TRACY HILLS SPECIFIC PLAN
DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT
VOLUME II
DECEMBER 2014

APPENDIX G
NOISE DATA , DATED NOVEMBER 2013

Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	North of Eleventh Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	3990
Peak Hour Traffic:	**399**
Vehicle Speed:	40
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

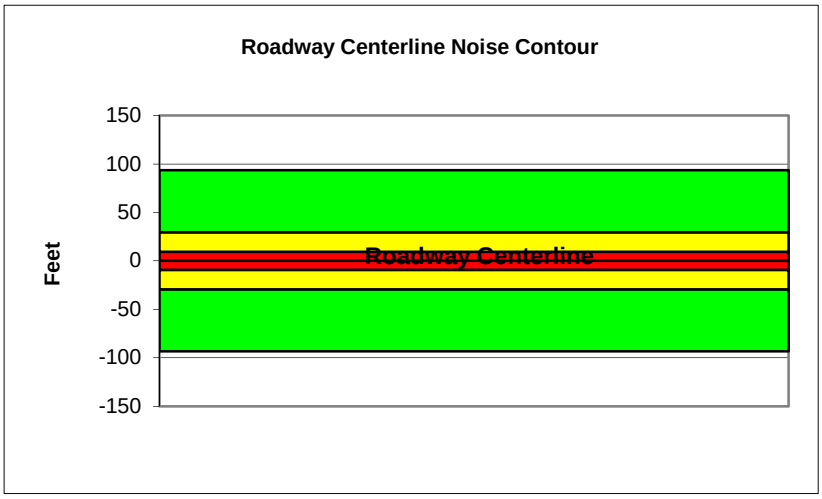
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.7	56.5	54.7	48.6	57.3	57.9
Medium Trucks:	56.7	48.6	42.2	40.6	49.1	49.3
Heavy Trucks:	61.5	49.6	40.5	41.7	51.4	51.6
Vehicle Noise:	**63.9**	**58.1**	**55.1**	**50.2**	**58.8**	**59.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	93
65 dBA	30
70 dBA	9
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	Eleventh Street to Old Schulte Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	5600
Peak Hour Traffic:	**560**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

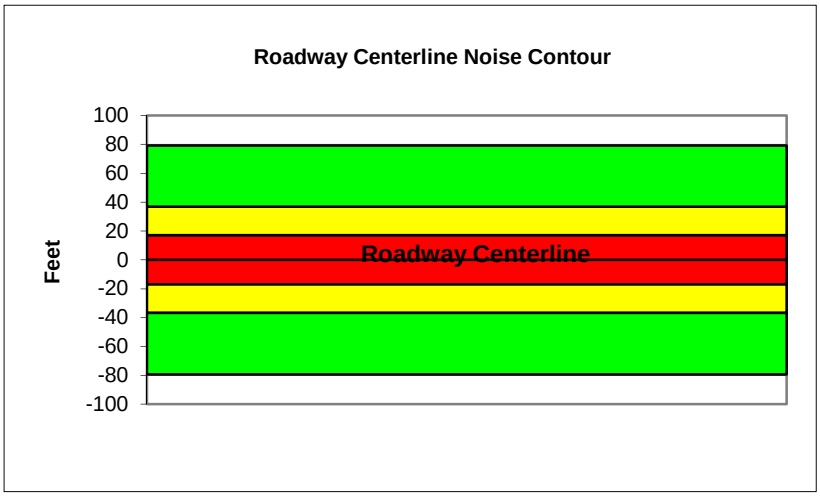
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.3	54.1	52.3	46.2	54.9	55.5
Medium Trucks:	54.3	46.2	39.8	38.3	46.7	47.0
Heavy Trucks:	59.1	47.2	38.1	39.4	49.1	49.2
Vehicle Noise:	**61.5**	**55.7**	**52.8**	**47.8**	**56.4**	**56.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	79
65 dBA	37
70 dBA	17
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	Old Schulte Road to Valpico Road		

PROJECT DATA

Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	5600
Peak Hour Traffic:	**560**
Vehicle Speed:	40
Centerline Separation:	20

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

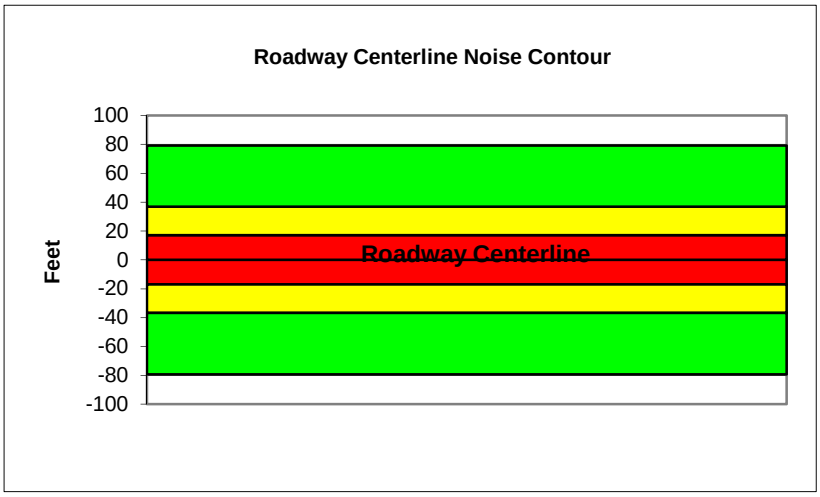
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.3	55.1	53.3	47.3	55.9	56.5
Medium Trucks:	55.3	47.2	40.8	39.3	47.8	48.0
Heavy Trucks:	60.1	48.2	39.1	40.4	50.1	50.2
Vehicle Noise:	**62.5**	**56.7**	**53.8**	**48.8**	**57.4**	**57.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	79
65 dBA	37
70 dBA	17
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	South of Valpico Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	290
Peak Hour Traffic:	**29**
Vehicle Speed:	40
Centerline Separation:	20

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

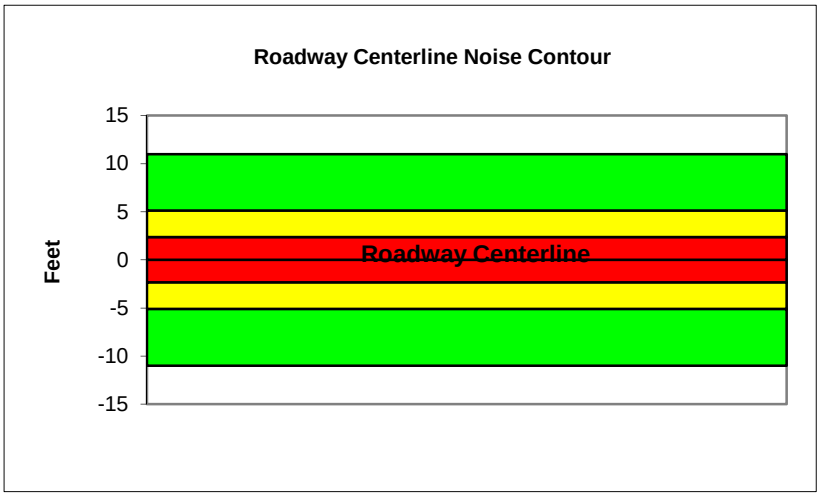
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	33.5	42.3	40.5	34.4	43.0	43.7
Medium Trucks:	42.4	34.4	28.0	26.4	34.9	35.1
Heavy Trucks:	47.3	35.3	26.3	27.5	37.2	37.4
Vehicle Noise:	**49.7**	**43.8**	**40.9**	**36.0**	**44.6**	**45.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	11
65 dBA	5
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	North of Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	24540
Peak Hour Traffic:	**2454**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

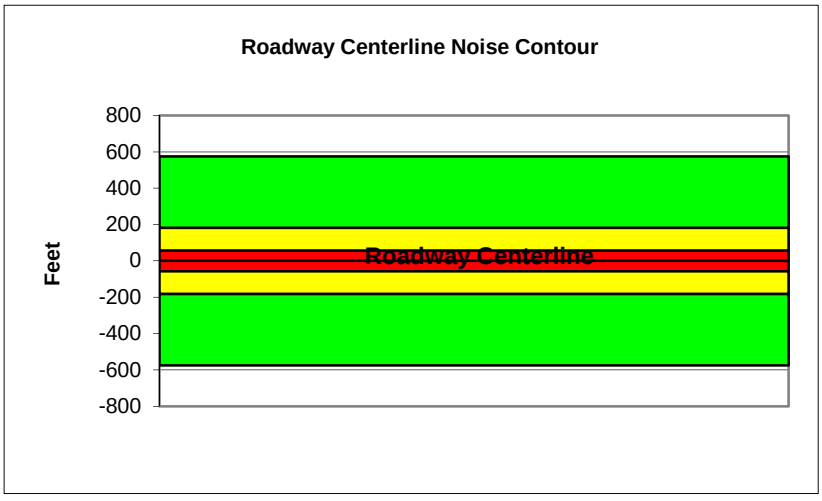
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.0	63.8	62.0	55.9	64.5	65.1
Medium Trucks:	63.9	55.9	49.5	47.9	56.4	56.6
Heavy Trucks:	68.8	56.8	47.8	49.0	58.7	58.8
Vehicle Noise:	**71.2**	**65.3**	**62.4**	**57.5**	**66.0**	**66.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	575
65 dBA	182
70 dBA	57
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	Eleventh Street to New Schulte Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	23440
Peak Hour Traffic:	**2344**
Vehicle Speed:	40
Centerline Separation:	60

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

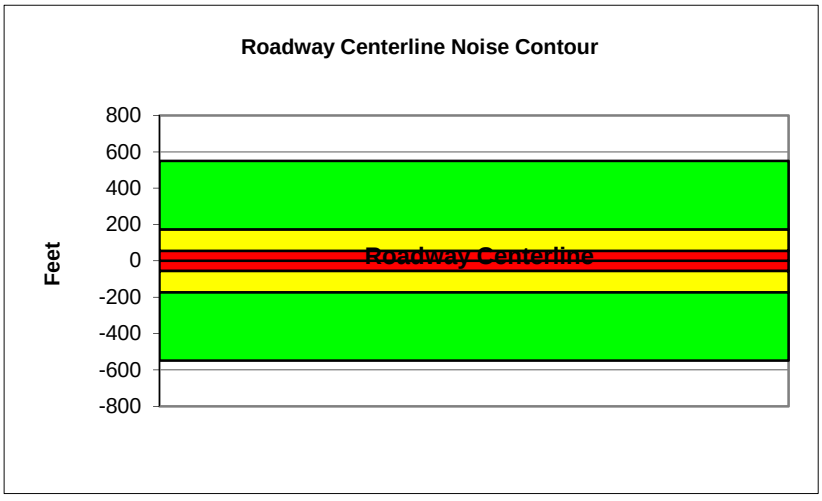
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.8	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	63.8	55.7	49.3	47.8	56.3	56.5
Heavy Trucks:	68.6	56.7	47.6	48.9	58.6	58.7
Vehicle Noise:	**71.0**	**65.2**	**62.3**	**57.3**	**65.9**	**66.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	550
65 dBA	174
70 dBA	55
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	New Schulte Road to Linne Road		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	0	Road Grade:	0
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	8615
Receiver Barrier Dist:	0	Peak Hour Traffic:	**861.5**
Centerline Dist. To Observer:	100	Vehicle Speed:	40
Barrier Near Lane CL Dist:	0	Centerline Separation:	60
Barrier Far lane CL Dist:	0	**NOISE INPUTS**	
Pad Elevation:	0.5	Site conditions **HARD SITE**	
Road Elevation:	0	**FLEET MIX**	
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View: 90	Lft View: -90		

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

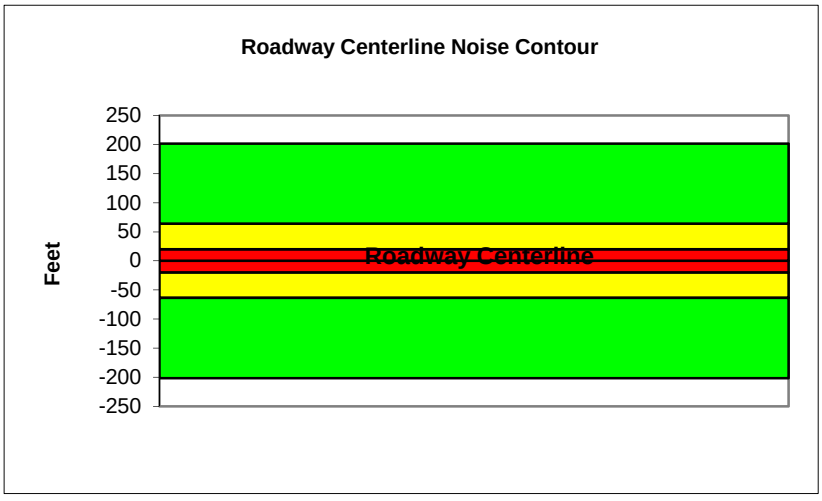
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.5	59.3	57.5	51.4	60.0	60.7
Medium Trucks:	59.4	51.4	45.0	43.4	51.9	52.1
Heavy Trucks:	64.3	52.3	43.3	44.5	54.2	54.4
Vehicle Noise:	**66.7**	**60.8**	**57.9**	**53.0**	**61.6**	**62.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	202
65 dBA	64
70 dBA	20
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	Linne Road to Spine Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	6330
Peak Hour Traffic:	**633**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

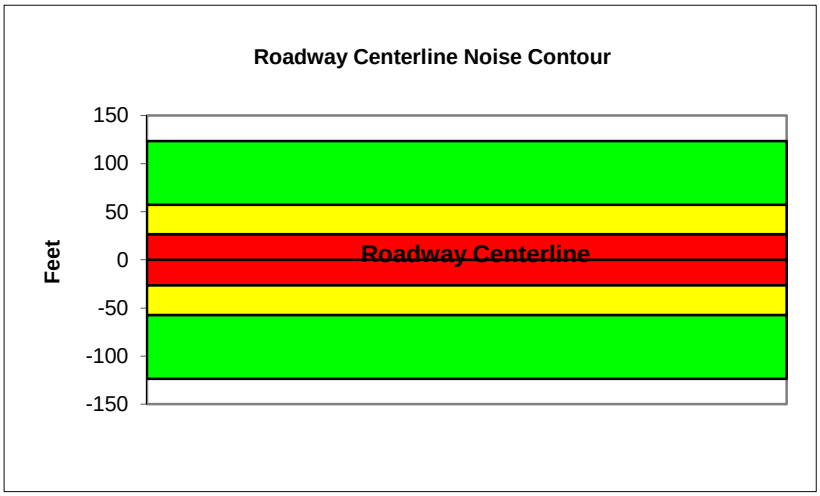
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.6	58.3	56.6	50.5	59.1	59.7
Medium Trucks:	57.2	49.2	42.8	41.2	49.7	49.9
Heavy Trucks:	61.5	49.5	40.5	41.7	51.1	51.2
Vehicle Noise:	**63.8**	**59.4**	**56.9**	**51.6**	**60.2**	**60.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	123
65 dBA	57
70 dBA	27
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	South of Spine Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3260
Peak Hour Traffic:	**326**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

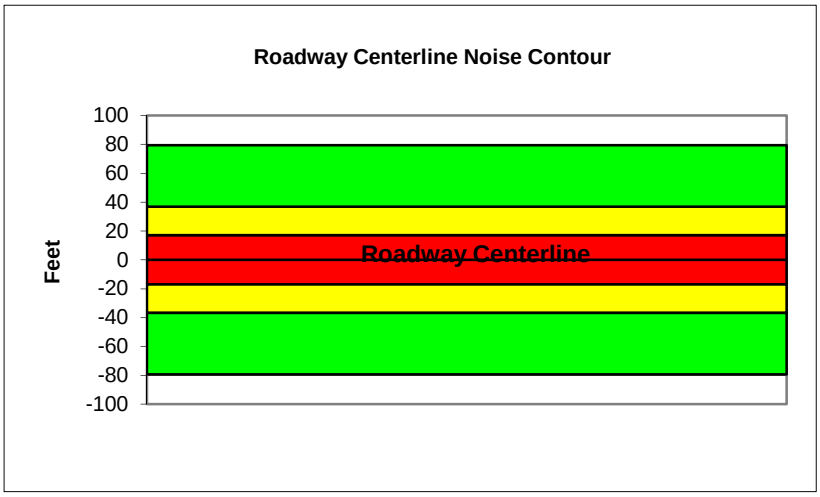
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.7	55.5	53.7	47.6	56.2	56.8
Medium Trucks:	54.4	46.3	39.9	38.3	46.8	47.0
Heavy Trucks:	58.6	46.6	37.6	38.8	48.2	48.3
Vehicle Noise:	**60.9**	**56.6**	**54.0**	**48.7**	**57.3**	**57.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	79
65 dBA	37
70 dBA	17
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	North of Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1220
Peak Hour Traffic:	**122**
Vehicle Speed:	35
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

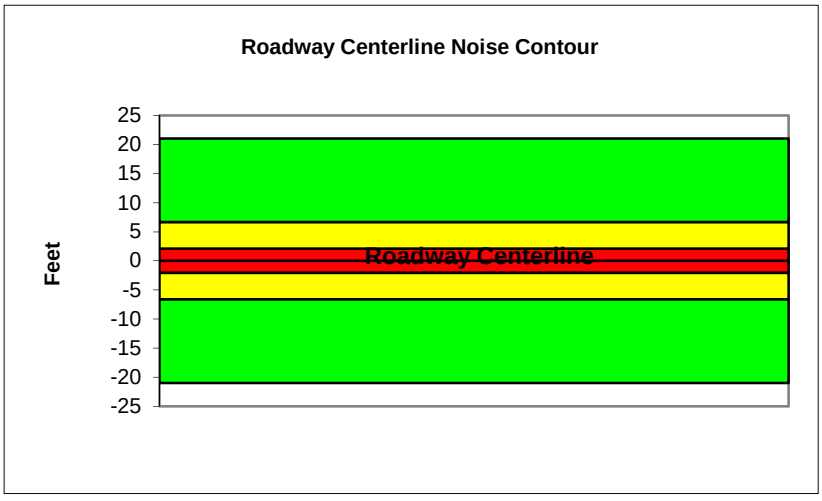
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.9	49.7	47.9	41.8	50.4	51.0
Medium Trucks:	50.6	42.5	36.1	34.6	43.1	43.3
Heavy Trucks:	55.8	43.9	34.8	36.0	45.9	46.1
Vehicle Noise:	**58.3**	**51.6**	**48.4**	**43.7**	**52.3**	**52.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	21
65 dBA	7
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	Eleventh Street to Linne Road		

PROJECT DATA

Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	6225
Peak Hour Traffic:	**622.5**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

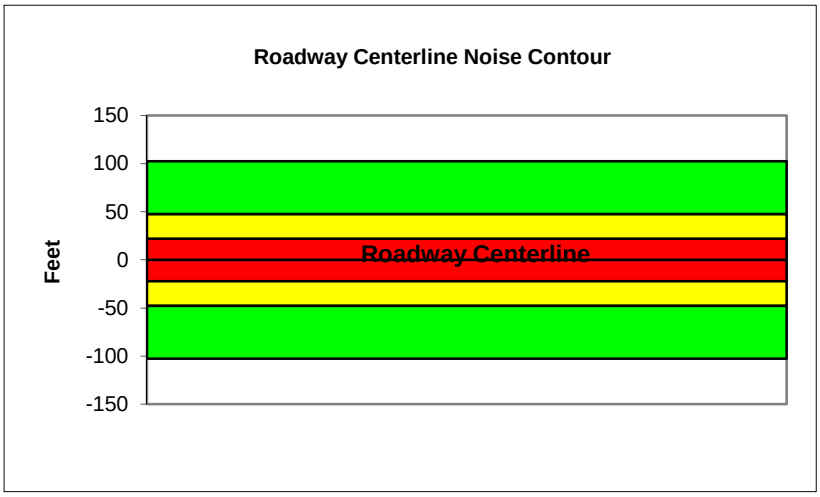
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.2	56.9	55.2	49.1	57.7	58.3
Medium Trucks:	56.4	48.4	42.0	40.4	48.9	49.1
Heavy Trucks:	61.0	49.0	40.0	41.2	50.7	50.9
Vehicle Noise:	**63.3**	**58.3**	**55.5**	**50.4**	**59.0**	**59.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	103
65 dBA	48
70 dBA	22
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	South of Linne Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2760
Peak Hour Traffic:	**276**
Vehicle Speed:	55
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

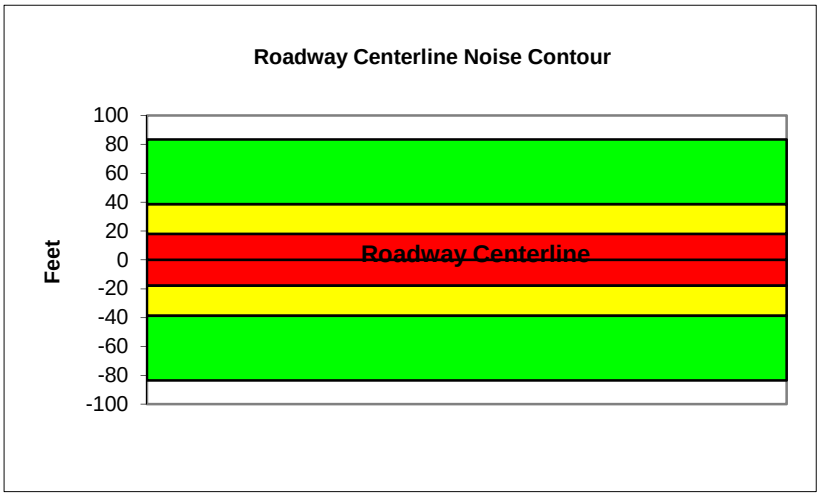
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.1	55.9	54.1	48.1	56.7	57.3
Medium Trucks:	54.3	46.2	39.8	38.3	46.7	47.0
Heavy Trucks:	58.2	46.3	37.2	38.5	47.7	47.8
Vehicle Noise:	**60.5**	**56.9**	**54.4**	**49.0**	**57.6**	**58.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	83
65 dBA	39
70 dBA	18
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	Linne Road to Valpico Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2200
Peak Hour Traffic:	**220**
Vehicle Speed:	40
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

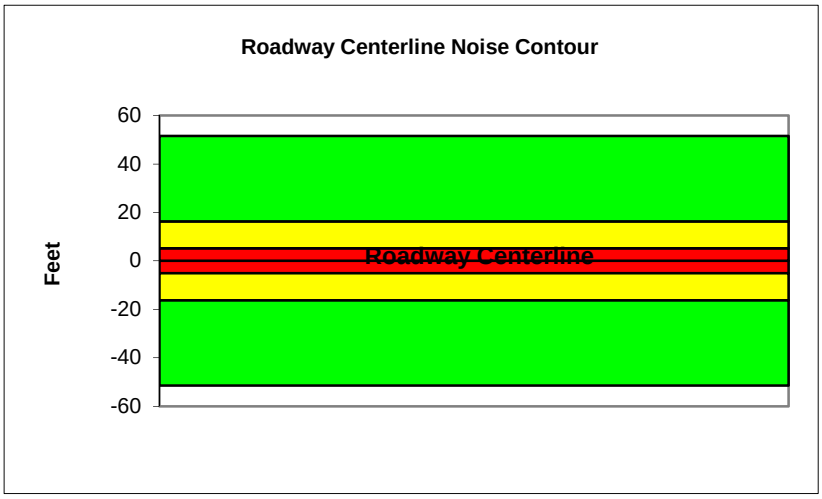
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.2	54.0	52.2	46.1	54.8	55.4
Medium Trucks:	54.2	46.1	39.7	38.1	46.6	46.9
Heavy Trucks:	59.0	47.1	38.0	39.2	49.0	49.1
Vehicle Noise:	**61.4**	**55.6**	**52.7**	**47.7**	**56.3**	**56.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	52
65 dBA	16
70 dBA	5
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	Valpico Road to West Schulte Road		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	**0**	Road Grade:	0
Barrier (0=wall, 1= berm):	**0**	Average Daily Traffic:	5930
Receiver Barrier Dist:	**0**	Peak Hour Traffic:	**593**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	45
Barrier Near Lane CL Dist:	**0**	Centerline Separation:	34
Barrier Far lane CL Dist:	**0**	**NOISE INPUTS**	
Pad Elevation:	**0.5**	Site conditions **HARD SITE**	
Road Elevation:	**0**	**FLEET MIX**	
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View: **90**	Lft View: **-90**		

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

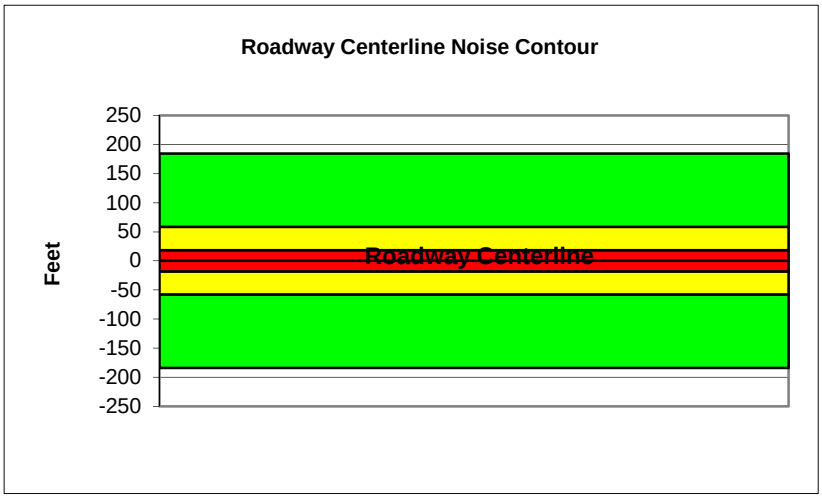
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.7	59.5	57.7	51.6	60.3	60.9
Medium Trucks:	59.0	50.9	44.6	43.0	51.5	51.7
Heavy Trucks:	63.5	51.6	42.5	43.7	53.3	53.4
Vehicle Noise:	**65.9**	**60.8**	**58.1**	**52.9**	**61.5**	**62.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	184
65 dBA	58
70 dBA	18
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	West Schulte Road to Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	7310
Peak Hour Traffic:	**731**
Vehicle Speed:	40
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

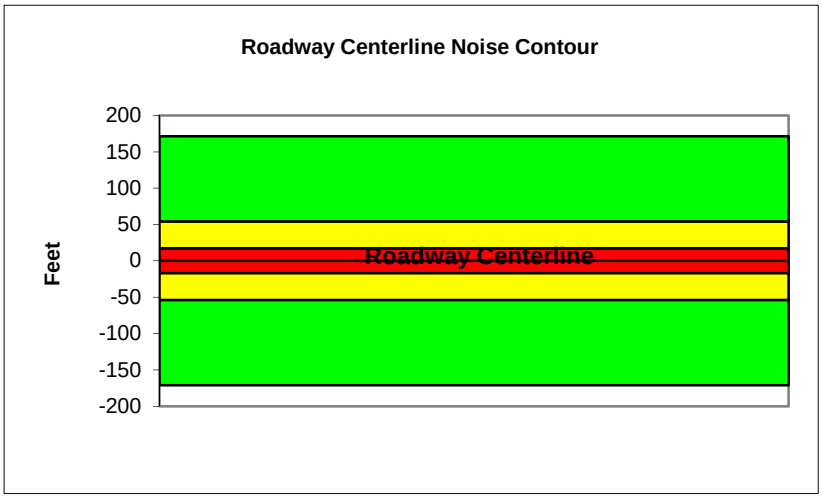
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.3	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	59.3	51.2	44.8	43.3	51.7	52.0
Heavy Trucks:	64.1	52.2	43.1	44.4	54.1	54.2
Vehicle Noise:	**66.5**	**60.7**	**57.8**	**52.8**	**61.4**	**61.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	171
65 dBA	54
70 dBA	17
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	North of Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	4055
Peak Hour Traffic:	**405.5**
Vehicle Speed:	40
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

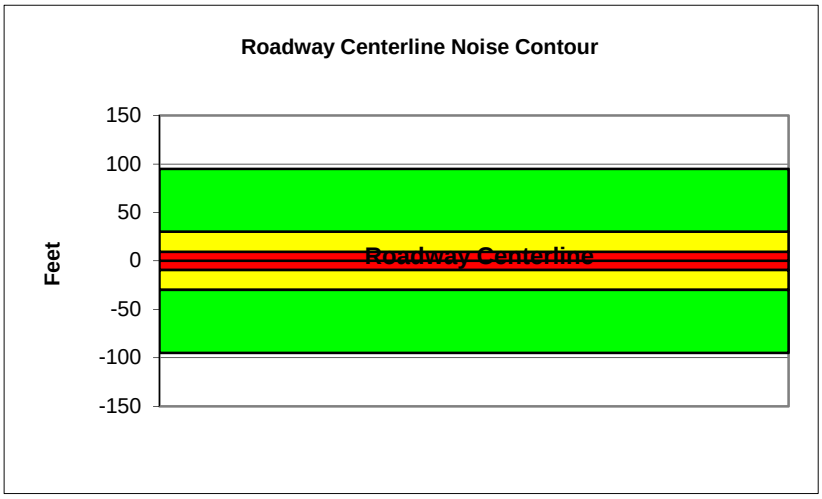
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.8	56.5	54.8	48.7	57.3	57.9
Medium Trucks:	56.7	48.7	42.3	40.7	49.2	49.4
Heavy Trucks:	61.6	49.6	40.6	41.8	51.5	51.6
Vehicle Noise:	**63.9**	**58.1**	**55.2**	**50.3**	**58.8**	**59.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	95
65 dBA	30
70 dBA	10
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	North of Eleventh Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	19300
Peak Hour Traffic:	**1930**
Vehicle Speed:	35
Centerline Separation:	32

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

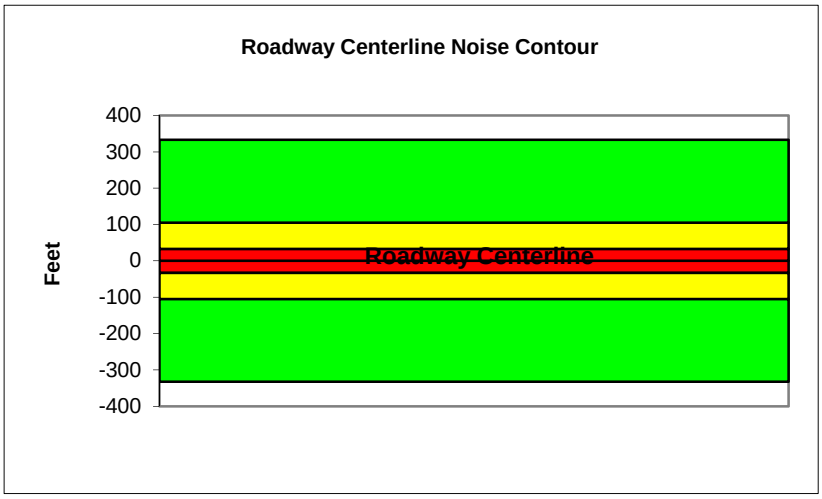
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.7	61.5	59.7	53.6	62.3	62.9
Medium Trucks:	62.5	54.4	48.0	46.4	54.9	55.2
Heavy Trucks:	67.7	55.7	46.7	47.9	57.8	57.9
Vehicle Noise:	**70.1**	**63.5**	**60.3**	**55.6**	**64.2**	**64.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	333
65 dBA	105
70 dBA	33
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	Eleventh Street to Valpico Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	17080
Peak Hour Traffic:	**1708**
Vehicle Speed:	35
Centerline Separation:	38

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

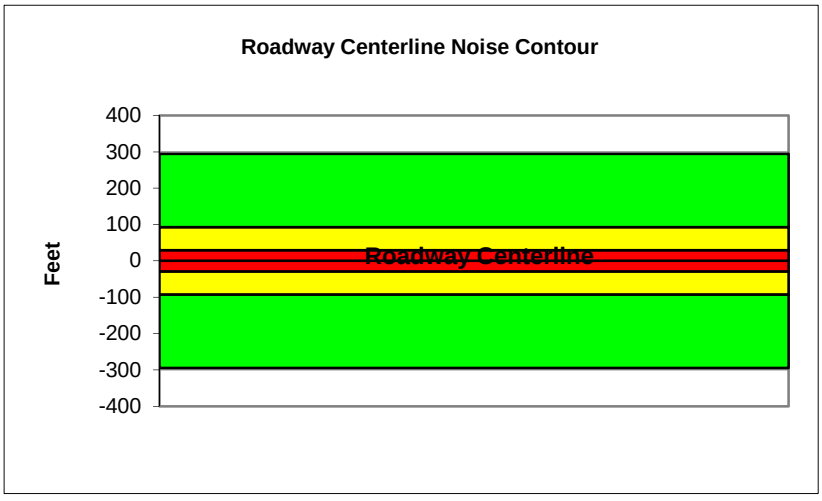
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.1	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	61.8	53.8	47.4	45.8	54.3	54.5
Heavy Trucks:	67.0	55.1	46.1	47.3	57.2	57.3
Vehicle Noise:	**69.5**	**62.8**	**59.7**	**55.0**	**63.5**	**64.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	294
65 dBA	93
70 dBA	29
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	Valpico Road to Linne Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	8730
Peak Hour Traffic:	**873**
Vehicle Speed:	40
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

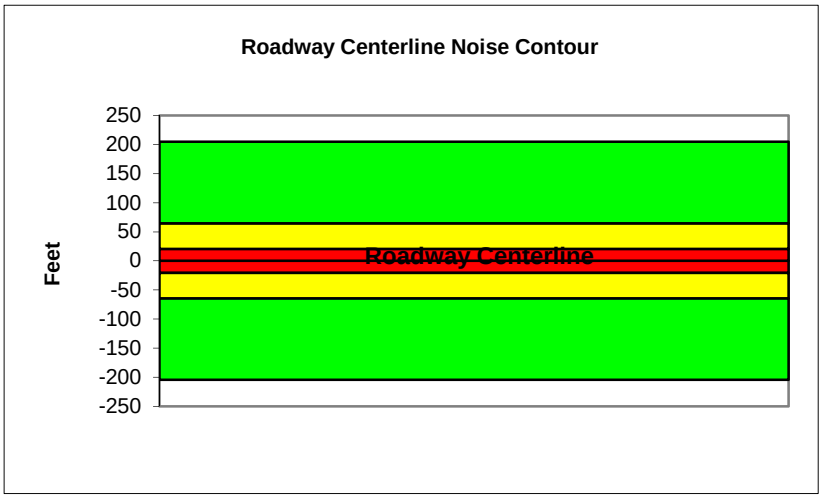
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.8	59.6	57.8	51.7	60.4	61.0
Medium Trucks:	59.8	51.7	45.3	43.8	52.3	52.5
Heavy Trucks:	64.6	52.7	43.6	44.9	54.6	54.7
Vehicle Noise:	**67.0**	**61.2**	**58.3**	**53.3**	**61.9**	**62.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	205
65 dBA	65
70 dBA	20
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	South of Linne Road		

PROJECT DATA

Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	1000
Peak Hour Traffic:	**100**
Vehicle Speed:	40
Centerline Separation:	22

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

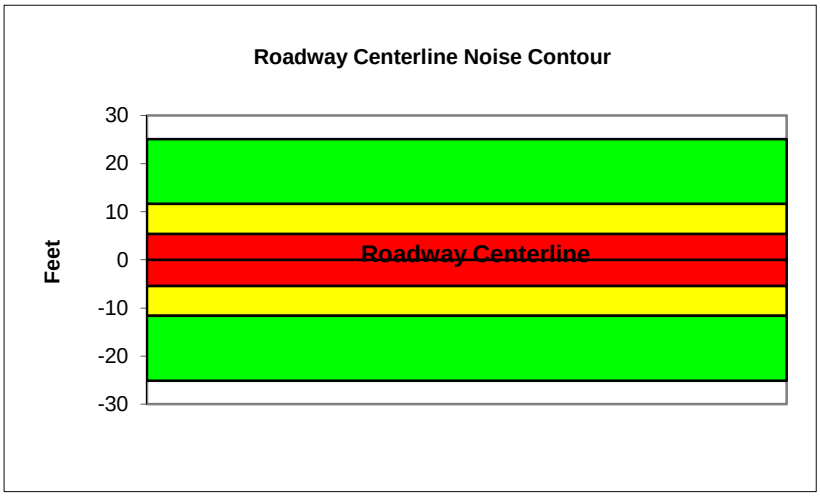
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	38.8	47.6	45.8	39.7	48.4	49.0
Medium Trucks:	47.8	39.7	33.3	31.7	40.2	40.5
Heavy Trucks:	52.6	40.7	31.6	32.8	42.5	42.7
Vehicle Noise:	**55.0**	**49.2**	**46.2**	**41.3**	**49.9**	**50.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	25
65 dBA	12
70 dBA	5
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	West of Tracy Boulevard		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3990
Peak Hour Traffic:	**399**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

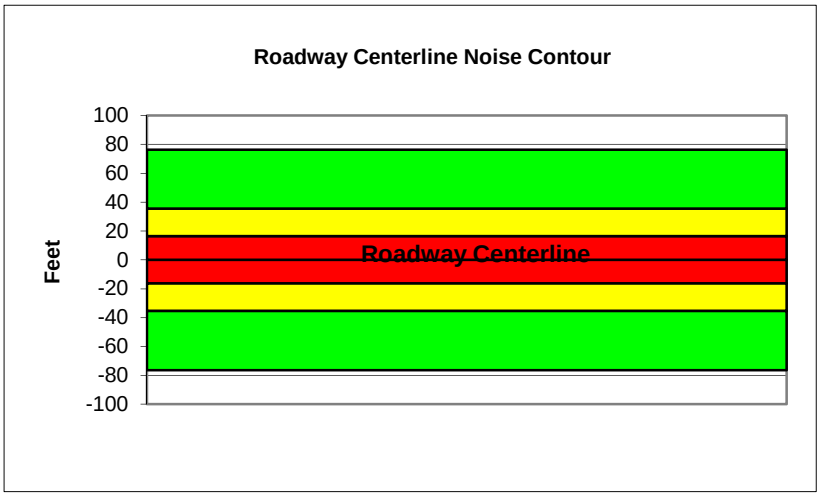
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.2	55.0	53.2	47.1	55.8	56.4
Medium Trucks:	54.5	46.4	40.1	38.5	47.0	47.2
Heavy Trucks:	59.0	47.1	38.0	39.3	48.8	48.9
Vehicle Noise:	**61.4**	**56.3**	**53.6**	**48.4**	**57.0**	**57.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	76
65 dBA	35
70 dBA	16
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	East of Tracy Boulevard		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3680
Peak Hour Traffic:	**368**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

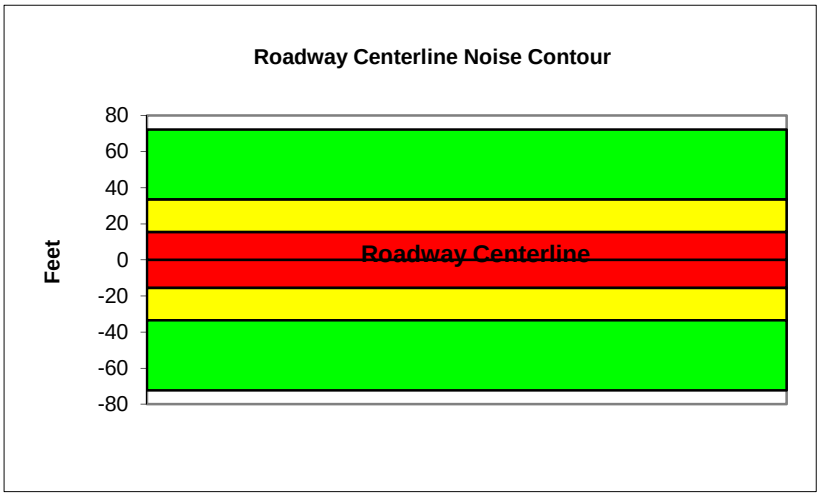
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.9	54.7	52.9	46.8	55.4	56.1
Medium Trucks:	54.2	46.1	39.7	38.1	46.6	46.9
Heavy Trucks:	58.7	46.7	37.7	38.9	48.5	48.6
Vehicle Noise:	**61.0**	**56.0**	**53.2**	**48.1**	**56.7**	**57.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	72
65 dBA	34
70 dBA	16
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Altamont Pass Road		
Road Segment:	West of Greenville Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	15860
Peak Hour Traffic:	**1586**
Vehicle Speed:	45
Centerline Separation:	26

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

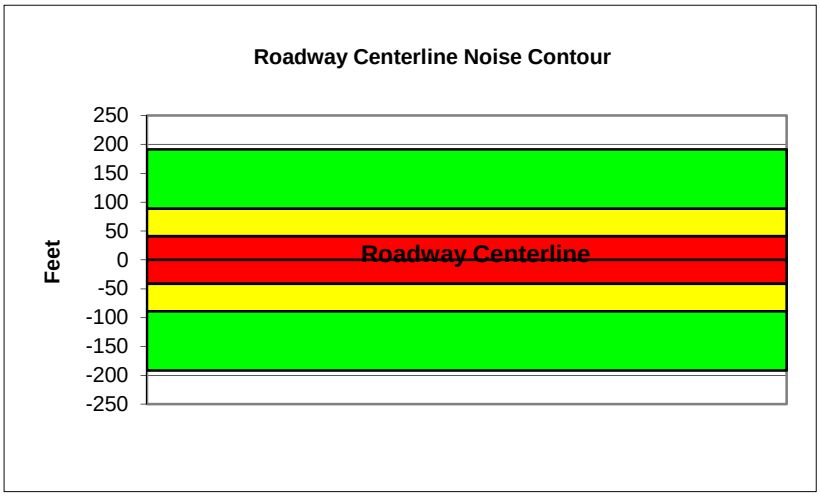
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.2	61.0	59.2	53.1	61.7	62.3
Medium Trucks:	60.5	52.4	46.0	44.4	52.9	53.2
Heavy Trucks:	65.0	53.0	44.0	45.2	54.7	54.9
Vehicle Noise:	**67.3**	**62.3**	**59.5**	**54.4**	**63.0**	**63.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	192
65 dBA	89
70 dBA	41
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Patterson Pass Road		
Road Segment:	West of Greenville Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	5430
Peak Hour Traffic:	**543**
Vehicle Speed:	45
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

