Appendix F

Noise Modeling Data

Site Preparation

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold	1,066	50.0
Residence 1	25	91.2
Residence 2	50	83.2

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Dump Truck	84	0.4
Chain Saw	85	0.2
Front End Loader	80	0.4
chipper	75	0.2

Ground Type	Soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Dump Truck	80.0
Chain Saw	78.0
Front End Loader	76.0
chipper	68.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
83.2

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Site Preparation

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold	1,725	50.0
Residence 1	25	96.4
Residence 2	50	88.4

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Dump Truck	84	1
Chain Saw	85	1
Front End Loader	80	1
chipper	75	1

Ground Type	Soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Dump Truck	84.0
Chain Saw	85.0
Front End Loader	80.0
chipper	75.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
88.4

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Night Cable Crossing Equipment

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold	846	55.0
SF Base Term. Res.	175	71.4
Residence 2	1500	46.8

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Excavator	85	0.4
Grader	85	0.4
Pickup Truck	55	0.4
Front End Loader	80	0.4
Generator	82	0.5

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Excavator	81.0
Grader	81.0
Pickup Truck	51.0
Front End Loader	76.0
Generator	79.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
86

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Night Cable Crossing Equipment

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold	301	70.0
SF Term. Residence.	175	75.2
Residence 2	1500	50.6

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Excavator	85	1
Grader	85	1
Pickup Truck	55	1
Front End Loader	80	1
Generator	82	1

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Excavator	85.0
Grader	85.0
Pickup Truck	55.0
Front End Loader	80.0
Generator	82.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
90

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Day Cable Crossing Equipment (no helicopter)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold	921	50.0
Residence 1	600	53.2
Residence 2	100	73.7

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Crane	85	0.16
Pickup Truck	55	0.4
Rock Drill	85	0.2
Concrete Pump Truck	82	0.2
Generator	82	0.5

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Crane	77.0
Pickup Truck	51.0
Rock Drill	78.0
Concrete Pump Truck	75.0
Generator	79.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
81.6

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Day Cable Crossing Equipment (no helicopter)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold	1,813	50.0
Residence 1	100	81.1
Residence 2	100	81.1

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Crane	85	1
Pickup Truck	55	1
Rock Drill	85	1
Concrete Pump Truck	82	1
Generator	82	1

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Crane	85.0
Pickup Truck	55.0
Rock Drill	85.0
Concrete Pump Truck	82.0
Generator	82.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
89.0

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Attenuation Calculations for Stationary Noise Sources

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).

STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.

STEP 3: Select the distance to the receiver.

Noise Source/ID	Reference Noise Level			Attenuation Characteristics				Attenuated Noise Level at Receptor		
	noise level (dBA)	@	distance (ft)	Ground Type (soft/hard)	Source Height (ft)	Receiver Height (ft)	Ground Factor	noise level (dBA)	@	distance (ft)
Helicopter	68.0	@	492	soft	6	5	0.65	94.3	@	50
chipper	99.0	@	3	soft	6	5	0.65	67.7	@	50
blasting (night lmax)	94.0	@	50	soft	6	5	0.65	65.0	@	620
helicopter (night leq)	68.0	@	492.00	soft	6	5	0.65	45.1	@	3600
blasting (day lmax)	94.0	@	50	soft	6	5	0.65	70.1	@	400
helicopter (day leq)	68.0	@	492	soft	6	5	0.65	55.0	@	1520
Blasting (SF Res)	94.0	@	50	soft	6	5	0.65	79.6	@	175
blasting	94.0	@	50	soft	6	5	0.65	86.0	@	100
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.

Computation of the attenuated noise level is based on the equation presented on pg. 12-3 and 12-4 of FTA 2006.

Computation of the ground factor is based on the equation presentd in Figure 6-23 on pg. 6-23 of FTA 2006, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Sources:

Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Washington, D.C. Available: <http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf>. Accessed: September 24, 2010.

