, LS

LOCATION/ADDRESS: Seward Hwy Near MP 100

DATE: 8/14/23

#	1 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Other Noise Sources	COMMENTS Chainsaw occassionally audible between cars, unlikely to impact Leq
1	12:50	61.7			
2	51	69.1			Fairly constant traffic flow
3	52	69.2			
4	53	71.5			
5	54	68.6			
6	55	68.6			
7	56	69.5			
8	57	70.9			
9	58	68.4			Period of few cars
10	59	60.9			" "
11	1:00	59.0			" "
12	1:01	71.4			Traffic picked up again, Truck Engine brake.
13	1:02	68.0			
14	1:03	63.8			Somewhat less traffic
15	1:04	69.9			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

TOTAL Leq = 68.6 SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

Appendix E. Feasibility and Reasonableness Worksheets

Federal funds may be used for noise abatement measures when traffic noise impacts have been identified and abatement measures have been determined to be feasible and reasonable, pursuant to 23 CFR 772.13(d). Determinations of noise abatement measure feasibility are made by considering whether a certain amount of noise reduction can be achieved by the measure and whether the measure is possible to design and construct. Determinations of noise abatement measure reasonableness requires the collective achievement of three factors, including the viewpoints of the property owners and residents of the benefited receptors, cost effectiveness, and achievement of a noise reduction design goal.

Per the DOT&PF Noise Policy, it is typically beneficial to group land uses together into smaller noise study areas to collectively evaluate impacts on neighborhoods or similar land uses for noise modeling and abatement evaluation. This was not determined to be useful for this project analysis, and therefore each reasonable and feasibility worksheet represents each of the nineteen (19) receptors that the TNM model predicted noise impact levels for the future (2052) Proposed Action.

DOT&PF will only implement a noise abatement measure if it has been determined to be both feasible and reasonable. Appendix E includes the feasibility and reasonableness worksheet that has been filled out for each impacted receiver and signed by the DOT&PF Regional Environmental Manager. As discussed in Section 8 of the report, there are no receptors that meet the acoustic feasibility criteria; therefore, per the DOT&PF Noise Policy (Appendix B), no further evaluation of feasibility or reasonableness is required.

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APPENDIX E: Feasibility and Reasonableness Worksheets

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-1

Location/Description:
15000 Old Seward Highway, residential property

Activity Category type:
B

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
65.3 dBA

Future Build Noise Level (Leq):
66.6 dBA

Future No-Build Noise Level:
66.0 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66

dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager _____ Date _____

DOT&PF Project Manager _____ Date _____

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[1] _____ Date _____

[1] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-10

Location/Description:
Potter Marsh Wildlife Viewing Boardwalk

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
71.6 dBA

Future Build Noise Level (Leq):
68.6 dBA

Future No-Build Noise Level:
72.8 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[2] Date

[2] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-13

Location/Description:
Anchorage Coastal Wildlife Refuge Wildlife Viewing Pullout, MP 116.5 Seward Highway

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
74.1 dBA

Future Build Noise Level (Leq):
70.9 dBA

Future No-Build Noise Level:
75.3 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager _____ Date _____

DOT&PF Project Manager _____ Date _____

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[3] _____ Date _____

[3] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-22

Location/Description:
18620 Seward Highway, Potter Section House/Chugach State Park Headquarters

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
70.3 dBA

Future Build Noise Level (Leq):
70.0 dBA

Future No-Build Noise Level:
71.5 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[4] Date

[4] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-23

Location/Description:
18699 Seward Highway, Potter Creek Trailhead

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
69.8 dBA

Future Build Noise Level (Leq):
68.0 dBA

Future No-Build Noise Level:
71.0 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[5] Date

[5] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-24

Location/Description:
Upper Potter Creek Trailhead/Northern terminus of Turnagain Arm Trail

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
66.6 dBA

Future Build Noise Level (Leq):
70.6 dBA

Future No-Build Noise Level:
67.8 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[6] Date

[6] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-27

Location/Description:
McHugh Creek Day Use Area/Trailhead, MP 111.8 Seward Highway

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
68.3 dBA

Future Build Noise Level (Leq):
67.3 dBA

Future No-Build Noise Level:
69.6 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

APPENDIX E: Feasibility and Reasonableness Worksheet

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[7] Date

[7] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-34

Location/Description:
Rainbow Trailhead, MP 108.4 Seward Highway

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
65.9 dBA

Future Build Noise Level (Leq):
66.5dBA

Future No-Build Noise Level:
67.1 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

APPENDIX E: Feasibility and Reasonableness Worksheet

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[8] Date

[8] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-49

Location/Description:
27301 Seward Highway, Residence with onsite business (Indian Valley Mine and Gifts)

Activity Category type:
B

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
68.5 dBA

Future Build Noise Level (Leq):
66.0 dBA

Future No-Build Noise Level:
69.7 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

APPENDIX E: Feasibility and Reasonableness Worksheet

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager _____ Date _____

DOT&PF Project Manager _____ Date _____

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[9] _____ Date _____

[9] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-50

Location/Description:
29205 Seward Highway, residence

Activity Category type:
B

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
66.4 dBA

Future Build Noise Level (Leq):
66.4 dBA

Future No-Build Noise Level:
67.7 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[10] Date

[10] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-52

Location/Description:
29135 Seward Highway; Valley Bible Chalet

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
66.4 dBA

Future Build Noise Level (Leq):
67.2 dBA

Future No-Build Noise Level:
67.7 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[11] Date