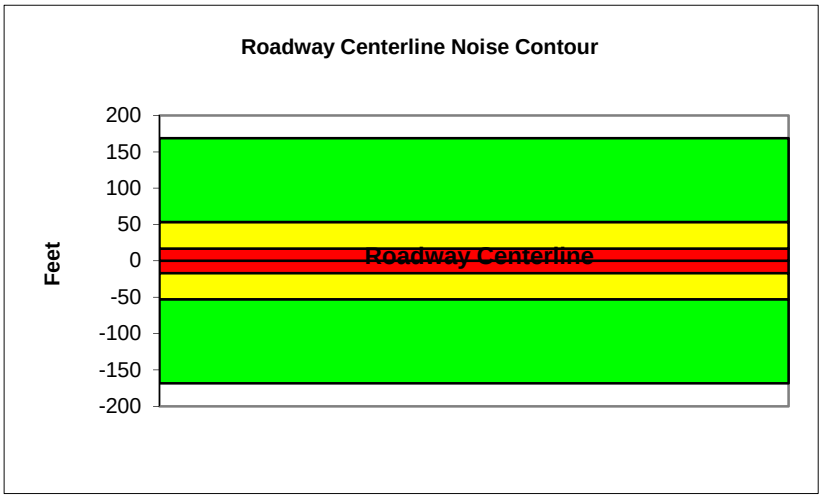
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.2	59.0	57.2	51.1	59.8	60.4
Medium Trucks:	58.5	50.4	44.0	42.5	51.0	51.2
Heavy Trucks:	63.0	51.1	42.0	43.2	52.8	52.9
Vehicle Noise:	**65.3**	**60.3**	**57.6**	**52.4**	**61.0**	**61.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	169
65 dBA	53
70 dBA	17
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tesla Road		
Road Segment:	West of Greenville Road		

PROJECT DATA

Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	6840
Peak Hour Traffic:	**684**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

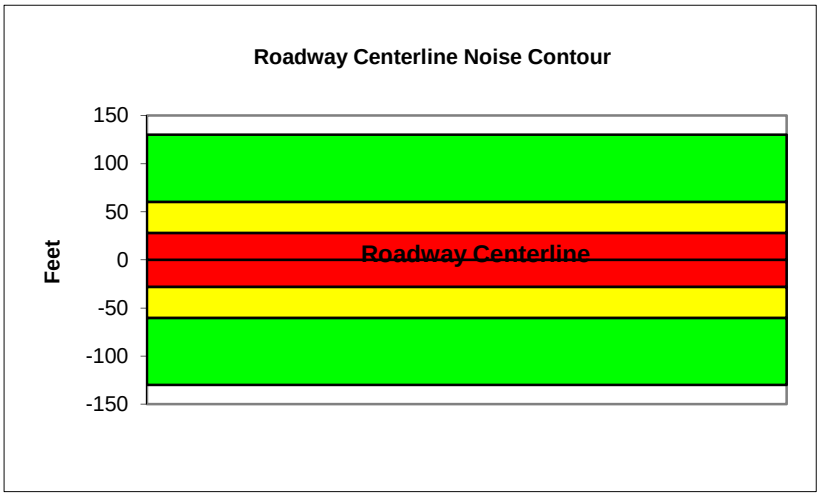
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.9	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	57.6	49.5	43.1	41.5	50.0	50.3
Heavy Trucks:	61.8	49.9	40.8	42.0	51.4	51.5
Vehicle Noise:	**64.1**	**59.8**	**57.2**	**51.9**	**60.5**	**61.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	130
65 dBA	60
70 dBA	28
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	North of Eleventh Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	4010
Peak Hour Traffic:	**401**
Vehicle Speed:	40
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

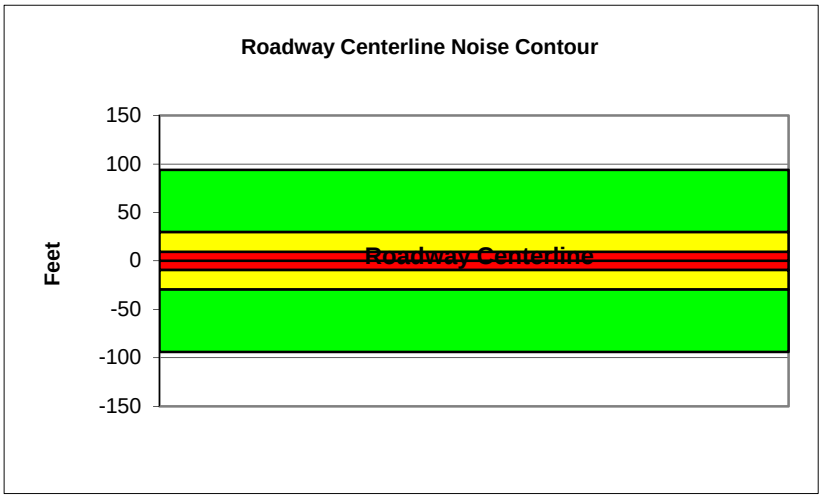
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.7	56.5	54.7	48.6	57.3	57.9
Medium Trucks:	56.7	48.6	42.2	40.6	49.1	49.4
Heavy Trucks:	61.5	49.6	40.5	41.7	51.5	51.6
Vehicle Noise:	**63.9**	**58.1**	**55.2**	**50.2**	**58.8**	**59.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	94
65 dBA	30
70 dBA	9
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	Eleventh Street to Old Schulte Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	5695
Peak Hour Traffic:	**569.5**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

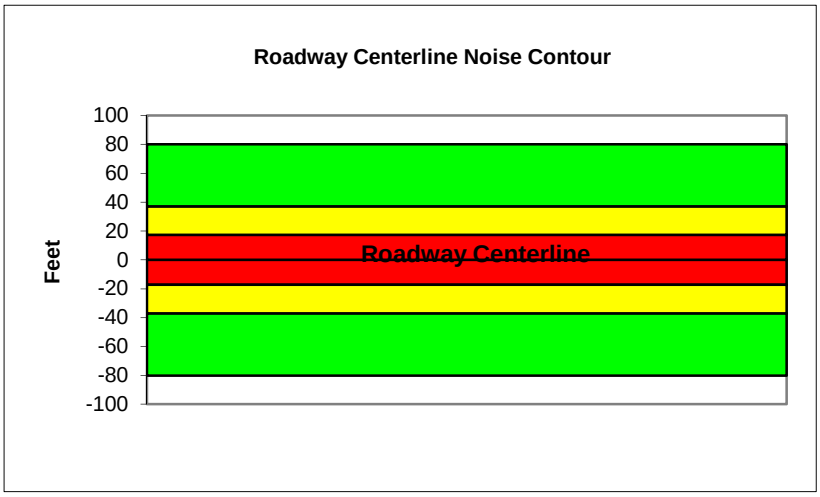
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	45.4	54.2	52.4	46.3	55.0	55.6
Medium Trucks:	54.4	46.3	39.9	38.3	46.8	47.0
Heavy Trucks:	59.2	47.3	38.2	39.4	49.1	49.3
Vehicle Noise:	**61.6**	**55.8**	**52.8**	**47.9**	**56.5**	**56.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	80
65 dBA	37
70 dBA	17
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	Old Schulte Road to Valpico Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	5770
Peak Hour Traffic:	**577**
Vehicle Speed:	40
Centerline Separation:	20

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

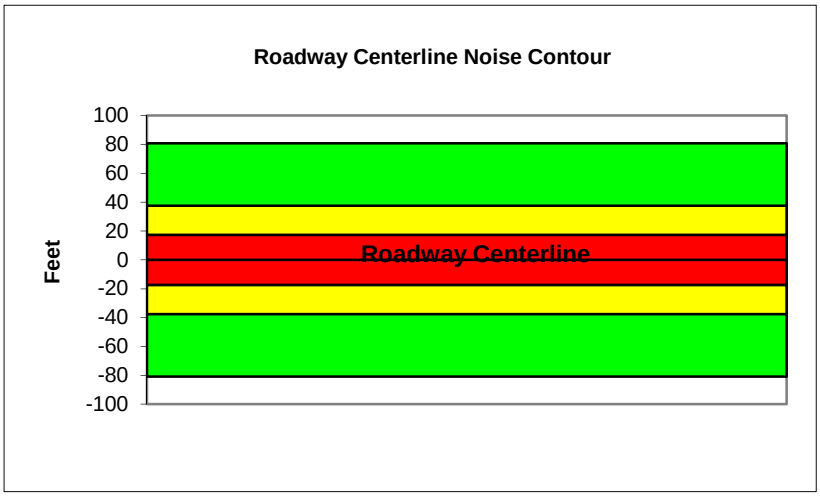
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.5	55.3	53.5	47.4	56.0	56.6
Medium Trucks:	55.4	47.4	41.0	39.4	47.9	48.1
Heavy Trucks:	60.3	48.3	39.3	40.5	50.2	50.3
Vehicle Noise:	**62.6**	**56.8**	**53.9**	**49.0**	**57.5**	**58.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	81
65 dBA	38
70 dBA	17
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	South of Valpico Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	290
Peak Hour Traffic:	**29**
Vehicle Speed:	40
Centerline Separation:	20

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

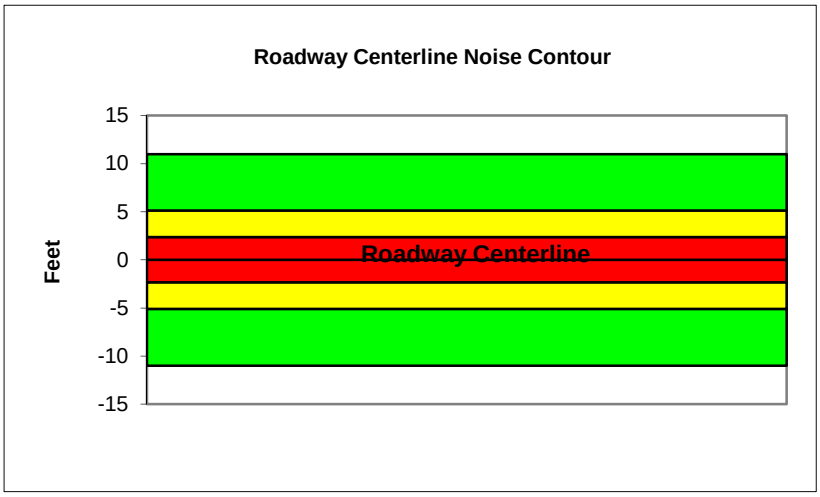
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	33.5	42.3	40.5	34.4	43.0	43.7
Medium Trucks:	42.4	34.4	28.0	26.4	34.9	35.1
Heavy Trucks:	47.3	35.3	26.3	27.5	37.2	37.4
Vehicle Noise:	**49.7**	**43.8**	**40.9**	**36.0**	**44.6**	**45.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	11
65 dBA	5
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	North of Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	24540
Peak Hour Traffic:	**2454**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

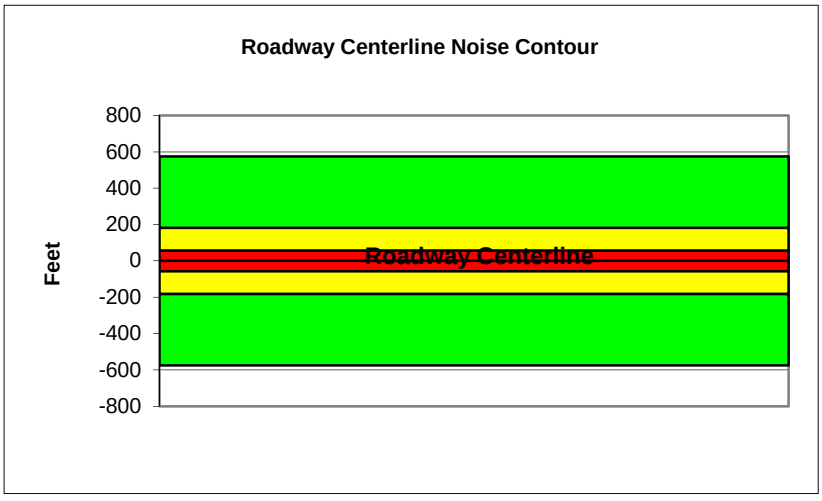
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.0	63.8	62.0	55.9	64.5	65.1
Medium Trucks:	63.9	55.9	49.5	47.9	56.4	56.6
Heavy Trucks:	68.8	56.8	47.8	49.0	58.7	58.8
Vehicle Noise:	**71.2**	**65.3**	**62.4**	**57.5**	**66.0**	**66.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	575
65 dBA	182
70 dBA	57
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	Eleventh Street to New Schulte Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	12953
Peak Hour Traffic:	**1295.3**
Vehicle Speed:	40
Centerline Separation:	60

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

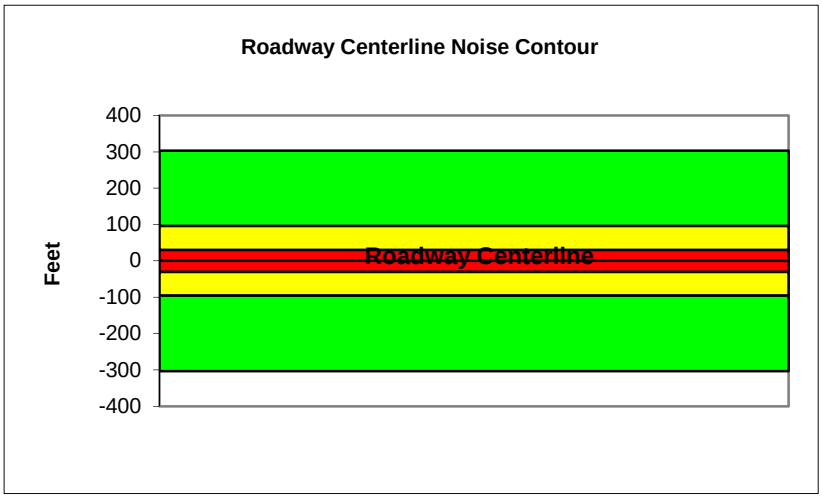
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.3	61.0	59.3	53.2	61.8	62.4
Medium Trucks:	61.2	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	66.1	54.1	45.1	46.3	56.0	56.1
Vehicle Noise:	**68.4**	**62.6**	**59.7**	**54.7**	**63.3**	**63.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	303
65 dBA	96
70 dBA	30
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	New Schulte Road to Linne Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	15505
Peak Hour Traffic:	**1550.5**
Vehicle Speed:	40
Centerline Separation:	60

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

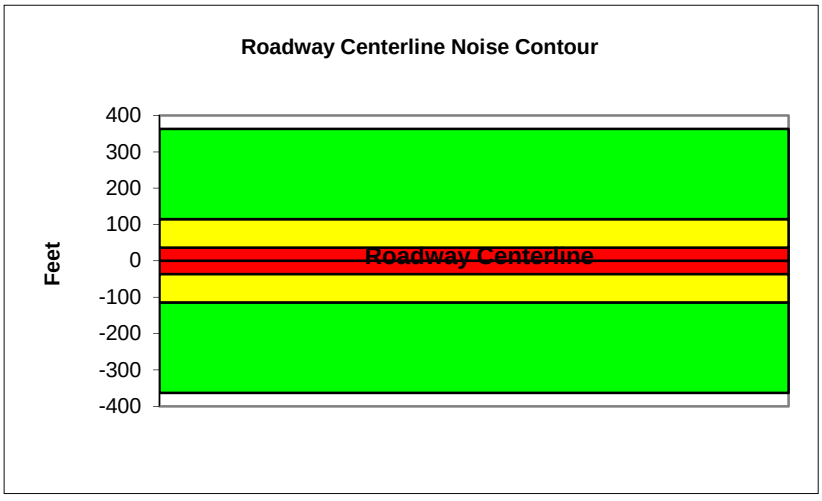
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.0	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	62.0	53.9	47.5	46.0	54.5	54.7
Heavy Trucks:	66.8	54.9	45.8	47.1	56.8	56.9
Vehicle Noise:	**69.2**	**63.4**	**60.5**	**55.5**	**64.1**	**64.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	363
65 dBA	115
70 dBA	36
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	Linne Road to Spine Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	20470
Peak Hour Traffic:	**2047**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

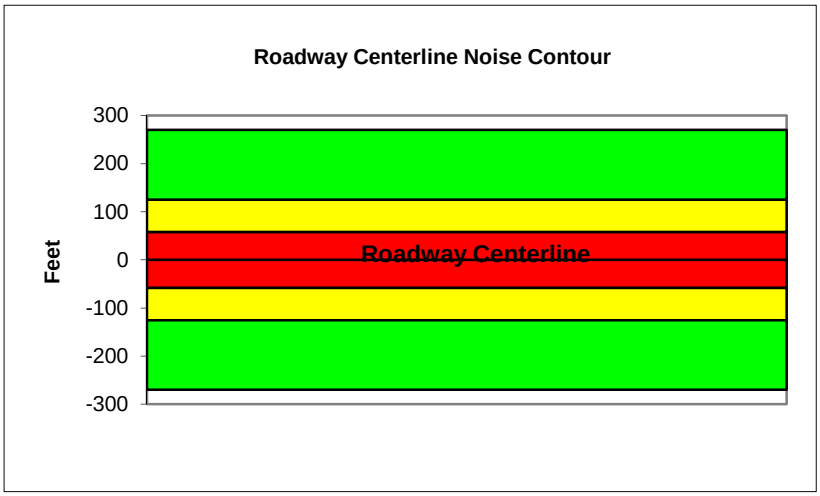
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.7	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	62.3	54.3	47.9	46.3	54.8	55.0
Heavy Trucks:	66.6	54.6	45.6	46.8	56.2	56.3
Vehicle Noise:	**68.9**	**64.5**	**62.0**	**56.7**	**65.3**	**65.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	270
65 dBA	125
70 dBA	58
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	South of Spine Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	11240
Peak Hour Traffic:	**1124**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

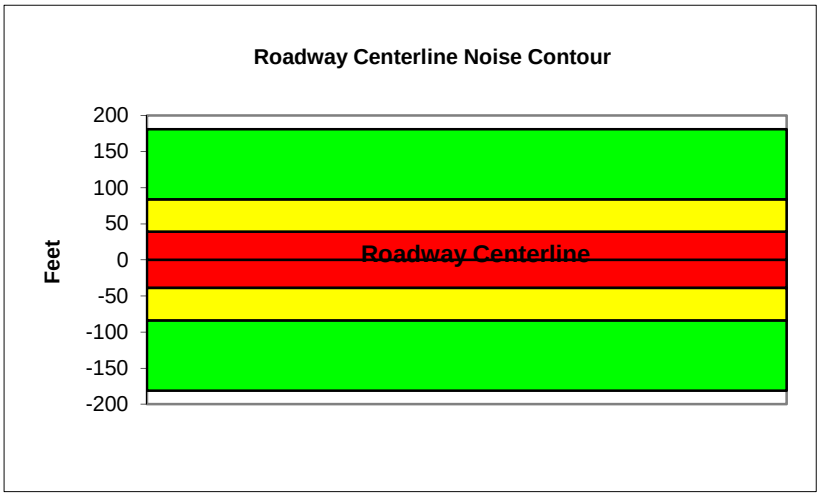
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.1	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	59.7	51.7	45.3	43.7	52.2	52.4
Heavy Trucks:	64.0	52.0	43.0	44.2	53.6	53.7
Vehicle Noise:	**66.3**	**61.9**	**59.4**	**54.1**	**62.7**	**63.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	181
65 dBA	84
70 dBA	39
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	North of Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1220
Peak Hour Traffic:	**122**
Vehicle Speed:	35
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

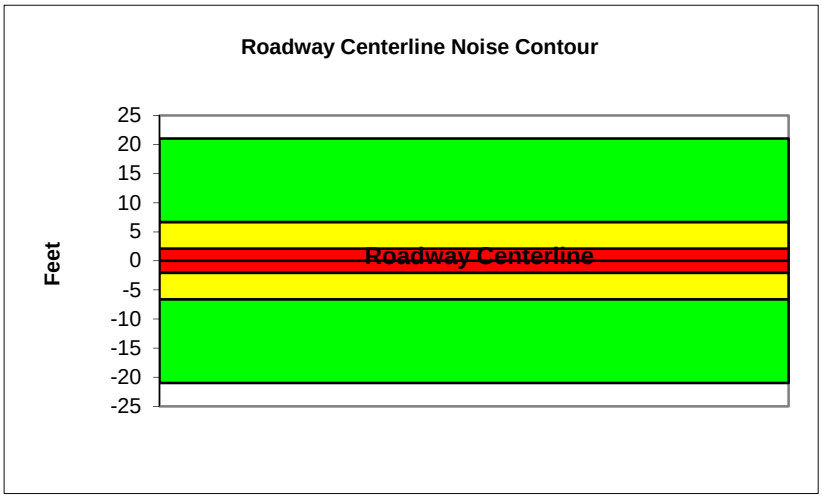
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.9	49.7	47.9	41.8	50.4	51.0
Medium Trucks:	50.6	42.5	36.1	34.6	43.1	43.3
Heavy Trucks:	55.8	43.9	34.8	36.0	45.9	46.1
Vehicle Noise:	**58.3**	**51.6**	**48.4**	**43.7**	**52.3**	**52.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	21
65 dBA	7
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	Eleventh Street to Linne Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	6225
Peak Hour Traffic:	**622.5**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

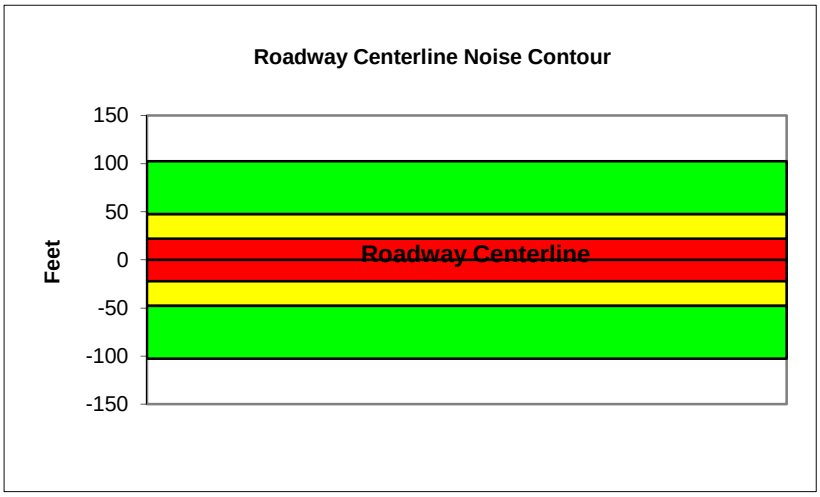
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.2	56.9	55.2	49.1	57.7	58.3
Medium Trucks:	56.4	48.4	42.0	40.4	48.9	49.1
Heavy Trucks:	61.0	49.0	40.0	41.2	50.7	50.9
Vehicle Noise:	**63.3**	**58.3**	**55.5**	**50.4**	**59.0**	**59.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	103
65 dBA	48
70 dBA	22
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	South of Linne Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2760
Peak Hour Traffic:	**276**
Vehicle Speed:	55
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

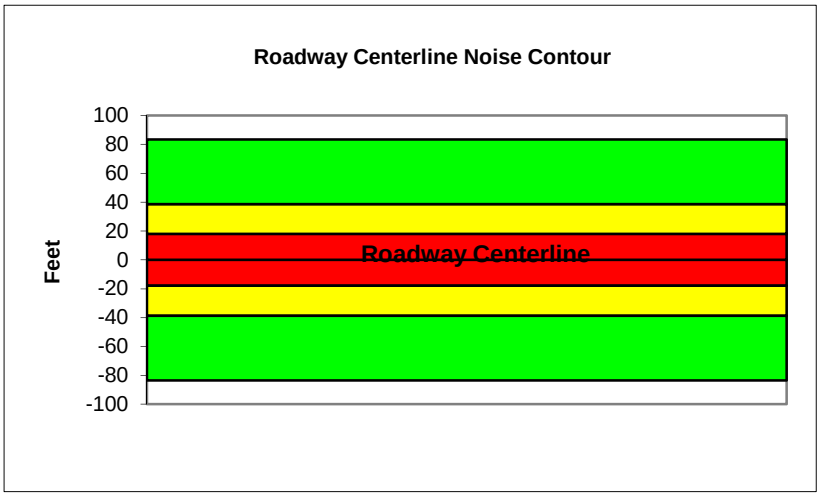
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.1	55.9	54.1	48.1	56.7	57.3
Medium Trucks:	54.3	46.2	39.8	38.3	46.7	47.0
Heavy Trucks:	58.2	46.3	37.2	38.5	47.7	47.8
Vehicle Noise:	**60.5**	**56.9**	**54.4**	**49.0**	**57.6**	**58.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	83
65 dBA	39
70 dBA	18
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	Linne Road to Valpico Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2739
Peak Hour Traffic:	**273.9**
Vehicle Speed:	40
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

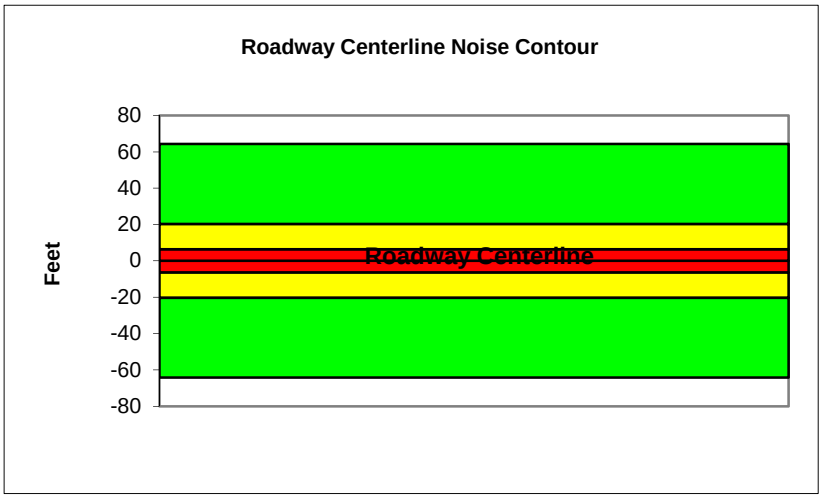
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	46.2	55.0	53.2	47.1	55.7	56.3
Medium Trucks:	55.1	47.1	40.7	39.1	47.6	47.8
Heavy Trucks:	60.0	48.0	39.0	40.2	49.9	50.0
Vehicle Noise:	**62.3**	**56.5**	**53.6**	**48.7**	**57.2**	**57.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	64
65 dBA	20
70 dBA	6
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	Valpico Road to West Schulte Road		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**
Rt View: **90**	Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	6202
Peak Hour Traffic:	**620.2**
Vehicle Speed:	45
Centerline Separation:	34

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

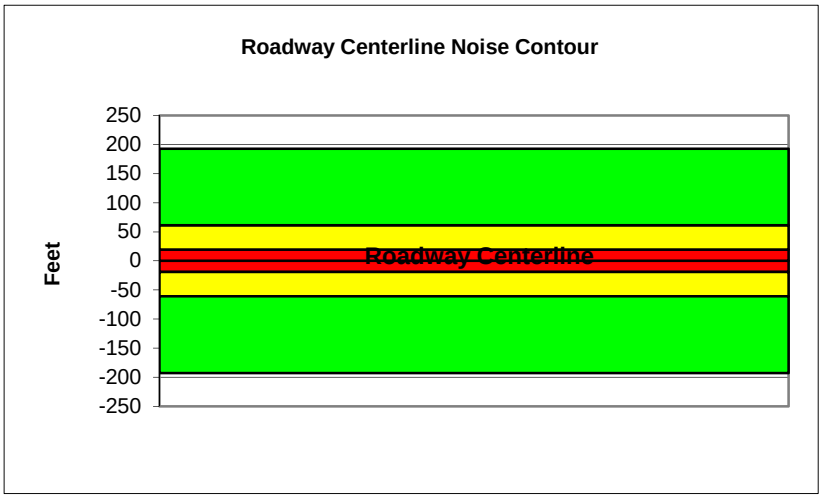
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.9	59.7	57.9	51.8	60.5	61.1
Medium Trucks:	59.2	51.1	44.7	43.2	51.7	51.9
Heavy Trucks:	63.7	51.8	42.7	43.9	53.5	53.6
Vehicle Noise:	**66.1**	**61.0**	**58.3**	**53.1**	**61.7**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	193
65 dBA	61
70 dBA	19
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	West Schulte Road to Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	7567
Peak Hour Traffic:	**756.7**
Vehicle Speed:	40
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

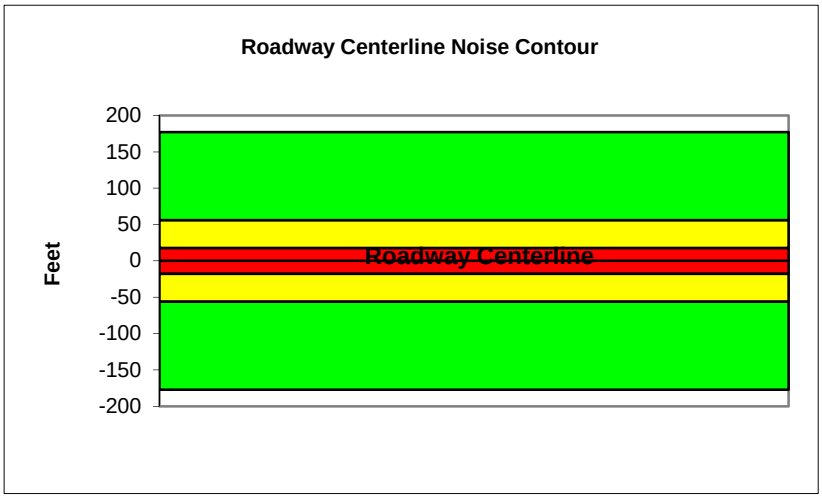
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.5	59.3	57.5	51.4	60.0	60.6
Medium Trucks:	59.4	51.4	45.0	43.4	51.9	52.1
Heavy Trucks:	64.3	52.3	43.3	44.5	54.2	54.3
Vehicle Noise:	**66.7**	**60.8**	**57.9**	**53.0**	**61.5**	**62.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	177
65 dBA	56
70 dBA	18
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	North of Eleventh Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	4244
Peak Hour Traffic:	**424.4**
Vehicle Speed:	40
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

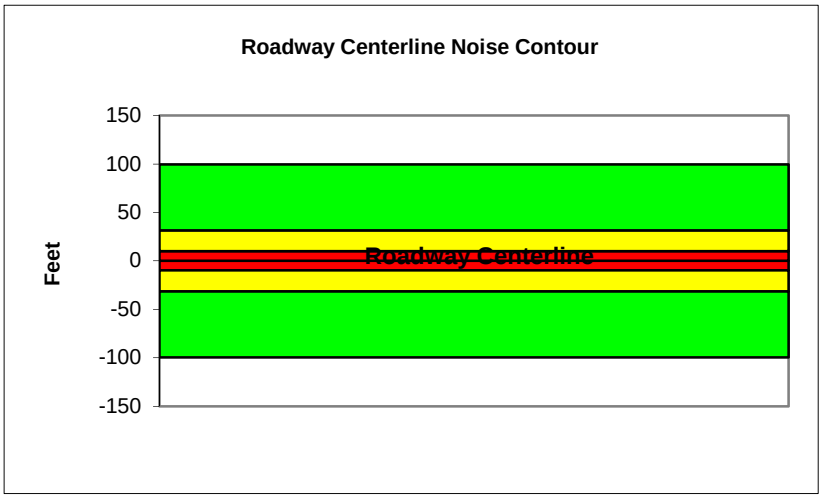
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.0	56.7	55.0	48.9	57.5	58.1
Medium Trucks:	56.9	48.9	42.5	40.9	49.4	49.6
Heavy Trucks:	61.8	49.8	40.8	42.0	51.7	51.8
Vehicle Noise:	**64.1**	**58.3**	**55.4**	**50.5**	**59.0**	**59.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	99
65 dBA	31
70 dBA	10
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	North of Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	19300
Peak Hour Traffic:	**1930**
Vehicle Speed:	35
Centerline Separation:	32

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

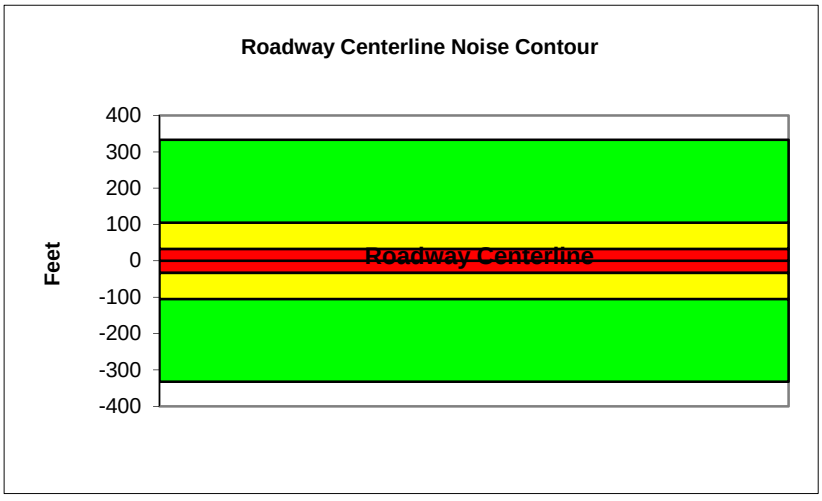
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.7	61.5	59.7	53.6	62.3	62.9
Medium Trucks:	62.5	54.4	48.0	46.4	54.9	55.2
Heavy Trucks:	67.7	55.7	46.7	47.9	57.8	57.9
Vehicle Noise:	**70.1**	**63.5**	**60.3**	**55.6**	**64.2**	**64.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	333
65 dBA	105
70 dBA	33
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	Eleventh Street to Valpico Road		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**
Rt View: **90**	Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	7380
Peak Hour Traffic:	**738**
Vehicle Speed:	35
Centerline Separation:	38

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

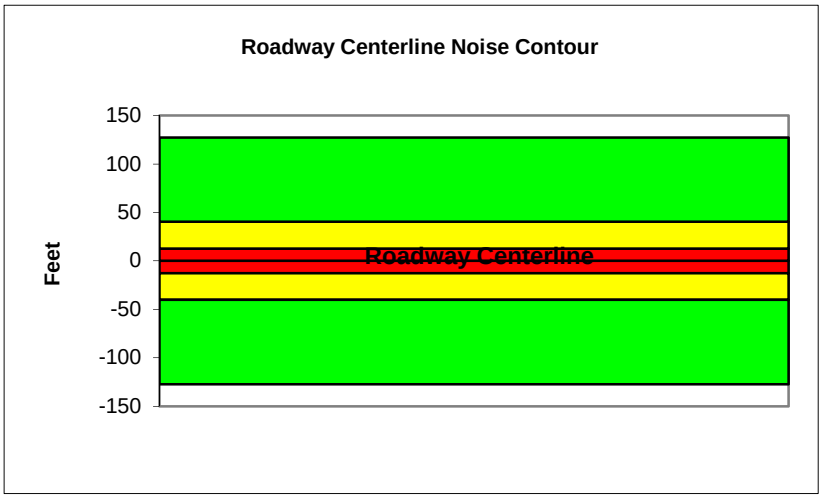
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	57.2	55.5	49.4	58.0	58.6
Medium Trucks:	58.2	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	63.4	51.5	42.4	43.6	53.5	53.7
Vehicle Noise:	**65.8**	**59.2**	**56.0**	**51.3**	**59.9**	**60.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	127
65 dBA	40
70 dBA	13
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	Valpico Road to Linne Road		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	10820
Peak Hour Traffic:	**1082**
Vehicle Speed:	40
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

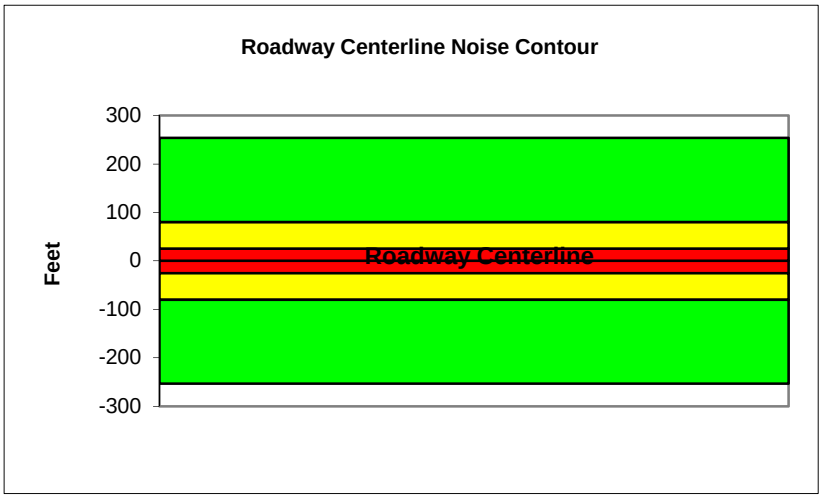
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.8	60.5	58.8	52.7	61.3	61.9
Medium Trucks:	60.7	52.7	46.3	44.7	53.2	53.4
Heavy Trucks:	65.6	53.6	44.6	45.8	55.5	55.6
Vehicle Noise:	**67.9**	**62.1**	**59.2**	**54.3**	**62.8**	**63.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	254
65 dBA	80
70 dBA	25
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	South of Linne Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1050
Peak Hour Traffic:	**105**
Vehicle Speed:	40
Centerline Separation:	22

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

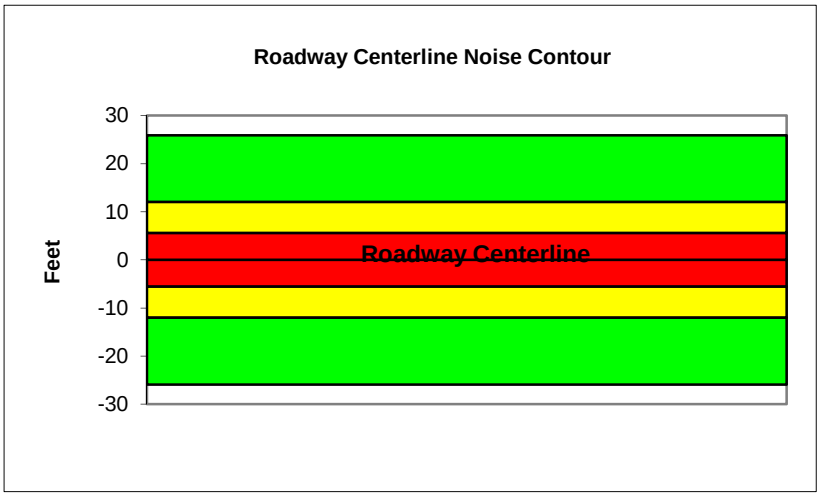
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.0	47.8	46.0	39.9	48.6	49.2
Medium Trucks:	48.0	39.9	33.5	31.9	40.4	40.7
Heavy Trucks:	52.8	40.9	31.8	33.0	42.8	42.9
Vehicle Noise:	**55.2**	**49.4**	**46.5**	**41.5**	**50.1**	**50.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	26
65 dBA	12
70 dBA	6
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	West of Tracy Boulevard		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	9450
Peak Hour Traffic:	**945**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

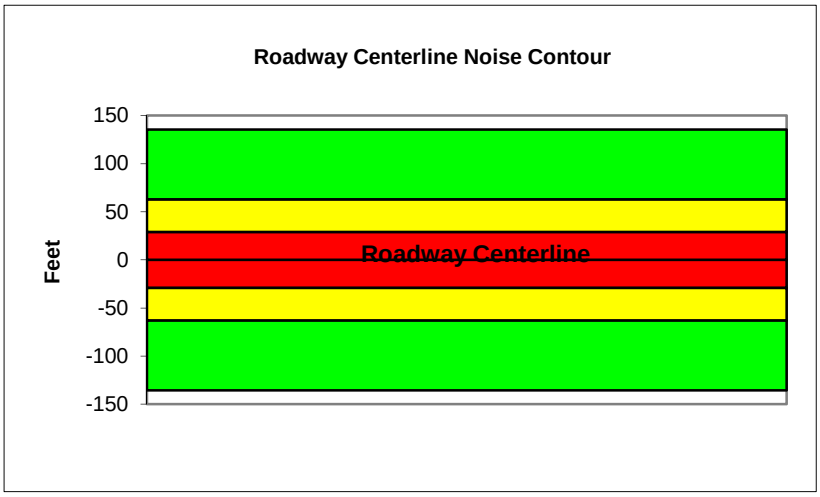
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.8	57.0	50.9	59.5	60.1
Medium Trucks:	58.3	50.2	43.8	42.2	50.7	51.0
Heavy Trucks:	62.8	50.8	41.8	43.0	52.6	52.7
Vehicle Noise:	**65.1**	**60.1**	**57.3**	**52.2**	**60.8**	**61.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	136
65 dBA	63
70 dBA	29
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	Eastt of Tracy Boulevard		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	6610
Peak Hour Traffic:	**661**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

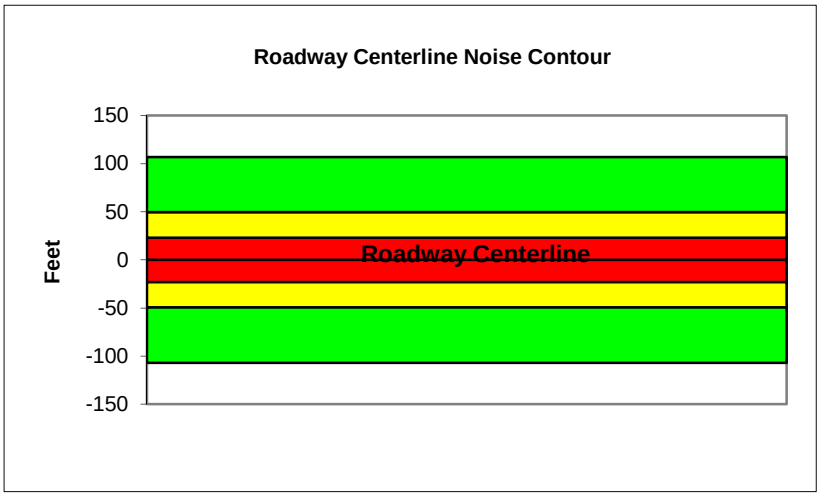
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.4	57.2	55.4	49.3	58.0	58.6
Medium Trucks:	56.7	48.6	42.3	40.7	49.2	49.4
Heavy Trucks:	61.2	49.3	40.2	41.5	51.0	51.1
Vehicle Noise:	**63.6**	**58.5**	**55.8**	**50.6**	**59.2**	**59.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	107
65 dBA	50
70 dBA	23
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Altamont Pass Road		
Road Segment:	West of Greenville Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	16380
Peak Hour Traffic:	**1638**
Vehicle Speed:	45
Centerline Separation:	26