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Auger Drill Rig	20	85	84	36	79.0	72.0	100	78.0	71.0
Backhoe	40	80	78	372	74.0	70.0	100	72.0	68.0
Bar Bender	20	80	na	0	74.0	67.0	100		
Blasting	na	94	na	0	88.0		100		
Boring Jack Power Unit	50	80	83	1	74.0	71.0	100	77.0	74.0
Chain Saw	20	85	84	46	79.0	72.0	100	78.0	71.0
Clam Shovel (dropping)	20	93	87	4	87.0	80.0	100	81.0	74.0
Compactor (ground)	20	80	83	57	74.0	67.0	100	77.0	70.0
Compressor (air)	40	80	78	18	74.0	70.0	100	72.0	68.0
Concrete Batch Plant	15	83	na	0	77.0	68.7	100		
Concrete Mixer Truck	40	85	79	40	79.0	75.0	100	73.0	69.0
Concrete Pump Truck	20	82	81	30	76.0	69.0	100	75.0	68.0
Concrete Saw	20	90	90	55	84.0	77.0	100	84.0	77.0
Crane	16	85	81	405	79.0	71.0	100	75.0	67.0
Dozer	40	85	82	55	79.0	75.0	100	76.0	72.0
Drill Rig Truck	20	84	79	22	78.0	71.0	100	73.0	66.0
Drum Mixer	50	80	80	1	74.0	71.0	100	74.0	71.0
Dump Truck	40	84	76	31	78.0	74.0	100	70.0	66.0
Excavator	40	85	81	170	79.0	75.0	100	75.0	71.0
Flat Bed Truck	40	84	74	4	78.0	74.0	100	68.0	64.0
Front End Loader	40	80	79	96	74.0	70.0	100	73.0	69.0
Generator	50	82	81	19	76.0	73.0	100	75.0	72.0
Generator (<25KVA, VMS si	50	70	73	74	64.0	61.0	100	67.0	64.0
Gradall	40	85	83	70	79.0	75.0	100	77.0	73.0
Grader	40	85	na	0	79.0	75.0	100		
Grapple (on Backhoe)	40	85	87	1	79.0	75.0	100	81.0	77.0
Horizontal Boring Hydr. Jac	25	80	82	6	74.0	68.0	100	76.0	70.0
Hydra Break Ram	10	90	na	0	84.0	74.0	100		
Impact Pile Driver	20	95	101	11	89.0	82.0	100	95.0	88.0
Jackhammer	20	85	89	133	79.0	72.0	100	83.0	76.0
Man Lift	20	85	75	23	79.0	72.0	100	69.0	62.0
Mounted Impact Hammer (	20	90	90	212	84.0	77.0	100	84.0	77.0
Pavement Scarafier	20	85	90	2	79.0	72.0	100	84.0	77.0
Paver	50	85	77	9	79.0	76.0	100	71.0	68.0
Pickup Truck	40	55	75	1	49.0	45.0	100	69.0	65.0

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Pneumatic Tools	50	85	85	90	79.0	76.0	100	79.0	76.0
Pumps	50	77	81	17	71.0	68.0	100	75.0	72.0
Refrigerator Unit	100	82	73	3	76.0	76.0	100	67.0	67.0
Rivit Buster/chipping gun	20	85	79	19	79.0	72.0	100	73.0	66.0
Rock Drill	20	85	81	3	79.0	72.0	100	75.0	68.0
Roller	20	85	80	16	79.0	72.0	100	74.0	67.0
Sand Blasting (Single Nozzle	20	85	96	9	79.0	72.0	100	90.0	83.0
Scraper	40	85	84	12	79.0	75.0	100	78.0	74.0
Shears (on backhoe)	40	85	96	5	79.0	75.0	100	90.0	86.0
Slurry Plant	100	78	78	1	72.0	72.0	100	72.0	72.0
Slurry Trenching Machine	50	82	80	75	76.0	73.0	100	74.0	71.0
Soil Mix Drill Rig	50	80	na	0	74.0	71.0	100		
Tractor	40	84	na	0	78.0	74.0	100		
Vacuum Excavator (Vac-tru	40	85	85	149	79.0	75.0	100	79.0	75.0
Vacuum Street Sweeper	10	80	82	19	74.0	64.0	100	76.0	66.0
Ventilation Fan	100	85	79	13	79.0	79.0	100	73.0	73.0
Vibrating Hopper	50	85	87	1	79.0	76.0	100	81.0	78.0
Vibratory Concrete Mixer	20	80	80	1	74.0	67.0	100	74.0	67.0
Vibratory Pile Driver	20	95	101	44	89.0	82.0	100	95.0	88.0
Warning Horn	5	85	83	12	79.0	66.0	100	77.0	64.0
Welder / Torch	40	73	74	5	67.0	63.0	100	68.0	64.0
chipper		75							

Source:
FHWA Roadway Construction Noise Model, January 2006. Table 9.1
U.S. Department of Transportation
CA/T Construction Spec. 721.560

Distance Propagation Calculations for Stationary Sources of Ground Vibration

ASCENT ENVIRONMENTAL

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

STEP 1: Determine units in which to perform calculation.

— If vibration decibels (VdB), then use Table A and proceed to Steps 2A and 3A.