[11] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-53

Location/Description:
28065 Seward Highway (MP 103); Indian Creek Trailhead, Chugach State Park

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
66.3 dBA

Future Build Noise Level (Leq):
74.5 dBA

Future No-Build Noise Level:
67.5 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[12] Date

[12] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-55

Location/Description:
MP 105.6 Seward Highway, Falls Creek Trailhead

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
71.2 dBA

Future Build Noise Level (Leq):
67.5 dBA

Future No-Build Noise Level:
72.4 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[13] Date

[13] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-58

Location/Description:
MP 101.6 Seward Highway; Bird Creek Access Trail

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
68.6 dBA

Future Build Noise Level (Leq):
71.9 dBA

Future No-Build Noise Level:
69.9 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[14] Date

[14] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-59

Location/Description:
Bird Creek Overflow Campground

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
58.4 dBA

Future Build Noise Level (Leq):
66.9 dBA

Future No-Build Noise Level:
59.6 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[15] Date

[15] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-66

Location/Description:
129 Steller's Jay Lane, Residence

Activity Category type:
B

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
61.8 dBA

Future Build Noise Level (Leq):
66.9 dBA

Future No-Build Noise Level:
63.0 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[16] Date

[16] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-93

Location/Description:
29455 Seward Highway, Residence

Activity Category type:
B

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
61.9 dBA

Future Build Noise Level (Leq):
67.3 dBA

Future No-Build Noise Level:
63.1 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[17] Date

[17] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-100

Location/Description:
29675 Seward Highway, Residence

Activity Category type:
B

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
63.8 dBA

Future Build Noise Level (Leq):
67.5 dBA

Future No-Build Noise Level:
65.0 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[18] Date

[18] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

HIGHWAY TRAFFIC NOISE ABATEMENT FOR PROJECT:
Seward Highway MPs 98.5–118, Bird Flats to Rabbit Creek Project

Receiver ID No.(s):
R-103

Location/Description:
Seward Highway, MP 100, Indian to Girdwood Bike Pathway

Activity Category type:
C

Noise Abatement Criteria for this Activity Category (Leq):
66 dBA

Existing Noise Level (Leq):
70.6 dBA

Future Build Noise Level (Leq):
71.4 dBA

Future No-Build Noise Level:
71.8 dBA

Has a noise impact been identified (If yes, continue filling out worksheet. If no, no noise abatement is required. Sign worksheet and recommend no noise abatement.)? Yes ☒ No ☐

HIGHWAY TRAFFIC NOISE ABATEMENT FEASIBILITY AND REASONABLENESS ANALYSIS:

Feasibility

Is the proposed noise abatement measure acoustically feasible? Yes ☐ No ☒

Is the proposed noise abatement measure engineering feasible? Yes ☐ No ☐

Reasonableness

Is the proposed noise abatement measure considered reasonable?Yes ☐ No ☐

Federal Mandatory Factors

1. **Cost Effectiveness.** Is the abatement measure cost effective? Yes ☐ No ☐
2. **Views of Benefited Residents and Property Owners.** Do at least 60 percent of the impacted residents and property owners' surveyed desire noise abatement? Yes ☐ No ☐
3. **Noise reduction design goal.** Does the noise abatement measure provide 7 dBA reduction to 50 percent or more of the benefited receptors in the first row of structures? Yes ☐ No ☐

DOT&PF Mandatory Factors (State funded only)

1. **Development vs. Highway Timing.** Were at least 50 percent of benefited receptors in the development built before highway construction? Yes ☐ No ☐
2. **Development Existence.** Have at least 50 percent of benefited receptors in the development existed for at least 10 years? Yes ☐ No ☐
3. **Absolute Predicted Build Noise Level**. Are the predicted future build noise levels at least 66 dBA? Yes ☐ No ☐

4. **Relative Predicted Build Noise Level**. Are the predicted future build noise levels at least 10 dBA greater than the existing noise levels? Yes ☐ No ☐
5. **Build vs. No-Build Noise Levels**. Are the future build noise levels at least 5 dBA greater than the future No-Build noise levels? Yes ☐ No ☐
6. **Land Use**. Is the land use changing rapidly and are there local ordinances or zoning in place to control the new development of noise sensitive land uses adjacent to transportation corridors? Yes ☐ No ☐

Is Noise Abatement recommended for this impacted receptor(s)? Yes ☐ No ☒

What type of noise abatement is recommended? (Note – The use of quiet pavements is not an approved noise abatement measure on Federal- Aid Projects. Quiet pavements can be utilized as an abatement measure on State-funded projects with the approval of the Regional Preconstruction Engineer.)

N/A

What is the basis for this recommendation?

Does not meet acoustical feasibility criterion that 5dBA or more reduction must be achieved for at least three impacted receptors.

Regional Environmental Manager Date

DOT&PF Project Manager Date

I have determined that the use of quiet pavement to mitigate noise impacts on a state-funded project is within the cost constraints of the legislative appropriation for the proposed project.

Preconstruction Engineer[19] Date

[19] The Preconstruction Engineer's signature is only required if quiet pavements are recommended on State-funded projects. The Preconstruction Engineer must determine whether the incorporation of quiet pavements into the State-funded project is within the cost constraints of the legislative appropriation.

APPENDIX E: Feasibility and Reasonableness Worksheet

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