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

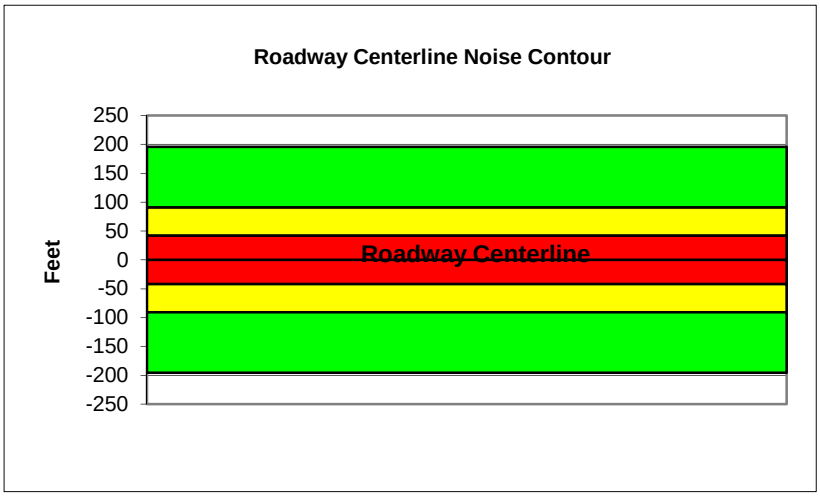
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.3	61.1	59.3	53.2	61.9	62.5
Medium Trucks:	60.6	52.5	46.1	44.6	53.1	53.3
Heavy Trucks:	65.1	53.2	44.1	45.3	54.9	55.0
Vehicle Noise:	**67.5**	**62.4**	**59.7**	**54.5**	**63.1**	**63.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	196
65 dBA	91
70 dBA	42
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Patterson Pass Road		
Road Segment:	West of Greenville Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	6420
Peak Hour Traffic:	**642**
Vehicle Speed:	45
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

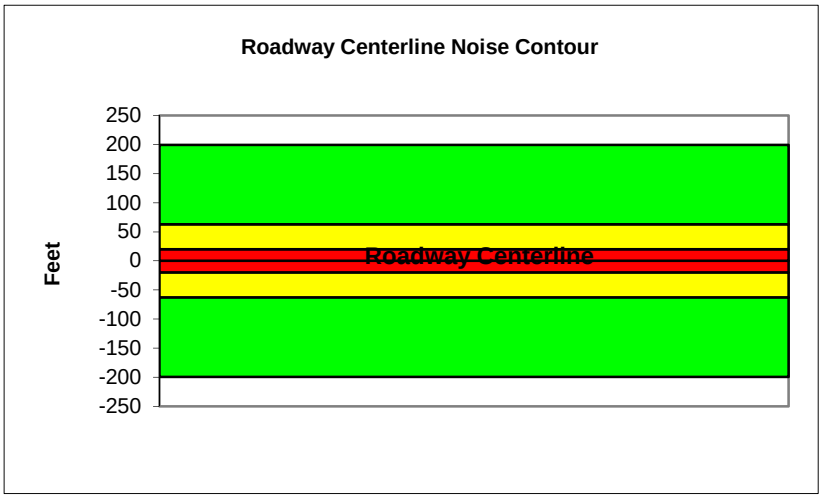
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.9	59.7	57.9	51.9	60.5	61.1
Medium Trucks:	59.2	51.2	44.8	43.2	51.7	51.9
Heavy Trucks:	63.7	51.8	42.7	44.0	53.5	53.6
Vehicle Noise:	**66.1**	**61.0**	**58.3**	**53.2**	**61.7**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	200
65 dBA	63
70 dBA	20
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Existing Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tesla Road		
Road Segment:	West of Greenville Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	8060
Peak Hour Traffic:	**806**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

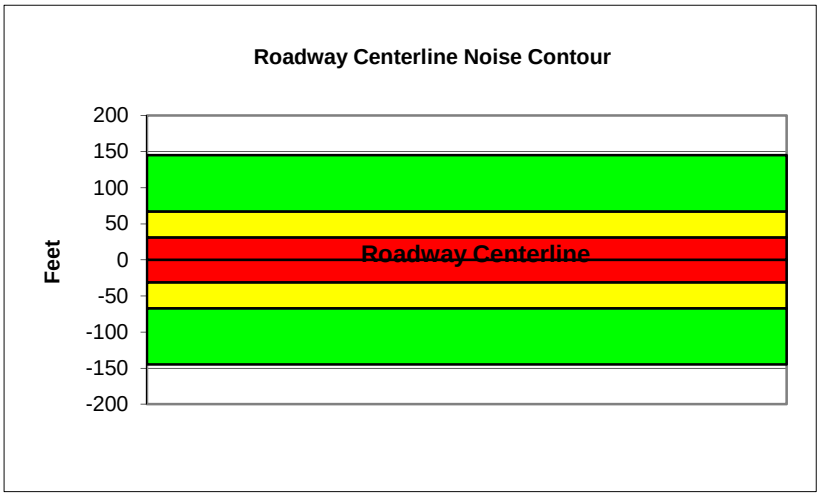
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.6	59.4	57.6	51.5	60.2	60.8
Medium Trucks:	58.3	50.2	43.8	42.3	50.7	51.0
Heavy Trucks:	62.5	50.6	41.5	42.7	52.1	52.3
Vehicle Noise:	**64.8**	**60.5**	**57.9**	**52.6**	**61.2**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	145
65 dBA	67
70 dBA	31
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	North of Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	12740
Peak Hour Traffic:	**1274**
Vehicle Speed:	40
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

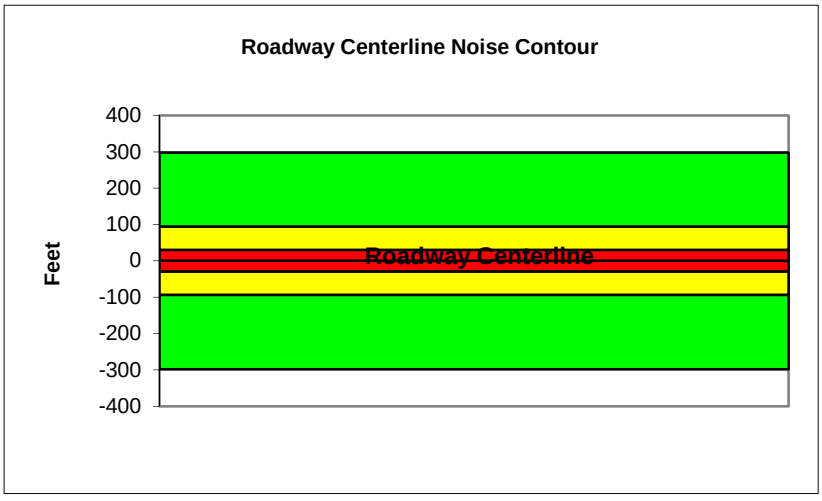
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.7	61.5	59.7	53.6	62.3	62.9
Medium Trucks:	61.7	53.6	47.2	45.7	54.2	54.4
Heavy Trucks:	66.5	54.6	45.5	46.8	56.5	56.6
Vehicle Noise:	**68.9**	**63.1**	**60.2**	**55.2**	**63.8**	**64.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	298
65 dBA	94
70 dBA	30
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	Valpico Road to Linne Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	12095
Peak Hour Traffic:	**1209.5**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

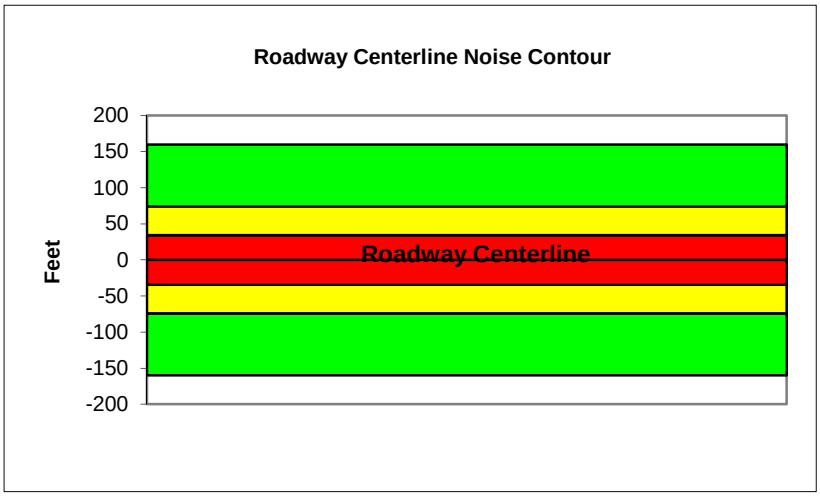
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.1	59.8	58.0	52.0	60.6	61.2
Medium Trucks:	59.3	51.3	44.9	43.3	51.8	52.0
Heavy Trucks:	63.9	51.9	42.9	44.1	53.6	53.7
Vehicle Noise:	**66.2**	**61.1**	**58.4**	**53.3**	**61.9**	**62.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	160
65 dBA	74
70 dBA	34
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	Linne Road to Spine Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	10400
Peak Hour Traffic:	**1040**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

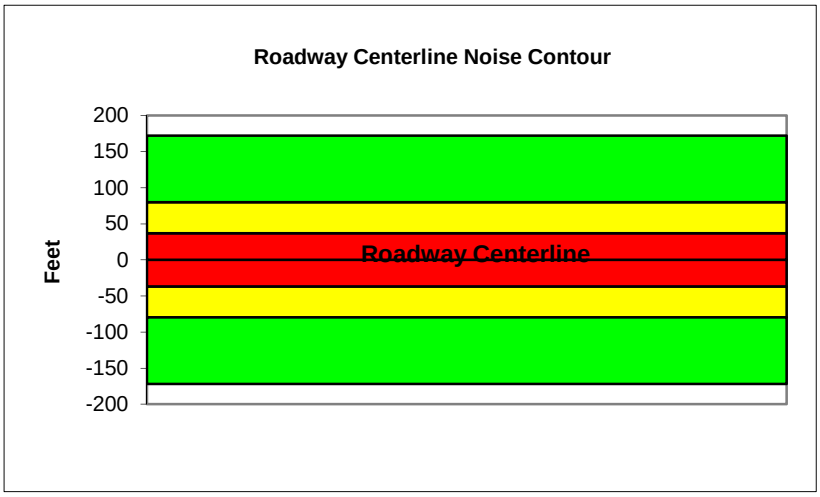
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.7	60.5	58.7	52.6	61.3	61.9
Medium Trucks:	59.4	51.3	44.9	43.4	51.9	52.1
Heavy Trucks:	63.6	51.7	42.6	43.8	53.2	53.4
Vehicle Noise:	**65.9**	**61.6**	**59.0**	**53.7**	**62.3**	**62.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	172
65 dBA	80
70 dBA	37
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	South of Spine Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	10200
Peak Hour Traffic:	**1020**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

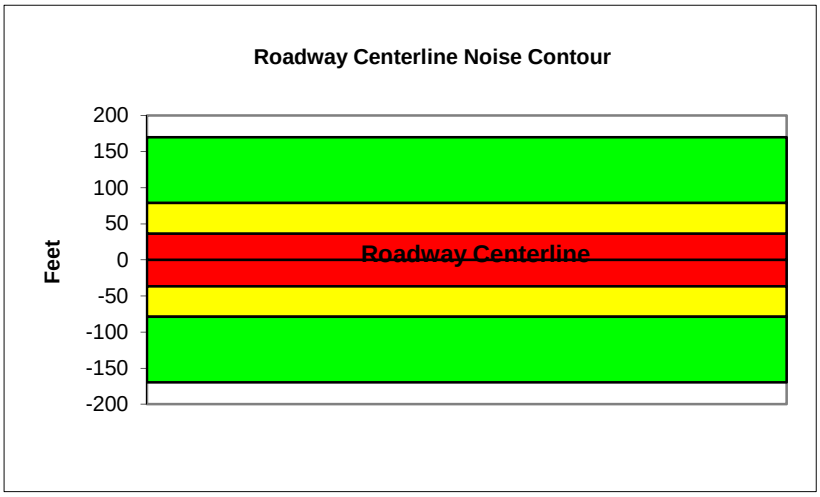
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.6	60.4	58.6	52.5	61.2	61.8
Medium Trucks:	59.3	51.2	44.9	43.3	51.8	52.0
Heavy Trucks:	63.5	51.6	42.5	43.8	53.2	53.3
Vehicle Noise:	**65.8**	**61.5**	**58.9**	**53.6**	**62.2**	**62.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	170
65 dBA	79
70 dBA	37
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road Extension/Eleventh Street		
Road Segment:	North of I-205		

PROJECT DATA

Centerline Dist to Barrier:	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**5.5**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	39700
Peak Hour Traffic:	**3970**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

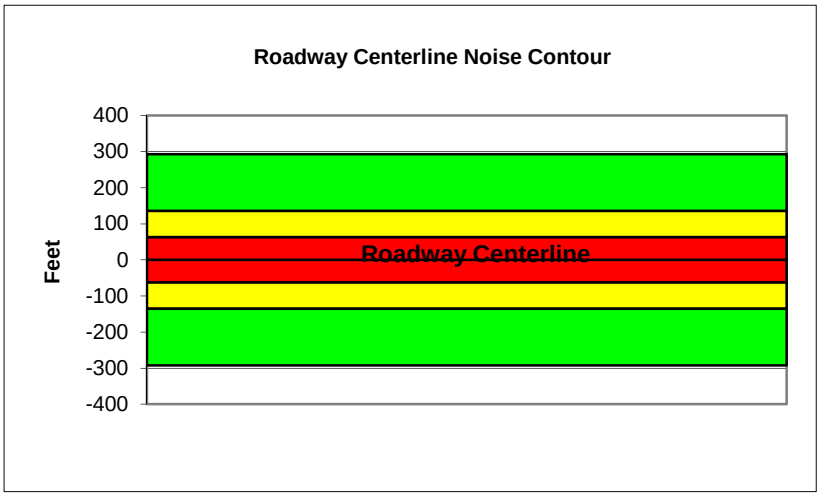
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.8	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	62.8	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	67.6	55.7	46.6	47.9	57.6	57.7
Vehicle Noise:	**70.0**	**64.2**	**61.3**	**56.3**	**64.9**	**65.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	293
65 dBA	136
70 dBA	63
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road Extension/Eleventh Street		
Road Segment:	I-205 to Lammers Road		

PROJECT DATA

Centerline Dist to Barrier:	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**5.5**
Barrier Height:	**0**
Rt View: **90**	Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	56400
Peak Hour Traffic:	**5640**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

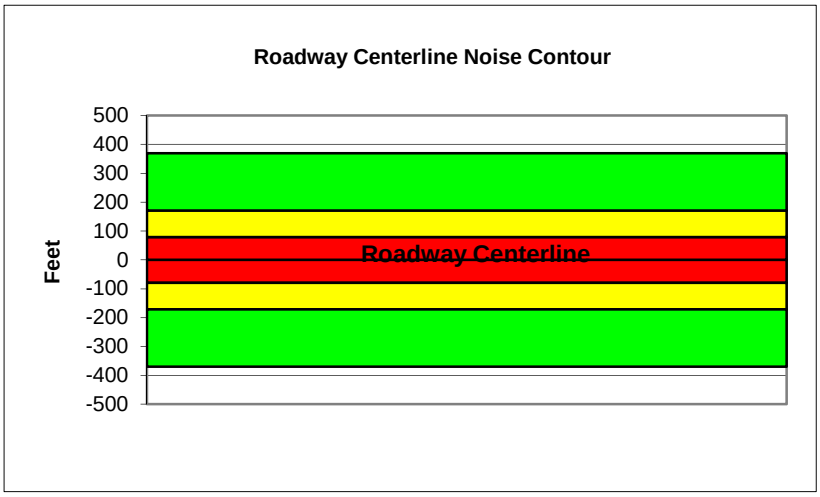
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.4	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	64.3	56.2	49.9	48.3	56.8	57.0
Heavy Trucks:	69.2	57.2	48.2	49.4	59.1	59.2
Vehicle Noise:	**71.5**	**65.7**	**62.8**	**57.8**	**66.4**	**66.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	369
65 dBA	171
70 dBA	80
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road Extension/Eleventh Street		
Road Segment:	Lammers Road to Corral Hollow Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	46730
Peak Hour Traffic:	**4673**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

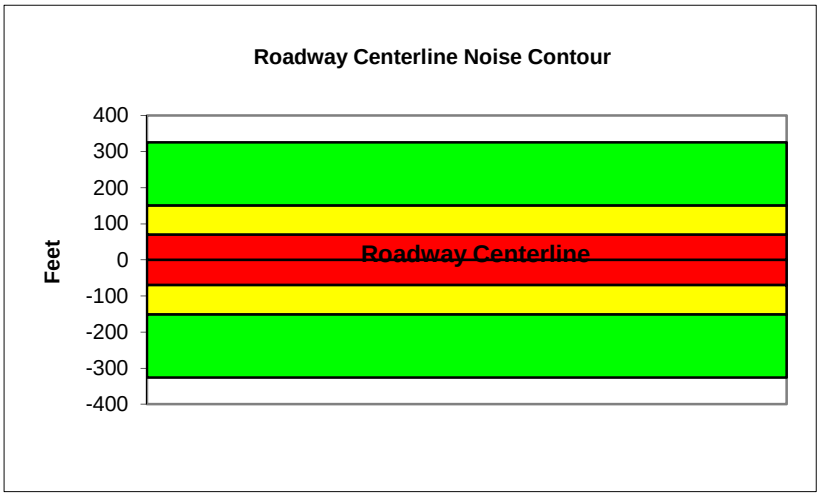
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.5	63.3	61.5	55.4	64.1	64.7
Medium Trucks:	63.5	55.4	49.0	47.5	56.0	56.2
Heavy Trucks:	68.3	56.4	47.3	48.6	58.3	58.4
Vehicle Noise:	**70.7**	**64.9**	**62.0**	**57.0**	**65.6**	**66.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	326
65 dBA	151
70 dBA	70
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road Extension/Eleventh Street		
Road Segment:	East of Corral Hollow Road		

PROJECT DATA

Centerline Dist to Barrier:	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**5.5**
Barrier Height:	**0**
Rt View: **90**	Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	46510
Peak Hour Traffic:	**4651**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

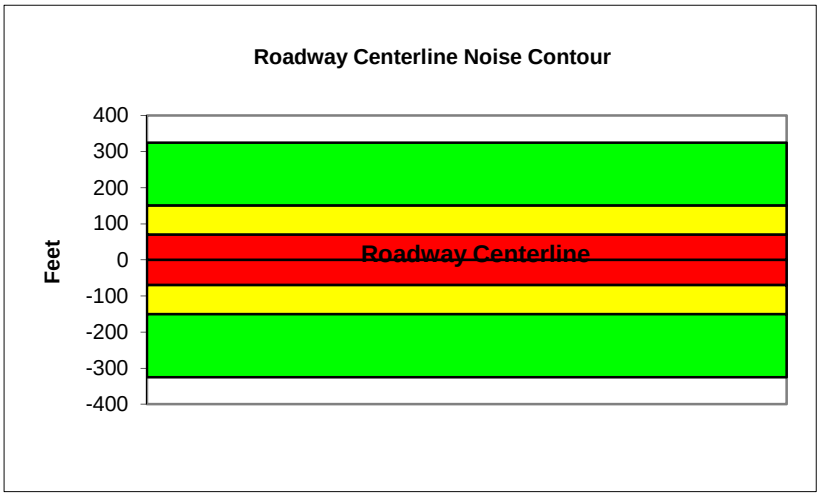
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.5	63.3	61.5	55.4	64.1	64.7
Medium Trucks:	63.5	55.4	49.0	47.4	55.9	56.2
Heavy Trucks:	68.3	56.4	47.3	48.5	58.3	58.4
Vehicle Noise:	**70.7**	**64.9**	**62.0**	**57.0**	**65.6**	**66.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	325
65 dBA	151
70 dBA	70
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	North of Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	49330
Peak Hour Traffic:	**4933**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

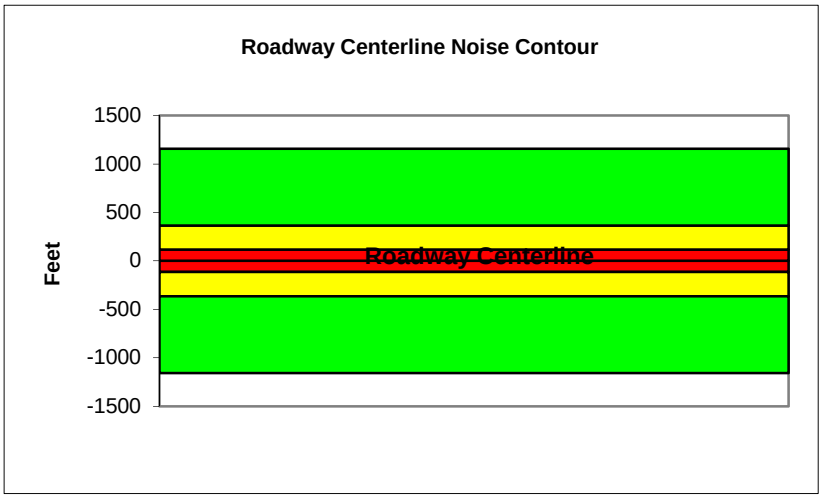
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.0	66.8	65.0	58.9	67.6	68.2
Medium Trucks:	67.0	58.9	52.5	50.9	59.4	59.7
Heavy Trucks:	71.8	59.9	50.8	52.0	61.8	61.9
Vehicle Noise:	**74.2**	**68.4**	**65.4**	**60.5**	**69.1**	**69.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	1157
65 dBA	366
70 dBA	116
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	Eleventh Street to New Schulte Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	43140
Peak Hour Traffic:	**4314**
Vehicle Speed:	40
Centerline Separation:	60

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

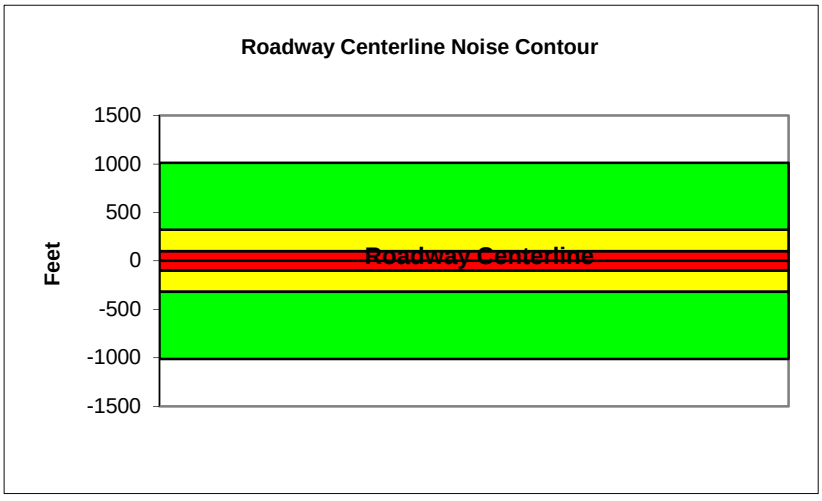
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.5	66.3	64.5	58.4	67.0	67.6
Medium Trucks:	66.4	58.4	52.0	50.4	58.9	59.1
Heavy Trucks:	71.3	59.3	50.3	51.5	61.2	61.3
Vehicle Noise:	**73.7**	**67.8**	**64.9**	**60.0**	**68.6**	**69.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	1012
65 dBA	320
70 dBA	101
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	New Schulte Road to Linne Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	20600
Peak Hour Traffic:	**2060**
Vehicle Speed:	40
Centerline Separation:	60

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

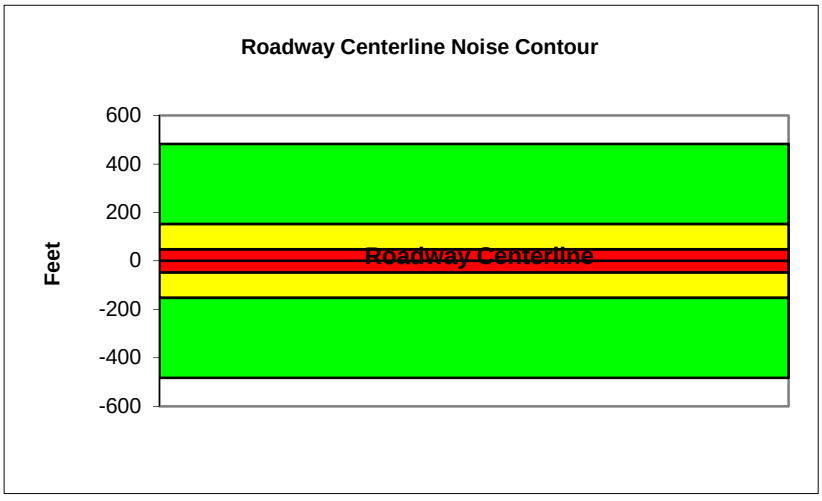
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.3	63.1	61.3	55.2	63.8	64.4
Medium Trucks:	63.2	55.2	48.8	47.2	55.7	55.9
Heavy Trucks:	68.1	56.1	47.1	48.3	58.0	58.1
Vehicle Noise:	**70.4**	**64.6**	**61.7**	**56.8**	**65.3**	**65.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	483
65 dBA	153
70 dBA	48
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	Linne Road to Spine Road		

PROJECT DATA

Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	13905
Peak Hour Traffic:	**1390.5**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

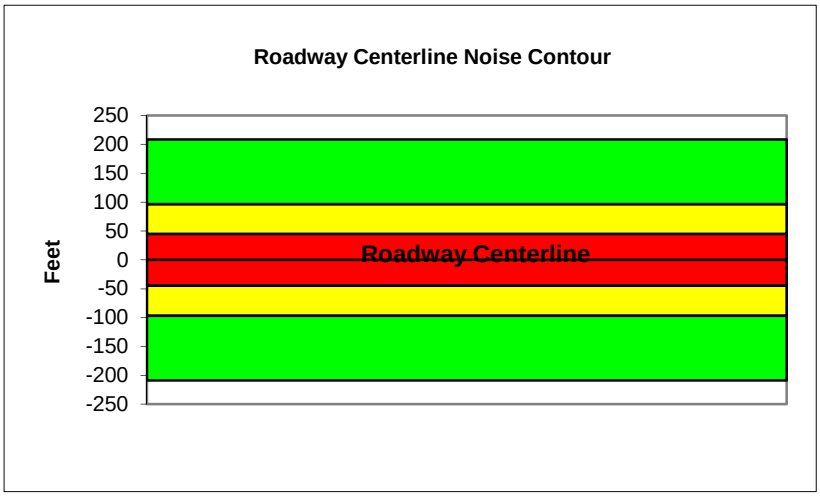
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.0	61.8	60.0	53.9	62.5	63.1
Medium Trucks:	60.7	52.6	46.2	44.6	53.1	53.3
Heavy Trucks:	64.9	52.9	43.9	45.1	54.5	54.6
Vehicle Noise:	**67.2**	**62.9**	**60.3**	**55.0**	**63.6**	**64.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	209
65 dBA	97
70 dBA	45
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	South of Spine Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	10060
Peak Hour Traffic:	**1006**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

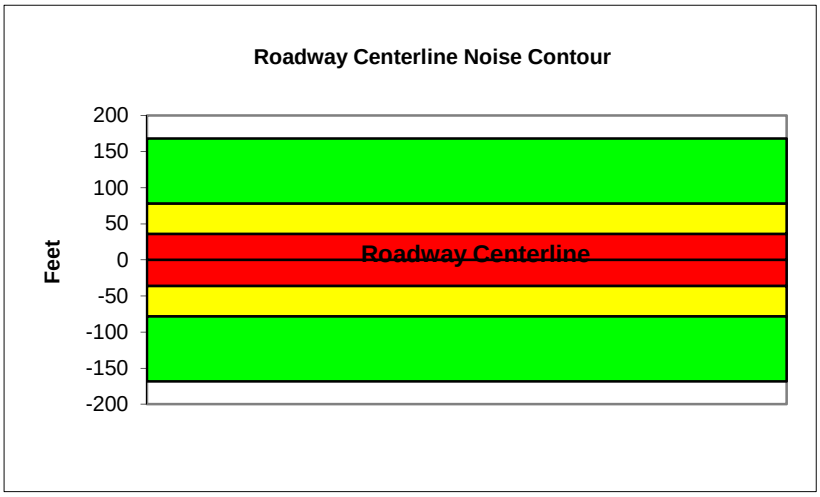
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.6	60.4	58.6	52.5	61.1	61.7
Medium Trucks:	59.2	51.2	44.8	43.2	51.7	51.9
Heavy Trucks:	63.5	51.5	42.5	43.7	53.1	53.2
Vehicle Noise:	**65.8**	**61.4**	**58.9**	**53.6**	**62.2**	**62.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	168
65 dBA	78
70 dBA	36
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	North of I-205		

PROJECT DATA

Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	26300
Peak Hour Traffic:	**2630**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

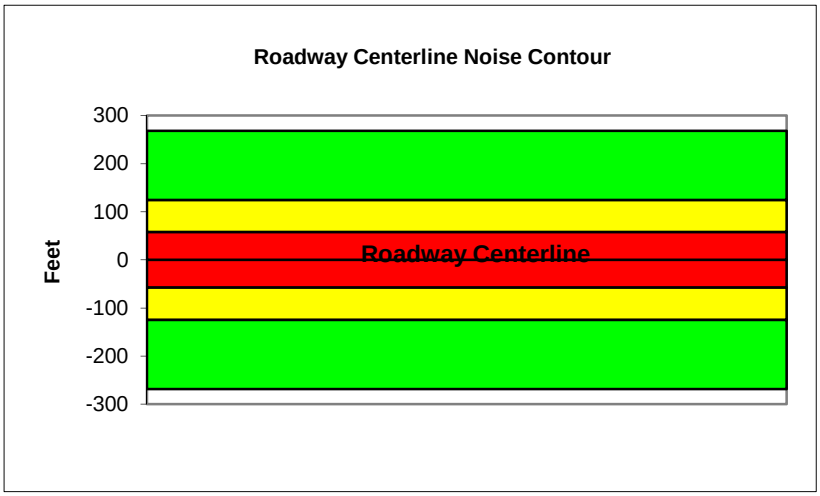
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.4	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	62.7	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	67.2	55.3	46.2	47.5	57.0	57.1
Vehicle Noise:	**69.6**	**64.5**	**61.8**	**56.6**	**65.2**	**65.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	268
65 dBA	125
70 dBA	58
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	I-205 Freeway to Eleventh Street		

PROJECT DATA

Centerline Dist to Barrier:	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**5.5**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	23995
Peak Hour Traffic:	**2399.5**
Vehicle Speed:	35
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

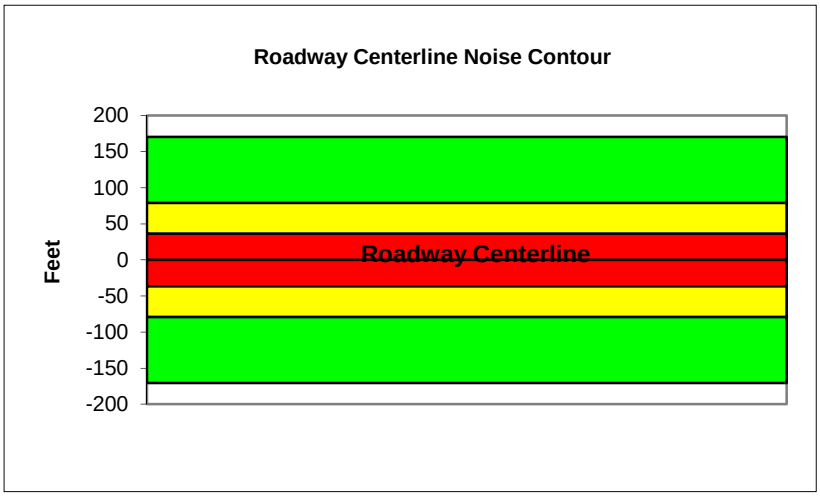
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.9	59.7	57.9	51.8	60.4	61.1
Medium Trucks:	60.6	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	65.8	53.9	44.8	46.0	56.0	56.1
Vehicle Noise:	**68.3**	**61.6**	**58.4**	**53.7**	**62.3**	**62.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	170
65 dBA	79
70 dBA	37
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	Eleventh Street to Valpico Road		

PROJECT DATA

Centerline Dist to Barrier:	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**5.5**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	19640
Peak Hour Traffic:	**1964**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

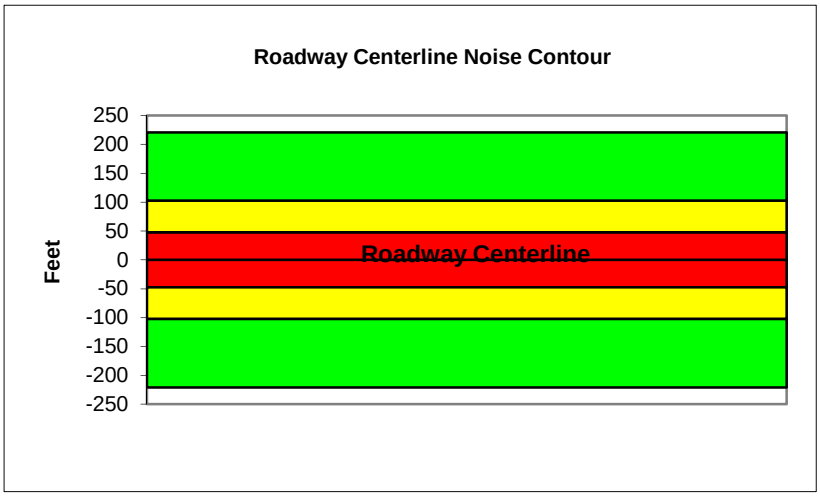
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.2	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	61.4	53.4	47.0	45.4	53.9	54.1
Heavy Trucks:	66.0	54.0	45.0	46.2	55.7	55.9
Vehicle Noise:	**68.3**	**63.2**	**60.5**	**55.4**	**64.0**	**64.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	221
65 dBA	102
70 dBA	48
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	South of Valpico Road		

PROJECT DATA

Centerline Dist to Barrier:	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**5.5**
Barrier Height:	**0**
Rt View: **90**	Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	7210
Peak Hour Traffic:	**721**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

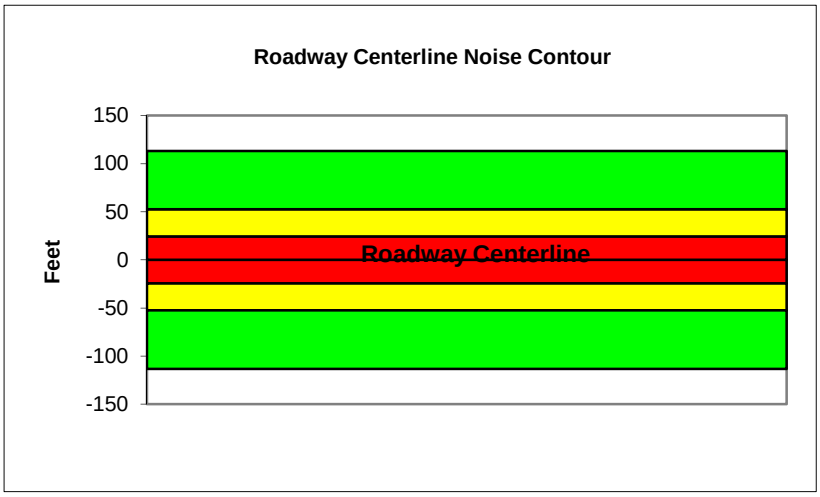
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.8	57.6	55.8	49.7	58.4	59.0
Medium Trucks:	57.1	49.0	42.6	41.1	49.5	49.8
Heavy Trucks:	61.6	49.7	40.6	41.8	51.4	51.5
Vehicle Noise:	**63.9**	**58.9**	**56.2**	**51.0**	**59.6**	**60.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	113
65 dBA	53
70 dBA	24
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	Eleventh Street to Old Schulte Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	28680
Peak Hour Traffic:	**2868**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

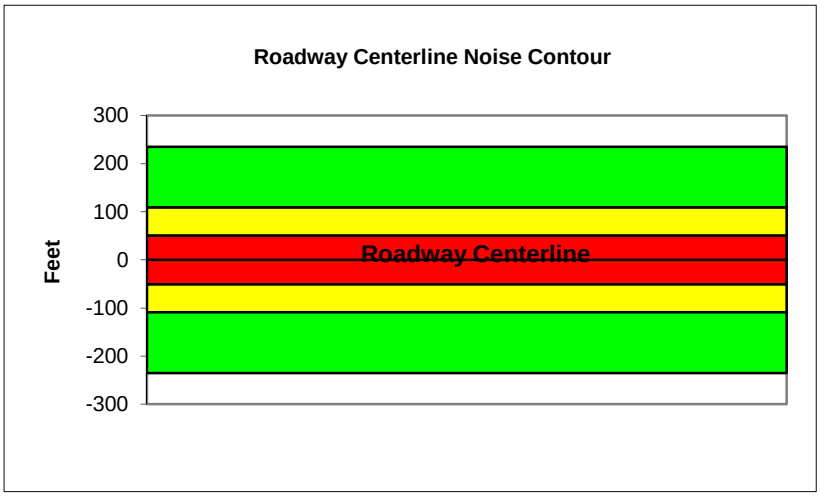
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.4	61.2	59.4	53.3	62.0	62.6
Medium Trucks:	61.4	53.3	46.9	45.3	53.8	54.1
Heavy Trucks:	66.2	54.3	45.2	46.4	56.2	56.3
Vehicle Noise:	**68.6**	**62.8**	**59.9**	**54.9**	**63.5**	**64.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	235
65 dBA	109
70 dBA	51
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	Linne Road to Valpico Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	4895
Peak Hour Traffic:	**489.5**
Vehicle Speed:	40
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

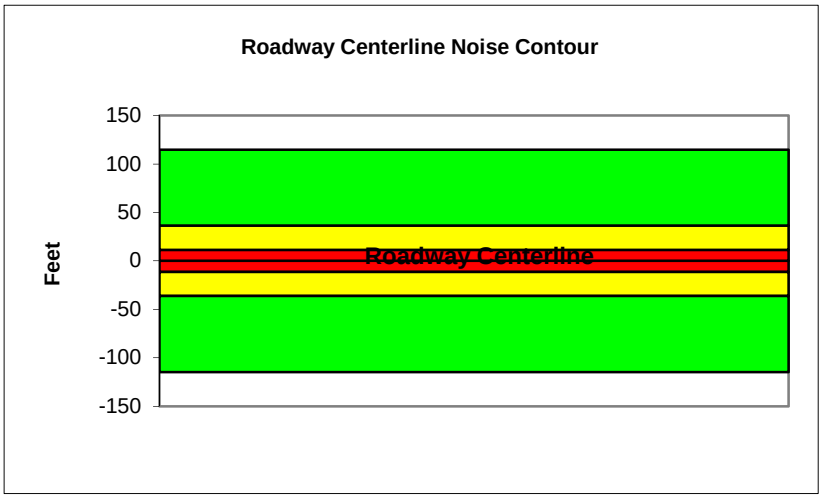
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.7	57.5	55.7	49.6	58.3	58.9
Medium Trucks:	57.6	49.6	43.2	41.6	50.1	50.3
Heavy Trucks:	62.5	50.6	41.5	42.7	52.4	52.6
Vehicle Noise:	**64.9**	**59.1**	**56.1**	**51.2**	**59.8**	**60.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	115
65 dBA	36
70 dBA	11
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	Valpico Road to West Schulte Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14950
Peak Hour Traffic:	**1495**
Vehicle Speed:	45
Centerline Separation:	34

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

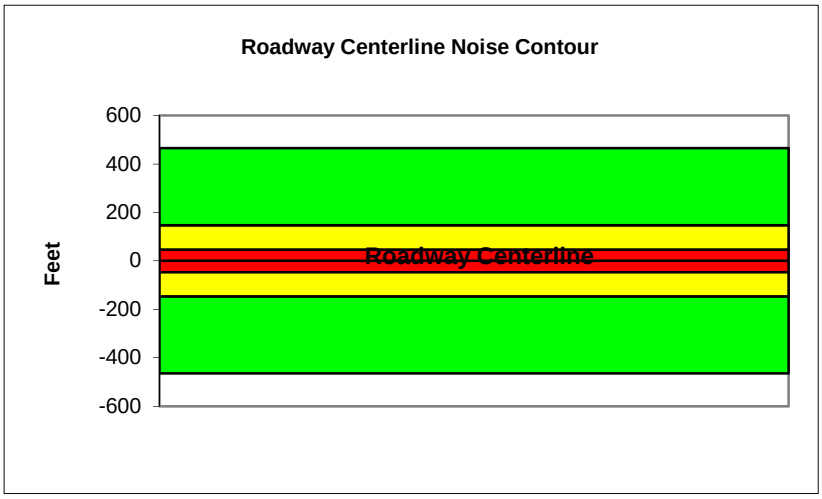
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.7	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	63.0	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	67.5	55.6	46.5	47.8	57.3	57.4
Vehicle Noise:	**69.9**	**64.8**	**62.1**	**56.9**	**65.5**	**66.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	465
65 dBA	147
70 dBA	47
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	West Schulte Road to Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	15380
Peak Hour Traffic:	**1538**
Vehicle Speed:	40
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

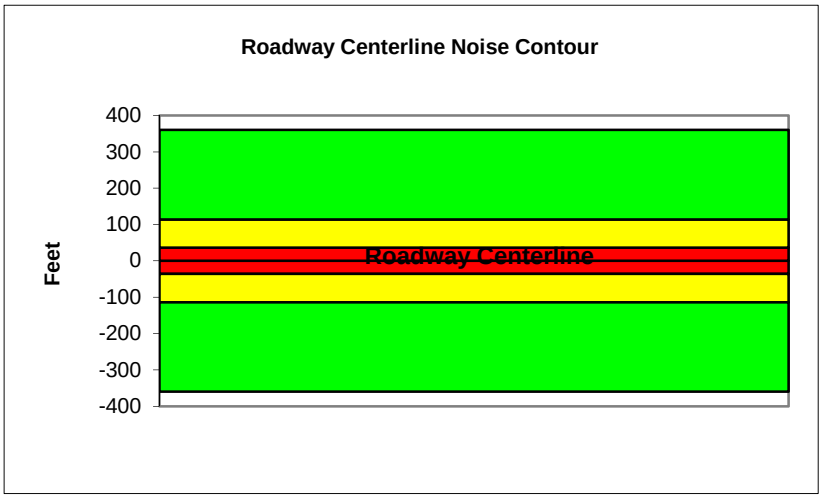
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.6	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	62.5	54.4	48.1	46.5	55.0	55.2
Heavy Trucks:	67.4	55.4	46.4	47.6	57.3	57.4
Vehicle Noise:	**69.7**	**63.9**	**61.0**	**56.0**	**64.6**	**65.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	360
65 dBA	114
70 dBA	36
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	North of Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	18590
Peak Hour Traffic:	**1859**
Vehicle Speed:	40
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