— If peak particle velocity (PPV), then use Table B and proceed to Steps 2B and 3B.

STEP 2A: Identify the vibration source and enter the reference vibration level (VdB) and distance.

STEP 3A: Select the distance to the receiver.

Table A. Propagation of vibration decibels (VdB) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (VdB)	@	distance (ft)	vibration level (VdB)	@	distance (ft)
blasting	100	@	50	80.0	@	232

Notes:

Computation of propagated vibration levels is based on the equations presented on pg. 12-11 of FTA 2006. Estimates of attenuated vibration levels do not account for reductions from intervening underground barriers or other underground structures of any type, or changes in soil type.

Sources:

Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment.

Vdb level from Figure 7-3 Typical Levels of Ground-Borne Vibration

Attenuation Calculations for Stationary Noise Sources

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).

STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.

STEP 3: Select the distance to the receiver.

Noise Source/ID	Reference Noise Level			Attenuation Characteristics				Attenuated Noise Level at Receptor		
	noise level (dBA)	@	distance (ft)	Ground Type (soft/hard)	Source Height (ft)	Receiver Height (ft)	Ground Factor	noise level (dBA)	@	distance (ft)
Gondola (leq, day)	69.6	@	54	soft	12	5	0.60	54.8	@	200
Gondola (lmax, day)	73.5	@	54	soft	12	5	0.60	69.1	@	80
Gondola (leq, day)	69.6	@	54	soft	12	5	0.60	56.3	@	175
Gondola (lmax, day)	73.5	@	54	soft	12	5	0.60	60.2	@	175
Gondola (leq, day)	69.6	@	54	soft	12	5	0.60	59.7	@	130
Gondola (lmax, day)	73.5	@	54	soft	12	5	0.60	63.6	@	130
Gondola (leqday)	69.6	@	54	soft	12	5	0.60	56.0	@	180
Gondola (lmax, day)	73.5	@	54	soft	12	5	0.60	59.9	@	180
Gondola (leq, day)	69.6	@	54	soft	12	5	0.60	62.6	@	100
Gondola (leq, day)	69.6	@	54	soft	12	5	0.60	52.0	@	258
Gondola (leq, day)	69.6	@	54	soft	12	5	0.60	35.6	@	1100
							0.66			
							0.66			
							0.66			

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.

Computation of the attenuated noise level is based on the equation presented on pg. 12-3 and 12-4 of FTA 2006.

Computation of the ground factor is based on the equation presentd in Figure 6-23 on pg. 6-23 of FTA 2006, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Sources:

Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Washington, D.C. Available: <http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf>. Accessed: September 24, 2010.

Avalanche Control

SLM: LXT Date: 4/22/2016

105 MM HOWITZER

TIME	EVENT	LEVEL	Lmax		DISTANCE (ft)
7:18:43	FIRE	115.1	dBA	@	25
7:18:51	EXPLOSION	96.5	dBA	@	2,690

Duration: 8 seconds

GAZEX

TIME	EVENT	LEVEL	Lmax		DISTANCE (ft)
8:10:06	EXPLOSION	105.4	dBA	@	850

Durations: 8 seconds

2 LB HAND CHARGE

TIME	EVENT	LEVEL	Lmax		DISTANCE (ft)
7:44:32	EXPLOSION	109.1	dBA	@	80

4 LB HAND CHARGE

TIME	EVENT	LEVEL	Lmax		DISTANCE (ft)
7:41:55	EXPLOSION	109.7	dBA	@	80

	TIME	**EVENT**	**LEVEL**	**Lmax**	**DISTANCE (ft)**
105 MM HOWITZER	7:18:43	FIRE	115.1	dBA	25
105 MM HOWITZER	7:18:51	EXPLOSION	96.5	dBA	2,690
GAZEX	8:10:06	EXPLOSION	105.4	dBA	850
2 LB HAND CHARGE	7:44:32	EXPLOSION	109.1	dBA	80
4 LB HAND CHARGE	7:41:55	EXPLOSION	109.7	dBA	80

	dBA @ 100 feet
105 MM HOWITZER FIRE	103.1
105 MM HOWITZER EXPLOSION	125.1
GAZEX EXPLOSION	124
2 LB HAND CHARGE EXPLOSION	107.2
4 LB HAND CHARGE EXPLOSION	107.8

Attenuation Calculations for Stationary Noise Sources

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).

STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.

STEP 3: Select the distance to the receiver.