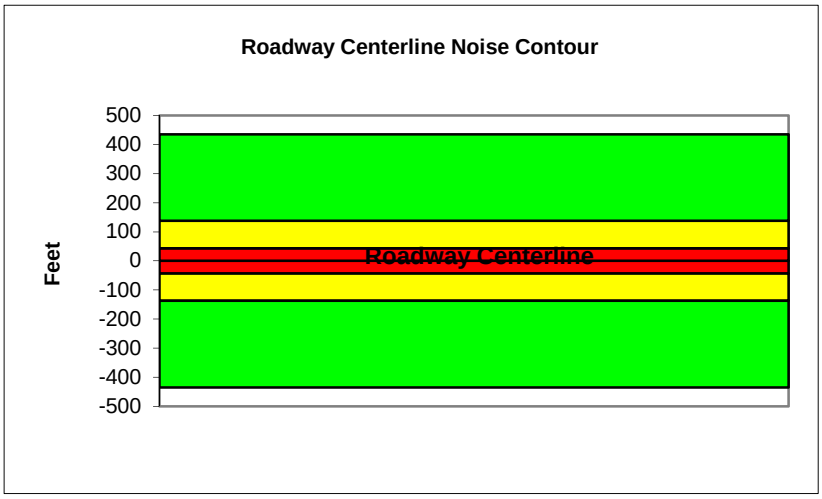
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.4	63.2	61.4	55.3	63.9	64.5
Medium Trucks:	63.3	55.3	48.9	47.3	55.8	56.0
Heavy Trucks:	68.2	56.2	47.2	48.4	58.1	58.2
Vehicle Noise:	**70.6**	**64.7**	**61.8**	**56.9**	**65.4**	**65.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	435
65 dBA	138
70 dBA	44
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	North of Eleventh Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	38360
Peak Hour Traffic:	**3836**
Vehicle Speed:	35
Centerline Separation:	32

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

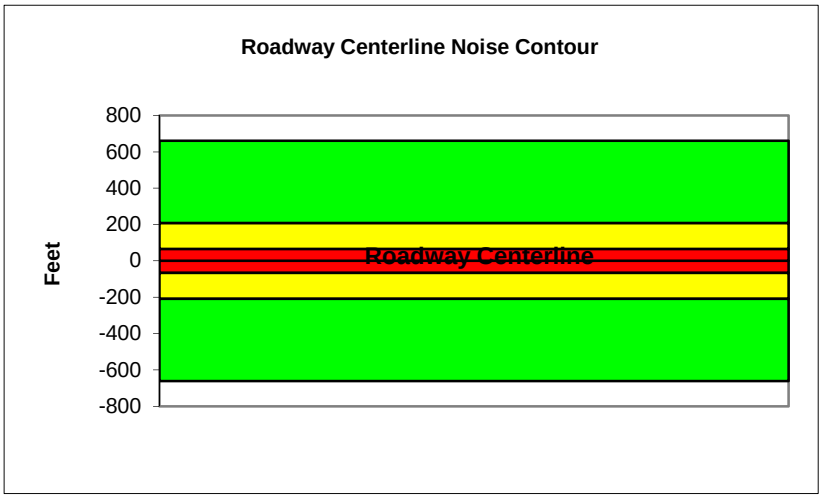
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.7	64.5	62.7	56.6	65.3	65.9
Medium Trucks:	65.4	57.4	51.0	49.4	57.9	58.1
Heavy Trucks:	70.7	58.7	49.7	50.9	60.8	60.9
Vehicle Noise:	**73.1**	**66.5**	**63.3**	**58.6**	**67.2**	**67.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	661
65 dBA	209
70 dBA	66
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	Eleventh Street to Valpico Road		

PROJECT DATA		SITE DATA	
Centerline Dist to Barrier	**0**	Road Grade:	0
Barrier (0=wall, 1= berm):	**0**	Average Daily Traffic:	31900
Receiver Barrier Dist:	**0**	Peak Hour Traffic:	**3190**
Centerline Dist. To Observer:	**100**	Vehicle Speed:	35
Barrier Near Lane CL Dist:	**0**	Centerline Separation:	38
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View: **90**	Lft View: **-90**		

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

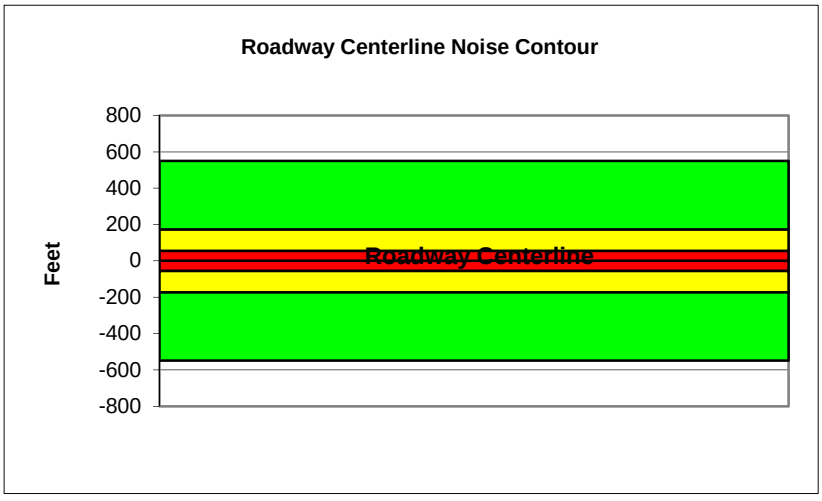
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.8	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	64.5	56.5	50.1	48.5	57.0	57.2
Heavy Trucks:	69.8	57.8	48.8	50.0	59.9	60.0
Vehicle Noise:	**72.2**	**65.6**	**62.4**	**57.7**	**66.3**	**66.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	550
65 dBA	174
70 dBA	55
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	Valpico Road to Linne Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	17595
Peak Hour Traffic:	**1759.5**
Vehicle Speed:	40
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

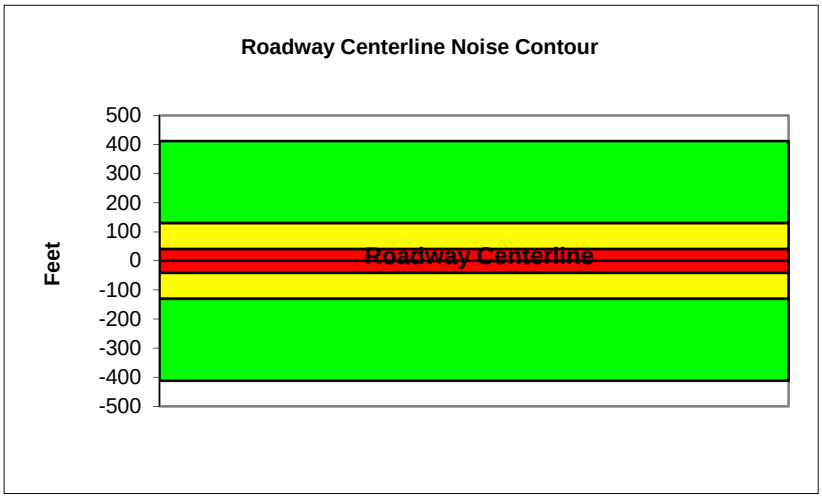
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.9	62.7	60.9	54.8	63.4	64.0
Medium Trucks:	62.8	54.8	48.4	46.8	55.3	55.5
Heavy Trucks:	67.7	55.7	46.7	47.9	57.6	57.7
Vehicle Noise:	**70.1**	**64.2**	**61.3**	**56.4**	**64.9**	**65.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	412
65 dBA	130
70 dBA	41
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	South of Linne Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2210
Peak Hour Traffic:	**221**
Vehicle Speed:	40
Centerline Separation:	22

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

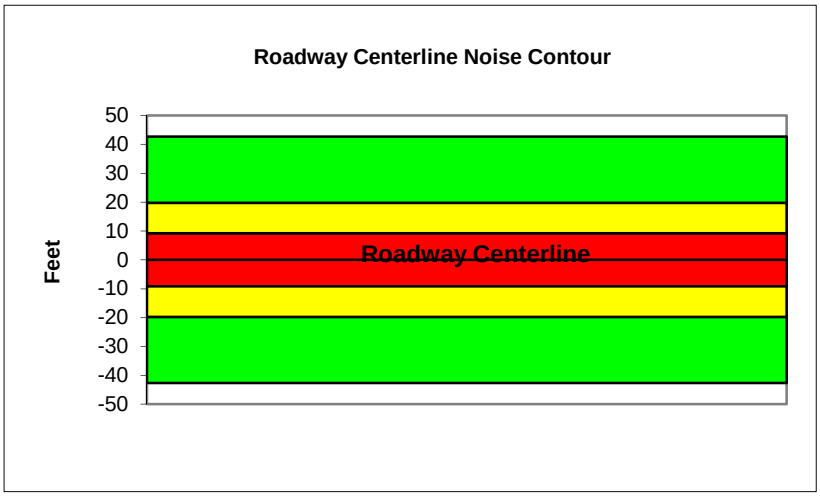
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.3	51.0	49.2	43.2	51.8	52.4
Medium Trucks:	51.2	43.1	36.8	35.2	43.7	43.9
Heavy Trucks:	56.1	44.1	35.1	36.3	46.0	46.1
Vehicle Noise:	**58.4**	**52.6**	**49.7**	**44.7**	**53.3**	**53.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	43
65 dBA	20
70 dBA	9
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	West of Corral Hollow Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	10980
Peak Hour Traffic:	**1098**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

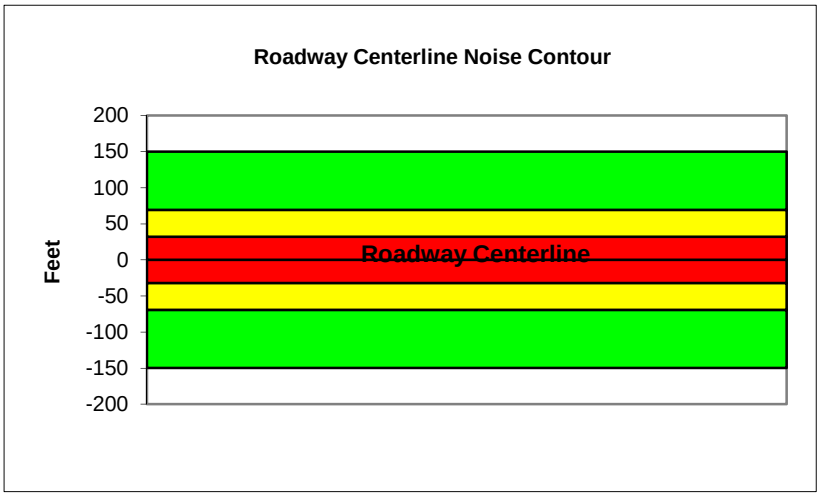
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.6	59.4	57.6	51.5	60.2	60.8
Medium Trucks:	58.9	50.8	44.5	42.9	51.4	51.6
Heavy Trucks:	63.4	51.5	42.4	43.7	53.2	53.3
Vehicle Noise:	**65.8**	**60.7**	**58.0**	**52.8**	**61.4**	**61.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	150
65 dBA	70
70 dBA	32
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	Corral Hollow Road to Tracy Boulevard		

PROJECT DATA

Centerline Dist to Barrier:	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**5.5**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	20685
Peak Hour Traffic:	**2068.5**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

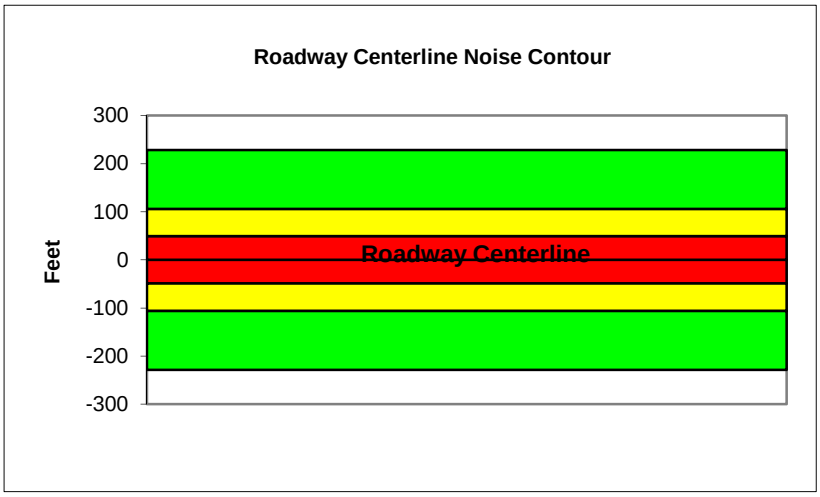
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.4	62.2	60.4	54.3	62.9	63.5
Medium Trucks:	61.7	53.6	47.2	45.6	54.1	54.4
Heavy Trucks:	66.2	54.2	45.2	46.4	56.0	56.1
Vehicle Noise:	**68.5**	**63.5**	**60.7**	**55.6**	**64.2**	**64.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	228
65 dBA	106
70 dBA	49
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	Old Schulte Road to Valpico Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	28890
Peak Hour Traffic:	**2889**
Vehicle Speed:	40
Centerline Separation:	20

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

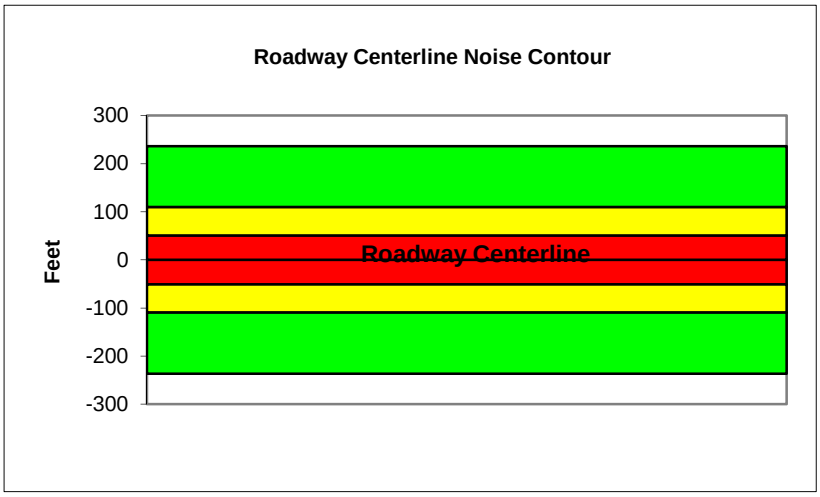
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	62.2	60.5	54.4	63.0	63.6
Medium Trucks:	62.4	54.4	48.0	46.4	54.9	55.1
Heavy Trucks:	67.3	55.3	46.3	47.5	57.2	57.3
Vehicle Noise:	**69.6**	**63.8**	**60.9**	**56.0**	**64.5**	**65.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	236
65 dBA	110
70 dBA	51
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	Tracy Boulevard to MacArthur Drive		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14730
Peak Hour Traffic:	**1473**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

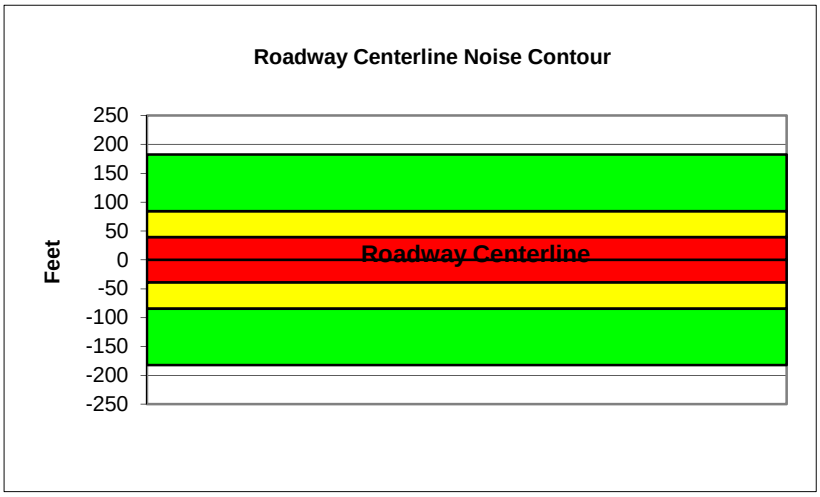
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.9	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	60.2	52.1	45.7	44.2	52.7	52.9
Heavy Trucks:	64.7	52.8	43.7	44.9	54.5	54.6
Vehicle Noise:	**67.0**	**62.0**	**59.3**	**54.1**	**62.7**	**63.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	182
65 dBA	85
70 dBA	39
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	MacArthur Drive to Chrisman Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	13110
Peak Hour Traffic:	**1311**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

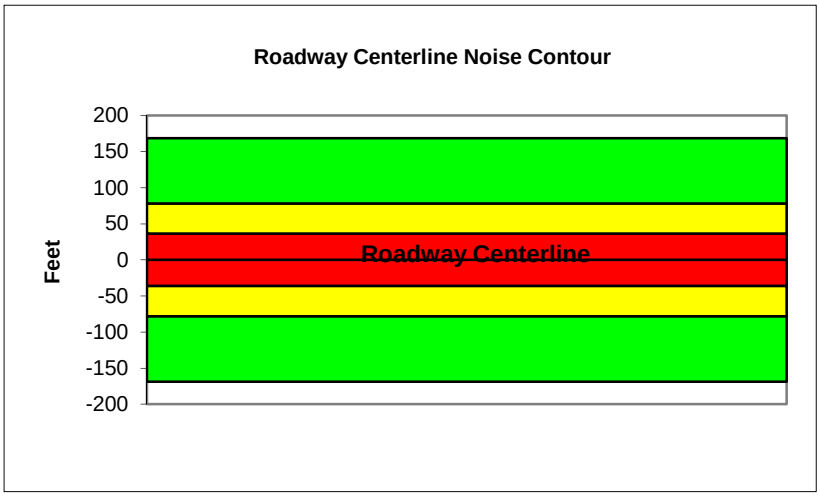
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.4	60.2	58.4	52.3	61.0	61.6
Medium Trucks:	59.7	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	64.2	52.3	43.2	44.4	54.0	54.1
Vehicle Noise:	**66.5**	**61.5**	**58.8**	**53.6**	**62.2**	**62.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	169
65 dBA	78
70 dBA	36
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	East of Chrisman Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	11340
Peak Hour Traffic:	**1134**
Vehicle Speed:	55
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

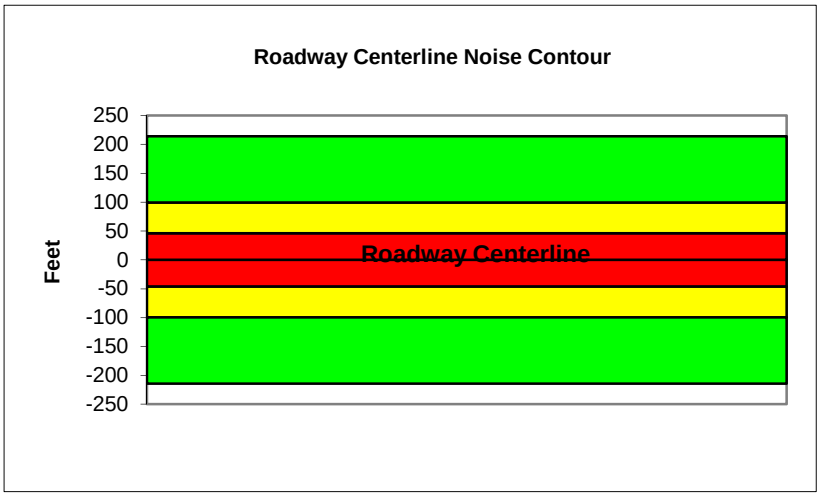
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.3	62.1	60.3	54.2	62.8	63.4
Medium Trucks:	60.4	52.3	46.0	44.4	52.9	53.1
Heavy Trucks:	64.4	52.4	43.4	44.6	53.9	54.0
Vehicle Noise:	**66.7**	**63.0**	**60.5**	**55.1**	**63.7**	**64.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	214
65 dBA	99
70 dBA	46
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Altamont Pass Road		
Road Segment:	West of Greenville Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	21620
Peak Hour Traffic:	**2162**
Vehicle Speed:	45
Centerline Separation:	26

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

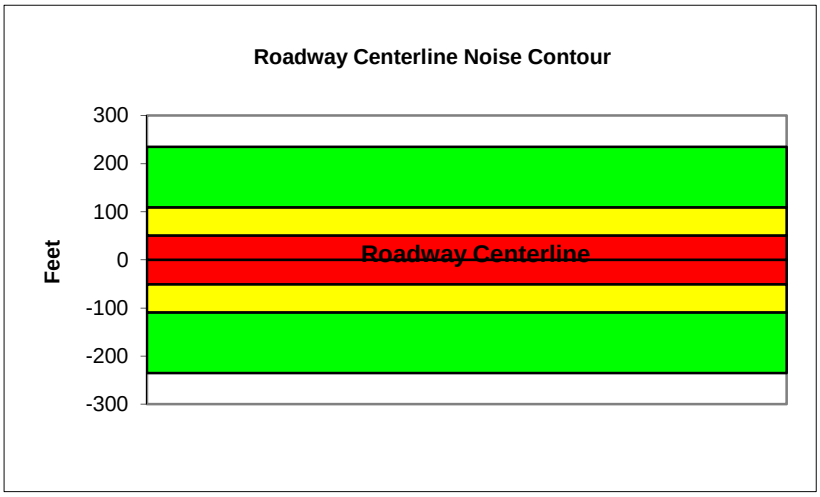
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	61.8	53.7	47.4	45.8	54.3	54.5
Heavy Trucks:	66.3	54.4	45.3	46.5	56.1	56.2
Vehicle Noise:	**68.7**	**63.6**	**60.9**	**55.7**	**64.3**	**64.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	235
65 dBA	109
70 dBA	51
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Patterson Pass Road		
Road Segment:	West of Greenville Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	5630
Peak Hour Traffic:	**563**
Vehicle Speed:	45
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

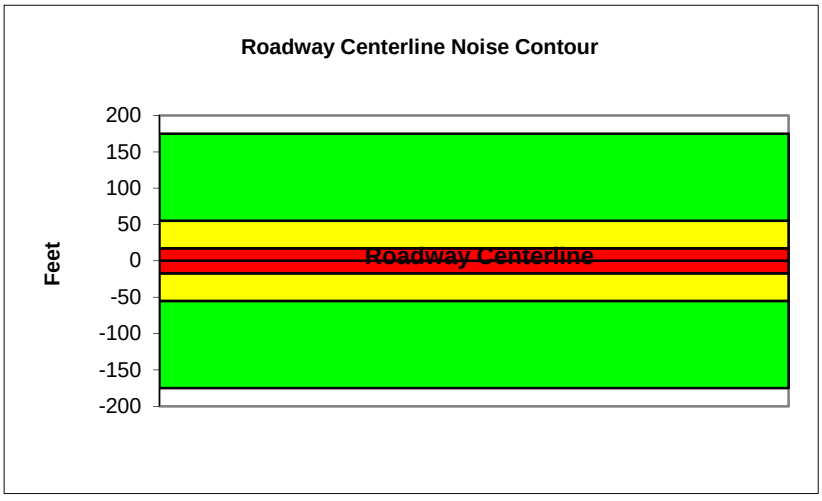
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.4	59.2	57.4	51.3	59.9	60.5
Medium Trucks:	58.6	50.6	44.2	42.6	51.1	51.3
Heavy Trucks:	63.2	51.2	42.2	43.4	52.9	53.1
Vehicle Noise:	**65.5**	**60.5**	**57.7**	**52.6**	**61.2**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	175
65 dBA	55
70 dBA	18
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tesla Road		
Road Segment:	West of Greenville Road		

PROJECT DATA

Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	14300
Peak Hour Traffic:	**1430**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

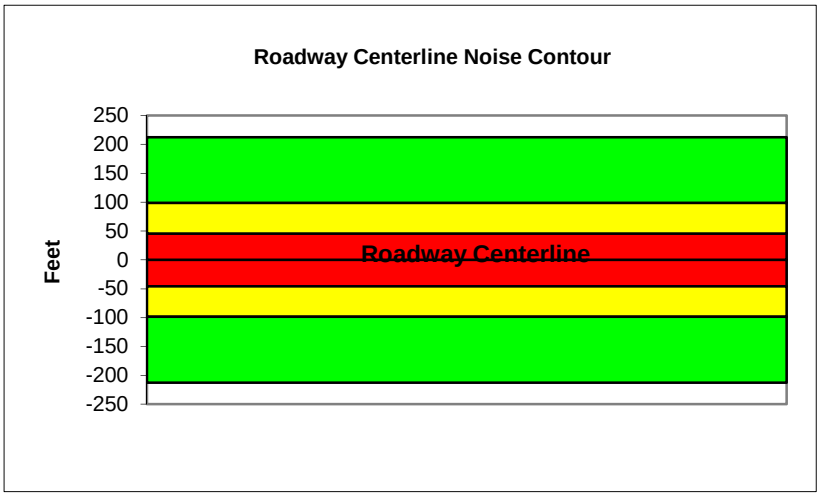
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.1	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	60.8	52.7	46.3	44.7	53.2	53.5
Heavy Trucks:	65.0	53.1	44.0	45.2	54.6	54.7
Vehicle Noise:	**67.3**	**63.0**	**60.4**	**55.1**	**63.7**	**64.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	213
65 dBA	99
70 dBA	46
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	North of Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	18540
Peak Hour Traffic:	**1854**
Vehicle Speed:	40
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

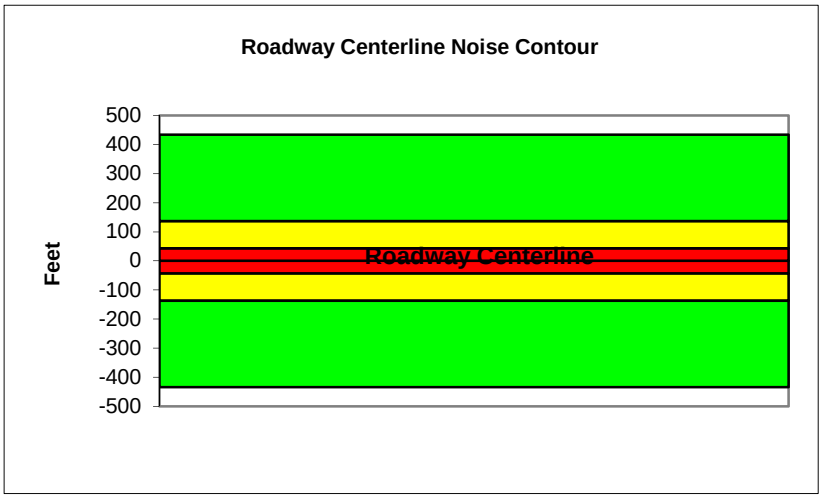
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.4	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	63.3	55.3	48.9	47.3	55.8	56.0
Heavy Trucks:	68.2	56.2	47.2	48.4	58.1	58.2
Vehicle Noise:	**70.5**	**64.7**	**61.8**	**56.9**	**65.4**	**65.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	434
65 dBA	137
70 dBA	43
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	Eleventh Street to Old Schulte Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	50780
Peak Hour Traffic:	**5078**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

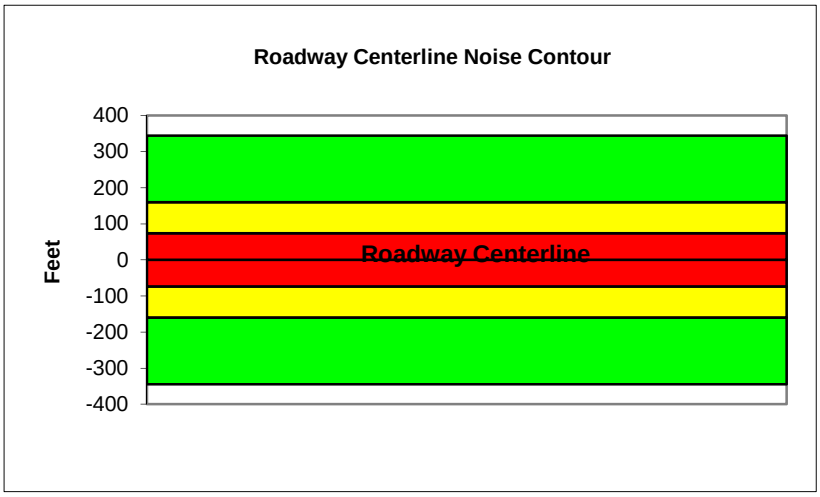
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.9	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	63.9	55.8	49.4	47.8	56.3	56.6
Heavy Trucks:	68.7	56.8	47.7	48.9	58.6	58.8
Vehicle Noise:	**71.1**	**65.3**	**62.3**	**57.4**	**66.0**	**66.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	344
65 dBA	160
70 dBA	74
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	Valpico Road to Linne Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	37695
Peak Hour Traffic:	**3769.5**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

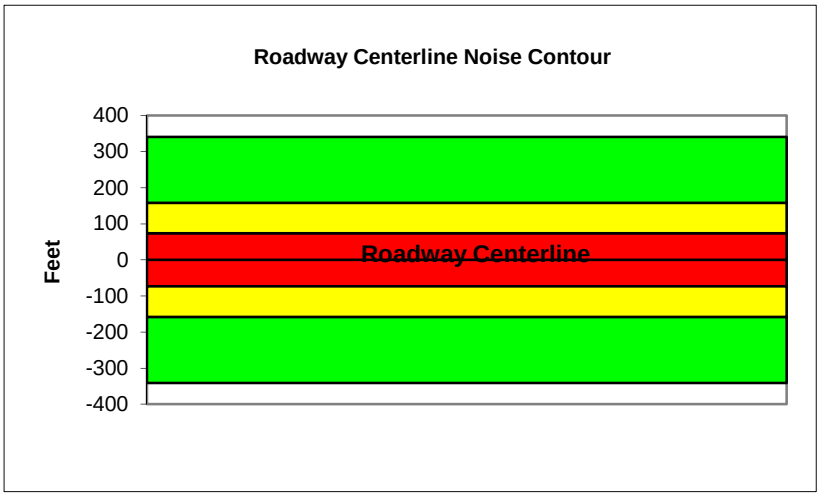
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.0	64.8	63.0	56.9	65.5	66.2
Medium Trucks:	64.3	56.2	49.8	48.2	56.7	57.0
Heavy Trucks:	68.8	56.8	47.8	49.0	58.6	58.7
Vehicle Noise:	**71.1**	**66.1**	**63.3**	**58.2**	**66.8**	**67.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	341
65 dBA	158
70 dBA	73
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	Linne Road to Spine Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	57900
Peak Hour Traffic:	**5790**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

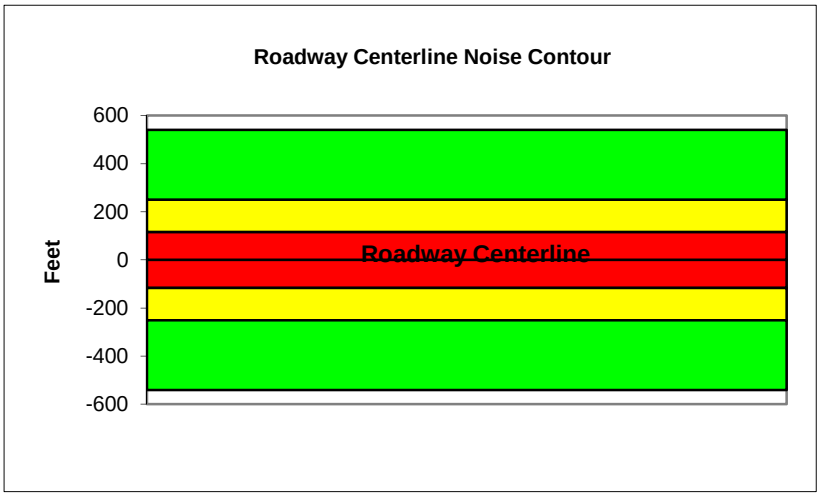
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.2	68.0	66.2	60.1	68.7	69.3
Medium Trucks:	66.8	58.8	52.4	50.8	59.3	59.5
Heavy Trucks:	71.1	59.1	50.1	51.3	60.7	60.8
Vehicle Noise:	**73.4**	**69.0**	**66.5**	**61.2**	**69.8**	**70.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	540
65 dBA	251
70 dBA	116
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	South of Spine Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	33400
Peak Hour Traffic:	**3340**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

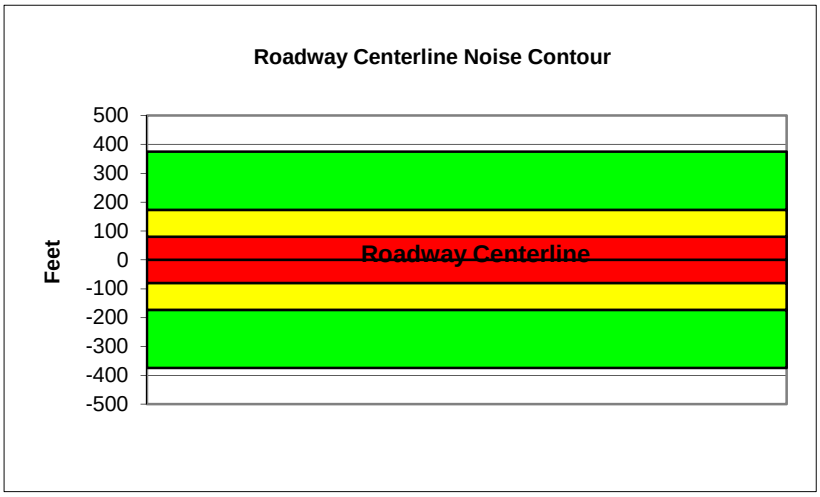
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.8	65.6	63.8	57.7	66.3	66.9
Medium Trucks:	64.5	56.4	50.0	48.4	56.9	57.2
Heavy Trucks:	68.7	56.7	47.7	48.9	58.3	58.4
Vehicle Noise:	**71.0**	**66.7**	**64.1**	**58.8**	**67.4**	**67.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	374
65 dBA	174
70 dBA	81
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road Extension/Eleventh Street		
Road Segment:	North of I-205		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	42700
Peak Hour Traffic:	**4270**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

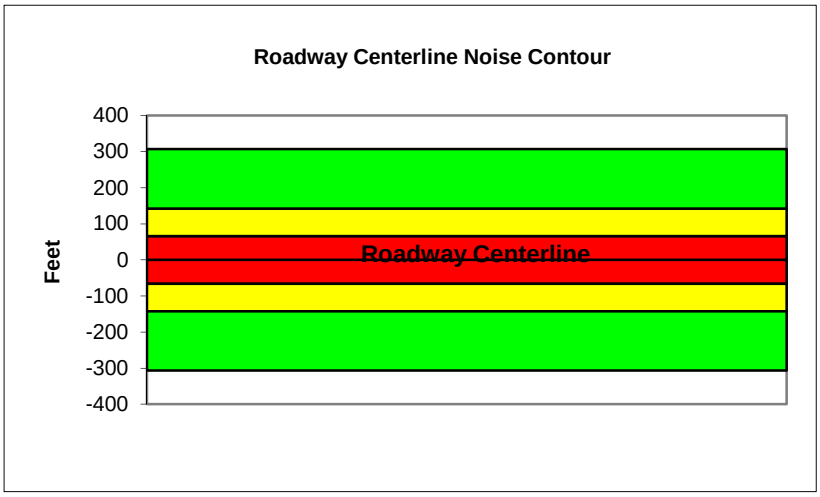
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.1	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	63.1	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	67.9	56.0	47.0	48.2	57.9	58.0
Vehicle Noise:	**70.3**	**64.5**	**61.6**	**56.6**	**65.2**	**65.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	307
65 dBA	142
70 dBA	66
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road Extension/Eleventh Street		
Road Segment:	I-205 to Lammers Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	63200
Peak Hour Traffic:	**6320**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

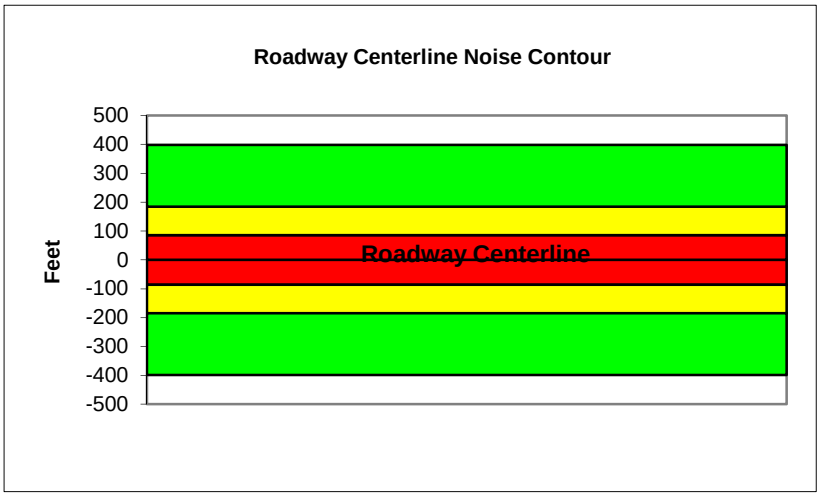
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.9	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	64.8	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	69.7	57.7	48.7	49.9	59.6	59.7
Vehicle Noise:	**72.0**	**66.2**	**63.3**	**58.3**	**66.9**	**67.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	398
65 dBA	185
70 dBA	86
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road Extension/Eleventh Street		
Road Segment:	Lammers Road to Corral Hollow Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	54530
Peak Hour Traffic:	**5453**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

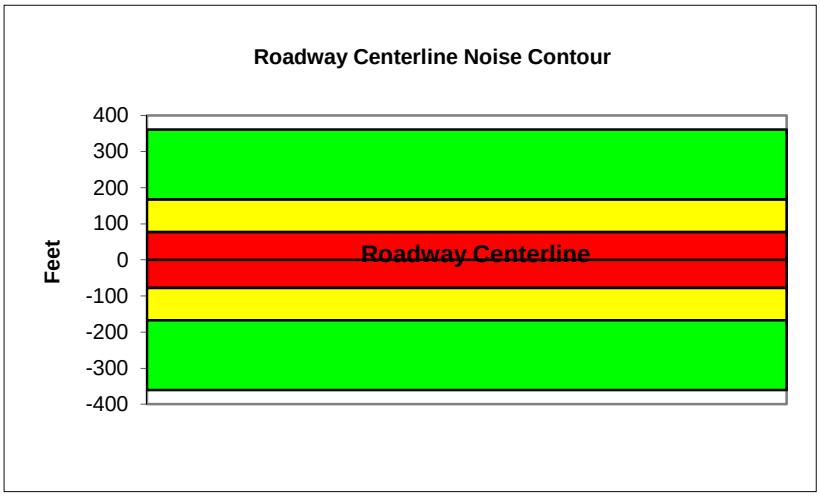
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.2	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	64.2	56.1	49.7	48.1	56.6	56.9
Heavy Trucks:	69.0	57.1	48.0	49.2	58.9	59.1
Vehicle Noise:	**71.4**	**65.6**	**62.6**	**57.7**	**66.3**	**66.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	361
65 dBA	168
70 dBA	78
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road Extension/Eleventh Street		
Road Segment:	East of Corral Hollow Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	49610
Peak Hour Traffic:	**4961**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

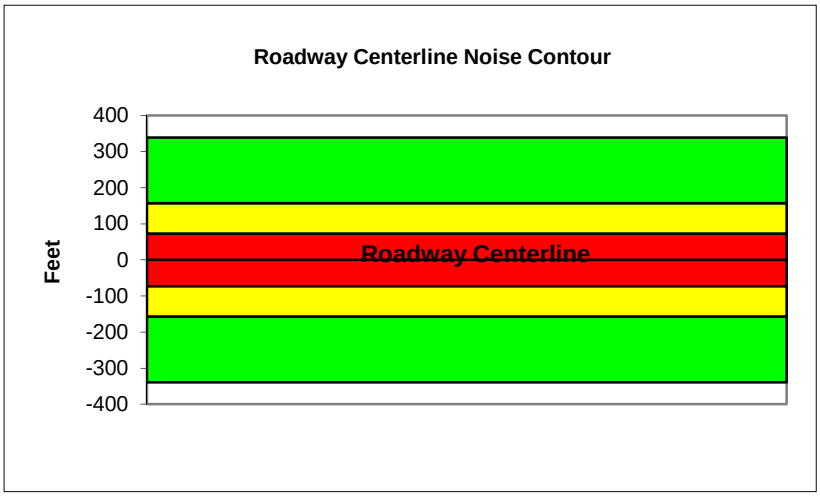
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.8	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	63.8	55.7	49.3	47.7	56.2	56.4
Heavy Trucks:	68.6	56.7	47.6	48.8	58.5	58.7
Vehicle Noise:	**71.0**	**65.2**	**62.2**	**57.3**	**65.9**	**66.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	339
65 dBA	157
70 dBA	73
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	North of Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	58730
Peak Hour Traffic:	**5873**
Vehicle Speed:	40
Centerline Separation:	64

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

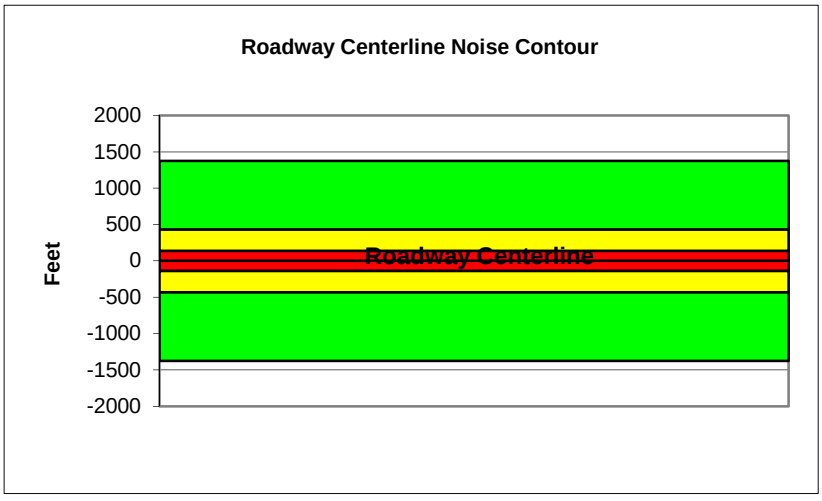
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.8	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	67.7	59.7	53.3	51.7	60.2	60.4
Heavy Trucks:	72.6	60.6	51.6	52.8	62.5	62.6
Vehicle Noise:	**74.9**	**69.1**	**66.2**	**61.3**	**69.8**	**70.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	1375
65 dBA	435
70 dBA	138
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	Eleventh Street to New Schulte Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	53440
Peak Hour Traffic:	**5344**
Vehicle Speed:	40
Centerline Separation:	60

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

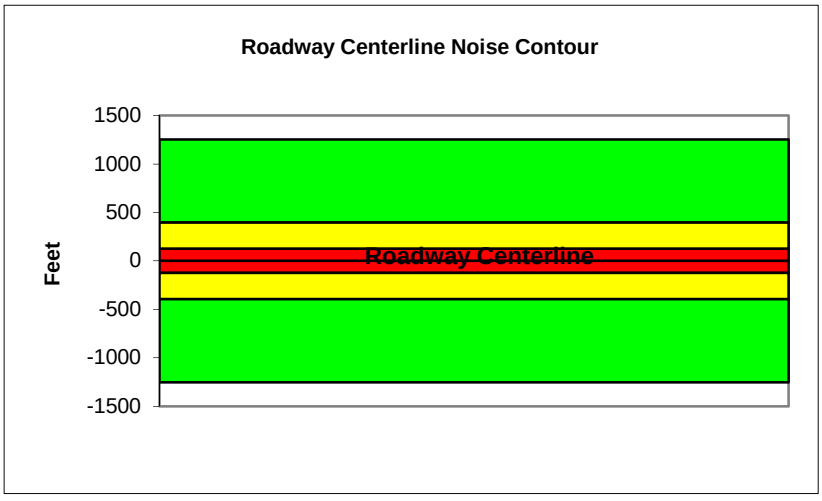
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.4	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	67.4	59.3	52.9	51.3	59.8	60.1
Heavy Trucks:	72.2	60.3	51.2	52.4	62.2	62.3
Vehicle Noise:	**74.6**	**68.8**	**65.9**	**60.9**	**69.5**	**70.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	1253
65 dBA	396
70 dBA	125
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	New Schulte Road to Linne Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	36250
Peak Hour Traffic:	**3625**
Vehicle Speed:	40
Centerline Separation:	60

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

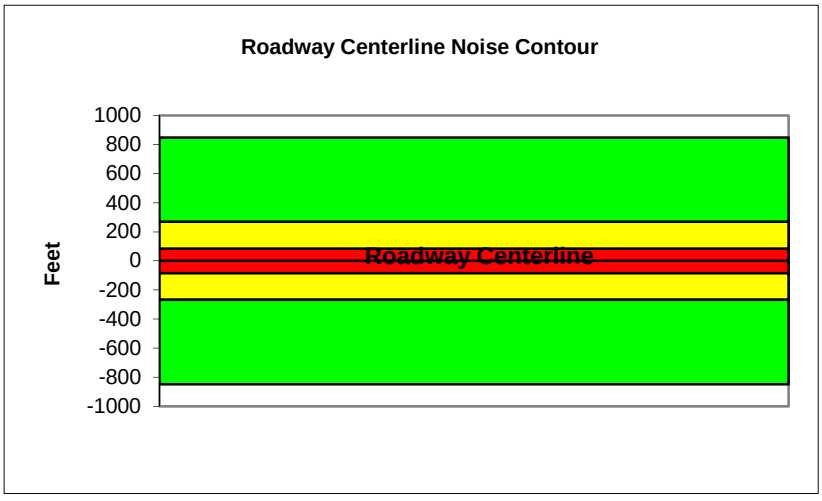
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.7	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	65.7	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	70.5	58.6	49.5	50.8	60.5	60.6
Vehicle Noise:	**72.9**	**67.1**	**64.2**	**59.2**	**67.8**	**68.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	849
65 dBA	269
70 dBA	85
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	Linne Road to Spine Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	39805
Peak Hour Traffic:	**3980.5**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

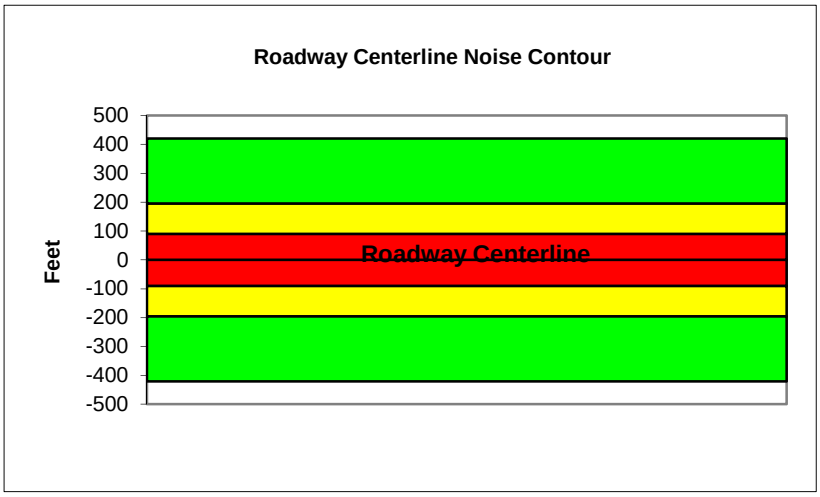
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.5	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	65.2	57.2	50.8	49.2	57.7	57.9
Heavy Trucks:	69.4	57.5	48.5	49.7	59.1	59.2
Vehicle Noise:	**71.8**	**67.4**	**64.8**	**59.5**	**68.1**	**68.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	421
65 dBA	195
70 dBA	91
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Corral Hollow Road		
Road Segment:	South of Spine Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	29360
Peak Hour Traffic:	**2936**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

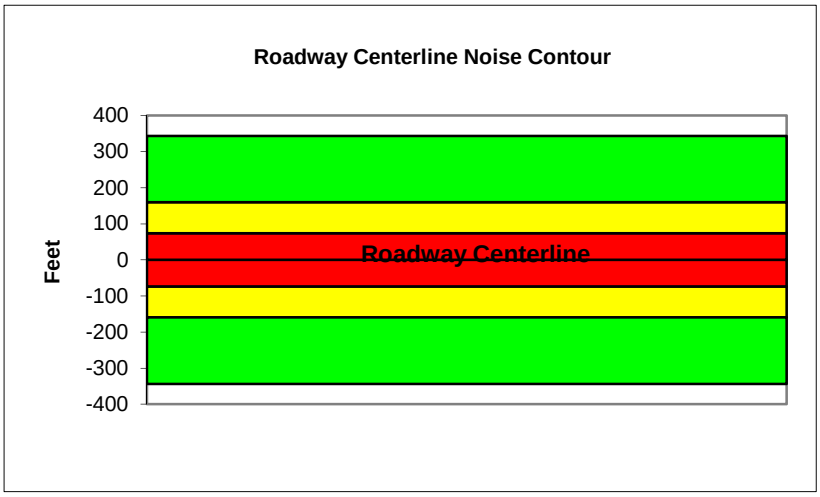
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.2	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	63.9	55.8	49.4	47.9	56.4	56.6
Heavy Trucks:	68.1	56.2	47.1	48.3	57.7	57.9
Vehicle Noise:	**70.4**	**66.1**	**63.5**	**58.2**	**66.8**	**67.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	344
65 dBA	159
70 dBA	74
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	North of I-205		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	27800
Peak Hour Traffic:	**2780**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

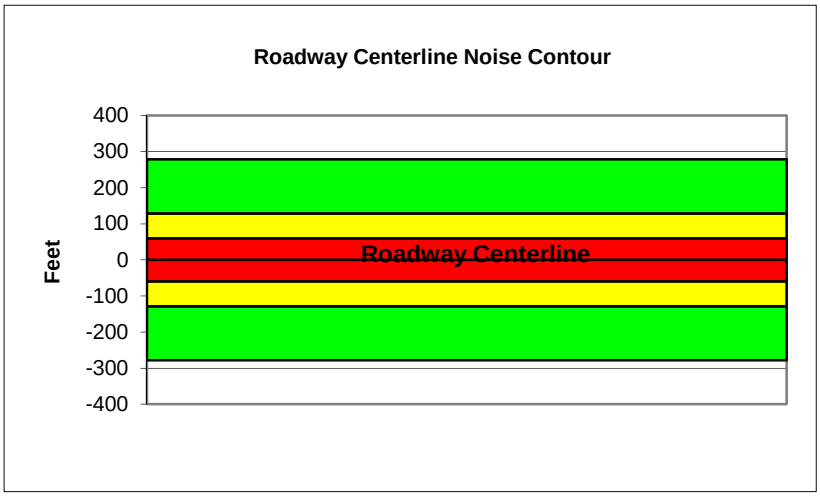
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.7	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	62.9	54.9	48.5	46.9	55.4	55.6
Heavy Trucks:	67.5	55.5	46.5	47.7	57.2	57.4
Vehicle Noise:	**69.8**	**64.8**	**62.0**	**56.9**	**65.5**	**66.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	278
65 dBA	129
70 dBA	60
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	I-205 Freeway to Eleventh Street		

PROJECT DATA

Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	29145
Peak Hour Traffic:	**2914.5**
Vehicle Speed:	35
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

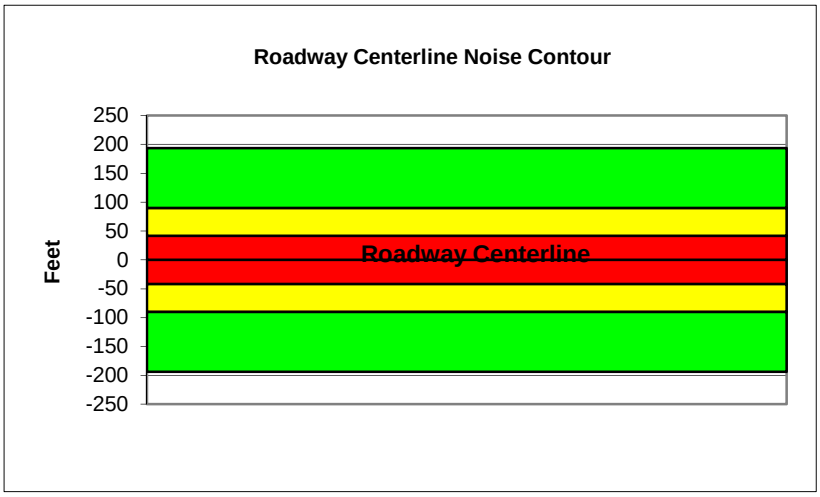
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.7	60.5	58.7	52.6	61.3	61.9
Medium Trucks:	61.4	53.4	47.0	45.4	53.9	54.1
Heavy Trucks:	66.7	54.7	45.7	46.9	56.8	56.9
Vehicle Noise:	**69.1**	**62.5**	**59.3**	**54.6**	**63.2**	**63.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	194
65 dBA	90
70 dBA	42
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	Eleventh Street to Valpico Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	26940
Peak Hour Traffic:	**2694**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

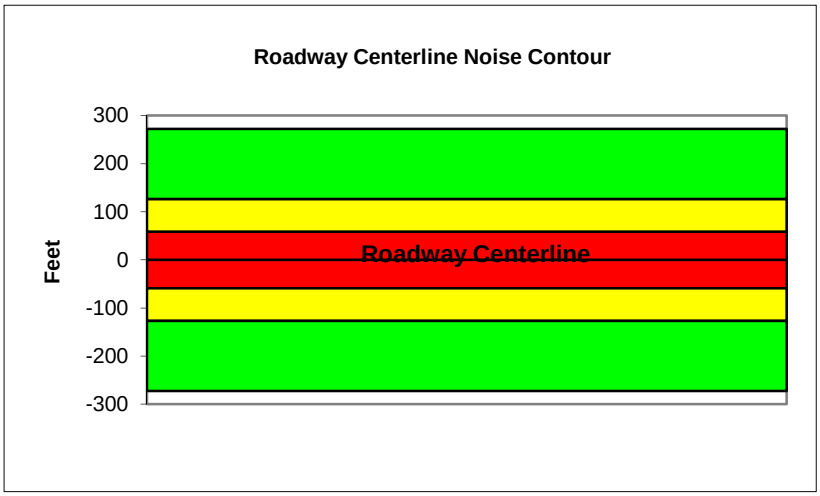
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.5	63.3	61.5	55.4	64.1	64.7
Medium Trucks:	62.8	54.7	48.4	46.8	55.3	55.5
Heavy Trucks:	67.3	55.4	46.3	47.6	57.1	57.2
Vehicle Noise:	**69.7**	**64.6**	**61.9**	**56.7**	**65.3**	**65.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	273
65 dBA	126
70 dBA	59
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Chrisman Road		
Road Segment:	South of Valpico Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14710
Peak Hour Traffic:	**1471**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

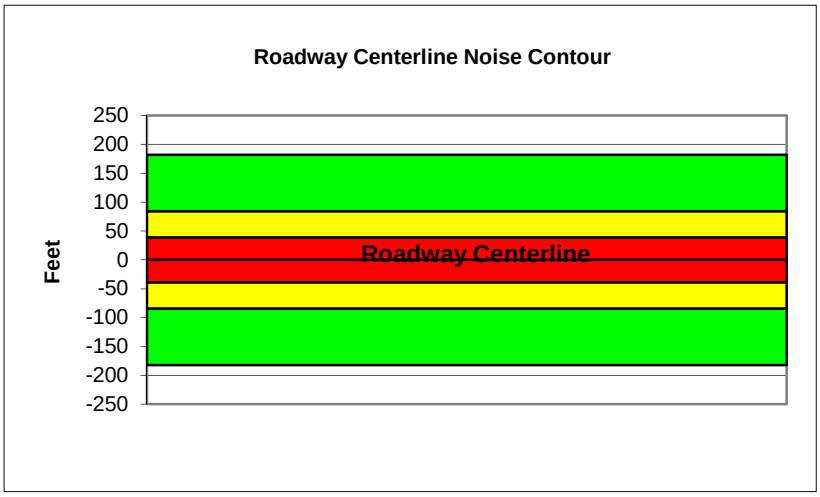
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.9	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	60.2	52.1	45.7	44.2	52.6	52.9
Heavy Trucks:	64.7	52.8	43.7	44.9	54.5	54.6
Vehicle Noise:	**67.0**	**62.0**	**59.3**	**54.1**	**62.7**	**63.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	182
65 dBA	84
70 dBA	39
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	Linne Road to Valpico Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	11485
Peak Hour Traffic:	**1148.5**
Vehicle Speed:	40
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

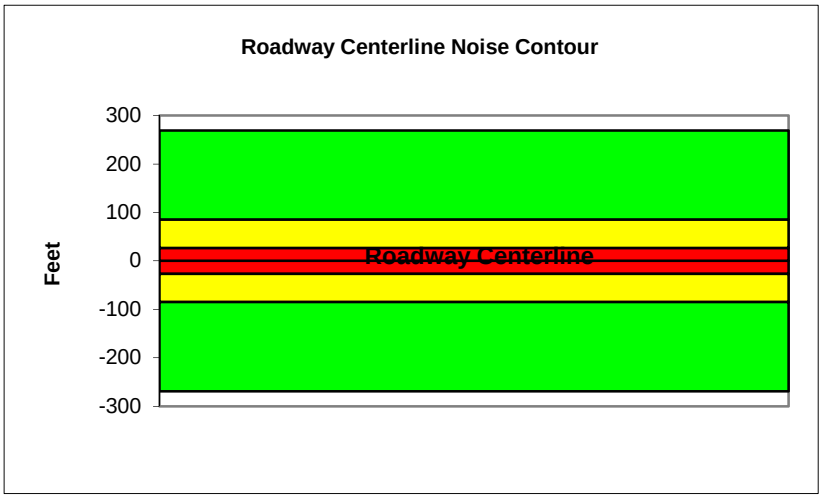
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.4	61.2	59.4	53.3	62.0	62.6
Medium Trucks:	61.3	53.3	46.9	45.3	53.8	54.0
Heavy Trucks:	66.2	54.3	45.2	46.4	56.1	56.3
Vehicle Noise:	**68.6**	**62.8**	**59.8**	**54.9**	**63.5**	**63.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	269
65 dBA	85
70 dBA	27
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	Valpico Road to West Schulte Road		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	20205
Peak Hour Traffic:	**2020.5**
Vehicle Speed:	45
Centerline Separation:	34

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

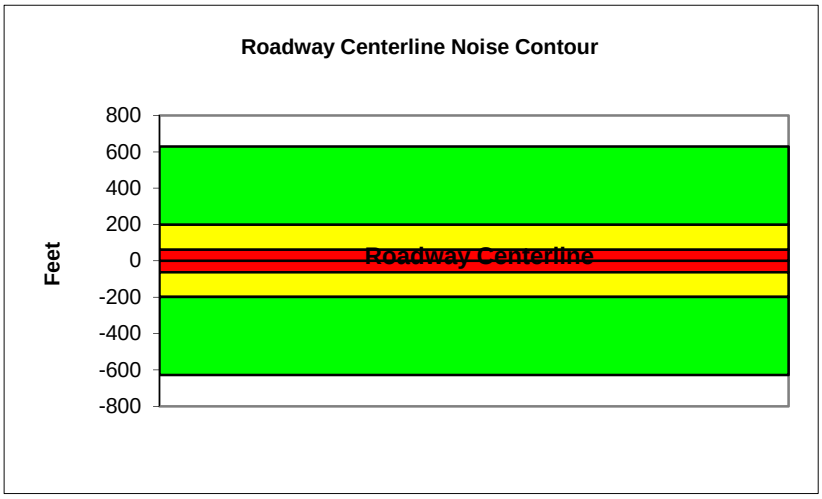
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.0	64.8	63.0	57.0	65.6	66.2
Medium Trucks:	64.3	56.3	49.9	48.3	56.8	57.0
Heavy Trucks:	68.8	56.9	47.8	49.1	58.6	58.7
Vehicle Noise:	**71.2**	**66.1**	**63.4**	**58.3**	**66.8**	**67.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	629
65 dBA	199
70 dBA	63
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	West Schulte Road to Eleventh Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	18220
Peak Hour Traffic:	**1822**
Vehicle Speed:	40
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

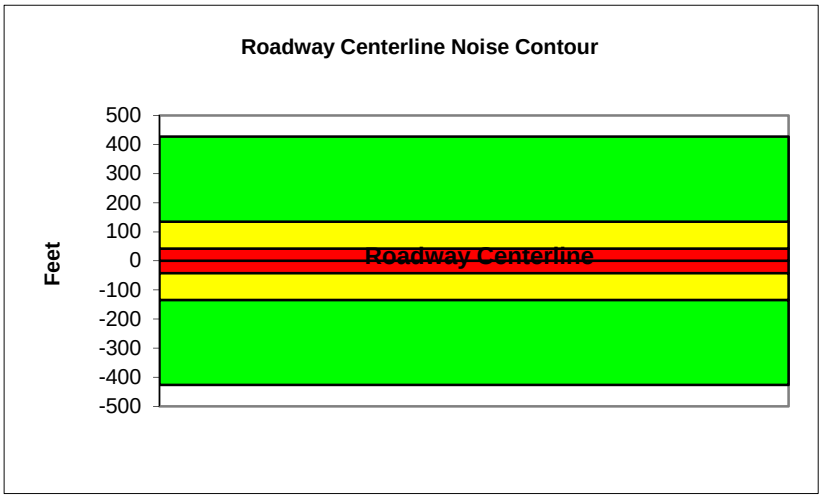
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.3	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	63.2	55.2	48.8	47.2	55.7	55.9
Heavy Trucks:	68.1	56.2	47.1	48.3	58.0	58.2
Vehicle Noise:	**70.5**	**64.7**	**61.7**	**56.8**	**65.4**	**65.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	427
65 dBA	135
70 dBA	43
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	MacArthur Drive		
Road Segment:	North of Eleventh Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	20250
Peak Hour Traffic:	**2025**
Vehicle Speed:	40
Centerline Separation:	24

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

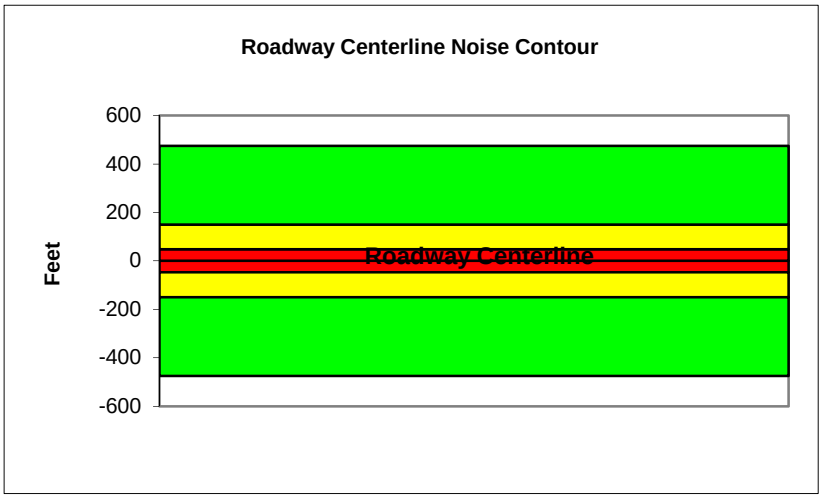
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.8	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	63.7	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	68.6	56.6	47.6	48.8	58.5	58.6
Vehicle Noise:	**70.9**	**65.1**	**62.2**	**57.2**	**65.8**	**66.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	475
65 dBA	150
70 dBA	48
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	North of Eleventh Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	41860
Peak Hour Traffic:	**4186**
Vehicle Speed:	35
Centerline Separation:	32

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

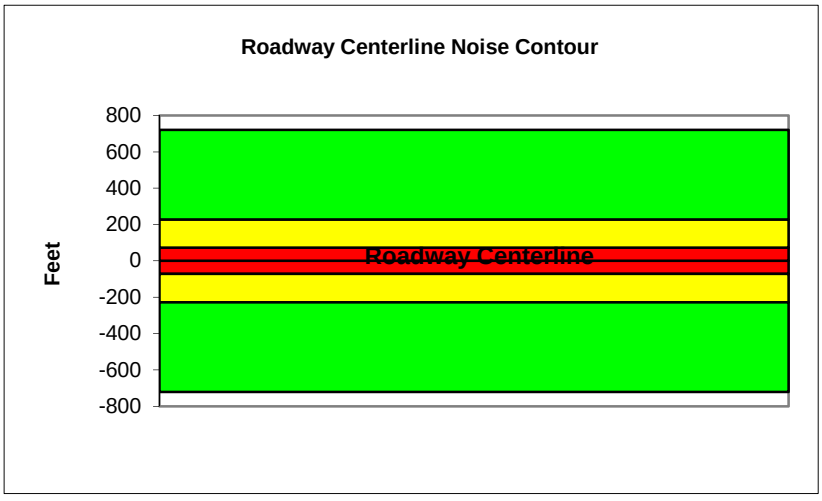
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	65.8	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	71.0	59.1	50.0	51.3	61.2	61.3
Vehicle Noise:	**73.5**	**66.8**	**63.7**	**59.0**	**67.5**	**68.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	722
65 dBA	228
70 dBA	72
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	Eleventh Street to Valpico Road		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	38250
Peak Hour Traffic:	**3825**
Vehicle Speed:	35
Centerline Separation:	38

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

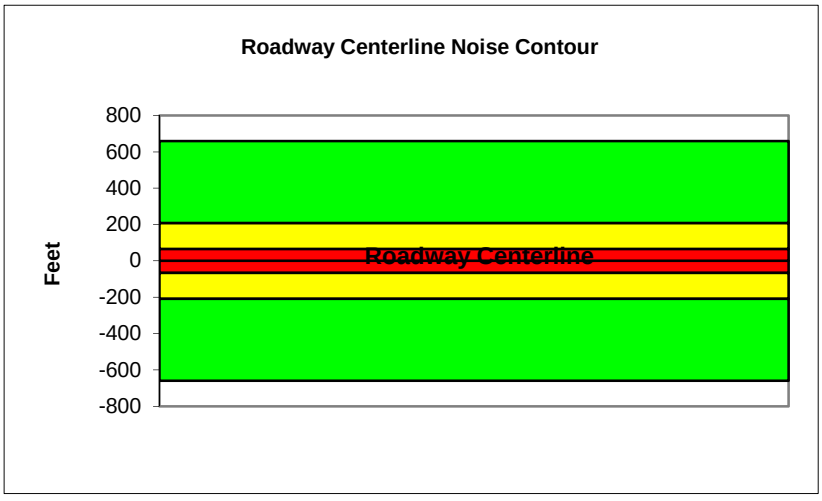
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.6	64.4	62.6	56.5	65.2	65.8
Medium Trucks:	65.3	57.3	50.9	49.3	57.8	58.0
Heavy Trucks:	70.5	58.6	49.6	50.8	60.7	60.8
Vehicle Noise:	**73.0**	**66.3**	**63.2**	**58.5**	**67.0**	**67.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	659
65 dBA	208
70 dBA	66
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	West of Corral Hollow Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	19280
Peak Hour Traffic:	**1928**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

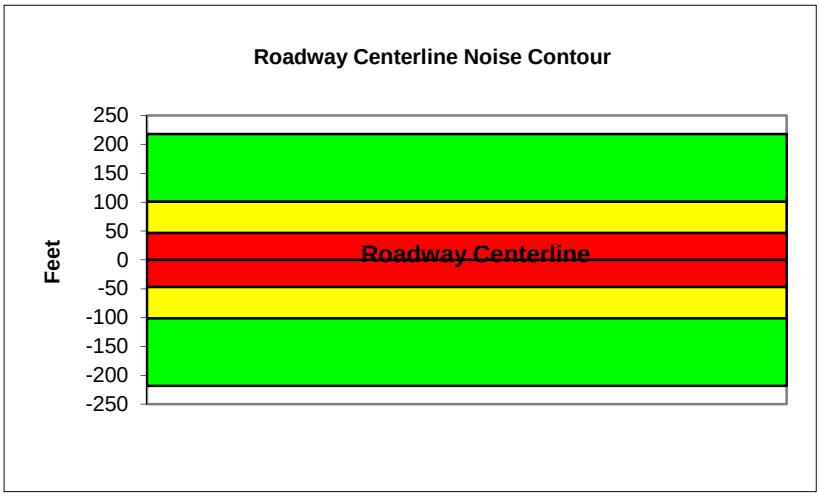
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.1	61.9	60.1	54.0	62.6	63.2
Medium Trucks:	61.4	53.3	46.9	45.3	53.8	54.1
Heavy Trucks:	65.9	53.9	44.9	46.1	55.6	55.8
Vehicle Noise:	**68.2**	**63.2**	**60.4**	**55.3**	**63.9**	**64.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	218
65 dBA	101
70 dBA	47
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	Valpico Road to Linne Road		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	24345
Peak Hour Traffic:	**2434.5**
Vehicle Speed:	40
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

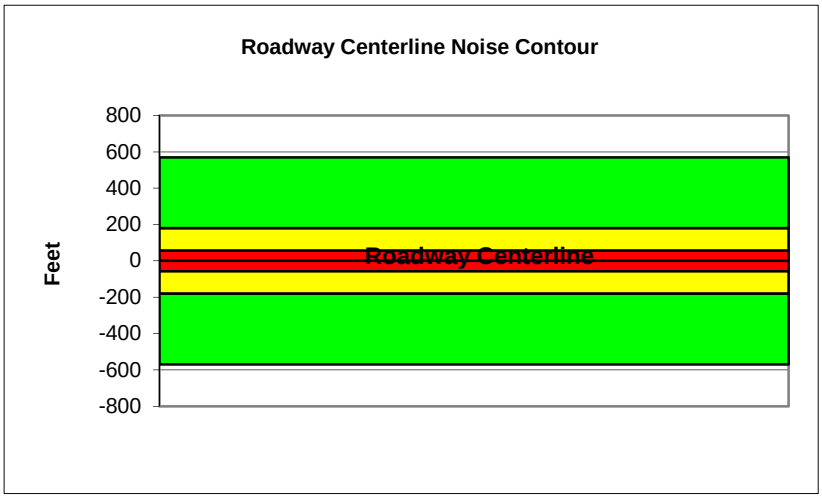
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.3	64.1	62.3	56.2	64.8	65.5
Medium Trucks:	64.2	56.2	49.8	48.2	56.7	56.9
Heavy Trucks:	69.1	57.2	48.1	49.3	59.0	59.2
Vehicle Noise:	**71.5**	**65.6**	**62.7**	**57.8**	**66.4**	**66.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	570
65 dBA	180
70 dBA	57
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	Corral Hollow Road to Tracy Boulevard		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	39185
Peak Hour Traffic:	**3918.5**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

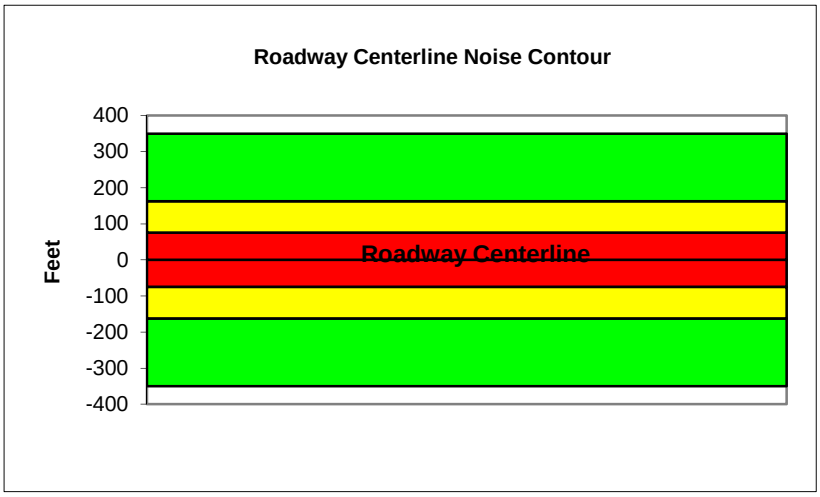
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.2	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	64.4	56.4	50.0	48.4	56.9	57.1
Heavy Trucks:	69.0	57.0	48.0	49.2	58.7	58.9
Vehicle Noise:	**71.3**	**66.2**	**63.5**	**58.4**	**67.0**	**67.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	350
65 dBA	162
70 dBA	75
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	Tracy Boulevard to MacArthur Drive		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	27730
Peak Hour Traffic:	**2773**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

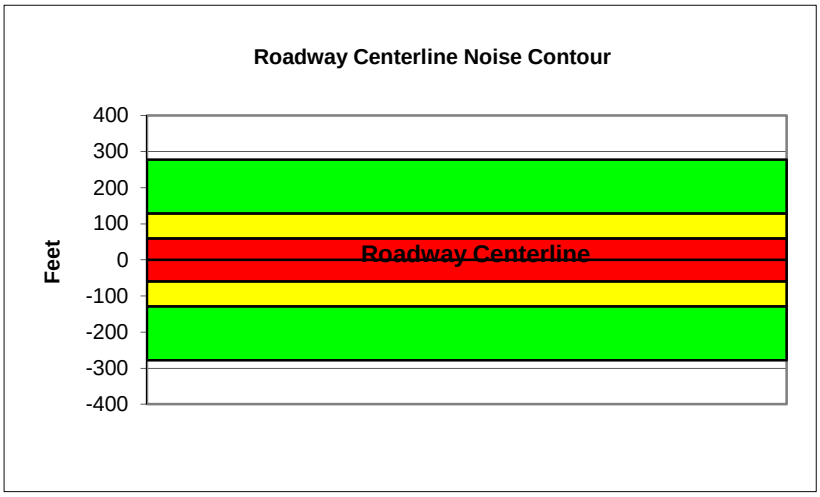
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.7	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	62.9	54.9	48.5	46.9	55.4	55.6
Heavy Trucks:	67.5	55.5	46.5	47.7	57.2	57.4
Vehicle Noise:	**69.8**	**64.7**	**62.0**	**56.9**	**65.5**	**66.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	278
65 dBA	129
70 dBA	60
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Lammers Road		
Road Segment:	Old Schulte Road to Valpico Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	64740
Peak Hour Traffic:	**6474**
Vehicle Speed:	40
Centerline Separation:	20

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

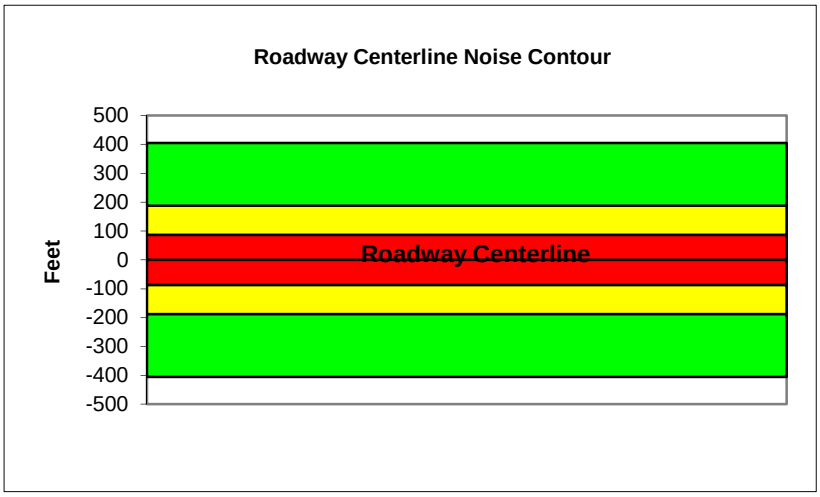
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.0	65.8	64.0	57.9	66.5	67.1
Medium Trucks:	65.9	57.9	51.5	49.9	58.4	58.6
Heavy Trucks:	70.8	58.8	49.8	51.0	60.7	60.8
Vehicle Noise:	**73.1**	**67.3**	**64.4**	**59.5**	**68.0**	**68.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	405
65 dBA	188
70 dBA	87
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tracy Boulevard		
Road Segment:	South of Linne Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3310
Peak Hour Traffic:	**331**
Vehicle Speed:	40
Centerline Separation:	22

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

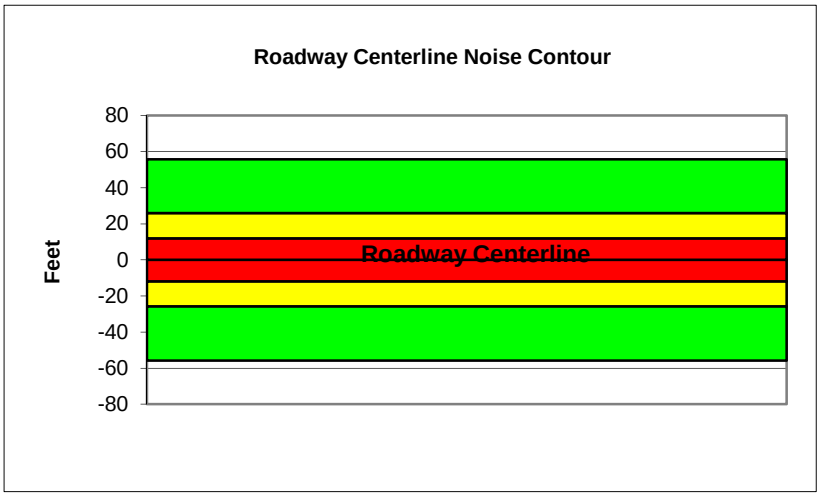
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.0	52.8	51.0	44.9	53.6	54.2
Medium Trucks:	53.0	44.9	38.5	36.9	45.4	45.7
Heavy Trucks:	57.8	45.9	36.8	38.0	47.7	47.9
Vehicle Noise:	**60.2**	**54.4**	**51.4**	**46.5**	**55.1**	**55.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	56
65 dBA	26
70 dBA	12
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	East of Chrisman Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14140
Peak Hour Traffic:	**1414**
Vehicle Speed:	55
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

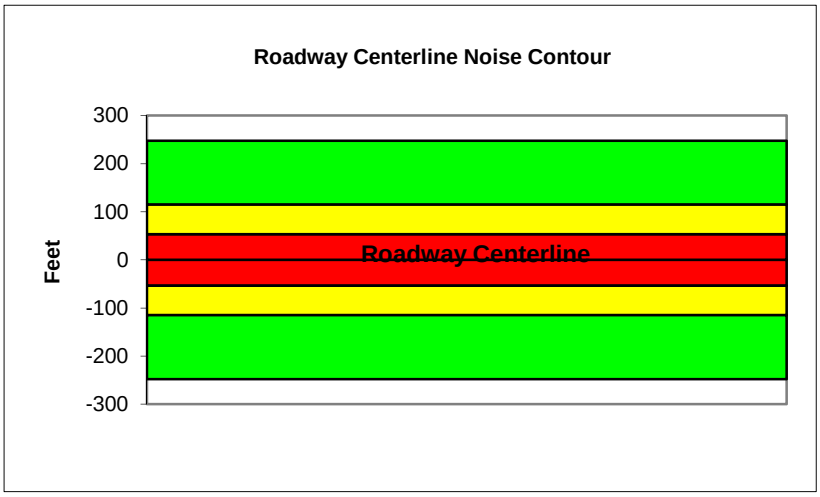
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.2	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	61.4	53.3	46.9	45.3	53.8	54.1
Heavy Trucks:	65.3	53.4	44.3	45.6	54.8	54.9
Vehicle Noise:	**67.6**	**64.0**	**61.5**	**56.1**	**64.7**	**65.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	248
65 dBA	115
70 dBA	53
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Linne Road		
Road Segment:	MacArthur Drive to Chrisman Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	21360
Peak Hour Traffic:	**2136**
Vehicle Speed:	45
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

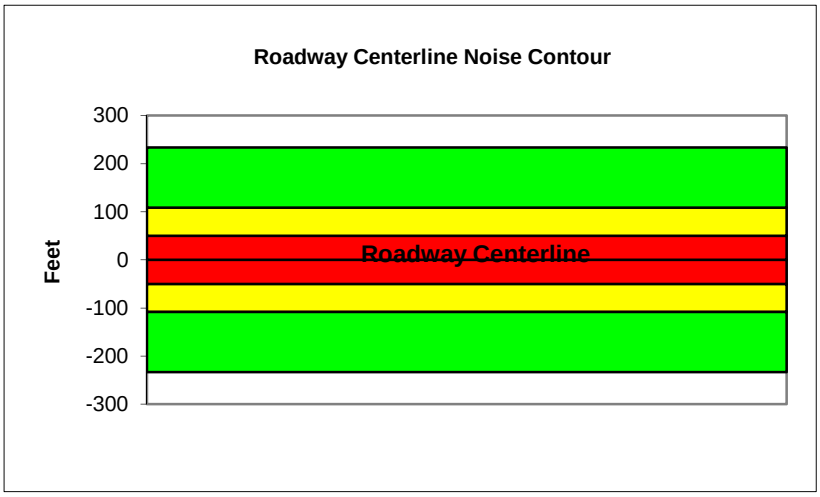
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	61.8	53.7	47.4	45.8	54.3	54.5
Heavy Trucks:	66.3	54.4	45.3	46.5	56.1	56.2
Vehicle Noise:	**68.7**	**63.6**	**60.9**	**55.7**	**64.3**	**64.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	233
65 dBA	108
70 dBA	50
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Altamont Pass Road		
Road Segment:	West of Greenville Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	22140
Peak Hour Traffic:	**2214**
Vehicle Speed:	45
Centerline Separation:	26

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

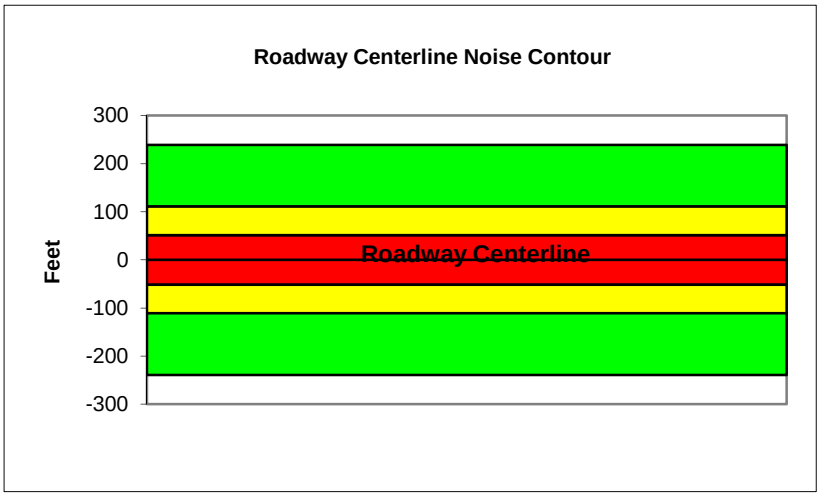
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.6	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	61.9	53.8	47.5	45.9	54.4	54.6
Heavy Trucks:	66.4	54.5	45.4	46.7	56.2	56.3
Vehicle Noise:	**68.8**	**63.7**	**61.0**	**55.8**	**64.4**	**64.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	239
65 dBA	111
70 dBA	52
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Patterson Pass Road		
Road Segment:	West of Greenville Road		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	6620
Peak Hour Traffic:	**662**
Vehicle Speed:	45
Centerline Separation:	42

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

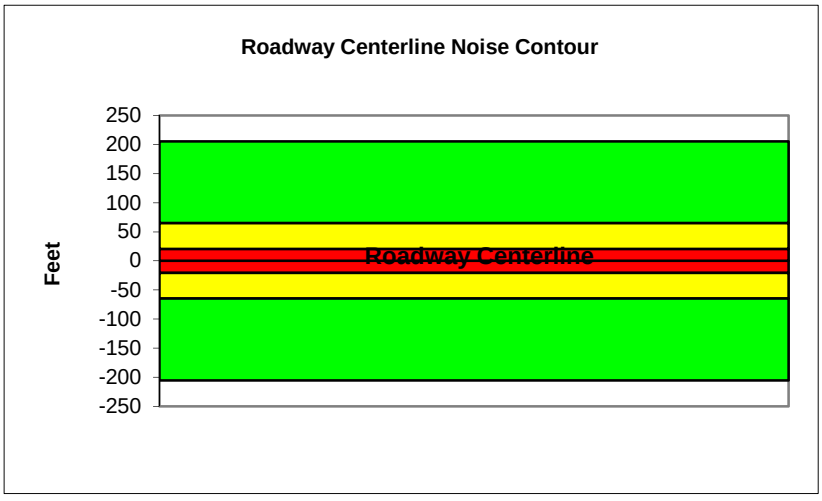
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.1	59.9	58.1	52.0	60.6	61.2
Medium Trucks:	59.4	51.3	44.9	43.3	51.8	52.1
Heavy Trucks:	63.9	51.9	42.9	44.1	53.6	53.8
Vehicle Noise:	**66.2**	**61.2**	**58.4**	**53.3**	**61.9**	**62.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	206
65 dBA	65
70 dBA	21
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Tracy Hills EIR	Scenario:	Future Plus Project
Analyst:	Ryan Chiene	Job #:	135721
Roadway:	Tesla Road		
Road Segment:	West of Greenville Road		

PROJECT DATA			
Centerline Dist to Barrier:	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**5.5**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	15520
Peak Hour Traffic:	**1552**
Vehicle Speed:	50
Centerline Separation:	24

NOISE INPUTS

Site conditions:**SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

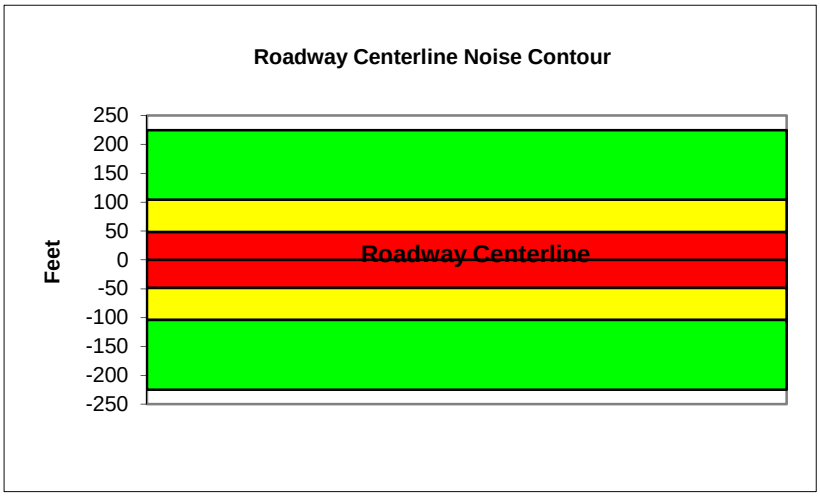
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	61.1	53.1	46.7	45.1	53.6	53.8
Heavy Trucks:	65.4	53.4	44.4	45.6	55.0	55.1
Vehicle Noise:	**67.7**	**63.3**	**60.8**	**55.5**	**64.1**	**64.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	225
65 dBA	104
70 dBA	48
Mitigated	
60 dBA	
65 dBA	
70 dBA	



TRACY HILLS PHASE 1

NOISE IMPACT ANALYSIS

CITY OF TRACY

Prepared for:

The Tracy Hills Project Owner, LLC
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Newport Beach, CA 92660

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November 14, 2013

JN:08559-10 Report.docx

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APPENDICES

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LIST OF ABBREVIATED TERMS

(1)	Reference
AADT	Annual Average Daily Truck Traffic
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
FHWA	Federal Highway Administration
INCE	institute of Noise Control Engineering
K-Factor	Traffic Noise Model Correction Factor
Leq	Equivalent continuous sound level
Lmax	Maximum level measured over the time interval
Lmin	Minimum level measured over the time interval
mph	Miles per hour
NLR	Noise Level Reduction
NSR	Noise Study Report
NAC	Noise Abatement Criteria
Project	Tracy Hills Phase 1
RCNM	Roadway Construction Noise Model
STC	Sound Transmission Class
TeNS	Technical Noise Supplement
TNM	Traffic Noise Model Version 2.5

EXECUTIVE SUMMARY

A noise study has been completed to determine the noise exposure and the necessary noise abatement measures for the proposed Tracy Hills Phase 1 residential ("Project"). The project site is located east of Interstate 580 (I-580) and north of South Corral Hollow Road in the City of Tracy. The purpose of this noise analysis is to ensure that the proposed development is compatible with the existing and future noise environment.