Noise Source/ID	Reference Noise Level			Attenuation Characteristics				Attenuated Noise Level at Receptor		
	noise level (dBA)	@	distance (ft)	Ground Type (soft/hard)	Source Height (ft)	Receiver Height (ft)	Ground Factor	noise level (dBA)	@	distance (ft)
Howitzer fire	115.1	@	25	hard	12	5	0.00	103.1	@	100
howitzer explosion	96.5	@	2,690	hard	12	5	0.00	125.1	@	100
gazex	105.4	@	850	hard	12	5	0.00	124.0	@	100
2 lb hand charge	109.1	@	80	hard	12	5	0.00	107.2	@	100
4 lb hand charge	109.7	@	80	hard	12	5	0.00	107.8	@	100
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			
							0.66			

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.

Computation of the attenuated noise level is based on the equation presented on pg. 12-3 and 12-4 of FTA 2006.

Computation of the ground factor is based on the equation presentd in Figure 6-23 on pg. 6-23 of FTA 2006, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Sources:

Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Washington, D.C. Available: <http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf>. Accessed: September 24, 2010.

Proposed Project- Winter Saturday

Project:

Number	Name	Segment Description and Location From	To	Existing Conditions	Existing + Project Conditions	Δ Existing – Existing + Project
Summary of Net Changes						
1	Squaw Valey Road	west of SR 89		60.2	60.1	-0.02
4	Alpine Meadows Road	west of SR 89		58.0	58.3	0.3

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

		Input								Output				
	Speed	Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						CNEL,	Distance to Contour, (feet)[3]			
ADT	(mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
12,750	35	100	100	96.0%	2.0%	2.0%	88.2%	6.5%	5.3%	60.2	22	48	103	221
5,450	40	100	100	96.0%	2.0%	2.0%	88.2%	6.5%	5.3%	58.0	16	34	73	158

ıy type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Proposed Project- Saturday Existing + Project

Project:

Noise Level Descriptor: CNEL
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

Number	Name	From	To	ADT	Speed (mph)	Distance to Directional Centerline, (feet)4 Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	CNEL, (dBA)5,6,7	Distance to Contour, (feet)3 70 dBA	65 dBA	60 dBA	55 dBA
	Segment Description and Location			Input				Traffic Distribution Characteristics						Output				
Existing + Project Conditions																		
1	Squaw Valey Road	west of SR 89		12,700	35	100	100	96.0%	2.0%	2.0%	88.2%	6.5%	5.3%	60.1	22	47	102	220
2	Alpine Meadows Road	west of SR 89		5,850	40	100	100	96.0%	2.0%	2.0%	88.2%	6.5%	5.3%	58.3	17	36	77	165

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Proposed Project- Sunday Summary

Project:

Number	Name	Segment Description and Location From	To	Existing Conditions	Existing + Project Conditions	Δ Existing – Existing + Project
Summary of Net Changes						
1	Squaw Valey Road	west of SR 89		63.0	63.4	0.4
2	Alpine Meadows Road	west of SR 89		62.3	61.9	-0.4

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Proposed Project- Sunday Existing

Project:

Noise Level Descriptor: CNEL
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

Segment Description and Location				Input										Output				
						Distance to Directional Centerline, (feet)4		Traffic Distribution Characteristics						CNEL,	Distance to Contour, (feet)3			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)5,6,7	70 dBA	65 dBA	60 dBA	55 dBA
Cumulative Conditions																		
1	Squaw Valley Road	west of SR 89		13,100	35	100	100	85.2%	7.4%	7.4%	88.2%	6.5%	5.3%	63.0	34	74	159	342
2	Alpine Meadows Road	west of SR 89		8,550	40	100	100	85.2%	7.4%	7.4%	88.2%	6.5%	5.3%	62.3	31	66	143	308

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Proposed Project- Saturday Existing + Project

Project:

Noise Level Descriptor: CNEL
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)4		Traffic Distribution Characteristics						CNEL,	Distance to Contour, (feet)3			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)5,6,7	70 dBA	65 dBA	60 dBA	55 dBA
Cumulative +Project Conditions																		
1	Squaw Valley Road	west of SR 89		14,250	35	100	100	85.2%	7.4%	7.4%	88.2%	6.5%	5.3%	63.4	36	78	168	362
2	Alpine Meadows Road	west of SR 89		7,750	40	100	100	85.2%	7.4%	7.4%	88.2%	6.5%	5.3%	61.9	29	62	134	289

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Citation	Reference
1	Caltrans Technical Noise Supplement. 2009 (November). Table (5-11), Pg 5-60.
2	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60.
3	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32.
4	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48.
5	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56.
6	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57.
7	Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53.
8	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-7), Pg 5-45.
9	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45.
10	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45.
11	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49.
12	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49.
13	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67
14	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69
15	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69