ON-SITE TRAFFIC NOISE IMPACTS

The results of this analysis indicate that future vehicle noise from the I-580 Freeway is the principal sources of community noise that will impact the project site. Based on the noise exposure potential for the Tracy Hills Phase 1, the project site plan was specifically designed to account for the noise impacts associated with the I-580 Freeway. To reduce the noise exposure to the noise sensitive residential areas, several design features were considered as part of the site planning process. These design features include, providing additional setbacks, changing the residential building orientations to limit private uses facing the I-580 Freeway, providing noise barriers where possible (berms and masonry walls), as well as plans to provided enhanced noise rated building assembly design and insulation features.

EXTERIOR NOISE LEVELS

To predict the future exterior noise levels, a traffic noise prediction model was developed. Using the Tracy Hills Phase 1 noise prediction model, the flown aerial topographic files and the project grading plans, the future on-site exterior noise levels are expected to range from 58.9 to 73.3 dBA CNEL with the construction of the planned eight foot high noise barrier. Exhibit ES-1 illustrates the future exterior noise level impacts and the location of the planned eight-foot high noise barrier for the Tracy Hills Phase 1 project.

Based on the City of Tracy *Land Use Compatibility for Community Noise Environments,* single-family residential exterior noise levels of less than 75 dBA CNEL are considered as "*Conditionally Acceptable"* provided that a detailed analysis of the noise reduction requirements and needed noise insulation features have been included in the design.

INTERIOR NOISE LEVELS

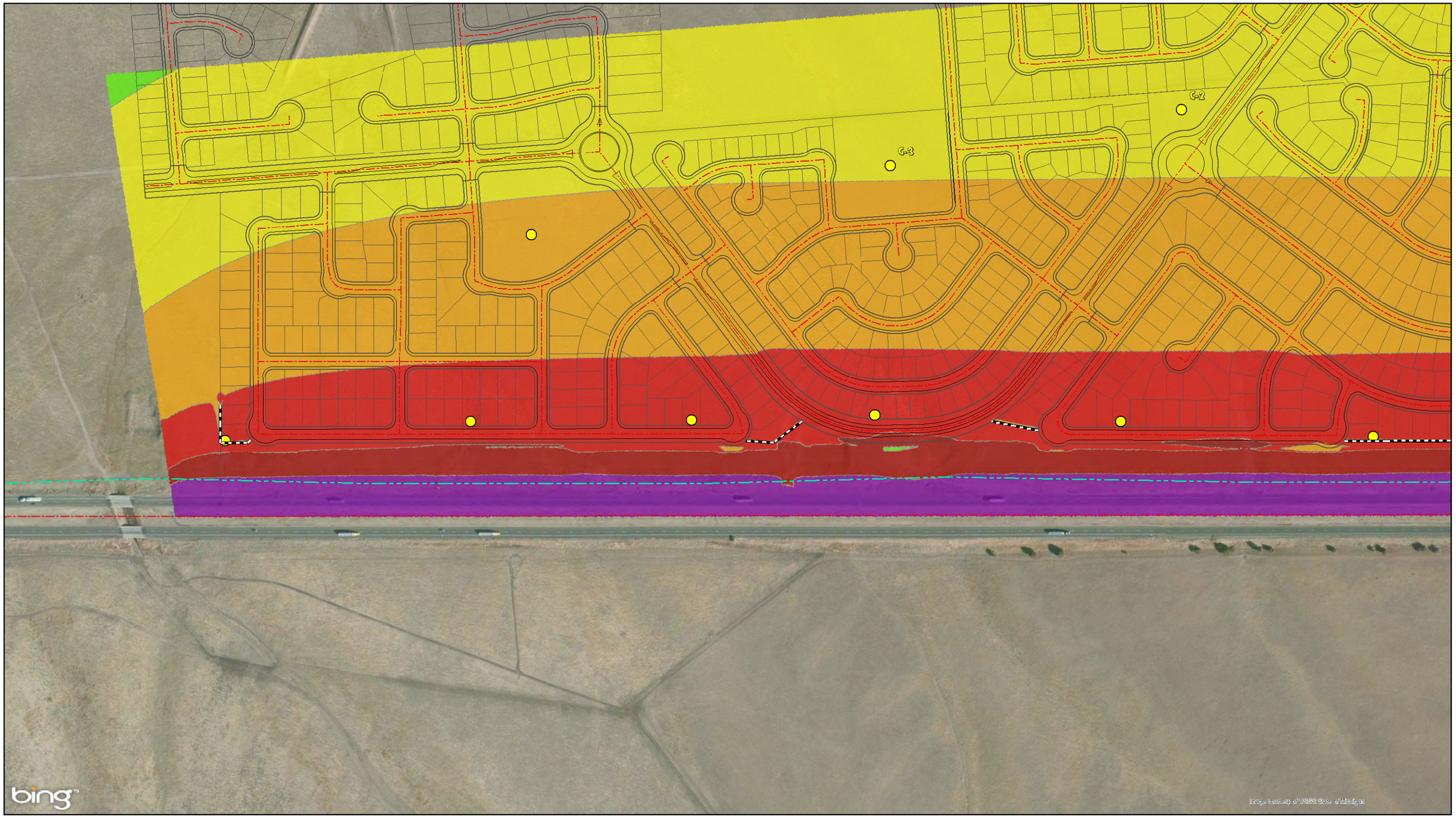
To satisfy the City of Tracy 45 dBA CNEL interior noise level criteria, lots facing the I-580 Freeway will require a Noise Level Reduction (NLR) of up to 28.3 dBA and a windows closed condition necessitating a means of mechanical ventilation (e.g. air conditioning). The interior noise level analysis shows that the City of Tracy 45 dBA CNEL interior noise level standards can likely be satisfied using upgraded windows with a minimum STC rating of 33. With the recommended interior noise abatement measures provided in this study, the proposed Tracy Hills Phase 1 Project is expected to meet the City of Tracy 45 dBA CNEL interior noise level standards for residential development. A final noise study shall be prepared prior to obtaining building permits for the Project. This report will finalize the abatement measures that are proposed in this report using the precise grading plans and actual building design specifications.

OFF-SITE TRAFFIC NOISE IMPACTS

Traffic generated by the Project will influence the off-site traffic noise levels in surrounding areas. To quantify the traffic noise impacts off-site on the surrounding areas, the changes in traffic noise levels on 18 roadway segments surrounding the Project site were estimated based on the change in the average daily traffic volumes. The traffic noise levels provided in this analysis are based on the traffic forecasts provided in the *Tracy Hills Phase 1 Traffic Impact Analysis* prepared by Kimley-Horn Associates, October 2013.

To assess the noise level impacts associated with the Project, noise contour boundaries were developed for Existing, Existing Plus Project and Cumulative traffic conditions. This analysis shows that the development of the Project will generate an unmitigated exterior noise level increase of up to 4.1 dBA CNEL. Based on the noise impact significance criteria described in Section 4.2, this off-site traffic noise level increase is considered a significant impact for existing with project conditions.

EXHIBIT ES-1: TRAFFIC NOISE ANALYSIS



Legend

- Modeled Receptor Locations
- 8-Foot Recommended Noise Barrier
- >80 dBA CNEL: "Unacceptable"
- 75-80 dBA CNEL: "Unacceptable"
- 70-75 dBA CNEL: "Conditionally Acceptable"
- 65-70 dBA CNEL: "Conditionally Acceptable"
- 60-65 dBA CNEL: "Conditionally Acceptable"
- < 60 dBA CNEL: Normally Acceptable"

0 100 200
FEET

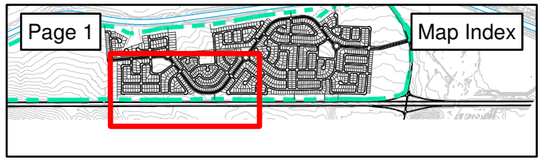


EXHIBIT ES-1
Page 1 of 2

Traffic Noise Analysis

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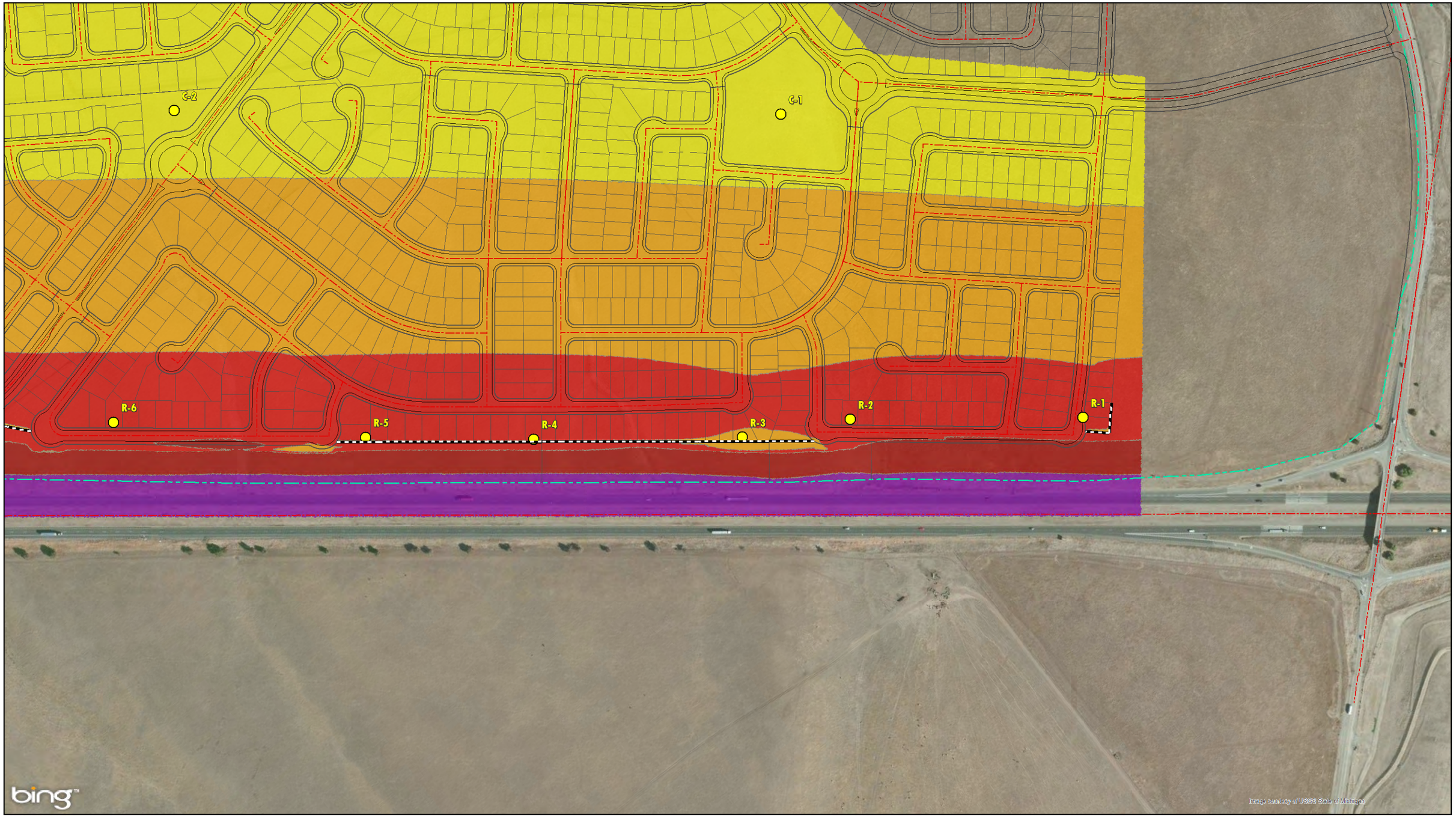
URBAN CROSSROADS



Legend

- Modeled Receptor Locations
- 8-Foot Recommended Noise Barrier
- >80 dBA CNEL: "Unacceptable"
- 75-80 dBA CNEL: "Unacceptable"
- 70-75 dBA CNEL: "Conditionally Acceptable"
- 65-70 dBA CNEL: "Conditionally Acceptable"
- 60-65 dBA CNEL: "Conditionally Acceptable"
- < 60 dBA CNEL: Normally Acceptable"

0 100 200
FEET

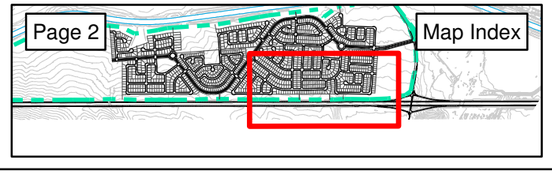


EXHIBIT ES-1
Page 2 of 2

Traffic Noise Analysis

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URBAN CROSSROADS

1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Tracy Hills Phase 1 project. This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides the study methods and procedures for traffic noise analysis, and evaluates the future exterior noise environment.

1.1 SITE LOCATION

The proposed Tracy Hills Phase 1 development is located within the City of Tracy, east of Interstate 580 (I-580) and north of South Corral Hollow Road as shown on Exhibit 1-A. The Project site is currently vacant and undeveloped.

EXHIBIT 1-A: LOCATION MAP

1.2 PROJECT DESCRIPTION

The Project includes construction of approximately 1,200 residential lots and 50 acres of business park use, Exhibit 1-B illustrates a preliminary conceptual site plan.

EXHIBIT 1-B: SITE PLAN

2 FUNDAMENTALS

Noise has been simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud.(1) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort.(2) Another

important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (Leq). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite twenty-four hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA Leq sound levels in the evening from 7 p.m. to 10 p.m., and the addition of 10 decibels to dBA Leq sound levels at night between 10 p.m. and 7 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any particular time, but rather represents the total sound exposure. The City of Tracy relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receptor is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also

been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receptor, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receptor such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source.

2.3.3 ATMOSPHERIC EFFECTS

Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 ft) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby resident. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The FHWA does not consider the planting of vegetation to be a noise abatement measure.

2.4 TRAFFIC NOISE PREDICTION

According to the *Highway Traffic Noise Analysis and Abatement Policy and Guidance,* provided by the Federal Highway Administration, the level of traffic noise depends on three primary factors: the volume of the traffic, the speed of the traffic, and the vehicle mix within the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and a greater number of trucks.(3) A doubling of the traffic volume, assuming that the speed and vehicle mix do not change, results in a noise level increase of 3 dBA. The vehicle mix on a given roadway may also have an effect on community noise levels. As the number of medium and heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise level impacts will increase. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires on the roadway.

2.5 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for a particular observation point or receptor by controlling the noise source, transmission path, receptor, or all three. This concept is known as the source-path-receptor concept. In general, noise control measures can be applied to any and all of these three elements.

2.6 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receptor. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the view of the noise source. (3)

2.7 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches and residences are more sensitive to noise intrusion than are commercial or industrial activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process.

The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (4)

2.8 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon each individual's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level of the receptor;
- Noise receptor's perception that they are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Receptor's belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (5) Surveys have shown that about ten percent of the

people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (5)

Despite this variability in behavior on an individual level, the population as a whole can be expected to exhibit the following responses to changes in noise levels. An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments, a change of 3 dBA are considered "barely perceptible," and changes of 5 dBA are considered "readily perceptible." (3)

3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains fairly constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared according to guidelines adopted by the Governor's Office of Planning and Research. (6) The purpose of the Noise Element is to "limit the exposure of the community to excessive noise levels". In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 STATE OF CALIFORNIA BUILDING CODE

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL. There is no interior noise standard for industrial warehousing uses such as the building proposed by the Tracy Hills Phase 1.

3.3 CITY OF TRACY GENERAL PLAN NOISE ELEMENT

The City of Tracy General Plan Noise Element (7) identifies several policies to minimize the impacts of excessive noise levels throughout the community. The General Plan Noise Element policies are designed to accomplish the following objectives:

- Ensure appropriate exterior and interior noise levels for new development (Objective N-1.1),
- Control sources of excessive noise (Objective N-1.2)
- Consider noise issues in the development review process (Objective N-1.3)

The objectives and policies contained in the General Plan Noise Element (included in Appendix 3.1) can also be described in terms of land use compatibility, transportation related noise sources, and non-transportation related noise sources.

3.3.1 LAND COMPATIBILITY

To ensure that residents are protected from excessive noise, the City of Tracy General Plan Noise Element provides guidelines to evaluate the Land Use Compatibility for Community Noise Environment (Figure 9-3). These guidelines are based on the Governor's Office of Planning and Research (6) and are used to assess the Community Noise Environment on land uses. According to the Land Use Compatibility for Community Noise Environment guidelines, noise sensitive land uses such as single family residences are *normally acceptable* with exterior noise levels below 60 dBA CNEL and *conditionally acceptable* with noise levels below 75 dBA CNEL. For multi-family residential, exterior noise levels below 65 dBA CNEL are considered *normally acceptable.* The City of Tracy General Plan Noise Element is included in Appendix 3.1.

3.3.2 TRANSPORTATION RELATED NOISE SOURCES(8)

The General Plan Noise Element defines the appropriate exterior and interior noise levels in Objective N-1.1 for new land uses and requires that measures be incorporated into all new development to attenuate exterior and/or interior noise levels to those considered normally acceptable for the land use. Specifically, Policy P3 states that all new single family residential development shall maintain a noise standard of 60 CNEL for exterior noise in private use areas and Policy P6 states that all multi-family residential developments shall maintain a standard of 65 CNEL for community outdoor recreation areas. Policy P5 states that all new residential projects shall maintain an interior standard of 45 CNEL. In areas where the existing noise level is above 60 CNEL, the proposed General Plan states that new residential projects shall be analyzed according to protocols in the California Building code (Policy P8). Further, Policy P9 states that measures to attenuate exterior and/or interior noise levels to acceptable levels shall be incorporated into all developments.

Further, the City shall not allow new noise sensitive land uses in areas where measures cannot be implemented to reduce noise levels to normally acceptable levels (Policy P1). Additional policies would reduce the impacts of introducing noise sensitive uses in noisy areas by considering noise issues in the development review process and requiring that significant noise impacts be mitigated. The implementation of the General Plan Noise Element policies would adequately reduce noise impacts to a less-than-significant level.

3.3.3 NON-TRANSPORTATION RELATED NOISE SOURCES

The most effective method to control community noise impacts from non-transportation noise sources is through the application of a community noise control ordinance. The policies contained in the Noise Control Ordinance (9) are designed to protect residents from the

negative effects of “spillover” or nuisance noise. Nuisance noise conflicts would be caused by noise sources such as outdoor dining areas or bars, mechanical equipment, outdoor maintenance areas, truck loading docks and parking lots. The City of Tracy Noise Control Ordinance is included in Appendix 3.2.

The City of Tracy has set restrictions to control noise impacts associated with the construction of the proposed project. Objective N-1.2 Policy P4 limits construction in the vicinity of noise sensitive land uses during the daylight hours or 7:00 a.m. to 7:00 p.m.

4 SIGNIFICANCE CRITERIA

The following significance criteria are based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. For the purposes of this report, noise impacts would be potentially significant if the Project is determined to result in or cause:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- A substantial permanent increase in ambient noise levels in the Project vicinity above existing levels without the proposed Project; or
- A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above noise levels existing without the proposed Project.

While the CEQA Guidelines and the City of Tracy noise standards provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts under the first threshold, they do not define the levels at which increases are considered substantial for use under the second and third threshold. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels and the location of noise-sensitive receptors in order to determine if a noise increase represents a significant adverse environmental impact.

4.1 DIRECT PROJECT IMPACTS

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development:

- If single family residential development exceeds the *"normally acceptable"* exterior noise level of 60 dBA CNEL in private use areas
- If multi-family residential exceeds the "*normally acceptable"* exterior noise level of 65 dBA CNEL for outdoor recreation areas.
- If any new residential development exceeds an interior standard of 45 CNEL.
- If project-related construction activities occur in the vicinity of noise sensitive land uses during the daylight hours or 7:00 a.m. to 7:00 p.m.

4.2 CUMULATIVE PROJECT IMPACTS

The level of significance attributed to the cumulative project impacts are based on the noise levels with and without the project. The significance of cumulative noise impacts varies depending on the condition of the environment and the project related noise level increases. For example, if the ambient noise environment is quiet and the new noise source greatly increase the noise levels, an impact may occur even though the noise criteria might not be exceeded. Therefore, for the purpose of this analysis, a "readily perceptible" a 5 dBA or greater project related noise level increase is considered a significant impact.

In areas where the without project noise levels range from 60 to 65 dBA and noise levels impacts become noticeable at some value of greater than 1 dBA, and a 3 dBA "barely perceptible" noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact since it likely contributes to an existing noise deficiency. Table 4.1 below provides a summary of the cumulative noise impact significance criteria.

TABLE 4-1: SIGNIFICANCE OF CUMULATIVE NOISE IMPACTS

Without Project Noise Level (CNEL)	Project Related Significant Impact
< 60 dBA	5 dBA or more
60 - 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Based on the Community Response to Noise Surveys contained in the U.S. Environmental Protection Agency Office of Noise Abatement and Control, Noise Effects Handbook-A Desk Reference to Health and Welfare Effect of Noise, October 1979 (revised July 1981).

5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, two long-term (LT) twenty-four hour and four short-term (ST) twenty minute noise measurements were taken at noise sensitive receptor locations in the Project study area. Noise sensitive receptors are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Since it is not practical to collect measurements at each individual building or residence, each receptor measurement represents a group of buildings that share acoustical equivalence. In other words, the area represented by the receptor shares similar shielding, terrain, and geometric relationship to the reference noise source. While receptors represent a location of noise sensitive areas, receivers represent noise modeling locations used to estimate the future noise level impacts

5.1 LONG-TERM NOISE LEVEL MEASUREMENTS

To describe the typical weekday noise environment and identify the peak noise hour, two long-term hourly noise level measurements were collected within the project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. The noise level measurements were recorded by Urban Crossroads, Inc. on Thursday, May 30, 2013. Appendix 5.1 includes study area photos

5.1.1 LONG-TERM MEASUREMENT PROCEDURE AND CRITERIA

The long-term noise level measurements were recorded using two Quest DL Pro data logging Type 2 noise dosimeters. The Quest DL noise dosimeters were calibrated using a Quest QC-10 calibrator. The long-term noise level measurement results are included in Appendix 5.2.

5.1.2 LONG-TERM MEASUREMENT RESULTS

The results of the long-term noise level measurements are presented in Table 5-1. Table 5-1 identifies the observed energy average hourly noise levels observed between the hours of 3 a.m. and 8 a.m. Recognizing that measurements should not be made when wind speeds exceed 12 mph (10) the remaining hours with wind speeds exceeding 8 mph were not included in the average hourly noise level summary. Wind conditions exceeding 8 mph are common throughout the project area. This is reflected in the fact that wind mills are located near the project site. Appendix 5.2 provides a summary of the long-term existing hourly ambient noise level measurements and meteorological conditions at the locations described below:

- Location LT-1 was positioned north at the edge of Caltrans Right-of-Way approximately 40 feet north of the edge of pavement for the northbound I-580 travel lanes. The existing energy (logarithmic) average hourly noise level observed at this location was measured at 72.6 dBA
- Location LT-2 represents the center of the project site approximately 1,700 feet north of the edge of pavement for the northbound I-580 travel lanes. The observed energy average hourly noise level produced a measurement of 55.0 dBA Leq.

TABLE 5-1: LONG-TERM (AMBIENT) NOISE LEVEL MEASUREMENTS

Observer Location[1]	Date	Description	Average Hourly Noise Level (Leq dBA)[2]
LT-1	10/30/2013	At the edge of Caltrans Right-of-Way approximately 40 feet north of the edge of pavement for the northbound I-580 travel lanes.	72.6
LT-2	10/30/2013	In the center of the project site approximately 1,700 feet north of the edge of pavement for the northbound I-580 travel lanes.	55.0

[1] See Exhibit 5-A for the location of the monitoring sites.
[2] Energy (logarithmic) average hourly levels observed between the hours of between 3am and 8am. Due to wind conditions exceeding 8 mph, the remaining hours were not included in the Average Hourly Noise Level Summary. The long-term measurements printouts are included in Appendix 5.2.

5.2 SHORT-TERM NOISE LEVEL MEASUREMENT

To describe the peak hour weekday noise environment, four short-term (twenty-minute) noise level measurements were collected at noise sensitive receptors locations within the project study area as shown on Exhibit 5-A.

5.2.1 PROCEDURES AND CRITERIA

Short-term Noise level measurements were taken in accordance with the procedures described in the with Caltrans Technical Noise Supplement (TeNS).(11) All short-term noise level measurements were collected using a Larson Davis Model 824 Type 1 precision sound level meter. The measurements were collected for a 20 minute time period at each location. The Larson Davis Model 824 sound level meter was calibrated before the monitoring using a Larson-Davis calibrator, Model CAL 150. All noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (Standard S1.4-1983).

To describe the existing traffic conditions, traffic volumes on the I-580 Freeway were classified and counted during each of the four short-term noise measurements. Vehicles were classified as automobiles, medium trucks, or heavy trucks. Automobiles are vehicles with two axles and four tires that are designed primarily to carry passengers; small vans and light trucks are included in this category. Medium trucks include all cargo vehicles with two axles and six tires. Heavy trucks include all vehicles with three or more axles. The posted speed limit on I-580 Freeway is 70 miles per hour (mph). The traffic conditions were modeled in TNM 2.5 (12) and compared to the field measurement results in order to calibrate the noise prediction model. Consistent with Caltrans Technical Noise Supplement (TeNS) (11) the following measurement procedures were utilized:

- Calibrate sound level meter before and after each measurement.
- Set up sound level meter at a height of 5 ft for all locations.
- A windscreen was placed over the microphone.
- Frequency weighting was set on “A” and “FAST” response.

- Commence noise monitoring.
- Collect site-specific data, such as date, time, direction of traffic, vehicle speed, and the location of the sound level meter relative to any existing feature.
- Count passing vehicles for a period of 20 minutes concurrently with noise measurement. Vehicles were split into three categories: automobiles, medium trucks, and heavy trucks.
- Wind speed, temperature, humidity, and weather conditions were observed and documented.
- During the noise measurements, any excessive noise contamination such as barking dogs, lawn mowers, and/or aircraft flyovers were noted.
- Measurements were stopped after 20 minutes.
- Calibrate sound level meter.
- Proceed to next monitoring site and repeat.

The traffic counts were expanded to hourly volumes (multiplied by three to normalize the results to hourly values) and entered into Traffic Noise Model (TNM) 2.5 for each monitoring site. The monitoring results were then used to calibrate the model outputs.

5.2.2 SHORT-TERM MEASUREMENT RESULTS

Short-term measurements were taken at four locations (ST-1 to ST-4) during free flow traffic conditions. To accurately describe the existing traffic conditions during each of the four short-term noise level measurements, traffic counts by vehicle type were collected concurrently during the same noise measurement period by vehicle type on the I-580 Freeway.

TABLE 5-2: SHORT-TERM NOISE MEASUREMENT RESULTS

ID	dBA Leq	Start Time	Duration (Minutes)	Date	Location	Volume			Speed Limit (mph)
						Autos	Medium Trucks	Heavy Trucks	
ST-1	62.0	6:38 AM	20	5/30/2013	I-580 NB	322	11	67	70/55
					I-580 SB	130	7	43	70/55
ST-2	65.8	7:02 AM	20	5/30/2013	I-580 NB	273	8	78	70/55
					I-580 SB	124	7	49	70/55
ST-3	64.3	7:25 AM	20	5/30/2013	I-580 NB	280	10	67	70/55
					I-580 SB	119	5	26	70/55
ST-4	65.6	7:48 AM	20	5/30/2013	I-580 NB	243	8	70	70/55
					I-580 SB	135	10	33	70/55
Average					I-580 NB	280	9	71	70/55
					I-580 SB	127	7	38	70/55

Legend

- Long-Term Monitoring Location
- Short-Term Monitoring Location

0 100 200
FEET

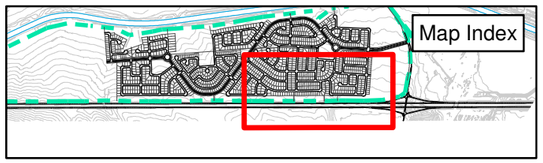

EXHIBIT 5-A

Noise Measurement Locations

6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future on and off-site traffic noise environment.

6.1 ON-SITE TRAFFIC NOISE PREDICTION

On-site Traffic noise levels were estimated using the FHWA Traffic Noise Model version 2.5 (TNM). TNM 2.5 is a computer model based on two FHWA reports: FHWA-PD-96-009 (13) and FHWA-PD-96-010. (12) TNM was used to predict the existing and future traffic noise levels at specific receiver locations. Inputs to TNM include:

- the three-dimensional coordinate of the roadways, noise receivers, and topographic or planned barrier that would affect noise propagation;
- vehicle volumes and speeds, by type of vehicle;
- absorptions factors based on modeled ground type; and
- adjustment factors (K-factors)

To ensure that the TNM accurately reflects the existing and future conditions, the elevations used for Tracy Hills Phase 1 noise prediction model were based on the flown aerial topographic files in combination with the project grading plan elevations.

6.1.1 MODEL CALIBRATION

To validate the accuracy of the model, TNM 2.5 was used to compare the measured traffic noise levels to the modeled noise levels. At each noise measurement location, the I-580 Freeway traffic volumes were collected at the same time as the short-term noise level measurements. Table 5-2 presents a summary of the traffic volumes counted at each short-term noise level measurement location. Using the average traffic counts by vehicle type (autos, medium truck and heavy trucks) the counts were then were normalized (20 minute traffic count multiple by a factor of 3 to arrive at an hourly estimate) in order to describe the one hour traffic conditions. The normalized average traffic volumes shown on Table 6-1 were then input into the traffic noise prediction model to simulate the traffic noise levels during the actual measurement period. Modeled and measured sound levels were then compared to validate the accuracy of the model and to determine if calibration of the model is necessary.

Recognizing that traffic noise prediction models cannot account for all the variables present in the real world, the models should be calibrated with actual measurements. The purpose of model calibration is to fine-tune the prediction model to actual site conditions that may not adequately accounted for by the model. (11) The calibration model run results shown on Table 6-2 suggest that the TNM model overstates the noise levels by 0.8 to 2.8 dBA Leq at the short-term noise level measurement location of ST-1 through ST-4. Depending on the results, correction factors known as K-Factors may be applied to each of the modeled receptor locations. However, since the differences between the model results and the actual measurements were less than 3 dBA, the raw TNM model results were validated without the need to apply the K-factors.

TABLE 6-1: EXISTING PEAK HOUR TRAFFIC CONDITIONS

Roadway	Hourly Traffic Volume[1]				Vehicle Percentages			
	Auto	Medium Trucks	Heavy Trucks	Total	Auto	Medium Trucks	Heavy Trucks	Split[2]
I-580 Northbound	839	28	212	1,078	77.8%	2.6%	19.6%	67.6%
I-580 Southbound	381	22	113	516	73.8%	4.2%	21.9%	32.4%
Totals	1,220	50	325	1,594				

[1] Peak traffic conditions observed during short-term noise level measurements.
[2] Represents the peak hour northbound / southbound I-580 directional split.

TABLE 6-2: CALIBRATION RESULTS

ID	Measured Noise Level (dBA Leq)	Modeled Noise Level (dBA Leq)	K-Factor (dBA Leq)
ST-1	62.0	62.8	0.8
ST-2	65.8	68.6	2.8
ST-3	64.3	65.1	0.8
ST-4	65.6	66.9	1.3

6.1.2 FUTURE TRAFFIC CONDITIONS

Based on a review of 2011 Annual Average Daily Truck Traffic (AADT) on the California Highway System, the I-580 Freeway currently serves 30,000 vehicles per day. (14) According to the Interstate 580 Transportation Concept Report, this volume is expected to increase to a future volume of approximately 70,000 vehicles per day. (15) Using the existing peak hour to AADT relationship and the normalized average vehicle mix observed during the short-term noise level measurements (Table 6-1) future hourly direction traffic volumes were estimated. The future hourly traffic volumes shown on Table 6-3 were used to estimate the worst-case future traffic conditions at noise receiver locations throughout the project study area.

6.1.3 NOISE LEVEL CONVERSION

The City of Tracy General Plan Noise Element relies on the 24-hour Community Noise Equivalent Level (CNEL) to assess land use compatibility with transportation noise level impacts. However, TNM is a peak hour based noise prediction model. Therefore, it is necessary to translate the peak hour based TNM results into a 24-hour CNEL for comparison to the City's noise criteria. Section 2.2.3 of the Caltrans Technical Noise Supplement provides a formula that allows a reasonably accurate conversion between the worst hourly noise levels to CNEL. For the I-580 Freeway the noise level conversion effectively adds 5 dBA to the peak hour Leq to arrive at an equivalent CNEL. Therefore, a peak hour noise level of 57 dBA Leq is equivalent to a daily level of 62 dBA CNEL.

TABLE 6-3: FUTURE TRAFFIC VOLUMES

Condition	Location	AADT	Peak Hour Volume[1]	TNM Traffic Volume[2]		
				Autos	Medium Trucks	Heavy Trucks
Existing (2012)[3]	I-580 NB	20,287	1,078	839	28	212
	I-580 SB	9,713	516	381	22	113
	Total	30,000	1,594	1,220	50	325
Future[4]	I-580 NB	47,336	2,515	1,957	65	494
	I-580 SB	22,664	1,204	889	51	264
	Total	70,000	3,719	2,846	116	758

[1] Peak hour volume based on directional split observed during existing peak hour traffic conditions (See Table 5-1).
[2] TNM peak hour traffic volumes (based on the existing peak hour to AADT traffic relationship) used to estimate the future levels.
[3] Annual Average Daily Traffic (AADT) obtained from Caltrans Traffic Data Branch 2011.
[4] Future I-580 AADT volumes provided in the Caltrans Interstate 580 Transportation Concept Report November 2003.

6.2 OFF-SITE TRAFFIC NOISE PREDICTION

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (16) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELS are substituted with the California Vehicle Noise (Calveno) Emission Levels.(17) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period.

Table 6-4 presents the roadway parameters used to assess the off-site transportation noise impacts. Table 6-4 identifies the 18 study area roadway segments, the functional roadway classifications according to the General Plan Circulation Element, the number of lanes and the vehicle speeds. For the purpose of this analysis, soft site conditions were used to analyze the traffic noise impacts for the Project study area. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation.

The Existing, Existing Plus Project and Cumulative average daily traffic volumes used for this study a presented in Table 6-5 were provided by the *Tracy Hills Phase 1 Traffic Impact Analysis* prepared by Kimley-Horn Associates, October 2013. (18) Table 6-6 presents the hourly traffic flow distributions (vehicle mix) used for this analysis.

TABLE 6-4: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Roadway Section[1]	Vehicle Speed (MPH)
1	Tracy Boulevard	South of Linne Rd	Major Arterial	55
2	Tracy Boulevard	Btwn Linne Rd and Valpico Rd	Major Arterial	55
3	Tracy Boulevard	North of Valpico Rd	Major Arterial	55
4	Corral Hollow Road	Btwn I-580 EB Ramps and I-580-WB Ramps	Major Arterial	55
5	Corral Hollow Road	Btwn I-580 WB Ramps and Spine Rd	Major Arterial	55
6	Corral Hollow Road	Btwn Spine Rd and N. Tracy Hills Rd	Major Arterial	55
7	Corral Hollow Road	Btwn N. Tracy Hills Rd and Linne Rd	Major Arterial	55
8	Corral Hollow Road	Btwn Linne Rd and Valpico Rd	Major Arterial	55
9	Corral Hollow Road	Btwn Valpico Rd and Schulte Rd	Major Arterial	55
10	Corral Hollow Road	North of Schulte Rd	Major Arterial	55
11	Lammers Road	Btwn Valpico Rd and Old Schulte Rd	Major Arterial	55
12	Lammers Road	Btwn Old Schulte Rd and Eleventh St	Major Arterial	55
13	Lammers Road	North of Eleventh St	Minor Arterial	55
14	Linne Road	Btwn Corral Hollow Rd and Tracy Blvd	Major Arterial	55
15	Linne Road	East of Tracy Blvd	Major Arterial	55
16	Valpico Road	Btwn Lammers Rd and Corral Hollow Rd	Major Arterial	55
17	Valpico Road	Btwn Corral Hollow Rd and Tracy Blvd	Major Arterial	55
18	Valpico Road	East of Tracy Blvd	Major Arterial	55

[1] Road Classifications based upon the General Plan Circulation Element.

TABLE 6-5: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic[1]		
			Existing	Existing Plus Project	Cumulative
1	Tracy Boulevard	South of Linne Rd	1,000	1,070	1,900
2	Tracy Boulevard	Btwn Linne Rd and Valpico Rd	8,730	10,200	12,000
3	Tracy Boulevard	North of Valpico Rd	13,600	14,420	24,500
4	Corral Hollow Road	Btwn I-580 EB Ramps and I-580-WB Ramps	5,430	8,960	6,350
5	Corral Hollow Road	Btwn I-580 WB Ramps and Spine Rd	6,330	11,450	7,050
6	Corral Hollow Road	Btwn Spine Rd and N. Tracy Hills Rd	6,330	16,330	7,050
7	Corral Hollow Road	Btwn N. Tracy Hills Rd and Linne Rd	6,330	16,330	7,050
8	Corral Hollow Road	Btwn Linne Rd and Valpico Rd	5,330	10,895	11,350
9	Corral Hollow Road	Btwn Valpico Rd and Schulte Rd	9,925	13,945	15,800
10	Corral Hollow Road	North of Schulte Rd	20,760	24,360	36,200
11	Lammers Road	Btwn Valpico Rd and Old Schulte Rd	5,600	5,720	28,200
12	Lammers Road	Btwn Old Schulte Rd and Eleventh St	5,600	5,670	30,250
13	Lammers Road	North of Eleventh St	3,990	4,010	16,900
14	Linne Road	Btwn Corral Hollow Rd and Tracy Blvd	3,915	7,935	16,450
15	Linne Road	East of Tracy Blvd	3,680	5,800	12,200
16	Valpico Road	Btwn Lammers Rd and Corral Hollow Rd	4,480	4,605	12,250
17	Valpico Road	Btwn Corral Hollow Rd and Tracy Blvd	8,475	8,850	18,050
18	Valpico Road	East of Tracy Blvd	12,320	12,700	19,900

[1] Tracy Hills Phase 1 Traffic Impact Analysis prepared by Kimley-Horn Associates, October 2013.

TABLE 6-6: VEHICLE MIX

Vehicle Type	Daytime (7 am - 7 pm)	Evening (7 pm - 10 pm)	Nighttime (10 pm - 7 am)	Total % Traffic Flow
Automobiles	77.5%	12.9%	9.6%	97.42%
Medium Trucks	84.8%	4.9%	10.3%	1.84%
Heavy Trucks	86.5%	2.7%	10.8%	0.74%

7 ON-SITE TRAFFIC NOISE IMPACTS

An on-site exterior noise impact analysis has been completed to determine the traffic noise exposure and to identify potential necessary noise abatement measures for the proposed Tracy Hills Phase 1 project. It is expected that the primary source of noise impacts to the project site will be traffic noise from the I-580 Freeway. The project will also experience some background traffic noise impacts from South Corral Hollow Road and the internal project residential streets, however, due to the distance, topography and low traffic volume/speed, traffic noise from these roads will not make a significant contribution to the noise environment.

Based on the noise exposure potential for the Tracy Hills Phase 1, the project site plan was specifically designed to account for the noise impacts associated with the I-580 Freeway. To reduce the noise exposure to the noise sensitive residential areas, several design features were considered as part of the site planning process. These design features include, providing additional setbacks, changing the residential building orientations to limit private uses facing the I-580 Freeway, providing noise barriers where possible (berms and masonry walls), as well as plans to provided enhanced noise rated building assembly design and insulation features.

7.1 EXTERIOR NOISE LEVELS

Using the FHWA TNM traffic noise prediction model of the Tracy Hills Phase 1 project in combination with the parameters outlined in Table 6-3, the expected noise levels were calculated. To estimate the exterior noise environment, ten noise sensitive residential receiver locations (R-1 through R-10) and four community recreation receiver locations (C-1 through C-4) were identified throughout the project site. Table 7-1 presents a summary of the existing and future exterior noise level impacts at each receiver location. Exhibit ES-1 identifies the location of the receiver locations.

A review of the traffic noise levels shown on Table 7-1 suggests that the unmitigated exterior noise level impacts levels are expected to approach 64.6 dBA CNEL for existing conditions. For long-range traffic conditions on the I-580 Freeway, the unmitigated exterior noise levels are expected to approach 73.3 dBA CNEL. The TNM peak hour noise level results and noise level conversion (peak hour Leq to daily CNEL) worksheets are included in Appendix 7.1. Focused exterior noise contour boundaries showing plan view and cross-section view of the future noise levels at each of the ten noise sensitive residential receiver locations are provided in Appendix 7.2.

7.2 EXTERIOR NOISE ANALYSIS

To limit the exterior noise exposure for the noise sensitive receptors within the Tracy Hills Phase 1 residential project, the construction of an eight-foot high backyard noise barrier is planned. Lots facing the I-580 Freeway do not contain private use areas (backyards) requiring exterior noise abatement. Exhibit ES-1 illustrates the future exterior noise level impacts and the location of the planned eight foot high sounds for the Tracy Hills Phase 1 project. Table 7-1

presents the expected exterior noise levels with the planned wall designed to protect the single-family private use areas for lots with backyards facing the I-580 Freeway.

TABLE 7-1: EXTERIOR NOISE ANALYSIS

ID	Village	Lot	Location	Existing Conditions		Future Conditions	
				No Wall	8' Wall	No Wall	8' Wall
R-1	1	89	Backyard	63.9	62.7	72.2	70.1
R-2	1	146	Frontyard	63.7	63.7	72.3	72.4
R-3	4	118	Backyard	59.3	59.1	67.9	67.7
R-4	5	198	Backyard	62.3	57.1	71.0	65.7
R-5	5	188	Backyard	60.2	57.3	68.9	66.0
R-6	5	180	Backyard	64.0	64.0	72.7	73.2
R-7	7	16	Frontyard	62.3	62.3	70.9	71.1
R-8	8	130	Backyard	64.6	64.6	73.2	73.3
R-9	8	39	Frontyard	62.8	52.8	71.5	71.7
R-10	8	28	Backyard	62.7	55.1	71.4	63.9
C-1	4	P1	Community	49.6	50.1	58.3	58.9
C-2	7	P4	Community	49.5	49.8	58.2	59.0
C-3	7	P2	Community	51.4	51.6	60.1	61.2
C-4	8	P3	Community	53.7	53.7	62.3	63.8

As shown on Table 7-1, the planned eight-foot high noise barrier does not substantially reduce the exterior noise levels from the I-580 Freeway. The project site is generally located 200 feet north from the I-580 Freeway northbound edge of pavement across the 100 conservation easement and at an elevation that places the noise sensitive receivers approximately 20 feet lower the road elevation. A noise barrier is most effective when placed close to the noise source or receptor. For a noise barrier to work, it must be high enough and long enough to block the view of the noise source. However, due to the topography of the site, the planned noise barrier location is limited to the backyard property line, significantly reducing the effectiveness (noise attenuation) of the noise barrier. To support this conclusion, the noise attenuation and exterior noise levels for noise barrier heights of 6, 8, 10, 12, 14, and 16 feet were calculated. The noise barrier analysis included in Appendix 7.1 demonstrates that increases the noise barrier from the planned height of eight feet to a height of 16 feet will only provide an additional noise level attenuation of approximately 5 dBA CNEL.

In practice to maximize the noise attenuation provided by a noise barrier, the noise barrier should be located at the top of slope nearest the noise source or noise receiver. For the Tracy Hills Phase 1 project, this indicates that the appropriate noise barrier location is at the top of

slope at the Caltrans right of way. However, while this is the ideal barrier location from a noise perspective, it is important to recognize that Caltrans discourages noise sensitive residential land uses adjacent to the freeway. In an effort to eliminate or reduce undesirable effects of highway traffic noise, the FHWA encourages the location of less noise-sensitive land uses next to highways, and promotes the use of opens space or special building construction techniques to minimize noise impacts. In addition, Federal legislation bans the FHWA from participating in construction of most noise barriers related to development or construction next to existing highways. (19)

The long-range noise analysis shows that over time as project traffic increases the expected exterior noise levels will also substantially increase. When the traffic demand on the I-580 warrants the construction of additional lanes, this will trigger a Noise Study Report (NSR) and likely future abatement in the form of a Caltrans noise barrier at the right-of-way. The purpose of this NSR is to evaluate noise impacts and abatement under the requirements of Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772) "Procedures for Abatement of Highway Traffic Noise", (20) which provides procedures for preparing operational and construction noise studies and evaluating noise abatement measures considered for federal and federal-aid highway projects. Under 23 CFR 772.11, noise abatement must be considered for Type 1 projects if the project is predicted to result in a traffic noise impact. FHWA defines a Type 1 project as a proposed federal or federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes.

In effect, the future exterior noise analysis presents a future conditions based on a traffic volume of 70,000 vehicles per day that may never occur since Caltrans will likely provide noise abatement in the form of a noise barrier as part of any future widening of the I-580 Freeway.

7.3 NOISE BARRIER DESIGN

The designed noise screening may only be accomplished if the barriers weight is at least 4.0 pounds per square foot of face area and have no decorative cutouts or line-of-site openings between shielded areas and the roadways. The recommended noise control barrier may be constructed using one of the following alternative materials:

- Masonry block
- Stucco veneer over wood framing (or foam core), or 1 inch thick tongue and groove wood of sufficient weight per square foot
- Glass (1/4 inch thick), or other transparent material with sufficient weight per square foot
- Earthen berm
- Any combination of these construction materials

The recommended barrier must present a solid face from top to bottom. Unnecessary openings or decorative cutouts should not be made. All gaps (except for weep holes) should be filled with grout or caulking. In addition to the preliminary on-site exterior noise abatement measures, the following site design alternatives should be considered.

7.4 EXTERIOR NOISE THRESHOLDS OF SIGNIFICANCE

Based on the City of Tracy *Land Use Compatibility for Community Noise Environments,* single-family residential exterior noise levels of less than 60 dBA CNEL are considered *"Normally Acceptable"* with noise levels of less than 75 dBA CNEL considered as "*Conditionally Acceptable".* Noise levels that are considered "*Conditionally Acceptable*" require a detailed analysis of the noise reduction requirements and the needed insulation features. General Plan Noise Element Objective N-1.1 Policy P3 states that all new single family residential development shall maintain a noise standard of 60 CNEL for exterior noise in private use areas and Policy P6 states that all multi-family residential developments shall maintain a standard of 65 CNEL for community outdoor recreation areas.

The exterior noise analysis shows that while the Tracy Hills Phase 1 single-family residential development limits the number of backyard (private use areas) facing the I-580 Freeway, several lots will be exposed to traffic noise levels exceeding the City of Tracy 60 dBA CNEL exterior noise level standards.

Based on the City of Tracy General Plan Noise Element policies and the significance criteria presented in section 4, the development of the Tracy Hills Phase 1 single family residential development will exceed the *"normally acceptable"* exterior noise level of 60 dBA CNEL in private use areas and create a significant impact as direct result of the proposed development.

7.5 ON-SITE INTERIOR NOISE ANALYSIS

The interior noise level is the difference between the predicted exterior noise level at the building facade and the noise reduction of the structure. Typical building construction will provide an approximate 12 dBA noise reduction with "windows open" and a minimum 25 dBA noise reduction with "windows closed" requiring a means of mechanical ventilation (e.g. air conditioning). The noise reduction characteristics of a building are determined by combining the transmission loss of each of the building components that make up the building. Each unique component has a transmission loss value. For residential homes, the critical building components include the roof, walls, windows, doors, and attic configuration and insulation characteristics. The total noise reduction is dependent upon the transmission loss of each element and the surface area of that element in relation to the total surface area of the room.

Tables 7-2 shows that the future noise levels at the façade are estimated to range from 58.9 to 73.3 dBA CNEL. In order to meet the City of Tracy 45 dBA CNEL interior noise level standard, an interior noise level reduction ranging from 13.9 to 28.3 dBA CNEL is needed.

TABLE 7-2: INTERIOR NOISE ANALYSIS (CNEL)

ID	Village	Lot	Noise Level At Façade	Noise Level For Windows		Required Interior Noise Reduction
				Open[2]	Closed[3]	
R-1	1	89	70.1	58.1	45.1	25.1
R-2	1	146	72.4	60.4	47.4	27.4
R-3	4	118	67.7	55.7	42.7	22.7
R-4	5	198	65.7	53.7	40.7	20.7
R-5	5	188	66.0	54.0	41.0	21.0
R-6	5	180	73.2	61.2	48.2	28.2
R-7	7	16	71.1	59.1	46.1	26.1
R-8	8	130	73.3	61.3	48.3	28.3
R-9	8	39	71.7	59.7	46.7	26.7
R-10	8	28	63.9	51.9	38.9	18.9
C-1	4	P1	58.9	46.9	33.9	13.9
C-2	7	P4	59.0	47.0	34.0	14.0
C-3	7	P2	61.2	49.2	36.2	16.2
C-4	8	P3	63.8	51.8	38.8	18.8

[1] Includes the noise attenuation provided by the planned eight foot high noise barrier.
[2] A minimum of 12 dBA noise reduction is assumed with windows open.
[3] A minimum of 25 dBA noise reduction is assumed with windows closed and a minimum STC rating of 27.

7.6 ON-SITE INTERIOR NOISE ABATEMENT

To provide the necessary interior noise level reduction, Table 7-2 shows that lots adjacent to the I-580 Freeway will require a windows closed condition. A windows closed condition requires a means of means of mechanical ventilation (e.g. air conditioning). In addition, lots facing I-580 Freeway will require upgraded windows with an estimated minimum STC rating of 33. In order to meet the City of Tracy 45 dBA CNEL interior noise standards the project shall provide the following noise abatement measures:

- Exterior Walls: Provide exterior walls with a minimum Sound Transmission Class (STC) rating of 46. Typical walls with this rating will have 2x4 studs or greater, 16" o.c. with R-13 insulation, a minimum 7/8" exterior surface of cement plaster and a minimum interior surface of 1/2" gypsum board.
- Windows: All windows and sliding glass doors shall be well fitted, well weather-stripped assemblies and shall have a minimum STC of 27. Windows facing the I-580 Freeway will require upgraded windows with a minimum STC of 33. Air gaps and rattling shall not be permitted. The total area of glass shall not exceed twenty percent of the floor area in any room.
- Doors: All exterior doors shall be well weather-stripped solid core assemblies at least one and three-fourths-inch thick.

- Roof: Roof sheathing of wood construction shall be well fitted or caulked plywood of at least one-half inch thick. Ceilings shall be well fitted, well sealed gypsum board of at least one-half inch thick. Insulation with at least a rating of R-19 shall be used in the attic space.
- Ventilation: Arrangements for any habitable room shall be such that any exterior door or window can be kept closed when the room is in use. A forced air circulation system (e.g. air conditioning) shall be provided which satisfy the requirements of the Uniform Mechanical Code.

With the preliminary interior noise abatement measures provided in this study, the Project is expected to meet the City of Tracy 45 dBA CNEL interior noise level standards for residential development. A final noise study shall be prepared prior to obtaining building permits for the project. This report would finalize the abatement measures described in this study using the precise grading plans and actual building design specifications, and may include additional abatement, if necessary, to meet the City of Tracy 45 dBA CNEL interior noise level standard.

8 OFF-SITE TRAFFIC NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on the *Tracy Hills Phase 1 Traffic Impact Analysis* prepared by Kimley-Horn Associates, October 2013. (18). Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Traffic noise contour boundaries are typically calculated at distances of 100 feet from a roadway centerline. Noise contours were developed for the following traffic scenarios:

- Existing / Existing plus Project: This scenario refers to the existing present-day noise conditions, without the Project and with the construction of the proposed Project.
- Cumulative: This scenario refers to the background future noise conditions with the proposed Project. This scenario corresponds to long-range traffic conditions, and includes all cumulative projects identified in the Traffic Impact Analysis.

8.1 TRAFFIC NOISE CONTOURS

To quantify the Project's traffic noise impacts on the surrounding areas, the changes in traffic noise levels on 18 roadway segments surrounding the Project were calculated based on the changes in the average daily traffic volumes. The noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The traffic noise contour worksheets are included in Appendix 8.1.

Noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, 60 and 55 dBA noise levels. The distance from the centerline of the roadway to the CNEL contour boundaries for roadways in the proposed Project's vicinity are presented in Tables 8-1 through 8-4. The noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels. In addition, since the noise contours reflect modeling of vehicular noise along area roadways, they appropriately do not reflect noise contribution from the surrounding commercial and industrial uses or railroad activities within the Project study area.

TABLE 8-1: EXISTING WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Tracy Boulevard	South of Linne Rd	54.3	RW	RW	RW	90
2	Tracy Boulevard	Btwn Linne Rd and Valpico Rd	63.8	RW	83	178	383
3	Tracy Boulevard	North of Valpico Rd	65.7	RW	111	239	515
4	Corral Hollow Road	Btwn I-580 EB Ramps & I-580-WB Ramps	61.7	RW	RW	130	279
5	Corral Hollow Road	Btwn I-580 WB Ramps and Spine Rd	62.4	RW	67	144	309
6	Corral Hollow Road	Btwn Spine Rd and N. Tracy Hills Rd	62.4	RW	67	144	309
7	Corral Hollow Road	Btwn N. Tracy Hills Rd and Linne Rd	62.4	RW	67	144	309
8	Corral Hollow Road	Btwn Linne Rd and Valpico Rd	61.6	RW	RW	128	276
9	Corral Hollow Road	Btwn Valpico Rd and Schulte Rd	64.3	RW	90	194	417
10	Corral Hollow Road	North of Schulte Rd	67.5	68	147	317	683
11	Lammers Road	Btwn Valpico Rd and Old Schulte Rd	61.8	RW	RW	132	285
12	Lammers Road	Btwn Old Schulte Rd and Eleventh St	61.8	RW	RW	132	285
13	Lammers Road	North of Eleventh St	60.3	RW	RW	104	224
14	Linne Road	Btwn Corral Hollow Rd and Tracy Blvd	60.3	RW	RW	104	225
15	Linne Road	East of Tracy Blvd	60.0	RW	RW	100	215
16	Valpico Road	Btwn Lammers Rd and Corral Hollow Rd	60.9	RW	RW	114	246
17	Valpico Road	Btwn Corral Hollow Rd and Tracy Blvd	63.6	RW	81	174	376
18	Valpico Road	East of Tracy Blvd	65.2	RW	104	224	482

[1] "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 8-2: EXISTING WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Tracy Boulevard	South of Linne Rd	54.6	RW	RW	RW	95
2	Tracy Boulevard	Btwn Linne Rd and Valpico Rd	64.4	RW	92	197	425
3	Tracy Boulevard	North of Valpico Rd	65.9	RW	115	249	536
4	Corral Hollow Road	Btwn I-580 EB Ramps & I-580-WB Ramps	63.9	RW	84	181	390
5	Corral Hollow Road	Btwn I-580 WB Ramps and Spine Rd	64.9	RW	99	213	459
6	Corral Hollow Road	Btwn Spine Rd and N. Tracy Hills Rd	66.5	RW	125	270	582
7	Corral Hollow Road	Btwn N. Tracy Hills Rd and Linne Rd	66.5	RW	125	270	582
8	Corral Hollow Road	Btwn Linne Rd and Valpico Rd	64.7	RW	96	206	444
9	Corral Hollow Road	Btwn Valpico Rd and Schulte Rd	65.8	RW	113	243	524
10	Corral Hollow Road	North of Schulte Rd	68.2	76	164	353	760
11	Lammers Road	Btwn Valpico Rd and Old Schulte Rd	61.9	RW	RW	134	289
12	Lammers Road	Btwn Old Schulte Rd and Eleventh St	61.9	RW	RW	133	287
13	Lammers Road	North of Eleventh St	60.3	RW	RW	105	225
14	Linne Road	Btwn Corral Hollow Rd and Tracy Blvd	63.3	RW	77	167	360
15	Linne Road	East of Tracy Blvd	62.0	RW	RW	135	292
16	Valpico Road	Btwn Lammers Rd and Corral Hollow Rd	61.0	RW	RW	116	250
17	Valpico Road	Btwn Corral Hollow Rd and Tracy Blvd	63.8	RW	83	180	387
18	Valpico Road	East of Tracy Blvd	65.4	RW	106	228	492

[1] "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 8-3: CUMULATIVE CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Tracy Boulevard	South of Linne Rd	57.1	RW	RW	64	139
2	Tracy Boulevard	Btwn Linne Rd and Valpico Rd	65.1	RW	102	220	474
3	Tracy Boulevard	North of Valpico Rd	68.2	76	164	354	762
4	Corral Hollow Road	Btwn I-580 EB Ramps & I-580-WB Ramps	62.4	RW	67	144	310
5	Corral Hollow Road	Btwn I-580 WB Ramps and Spine Rd	62.8	RW	72	154	332
6	Corral Hollow Road	Btwn Spine Rd and N. Tracy Hills Rd	62.8	RW	72	154	332
7	Corral Hollow Road	Btwn N. Tracy Hills Rd and Linne Rd	62.8	RW	72	154	332
8	Corral Hollow Road	Btwn Linne Rd and Valpico Rd	64.9	RW	98	212	457
9	Corral Hollow Road	Btwn Valpico Rd and Schulte Rd	66.3	RW	123	264	569
10	Corral Hollow Road	North of Schulte Rd	69.9	99	213	459	989
11	Lammers Road	Btwn Valpico Rd and Old Schulte Rd	68.8	84	180	389	837
12	Lammers Road	Btwn Old Schulte Rd and Eleventh St	69.1	88	189	407	878
13	Lammers Road	North of Eleventh St	66.5	RW	127	273	587
14	Linne Road	Btwn Corral Hollow Rd and Tracy Blvd	66.5	RW	126	271	585
15	Linne Road	East of Tracy Blvd	65.2	RW	103	222	479
16	Valpico Road	Btwn Lammers Rd and Corral Hollow Rd	65.2	RW	103	223	480
17	Valpico Road	Btwn Corral Hollow Rd and Tracy Blvd	66.9	RW	134	289	622
18	Valpico Road	East of Tracy Blvd	67.3	66	143	308	664

[1] "RW" = Location of the respective noise contour falls within the right-of-way of the road.

8.2 PROJECT OFF-SITE TRAFFIC NOISE LEVEL IMPACTS

Table 8-4 presents a comparison of the existing without and with Project conditions CNEL noise levels. Table 8-1 shows that the unmitigated exterior noise levels are expected to range from 54.3 to 67.5 dBA CNEL at 100 feet from each roadway's centerline. Table 8-2 presents the existing with Project conditions unmitigated noise contours that are expected to range from 54.6 to 68.2 dBA CNEL at 100 feet from the roadway centerline. As shown on Table 8-4 the Project is expected to generate an unmitigated exterior noise level increase of up to 4.1 dBA CNEL. Based on the noise impact significance criteria described in Section 4.2, this off-site traffic noise level increase is considered a significant impact for existing with project conditions.

TABLE 8-4: EXISTING OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?
			Existing	Existing With Project	Project Addition	
1	Tracy Boulevard	South of Linne Rd	54.3	54.6	0.3	No
2	Tracy Boulevard	Btwn Linne Rd and Valpico Rd	63.8	64.4	0.7	No
3	Tracy Boulevard	North of Valpico Rd	65.7	65.9	0.3	No
4	Corral Hollow Road	Btwn I-580 EB Ramps and I-580-WB Ramps	61.7	63.9	2.2	No
5	Corral Hollow Road	Btwn I-580 WB Ramps and Spine Rd	62.4	64.9	2.6	No
6	Corral Hollow Road	Btwn Spine Rd and N. Tracy Hills Rd	62.4	66.5	4.1	Yes
7	Corral Hollow Road	Btwn N. Tracy Hills Rd and Linne Rd	62.4	66.5	4.1	Yes
8	Corral Hollow Road	Btwn Linne Rd and Valpico Rd	61.6	64.7	3.1	Yes
9	Corral Hollow Road	Btwn Valpico Rd and Schulte Rd	64.3	65.8	1.5	No
10	Corral Hollow Road	North of Schulte Rd	67.5	68.2	0.7	No
11	Lammers Road	Btwn Valpico Rd and Old Schulte Rd	61.8	61.9	0.1	No
12	Lammers Road	Btwn Old Schulte Rd and Eleventh St	61.8	61.9	0.1	No
13	Lammers Road	North of Eleventh St	60.3	60.3	0.0	No
14	Linne Road	Btwn Corral Hollow Rd and Tracy Blvd	60.3	63.3	3.1	Yes
15	Linne Road	East of Tracy Blvd	60.0	62.0	2.0	No
16	Valpico Road	Btwn Lammers Rd and Corral Hollow Rd	60.9	61.0	0.1	No
17	Valpico Road	Btwn Corral Hollow Rd and Tracy Blvd	63.6	63.8	0.2	No
18	Valpico Road	East of Tracy Blvd	65.2	65.4	0.1	No

9 REFERENCES

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18. **Kimley-Horn Associates.** *Tracy Hills Phase 1 Traffic Impact Analysis.* October 2013.
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10 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Tracy Hills Phase 1 Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 660-1994 ext. 203.

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EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

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PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

APPENDIX 3.1:

CITY OF TRACY GENERAL PLAN NOISE ELEMENT

9 NOISE ELEMENT

The purpose of the Noise Element is to identify and appraise noise generation in the community in order to minimize problems from intrusive sound and to ensure that development does not expose people to unacceptable noise levels.

A. Background

This section provides background information about how noise is measured, the regulatory framework governing noise and existing noise sources in Tracy.

1. Understanding Noise

Noise can be defined as a sound or series of sounds that are intrusive, irritating, objectionable and/or disruptive to daily life. Noise varies widely in its scope, source, and volume, ranging from individual occurrences, such as a lawn mower, to the intermittent disturbances of train whistles, to the fairly constant noise generated by traffic on freeways. Noise is primarily a concern when generated in the vicinity of noise-sensitive uses such as residences, schools, places of worship and hospitals.

The objectionable nature of sound could be caused by its *pitch* or its loudness. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. These are listed in Table 9-1. The most basic unit of measurement is the decibel (dB), which is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a 10-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Generally, the human ear cannot perceive a difference between two noises that are less than three decibels different from one another.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level or dBA*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 9-2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

TABLE 9-1 **DEFINITIONS OF ACOUSTICAL TERMS**

Term	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	Sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network, which de-emphasizes very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% (respectively) of the time during the measurement period.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The Average A-weighted noise level during a 24-hour day, obtained after adding 5 decibels to measurements taken in the evening (7 to 10 pm) and 10 decibels to measurements taken between 10 pm and 7 am.
Day/Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

TABLE 9-2 **TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT**

Noise Generators (At a Given Distance from Noise Source)	A-Weighted Sound Level in Decibel	Noise Environments	Subjective Impression
	140		
Civil defense siren (100 feet)	130		
Jet take-off (200 feet)	120		Pain threshold
	110	Rock music concert	
Diesel pile drive (100 feet)	100		Very loud
Freight cars (50 feet)	90	Boiler room Printing press plant	
Pneumatic drill (50 feet) Freeway (100 feet) Vacuum cleaner (10 feet)	80 70	In kitchen with garbage disposal running	Moderately loud
	60	Data processing center	
Light traffic (100 feet) Large transformer (200 feet)	50	Department store	
	40	Private business office	Quiet
Soft whisper (5 feet)	30	Quiet bedroom	
	20	Recording studio	
	10		Threshold of hearing

Since the sensitivity to noise increases during the evening and at night—because excessive noise interferes with the ability to sleep—24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level, CNEL*, is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 p.m. to 10:00 p.m.) and a 10 dB addition to nocturnal (10:00 p.m. to 7:00 a.m.) noise levels. The *Day/Night Average Sound Level, L_{dn},* is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

2. Regulatory Framework

State law requires a Noise Element as part of all city and county General Plans. The Noise Element should provide a systematic approach to the measurement and modeling of noise, the establishment of noise standards, the control of major noise sources, and community planning for the regulation of noise. This Noise Element provides baseline information on the existing noise environment, including noise measurements taken throughout the city. It also identifies noise sensitive uses in Tracy. This Noise Element also provides goals, objectives, policies and actions for controlling noise in existing and future development.

The Noise Element establishes uniformity between City policy and programs undertaken to control and abate environmental noise. The Government Code and State Office of Noise Control (ONC) Guidelines require that certain major noise sources and areas containing noise sensitive land uses be identified and quantified by preparing generalized noise exposure contours for current and projected levels of activity within the community. Contours may be prepared in terms of either the Community Noise Equivalent (CNEL) or the Day/Night

Average Level (L_{dn}) which are both descriptors of total noise exposure at a given location for an annual average day. The noise exposure information developed for the Noise Element is incorporated into this General Plan to serve as a basis for achieving land use compatibility with respect to noise. Noise exposure information is used to provide baseline levels and noise source identification for use in the development and enforcement of a local noise control ordinance and for ensuring compliance with the State's noise insulation standards.

According to the Government Code and ONC Guidelines, the following major noise sources should be considered in the preparation of a Noise Element:

- Highways and freeways
- Primary arterials and major local streets
- Railroad operations
- Aircraft and airport operations
- Local industrial facilities
- Other stationary sources

3. Land Use Compatibility

Land uses deemed noise sensitive by the State of California include schools, hospitals, rest homes, long-term care and mental care facilities. Many jurisdictions consider residential uses particularly noise sensitive because families and individuals expect to use time in the home for rest and relaxation, and noise can interfere with those activities. Some variability in standards for noise sensitivity may apply to different densities of residential development, and single-family uses are frequently considered the most sensitive. Jurisdictions may identify other uses as noise sensitive such as churches, libraries, day care centers, and parks.

Land uses that are relatively insensitive to noise include some office and retail developments. There is a range of insensitive noise receptors which generate significant noise levels or where human occupancy is typically low. Examples of insensitive uses include industrial and manufacturing uses, utilities, agriculture, vacant land, parking lots, salvage yards, and transit terminals.

The ONC has developed a noise/land use compatibility matrix showing noise standards for various land use categories. The noise standards are intended to provide guidelines for the development of municipal noise elements. Depending on the environment of a particular community, these basic guidelines may be tailored to reflect the existing noise and land use characteristics of a particular community.

California's noise insulation standards were officially adopted by the California Commission of Housing and Community Development in 1974 and became effective on August 22, 1974. On November 14, 1988, the Building Standards Commission approved revisions to these standards (Title 24, Part 2, California Code of Regulations). The ruling states: "Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be measured in either CNEL or L_{dn}, consistent with the noise element of the local general plan." Additionally, the commission specifies that residential buildings or structures to be located within exterior L_{dn} (or dBA) contours of 60 dB or greater of an existing or adopted freeway, expressway, parkway, major street, thoroughfare, rail line, rapid transit line or industrial noise source shall require an acoustical analysis showing that the building has been designed to limit intruding noise to an interior L_{dn} of 45 dB.

4. Existing Noise Sources

The most significant sources of noise in Tracy are vehicular traffic on Interstate 205 and the local street network. Railroad trains intermittently generate noise levels that are significant along the railroad tracks. General aviation aircraft using the Tracy Municipal Airport also contribute to intermittent noise levels in Tracy. Noise is also generated on individual parcels whether industrial, office, retail or residential. These noise sources are regulated by the City's Noise Ordinance and do not affect the overall noise environment throughout the community.

- **Daily Noise Measurements.** Noise levels were monitored at 10 locations in Tracy over a period of three days in June of 2003. Noise levels were monitored by Illingworth & Rodkin, Inc. at two locations along Interstate 205 previously during preparation of the Noise Study Report for Improvements to the I-205 freeway. The measured data are summarized in Table 9-3.

- **Short-Term Spot Measurements.** Short-term spot measurements were made at 10 locations throughout Tracy in June of 2003 to characterize typical daytime noise levels and to collect traffic and noise data to be used subsequently in the computation of traffic noise contours for the General Plan. The data in Table 9-3 also shows the estimated L_{dn} for the short-term spot measurements based on correlations with long-term measurements nearby. The average noise levels (L_{eq}) range from about 51 dBA in a quiet rear yard up to 63 dBA along MacArthur Drive.

- **Roadways.** Vehicular traffic on the street network was the dominant noise source during measurements. There were contributions from local neighborhood noise, a tractor at a rural location (ST-3), and a train was heard at Location ST-4 along MacArthur Drive near Eleventh Street which generated a maximum level of 68 dBA.

TABLE 9-3 **SUMMARY OF NOISE MONITORING**

Site	Location	Date	Time	L_{eq}	L(1)	L(10)	L(50)	L(90)	L_{dn}
Long-Term Measurements									
LT-1	Residential Land Uses at South End of English Oak Court Adjacent to Altamont Commuter Express Line and West Linne Rd.	6/2/03 to 6/4/03	17:00 to 10:00	--	--	--	--	--	**65**
LT-2	~ 35 feet from the Altamont Commuter Express Line near Chrisman Road	6/2/03 to 6/4/03	17:00 to 10:00	--	--	--	--	--	**73**
LT-3	~ 120 feet from the Centerline of Chrisman Rd.	6/2/03 to 6/4/03	18:00 to 11:00	--	--	--	--	--	**70**
LT-4	~ 80 feet from the Centerline of North MacArthur Rd.	6/4/03 to 6/6/03	12:00 to 13:00	--	--	--	--	--	**66**
LT-5	~ 90 feet from the Centerline of Eleventh St. at Wall Rd.	6/4/03 to 6/6/03	13:00 to 13:00	--	--	--	--	--	**71**
LT-6	6th St. Railroad Junction	6/4/03 to 6/6/03	13:00 to 14:00	--	--	--	--	--	**72**
LT-7	~ 50 feet from the Centerline of Grant Line Rd.	6/4/03 to 6/6/03	16:00 to 16:00	--	--	--	--	--	**75**
LT-8	~ 80 feet from the Centerline of Tracy Blvd at Dr. Powers Park	6/6/03 to 6/9/03	15:00 to 14:00	--	--	--	--	--	**70**
LT-9	~ 190 feet from the Centerline of Corral Hollow Rd.	6/6/03 to 6/9/03	16:00 to 13:00	--	--	--	--	--	**69**
LT-10	West Larch Rd. east of Naglee Rd.	6/6/03 to 6/9/03	16:00 to 13:00	--	--	--	--	--	**69**
LT-11	11240 Clover Rd. adjacent to I-205	10/31/00 to 11/1/00	10:00 to 10:00	--	--	--	--	--	**82**
LT-12	Rear Yard of 245 Hawthorne Dr. adjacent to I-205 (shielded by sound wall)	1/29/01 to 1/30/01	14:00 to 14:00	--	--	--	--	--	**72**

TABLE 9-3 **SUMMARY OF NOISE MONITORING** (CONTINUED)

Site	Location	Date	Time	L_{eq}	L(1)	L(10)	L(50)	L(90)	L_{dn}
Short-Term Measurements									
ST-1	~ 70 feet from the Centerline of Whispering Wind Rd at Adams Park	6/3/03	15:14 to 15:24	58	68	62	53	47	**60**
ST-2	~ 130 feet from the Centerline of MacArthur Rd.	6/3/03	15:40 to 15:50	59	70	63	55	50	**63**
ST-3	~ 50 feet from the Centerline of East Schulte Rd.	6/3/03	16:08 to 16:18	62	73	66	54	48	**65**
ST-4	~ 100 feet from the Centerline of MacArthur Rd. near 11th St.	6/4/03	13:26 to 13:36	63	72	67	60	55	**67**
ST-5	~ 80 feet from the Centerline of Holly Dr.	6/4/03	13:50 to 14:00	59	68	63	56	49	**63**
ST-6	~ 115 feet from the Centerline of South Central Ave.	6/4/03	14:16 to 14:26	57	63	60	56	51	**60**
ST-7	~ 160 feet from the Centerline of Mac Arthur Rd.	6/4/03	14:40 to 14:50	58	66	61	56	49	**61**
ST-8	Rear Yard of 460 West Schulte Rd.	6/4/03	15:03 to 15:13	51	57	53	51	49	**54**
ST-9	~ 100 feet from the Centerline of Lincoln Blvd.	6/6/03	16:37 to 16:47	60	70	64	58	52	**62**
ST-10	~ 70 feet from the Centerline of West Lowell Ave.	6/6/03	16:53 to 17:03	59	67	62	57	52	**60**

General aviation aircraft at Location ST-5 generated a maximum level of 55 dBA but automobiles and motorcycles were typically 10 dBA louder. At the Schulte Road location (ST-8) distant traffic, a distant aircraft, wind in the vegetation, and crows were all audible contributing to a quiet rural noise environment in the backyard of this home. Noise contours for roadways are presented in Table 9-4.

a. Tracy Municipal Airport

The Tracy Municipal Airport is located in the southern portion of the City between Tracy Boulevard and Corral Hollow Road, and is a source of noise in its vicinity. According to the 2009 Airport Land Use Compatibility Plan, there are currently approximately 60,000 annual airport operations. These are comprised mostly of single-engine light aircraft (maximum gross weight 12,000 lbs.), some twin-engine aircraft, and occasional corporate jets. There are no jets currently based at the Airport. Other activities at the Airport include two hot air balloon companies, Ultralights, and an area where aerobatic flight is allowed. The 2009 Airport Land Use Compatibility Plan contains existing and future CNEL noise contours for Tracy Municipal Airport as shown in Figures 9-1 and 9-2 on pages 9-15 and 9-16.

b. Railroads

Altamont Commuter Express (ACE) provides passenger rail service between Stockton and San Jose. The ACE Station for Tracy is located on Tracy Boulevard at Linne Road. There are currently three ACE trains per day which arrive in Tracy between 4:00 a.m. and 7:00 a.m. and return between 5:00 p.m. and 7:00 p.m.

TABLE 9-4 **TRAFFIC NOISE CONTOUR DISTANCES**

Roadway	Location	Peak Hour Volume	Distance to CL	L_{dn}	70-L_{dn}	65-L_{dn}	60-L_{dn}
Interstate 205	West of Eleventh Street	8,250	150	83	1,110	2,380	5,120
Interstate 205	Between Eleventh Street and Corral Hollow	6,825	150	82	950	2,040	4,390
Interstate 205	Between Corral Hollow and MacArthur Drive	6,900	150	82	950	2,040	4,390
Interstate 205	East of MacArthur Drive	6,900	150	82	950	2,040	4390
Interstate 580	North of Corral Hollow	3,075	150	77	440	950	2,040
Interstate 580	South of Corral Hollow	2,850	150	78	510	1,100	2,380
Interstate 5	North of Eleventh Street	3,225	150	80	700	1,500	3,230
Interstate 5	South of Eleventh Street	1,650	150	77	440	950	2,040
Grant Line Road	West of Corral Hollow	2,545	75	77	220	470	1,020
Grant Line Road	East of Corral Hollow	1,668	75	75	160	350	750
Grant Line Road	East of Tracy Boulevard	1,133	75	73	120	260	550
Grant Line Road	East of Chrisman Road	764	75	71	90	190	410
Eleventh Street	East of Lammers Road	2,443	75	73	120	260	550
Eleventh Street	East of Corral Hollow	2,183	75	72	100	220	470
Eleventh Street	East of MacArthur Drive	1,851	75	73	120	260	550
Eleventh Street	East of Banta Drive	2,433	75	74	140	300	640
Schulte Road	West of Corral Hollow	110	75	58	--	--	60
Schulte Road	East of Corral Hollow	1,061	75	67	50	100	220
Schulte Road	East of Tracy Boulevard	1,116	75	68	60	120	260
Schulte Road	East of MacArthur Drive	470	75	63	--	60	120
Valpico Road	West of Corral Hollow	329	75	59	--	--	60
Valpico Road	East of Tracy Boulevard	677	75	67	50	100	220
Valpico Road	East of MacArthur Drive	437	75	60	--	--	80
Linne Road	West of Corral Hollow	296	75	62	--	50	100
Linne Road	East of Tracy Boulevard	425	75	64	--	60	140
Lammers Road	South of Grant Line Road	278	75	61	--	--	90

TABLE 9-4 **TRAFFIC NOISE CONTOUR DISTANCES** (CONTINUED)

Roadway	Location	Peak Hour Volume	Distance to CL	L_{dn}	70-L_{dn}	65-L_{dn}	60-L_{dn}
Lammers Road	South of Eleventh Street	366	75	62	--	50	100
Lammers Road	North of Valpico Road	1,152	75	67	50	100	220
Corral Hollow Road	South of Grant Line Road	2,184	75	74	140	300	640
Corral Hollow Road	South of Eleventh Street	2,018	75	73	120	260	550
Corral Hollow Road	South of Schulte Road	1,236	75	69	60	140	300
Corral Hollow Road	North of Valpico Road	533	75	65	--	80	160
Tracy Boulevard	North of Grant Line Road	1,408	75	69	60	140	300
Tracy Boulevard	South of Grant Line Road	1,779	75	70	80	160	350
Tracy Boulevard	North of Eleventh Street	1,795	75	70	80	160	350
Tracy Boulevard	South of Eleventh Street	1,939	75	71	90	190	410
Tracy Boulevard	North of Schulte Road	1,416	75	69	60	140	300
Tracy Boulevard	South of Schulte Road	934	75	68	60	120	260
Tracy Boulevard	South of Valpico Road	426	75	66	--	90	190
MacArthur Drive	South of I-205	988	75	69	60	140	300
MacArthur Drive	South of Grant Line Road	373	75	66	--	90	190
MacArthur Drive	South of Eleventh Street	551	75	65	--	80	160
MacArthur Drive	North of Valpico Road	554	75	65	--	80	160
MacArthur Drive	South of Valpico Road	232	75	66	40	90	190
Chrisman Road	South of Eleventh Street		75	72	100	220	470
Chrisman Road	South of Schulte Road	602	75	70	80	160	350
Byron Road	South of I-205	702	75	69	60	140	300

There are three major rail lines that enter the City of Tracy from the east, two of which merge and subsequently exit to the west. The rail lines are owned by Union Pacific Railroad (UPRR). The main line runs through south Tracy along Linne Road. This line is used both as an industrial (10 freights per day) and commuter (via ACE train service) rail. Train noise contour distances are shown in Table 9-5 .

c. Truck Routes

The City of Tracy has a specific city ordinance relating to truck routes (Section 3.08.310 of the Tracy Municipal Code). The ordinance defines weight restrictions, specifies the ability of trucks to enter areas not designated as truck routes, and defines the truck routes within the city. The designated truck routes in the city are discussed in the Circulation Element of this General Plan.

B. Goals, Objectives, Policies and Actions

Goal N-1 A citizenry protected from excessive noise.

Objective N-1.1 Ensure appropriate exterior and interior noise levels for new land uses.

Policies

P1. Noise sensitive land uses shall not be located in areas with noise levels that exceed those considered normally acceptable for each land use unless measures can be implemented to reduce noise to acceptable levels.

FIGURE 9-1

EXISTING TRACY MUNICIPAL AIRPORT NOISE CONTOURS

Source: Aerial Photography dated 2006. San Joaquin Geographic Information Systems, February 2008. Coffman Associates analysis.

LEGEND

- Airport Property
- Municipal Boundary
- 2008 Noise Exposure Contour-Marginal Effect
- 2008 Noise Exposure Contour-Significant Effect

NORTH

0 1,500

1" = 1,500'

FIGURE 9-2

FUTURE TRACY MUNICIPAL AIRPORT NOISE CONTOURS

Source: Aerial Photography dated 2006. San Joaquin Geographic Information Systems, February 2008. Coffman Associates analysis.

LEGEND

- Airport Property
- Municipal Boundary
- 2028 Noise Exposure Contour-Marginal Effect
- 2028 Noise Exposure Contour-Significant Effect

NORTH

0 1,500

1" = 1,500'

TABLE 9-5 **TRAIN NOISE CONTOUR DISTANCES**

	Distance to Noise Contour (Feet)		
	70 L_{dn}	**65 L_{dn}**	**60 L_{dn}**
UPRR Railroad ~10 Freight +ACE Trains/day	60	120	260
UPRR Railroad Local Freight to Stockton	60	120	260
UPRR Railroad Leased to California Northern Railroad	60	120	260
UPRR Railroad Byron Road	--	--	--
UPRR Railroad Schulte Road	--	--	--
Industrial Spur Lines	--	--	--

P2. Land uses shall require appropriate interior noise environments when located in areas adjacent to major noise generators.

P3. Recognizing that some new single-family residential uses may be located adjacent to non-residential uses, new single-family residential development shall not exceed 60 L_{dn} (day/night average noise level) for exterior noise in private use areas.

P4. New residential uses exposed to noise levels exceeding 60 L_{dn} shall be analyzed following protocols in the operative California Building Code or other operative code.

P5. For new residential land uses, noise from external sources shall not cause building interiors to exceed 45 L_{dn}.

P6. For new multi-family residential land uses, noise from external sources shall not cause the community outdoor recreation areas to exceed 65 L_{dn}. This policy shall not apply to balconies.

P7. New residential development affected by noise from railroads or aircraft operations shall be designed to limit typical maximum instantaneous noise levels to 50 dBA in bedrooms and 55 dBA in other rooms.

P8. Measures to attenuate exterior and/or interior noise levels to acceptable levels shall be incorporated into all development projects. Acceptable, conditionally acceptable and unacceptable noise levels are presented in Figure 9-3.

P9. If the primary noise sources are train pass-bys then the standard for outdoor noise levels in single- and multi-family residential outdoor activity areas shall be 70 L_{dn}.

Objective N-1.2 Control sources of excessive noise.

Policies

P1. The City's Noise Ordinance, as revised from time to time, shall prohibit the generation of excessive noise.

Land Use Category	Exterior Noise Exposure (L_{dn})					
	55	60	65	70	75	80
Single-Family Residential						
Multi-Family Residential, Hotels, and Motels		(a)				
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds						
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches						
Office Buildings, Business Commercial, and Professional						
Auditoriums, Concert Halls, Amphitheaters						

(a) Residential development sites exposed to noise levels exceeding 60 Ldn shall be analyzed following protocols in Appendix Chapter 12, Section 1208A, Sound Transmission Control, California Building Code.

Normally Acceptable
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.

Conditionally Acceptable
Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.

Unacceptable
New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

FIGURE 9-3

LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENT

P2. Mitigation measures shall be required for new development projects that exceed the following criteria:

- Cause the L_{dn} at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
- Cause the L_{dn} at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
- Cause new noise levels to exceed the City of Tracy Noise Ordinance limits.

P3. Pavement surfaces that reduce noise from roadways should be considered as paving or repavement opportunities arise.

P4. All construction in the vicinity of noise sensitive land uses, such as residences, hospitals, or convalescent homes, shall be limited to daylight hours or 7:00 a.m. to 7:00 p.m. In addition, the following construction noise control measures shall be included as requirements at construction sites to minimize construction noise impacts:

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction area.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.

Actions

A1. Enforce Section 27007 of the California Motor Vehicle Code that prohibits amplified sound that can be heard 50 or more feet from a vehicle.

A2. Enforce Section 27150 of the California Motor Vehicle Code that addresses excessive exhaust noise.

A3. Develop noise abatement flight procedures for large aircraft accessing Tracy Municipal Airport.

Objective N-1.3 Consider noise issues in the Development Review process.

Policies

P1. Development projects shall be evaluated for potential noise impacts and conflicts as part of the Development Review process.

P2. Significant noise impacts shall be mitigated as a condition of project approval.

P3. New development projects shall have an acoustical specialist prepare a noise analysis with recommendations for design mitigation if a noise-producing project is proposed near existing or planned noise-sensitive uses.

P4. Proposed noise sensitive projects within noise-impacted areas shall submit acoustical studies and provide necessary mitigation from noise.

P5. Site design techniques shall be considered as the primary means to minimize noise impacts as long as they do not conflict with the goals of the Community Character Element. Techniques include:

- Designing landscaped building setbacks to serve as a buffer between the noise source and receptor.
- Placing noise-tolerant land uses, such as parking lots, maintenance facilities, and utility areas between the noise source, such as highways and railroad tracks, and receptor.
- Orienting buildings to shield noise sensitive outdoor spaces from a noise source.
- Locating bedrooms or balconies on the sides of buildings facing away from noise sources.
- Utilizing noise barriers (e.g., fences, walls, or landscaped berms) to reduce adverse noise levels in noise-sensitive outdoor activity areas.

P6. The City shall seek to reduce impacts from groundborne vibration associated with rail operations by requiring that vibration-sensitive buildings (e.g., residences) are sited at least 100 feet from the centerline of the railroad tracks whenever feasible. The development of vibration-sensitive buildings within 100 feet from the centerline of the railroad tracks would require a study demonstrating that ground borne vibration issues associated with rail operations have been adequately addressed (i.e., through building siting or construction techniques).

APPENDIX 3.2:

CITY OF TRACY NOISE CONTROL ORDINANCE

Tracy, California, Code of Ordinances >> Title 4 - PUBLIC WELFARE, MORALS AND CONDUCT >> Chapter 4.12 - MISCELLANEOUS REGULATIONS >> Article 9. Noise Control >>

Article 9. Noise Control

4.12.710 Name.

This chapter shall be known as the "noise control ordinance."

(Prior code § 4-3.1000)

4.12.720 Declaration of policy.

It is hereby declared to be the policy of the City to prohibit unnecessary, excessive, and annoying noises from all sources subject to its police power. At certain levels, noise is detrimental to the health and welfare of the citizenry and, therefore, it is in the public interest to systematically proscribe harmful noises.

(Prior code § 4-3.1001)

4.12.730 Definitions.

For the purposes of this article, the words set out in this section shall have the following meanings:

"Average sound level" shall mean the sound level typical of the sound levels at a certain place during a given period of time, averaged by the general rule of combination for sound levels, said general rule being set forth in the latest revision of the American National Standard Specifications for sound level meters. Average sound level is also called equivalent continuous sound level (Leq).

"Base district" shall mean those land use regulations as similarly referenced in the Tracy zoning regulations.

"Decibel" shall mean a unit for measuring the amplitude of sound, equal to twenty (20) times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is twenty (20) micropascals.

"Emergency work" shall mean work made necessary to restore property to a safe condition following a public calamity or work required to protect persons or property from imminent exposure to danger or damage or work by public or private utilities when restoring utility service. Also included, is any work performed for the purpose of preventing or alleviating the physical trauma or property damage threatened or caused by an emergency.

"Noise" shall mean the composite noise from all sources near and far. In this context, the noise level constitutes a normal or existing level of environmental noise at a given location and time.

"Noise disturbance" shall mean any sound which, as judged by the Community Development Director, (1) endangers or injures the safety or health of human beings or animals, or (2) annoys or disturbs reasonable persons of normal sensitivities, or (3) endangers or injures personal or real property, or (4) violates the general sound limits set forth in Section 4.12.750 of this article. Compliance with the quantitative standards as listed therein shall constitute elimination of a noise disturbance.

Nuisance. A "public nuisance" is one which affects at the same time a community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.

"Person" means any individual, association, partnership, or corporation, and includes any officer, employee, department, agency or instrumentality of the State or any political subdivision of the State.

"Sound level" shall mean the weighted sound pressure level obtained by the use of a sound level meter and frequency weighing network as specified in American National Standards Institute specifications for sound level meters (ANSISI.4-1971, or the latest revision thereof). If the frequency weighing employed is not indicated, the A-weighing is implied.

"Sound level meter" shall mean an instrument, including a microphone, an amplifier, readout, and frequency weighing networks for the measurement of sound levels which meets or exceeds the requirements pertinent for type S2A meters in the latest revision of the American National Standards Institute Specification for sound level meters.

(Prior code § 4-3.1002)

4.12.740 Sound level measurement.

The City shall establish appropriate standards and procedures to ensure the accuracy of sound level measurements. Any such measurements shall be made consistent with these standards and procedures.

(Prior code § 4-3.1003)

4.12.750 General sound level limits.

Except for exempted activities and sounds as provided in this chapter or exempted properties as referenced in Section 4.12.800, it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property in the applicable Base District Zone on which the sound is produced exceeds the applicable limits set forth below:

Base District Zone	Sound Level Limits (Decibels)
1. Residential Districts:	55
RE (Residential Estate)	
LDR (Low Density)	
MDR/MDC (Medium Density)	
HDR (High Density)	
RMH (Mobile Home)	
2. Commercial Districts:	65
MO Medical Office	
POM Professional Office and Medical	
CS Community Shopping	
NS Neighborhood Shopping	
CBD Central Business District	
GHC General Highway	
H-S Highway Service	
3. Industrial Districts:	75
M-1 Light Industrial	
M-2 Heavy Industrial	
4. A (Agricultural)	75
5. AMO Aggregate Mineral Overlay Zone	75

(Prior code § 4-3.1004)

4.12.760 Limits for Planned Unit Developments.

In addition to the sound level limits established above, there is hereby established sound level limits for PUD (Planned Unit Development) base district zones.

For any residential land use within a PUD zone, the sound level limit is that limit which would be otherwise applicable in the residential district zone (RE, LDR, MDR/MDC, HDR, and RMH) corresponding to density of the residential development in that PUD zone.

For any nonresidential land use within a PUD zone, the sound level limit is that limit corresponding to the C (Commercial) or I (Industrial) zone which would be applicable to that use if not subject to the PUD zone. For the purposes of this section, a land use shall be that use shown on a duly approved planned development plan or specific plan.

(Prior code § 4-3.1005)

4.12.770 Limits for joint boundaries.

When property lines form the joint boundary of two (2) Base District Zones, the sound level limit shall be arithmetic mean of the limit applicable to each of the two (2) zones.

(Prior code § 4-3.1006)

4.12.780 Noncompliance with sound level limits—Extensions—Variations.

(a) If the noise resulting from any activity, event, or enterprise in any base district zone shall exceed the applicable area sound level limit prescribed Section 4.12.750 on three (3) or more days during any thirty (30) day period, the Community Development Director shall serve a notice of noncompliance on the owner of the property which produces the noise. Service shall be in the manner prescribed by Section 4.12.910. Such notice shall indicate the applicable sound level limit for the area, identify when and where excessive sound level measurements were taken, and report the sound level measured during each such measurement.

(b) Within thirty (30) days of service of the notice of noncompliance, the owner of the property shall do one of the following:

(1) Reduce the level of noise produced on the property so as to conform to the applicable sound level limit referenced in the notice;

(2) Deliver a written application to the Community Development Director for an extension of time in which to bring the noise into conformance with the referenced sound level limit; such extension may be granted for a period not to exceed thirty (30) days;

(3) Deliver to the Community Development Director a written objection to any or all of the findings indicated, identified, or reported in the notice; the Community Development Director shall rule on the validity of such objections within fifteen (15) days of such delivery and, if found to be invalid, shall order the owner to comply with the applicable sound level limit; or

(4) Apply for a variation from the sound level limit otherwise applicable. The Planning Commission shall hear applications for a variation during a duly noticed public hearing. The notice requirements shall be the same as those required by the Tracy zoning regulations in connection with an application for a conditional use permit which requires that notice of the hearing be provided in the local newspaper at least ten days prior to the hearing, and that a mailer be provided regarding the hearing to property owners within 300 feet of the exterior boundary of the subject property, also ten (10) days prior to the hearing.

(Prior code § 4-3.1007)

4.12.790 Required findings for the granting of a variation.

(a) The Planning Commission shall approve the application for a variation on the basis of the application, materials, and testimonies submitted to it if it finds that the health and welfare benefits of reducing the noise so as to conform with the applicable sound level limit are clearly outweighed by the burden on the applicant and the community in ameliorating, reducing, or modifying the noise so as to conform with the limit.

(b) In ruling on the application for the variation, the Planning Commission shall consider the following:

(1) The characteristics and conditions in Section 4-3.1010;

(2) The nature and zoning of the area within which the noise emanates;

(3) The density of inhabitation of the area in which the noise emanates;

(4) The economic impact on the applicant of bringing the subject property into conformance with the sound level limit; and

(5) The impact of the proposed variation on the health, safety, and welfare on persons exposed to sound levels thereby permitted.

(Prior code § 4-3.1008)

4.12.800 Exception and alternative sound level limits for certain properties.

Notwithstanding the general sound level limits provided in Section 4.12.740, an owner or operator of commercial or industrial properties may apply for an exemption from these limits and substitution of alternative sound level limits for the property. The application and approval of alternative sound level limits are controlled by Article 11 of this chapter.

Any alternative sound level limit duly approved by the City shall be enforceable in the same manner as the general sound level limits provided in Section 4.12.750.

(Prior code § 4-3.1009)

4.12.810 General prohibition.

(a) It shall be unlawful for any person to make, continue, or cause to be made or continued, within the limits of the City, any disturbing, excessive, or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity.

(b) The following characteristics and conditions shall be considered in determining whether there exists a violation of the general prohibition of this section but shall not be limited to:

(1) The level of noise;

(2) Whether the nature of the noise is usual or unusual;

(3) The level of background noise;

(4) The time of day or night the noise occurs;

(5) The duration of the noise;

(6) Whether the noise is recurrent, intermittent, or constant.

(c) It shall be rebuttably presumed that any noise which complies with the area sound level limits prescribed by Section 4.12.750 is not in violation of the general prohibition of this section.

(Prior code § 4-3.1010)

4.12.820 Specific noises prohibited.

Notwithstanding the rebuttable presumption referenced in Section 4.12.810, the following acts

are declared to cause disturbing, excessive, or offensive noises in violation of this article although such enumeration shall not be deemed to be exclusive:

(a) Horns, signaling devices, etc. The intentional sounding of any horn or other signaling device on any automobile, motorcycle, or other vehicle, except as a danger warning; the creation by means of any such signaling device of any unreasonably loud or harsh sound; and the sounding of any such device for any unnecessary and unreasonable period of time;

(b) Radios, phonographs, etc. The use or operation of any sound production or reproduction device, radio receiving set, musical instrument, drum, phonograph, television set, loud speaker, sound amplifier, or other sound machine or device used for the purpose of producing or reproducing sound in such a manner as to disturb the peace, quiet, or comfort of any reasonable person of normal sensitivity. The operation of any such machine or device in such a manner as to be plainly audible at a distance of fifty (50′) feet from its location shall be prima facie evidence of a violation of this section;

(c) Loud-speakers, amplifiers for advertising. The using, operating, or permitting to be played, used, or operated of any radio receiving set, musical instrument, phonograph, loud-speaker, sound amplifier or other machine or device for the producing or reproducing of sound which is cast upon the public streets for the purpose of commercial advertising or attracting the attention of the public to any building or structure;

(d) Yelling, shouting, etc. Yelling, shouting, hooting, whistling, or singing on the public streets, particularly between the hours of 10:00 p.m. and 7:00 a.m. or at any time or place so as to annoy or disturb the quiet, comfort, or repose of persons in any office, or any dwelling, hotel, or other type of residence or any persons in the vicinity;

(e) Animals, birds, etc. The keeping of any animal or bird which by causing frequent or long-continued and unreasonably loud noise shall disturb the comfort or repose of any person of normal sensitivity in the vicinity;

(f) Exhausts. The noise emanating into the open air of the noise from the exhaust of any stationary internal-combustion engine, motorboat, or motor vehicle except through a muffler or other device which will effectively prevent loud or explosive noises therefrom;

(g) Hawkers, peddlers. The shouting and crying of peddlers, hawkers, and vendors which disturbs the peace and quiet of the persons in the vicinity;

(h) Pile drivers, hammers, etc. The operation between the hours of 10:00 p.m. and 7:00 a.m. of any pneumatic or air hammer, pile driver, steam shovel, derrick, steam, or electric hoist, parking lot cleaning equipment or other appliance, the use of which is attended by loud or unusual noise;

(i) Business and residential relationships:

(1) Delivery vehicles shall have their engines turned off when stationary during the regular business hours (6:00 a.m. to 11:00 p.m.);

(2) It is unlawful for stores to be loading, unloading, opening or other handling of boxes, crates, containers, building materials, garbage cans, other similar objects and trash compactor operations between the hours of 10:00 p.m. and 7:00 a.m. in an area between a business and residential in such a manner to cause a noise disturbance across a residential property line or at any time to violate the general sound level limits;

(3) Store Deliveries by motorized refrigeration systems. Motorized refrigeration systems shall not be left running between the hours of 10:00 p.m. and 7:00 a.m. within seventy-five feet of a residential zone, residential use, or sleeping quarters;

(j) Motorized recreational vehicles operating off public right-of-way. No person shall operate or cause to be operated any motorized recreational vehicle off a public right-of-way in such a manner that the sound levels emitted therefrom violate the provisions of Section 4.12.750. This section shall apply to all motorized recreational vehicles, whether or not duly licensed and registered, including, but not limited to, commercial or non-commercial racing vehicles, motorcycles, go carts, amphibious craft, campers, snowmobiles and dune buggies, but not including motorboats.

(Prior code § 4-3.1011)

4.12.830 Exemptions.

(a) Emergency work. The provisions of this article shall not apply to any emergency work as defined herein, provided that the City has been notified as soon as practical and any vehicle, device, apparatus or equipment used with the emergency work is designed, modified, or equipped to reduce sounds produced to the lowest possible level consistent with effective operation of such vehicle, device, apparatus, or equipment. The provisions of this article shall not apply to any emergency work conducted by the City or its assignees or to any other activity to the extent regulation thereof has been preempted by State or Federal law.

(b) Sporting, entertainment, or public events. The provisions of this article shall not apply to:

(1) Those reasonable sounds emanating from authorized school activities;

(2) Those reasonable and typical sounds emanating from social gatherings;

(3) Sporting, entertainment and public events which are conducted pursuant to a license or permit issued by the City;

(4) Those reasonable sounds emanating from a sporting, entertainment, or public event except that it shall be unlawful to exceed those sound level limits set forth in Section 4.12.750 when measured at the property lines of any property which is used for residential purposes.

(c) Refuse collection vehicles. Refuse collection vehicles shall be exempted from the general sound level limits prescribed in Section 4.12.750

(d) Warning devices. Warning devices necessary for the protection of public safety (e.g. police, fire and ambulance sirens) shall be exempted from the provisions of this article.

(e) Agricultural operations. All mechanical devices, apparatus, or equipment associated with agricultural operations conducted on agricultural property are exempt from the provisions of this article unless adjacent to residential land uses. Where agricultural operations are adjacent to residential land uses, the following stipulations shall apply:

(1) Operations do not take place between 8:00 p.m. and 6:00 a.m.; unless

(2) Such operations and equipment are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions; or

(3) Such operations and equipment are associated with agricultural pest control through pesticide application, provided the application is made in accordance with permits issued by or regulations enforced by the (appropriate authority); or

(4) Such devices utilized for pest control which incorporate stationary or mobile noise sources (electromechanical bird scare devices, etc.) are operated only on approval by the Community Development Director. The allowable hours and days for operation of these devices will be specified in the approval; and

(5) All equipment and machinery powered by internal combustion engines shall be equipped with a proper muffler and air intake silencer in good working order.

(f)

The provisions of this article shall not apply to any work conducted by the City or its assignees or to any other activity to the extent regulation thereof has been preempted by State or Federal law. All equipment and machinery powered by internal combustion engines shall be equipped with a proper muffler and air intake silencer in good working order.

(Prior code § 4-3.1012)

4.12.840 Minor maintenance to or improvement of real property.

The provisions of this article shall not apply to noise sources associated with minor maintenance (lawn mowers, power-brushes, leaf blowers, etc.) to or improvement of property used either in part or in whole for residential and nonresidential purposes provided said activities take place between the hours of 7:00 a.m. and 10:00 p.m. on weekdays or between the hours of 7:00 a.m. and 10:00 p.m. on weekends and Federal Holidays.

(Prior code § 4-3.1013)

4.12.850 Preempted activities.

The provisions of this article shall not apply to any activity to the extent regulation thereof has been preempted by State or Federal law or which is a necessary or appropriate means of complying with health or safety requirements imposed by State or Federal law.

(Prior code § 4-3.1014)

4.12.860 Violations—Infractions and misdemeanors.

(Ord. 1040 § 5 Exh. E (part), 2002: prior code § 4-3.1015)

4.12.870 Violations—Public nuisance.

As an additional remedy, the operation or maintenance of any device, instrument, vehicle, machinery, or other item in violation of any provision of this article shall be deemed and is declared to be a public nuisance and may be subject to summary judicial abatement in order to preserve or protect the public health, safety, or welfare by a restraining order or injunction or by abatement and assessment in accordance with the procedures and processes set forth in this article.

Any person owning, leasing, occupying, or having charge of any premises in this City who maintains, uses, or allows to be used, in such a manner so as to make, create, or allow noise which is a public nuisance is subject to having the nuisance abated pursuant to the procedures and processes set forth in Sections 4.12.860 through 4.12.970.

(Prior code § 4-3.1016)

4.12.880 Declaration of nuisances.

Whenever an officer of the Community Development Department, or such other City official as may be designated by the City Manager, determines that any premises within the City is maintained, used, or allowed to be used so as to be a public nuisance within the meaning of the definition set forth in Section 4.12.730 then that person shall cause notice to be given in the manner provided in this article for the holding of a public hearing to ascertain whether the same does in fact constitute such public nuisance, the abatement of which is appropriate under the police power of the City.

(Prior code § 4-3.1017)

4.12.890 Form of notice of hearing.

Notice of the time and place of hearing before the City Council shall be entitled, "NOTICE OF HEARING," in letters not less than one inch in height and shall be substantially in the following form:

"NOTICE OF HEARING TO DETERMINE EXISTENCE OF PUBLIC NUISANCE AND TO ABATE IN WHOLE OR PART. Notice is hereby given that on the _____ day of _____, 19_____, at the hour _____ of said day, the City Council of the City of Tracy will hold a public hearing in the Council Chambers of the Tracy City Hall, located _____ at Tracy, California, to ascertain whether certain premises situated in the City of Tracy, State of California, known and designated as _____, in said City, and more particularly described as _____, constitute a public nuisance subject to noise abatement by means necessary and appropriate to reduce, modify, or eliminate such noise. If said premises, in whole or part, are found to constitute a public nuisance as defined by the Tracy Municipal Code and if the same are not promptly abated by the owner, such nuisances may be abated by municipal authorities and upon such abatement cost will constitute a lien upon such land until paid. Said alleged violations consist of the following: _____. Said methods of abatement available are: namerule;. All persons having any objection to, or interest in said matters are hereby notified to attend a meeting of the City Council of the City of Tracy to be held on the _____ day of _____/_____/_____, 19_____, the hour of _____, when their testimony and evidence will be heard and given due consideration.

DATED: _____

CODE ENFORCEMENT
OFFICER

(or title of such other City officer designated by the City Manager)"

(Prior code § 4-3.1018)

4.12.900 Posting and serving notice.

An officer of the Community Development Department or such other City official as may be designated by the City Manager, shall cause to be served upon the owner of each of the affected premises a copy of said notice and shall cause a copy thereof to be conspicuously posted on each of the affected premises.

Said notice shall be posted and served at least fifteen (15) days before the time fixed for such hearing. Proof of posting and service of such notices shall be made by declaration under penalty of perjury filed with the City Council.

(Prior code § 4-3.1019)

4.12.910 Form of proper service of notice.

Service of said notice shall be by personal service upon the owner of the affected premises or by depositing a copy of said notice in the U.S. Mail enclosed in a sealed envelope and with postage thereon fully prepaid. Said mail shall be registered or certified and addressed to the said owner, and if there is no known address, then in care of the property address. The service is complete at the time of such deposit. "Owner," as used herein, shall mean any person in possession and also any person having or claiming to have any legal or equitable interest in said premises, as disclosed by a current title search from any accredited title company. The failure of any person to receive such notice shall not affect the validity of the proceedings hereunder.

(Prior code § 4-3.1020)

4.12.920 Hearing by City Council.

At the time stated in the notices, the City Council shall hear and consider all relevant evidence, objections, or protests, and shall receive testimony from owners, witnesses, City personnel, and interested persons relative to such alleged public nuisance and the means necessary and appropriate to reduce, modify, or eliminate such nuisance from such premises. Said hearing may be continued from time to time.

(Prior code § 4-3.1021)

4.12.930 Decision of City Council.

Upon or after the conclusion of said hearing, the City Council shall, based upon such hearing, determine whether the premises, or any part thereof, as maintained, used, or allowed to be used in a manner constitute a public nuisance. If the City Council finds that such public nuisance does exist and that there is sufficient cause to order abatement of the nuisance, the City Council shall adopt a resolution setting forth its findings and ordering the owner or other person having charge or control of such premises to abate such nuisance by having such premises, buildings, structures, or activities thereon altered or eliminated in the manner and by the means specifically set forth in its resolution. Such resolution shall set forth times within which such work shall be commenced and completed by the owner. The decision and order of the City Council shall be final.

(Prior code § 4-3.1022)

4.12.940 Limitation of filing judicial action.

Any owner or other interested person having any objections or feeling aggrieved at any proceeding taken by the City Council in ordering the abatement of any public nuisance under the provisions of this article must bring an action to contest such decision within thirty (30) days after the date of such decision of the City Council. Otherwise all objections to such decision shall be deemed waived.

(Prior code § 4-3.1023)

4.12.950 Service of resolution to abate.

A copy of the resolution of the City Council ordering the abatement of said nuisance shall be served upon the owners of said property in accordance with the provisions of Section 4.12.910 and shall contain a detailed list of needed corrections, alterations, and/or other noise abatement methods. Any property owner shall have the right to have any such premises or activities thereon altered or eliminated in accordance with said resolution and at his own expense provided the same is done prior to the expiration of abatement period set forth in the resolution. Upon such abatement in full by the owner, then proceedings hereunder shall terminate.

If such nuisance is not completely abated by the owner as directed within the designated abatement period, then the City Manager, or such other City official as may be designated by him, is authorized and directed to cause the same to be abated by the City forces or private contract, and the City Manager (or his designated agents) is expressly authorized to enter upon said premises for such purpose. Upon request of the designated official, other City departments shall cooperate fully and shall render all reasonable assistance in abating any such nuisance.

(Prior code § 4-3.1024)

4.12.960 Record of cost for abatement.

(a) The City Manager, or such other City official as may be designated by him or her, shall keep an account of the cost (including incidental expenses) of abating such nuisance on each separate lot or parcel of land where the work is done, and shall render an itemized report in writing to the said City Council showing the cost of noise abatement at said premises; provided, that before such report is submitted to said City Council, a copy of the same shall be posted for at least five (5) days upon such premises together with a notice of the time when the report shall be heard by the City Council for confirmation.

(b) The City Council shall set the matter for hearing to determine the correctness or reasonableness, or both, of such costs.

(c) A copy of said report and notice shall be served upon the owners of said property in accordance with the provisions of Section 4.12.910, at least five (5) days prior to the date of the City Council hearing.

(d) Proof of said posting and service shall be made by declaration under penalty of perjury filed with the City Clerk.

(e) The term "incidental expenses" shall include, but not be limited to, the actual expenses and costs of the City in preparation of notices, specifications, and contracts and in inspecting the work, and the costs of printing and mailing required hereunder.

(Prior code § 4-3.1025)

4.12.970 Report—Hearing and proceedings.

At the time and place fixed for receiving and considering said report, the City Council shall hear and pass upon the report of such costs of abatement, together with any objections or protests. Thereupon the City Council may make such revision, correction, or modification in the report as it may deem just, after which by resolution the report, as submitted or as revised, corrected, or modified, shall be confirmed. The decision of the City Council on all protests and objections which may be made shall be final and conclusive.

(Prior code § 4-3.1026)

4.12.980 Assessment of costs against property—Lien.

The total cost for abating such nuisance, as so confirmed by the City Council, shall constitute a special assessment against the respective lot or parcel of land to which it relates, and upon recordation in the office of the County Recorder of a notice of lien, as so made and confirmed, shall constitute a lien on said property for the amount of such assessment.

(a) After such confirmation and recordation, a certified copy of such decision shall be sent to the tax division of the County Auditor-Controller's office, whereupon it shall be the duty of said Auditor-Controller to add the amounts of the respective assessments to the next regular tax bills levied against said respective lots and parcels of land for municipal purposes, and thereafter said amounts shall be collected at the same time and in the same manner as ordinary municipal taxes are collected, and shall be subject to the same penalties and the same procedure under foreclosure and sale in case of delinquency as provided for ordinary municipal taxes; or

(b) After such recordation such lien may be foreclosed by judicial or other sale in the manner and means provided by law;

(c) Such notice of lien for recordation shall be in form substantially as follows:

"NOTICE OF LIEN—CLAIM OF CITY OF TRACY.

Pursuant to the authority vested by the provisions of Article 9 of Chapter 4.12 of the Tracy Municipal Code, the City manager of the City of Tracy (or his designated agents) did on or about the day of, 20_____, cause the premises hereinafter described to be altered, in order to abate a public nuisance on said real property; and the City Council of the City of Tracy did on the day of, 20_____, assess the cost of such abatement upon said real property hereinafter described; and the same has not been paid nor any part thereof; and that said City of Tracy does hereby claim a lien on such abatement in the amount of said assessment, to wit: the sum of $_____; and the same shall be a lien upon said real property until the same has been paid in full and discharged of record. The real property hereinbefore mentioned, and upon which a lien is claimed, is that certain parcel of land lying and being in the City of Tracy, County of San Joaquin, State of California, and more particularly described as follows:

(DESCRIPTION)

DATED: _____	_____
(ACKNOWLEDGEMENT)	City Manager of the City of Tracy."

(Ord. 1040 § 5 Exh. E (part), 2002; prior code § 4-3.1027)

4.12.990 Violations.

(a) The owner or other person having charge or control of any such buildings or premises maintaining any public nuisance as defined in this chapter, or who violates any order of abatement made pursuant to Section 4.12.930 is guilty of a misdemeanor.

(b) Any person who removes any notice or order posted as required in this chapter is guilty of a misdemeanor.

(Prior code § 4-3.1028)

4.12.1000 Severability.

If any section, sentence, clause or phrase of this chapter is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this chapter. The City Council hereby declares that it would have passed this ordinance and adopted this chapter and each section, sentence, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

(Prior code § 4-3.1029)

APPENDIX 5.1:

STUDY AREA PHOTOS

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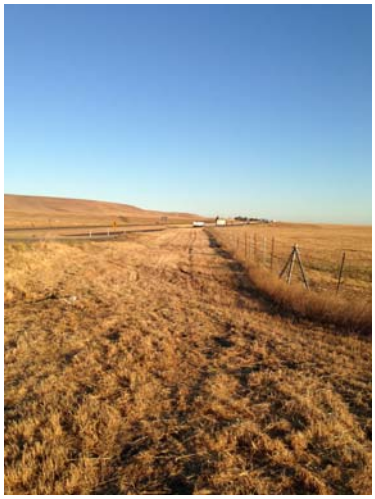

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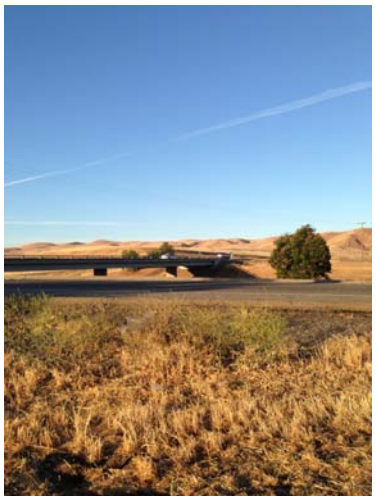

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JN:08559 Tracy Hills Phase 1

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APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

24-Hour Noise Level Measurement Summary - v20130414

Project Name: Tracy Hills

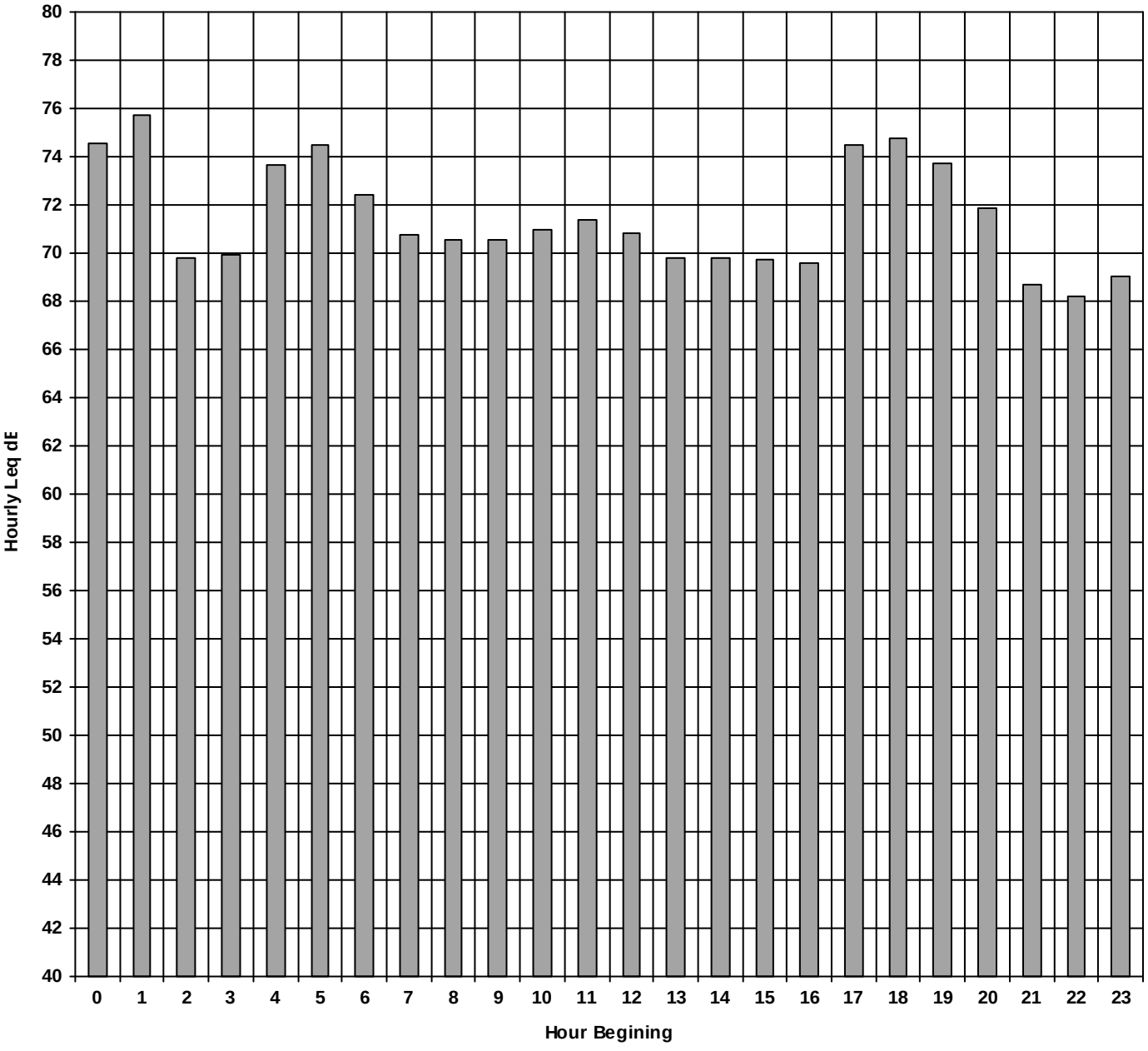
Job Number: 8559

Analyst: B. Lawson

Description: L1 - At I-580 Caltrans ROW

Start Date: Thursday, May 30, 2013

Hourly Leq dB(A) Readings (unadjusted)



Measured Peak Noise Hour: 1

Measured Peak Hour dBA Leq: 75.7

24-Hour Noise Level Measurement Summary - v20130414

Project Name: Tracy Hills
Job Number: 8559
Analyst: B. Lawson
Description: L1 - At I-580 Caltrans ROW
Start Date: Thursday, May 30, 2013

Leq To CNEL Noise Calculations

Noise Hour	*Hourly Leq*	*CNEL Penalty*	*Adjusted Hourly Leq*
0	74.5	10	84.5
1	75.7	10	85.7
2	69.8	10	79.8
3	69.9	10	79.9
4	73.6	10	83.6
5	74.5	10	84.5
6	72.4	10	82.4
7	70.8	0	70.8
8	70.6	0	70.6
9	70.6	0	70.6
10	71.0	0	71.0
11	71.4	0	71.4
12	70.8	0	70.8
13	69.8	0	69.8
14	69.8	0	69.8
15	69.7	0	69.7
16	69.6	0	69.6
17	74.5	0	74.5
18	74.8	0	74.8
19	73.7	5	78.7
20	71.9	5	76.9
21	68.7	5	73.7
22	68.2	10	78.2
23	69.0	10	79.0

Calculated CNEL: 79.2

Evening Hours

Nighttime Hours

24-Hour Noise Level Measurement Summary - v20130414

Project Name: Tracy Hills

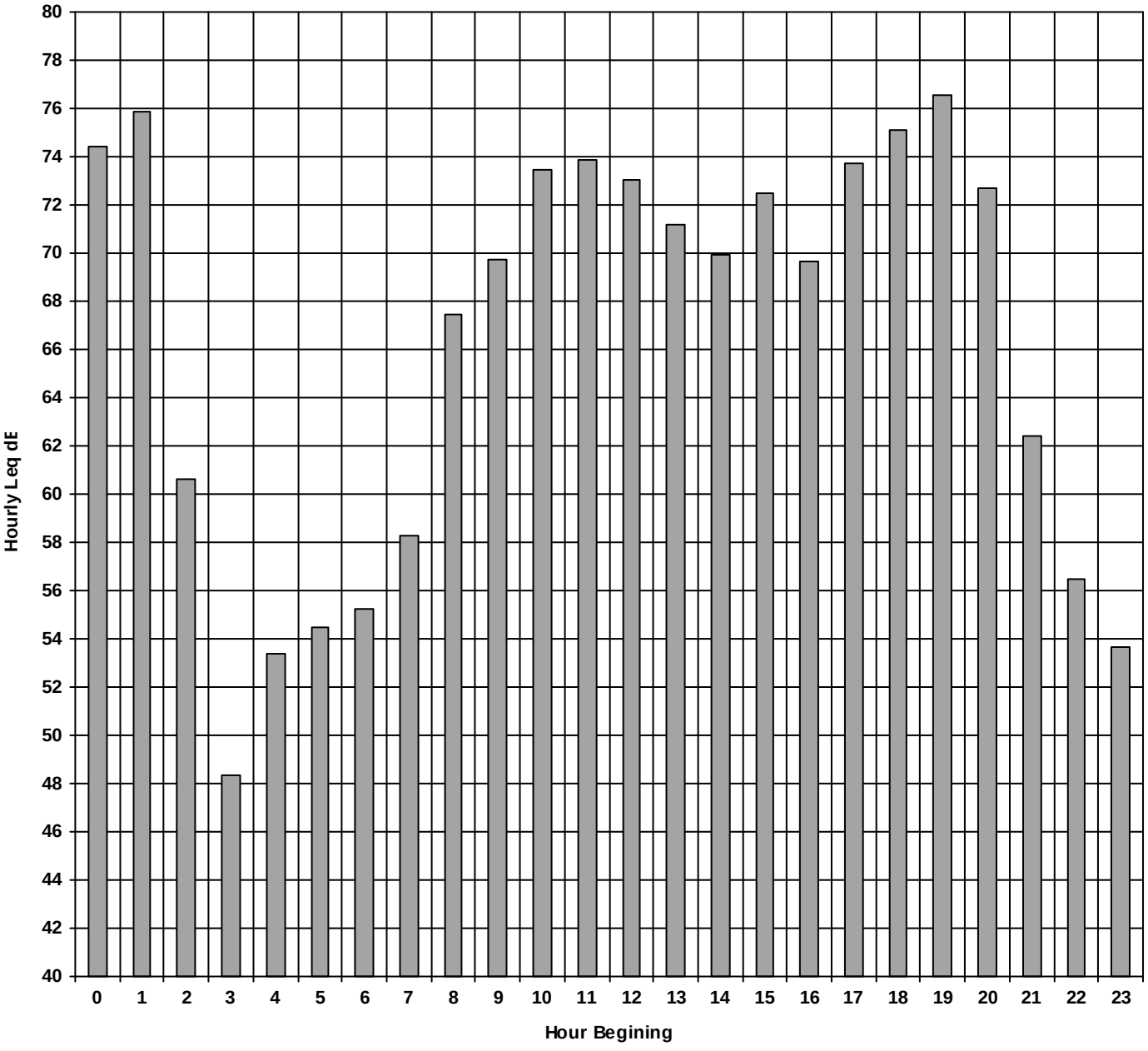
Job Number: 8559

Analyst: B. Lawson

Description: L2 - At 1,700 from I-580 Fwy.

Start Date: Thursday, May 30, 2013

Hourly Leq dB(A) Readings (unadjusted)



Measured Peak Noise Hour: 19

Measured Peak Hour dBA Leq: 76.6

24-Hour Noise Level Measurement Summary - v20130414

Project Name: Tracy Hills
Job Number: 8559
Analyst: B. Lawson

Description: L2 - At 1,700 from I-580 Fwy.
Start Date: Thursday, May 30, 2013

Leq To CNEL Noise Calculations

Noise Hour	*Hourly Leq*	*CNEL Penalty*	*Adjusted Hourly Leq*
0	74.4	10	84.4
1	75.8	10	85.8
2	60.6	10	70.6
3	48.3	10	58.3
4	53.4	10	63.4
5	54.5	10	64.5
6	55.2	10	65.2
7	58.3	0	58.3
8	67.5	0	67.5
9	69.7	0	69.7
10	73.4	0	73.4
11	73.9	0	73.9
12	73.0	0	73.0
13	71.2	0	71.2
14	69.9	0	69.9
15	72.5	0	72.5
16	69.7	0	69.7
17	73.7	0	73.7
18	75.1	0	75.1
19	76.6	5	81.6
20	72.7	5	77.7
21	62.4	5	67.4
22	56.5	10	66.5
23	53.6	10	63.6

Calculated CNEL: 76.5

Evening Hours

Nighttime Hours

Tracy - Weather Conditions, Thrusday, May 30, 2013

Time (PDT)	Humidity	Pressure	Visibility	Wind Dir	Wind Spee	Gust Spee	Precip	Events	Conditions
12:55 AM	65%	29.90 in	10.0 mi	WNW	8.1 mph	-	N/A		Clear
1:55 AM	74%	29.90 in	10.0 mi	NW	4.6 mph	-	N/A		Clear
2:55 AM	80%	29.90 in	10.0 mi	NW	5.8 mph	-	N/A		Clear
3:55 AM	77%	29.89 in	10.0 mi	NW	5.8 mph	-	N/A		Clear
4:55 AM	80%	29.91 in	10.0 mi	NW	5.8 mph	-	N/A		Clear
5:55 AM	77%	29.91 in	10.0 mi	West	6.9 mph	-	N/A		Clear
6:55 AM	72%	29.91 in	10.0 mi	West	4.6 mph	-	N/A		Clear
7:55 AM	62%	29.94 in	10.0 mi	WNW	10.4 mph	-	N/A		Clear
8:55 AM	50%	29.94 in	10.0 mi	WNW	11.5 mph	-	N/A		Clear
9:55 AM	37%	29.94 in	10.0 mi	West	11.5 mph	-	N/A		Clear
10:55 AM	34%	29.94 in	10.0 mi	NW	11.5 mph	19.6 mph	N/A		Clear
11:55 AM	36%	29.94 in	10.0 mi	WNW	15.0 mph	20.7 mph	N/A		Clear
12:55 PM	36%	29.94 in	10.0 mi	NW	12.7 mph	21.9 mph	N/A		Clear
1:55 PM	27%	29.93 in	10.0 mi	WNW	13.8 mph	21.9 mph	N/A		Clear
2:55 PM	27%	29.91 in	10.0 mi	West	11.5 mph	17.3 mph	N/A		Clear
3:55 PM	19%	29.90 in	10.0 mi	NW	8.1 mph	-	N/A		Clear
4:55 PM	17%	29.88 in	10.0 mi	NW	12.7 mph	21.9 mph	N/A		Clear
5:55 PM	25%	29.88 in	10.0 mi	NW	12.7 mph	17.3 mph	N/A		Clear
6:55 PM	25%	29.89 in	10.0 mi	NW	11.5 mph	-	N/A		Clear
7:55 PM	26%	29.90 in	10.0 mi	West	12.7 mph	-	N/A		Clear
8:55 PM	36%	29.91 in	10.0 mi	West	11.5 mph	-	N/A		Clear
9:55 PM	43%	29.92 in	10.0 mi	West	8.1 mph	-	N/A		Clear
10:55 PM	43%	29.92 in	10.0 mi	WNW	8.1 mph	-	N/A		Clear
11:55 PM	52%	29.94 in	10.0 mi	NE	4.6 mph	-	N/A		Clear

APPENDIX 7.1:

ON-SITE TRAFFIC NOISE ANALYSIS WORKSHEETS

Future Exterior Noise Levels

ID	Location	Peak Hour Noise Level (dBA Leq)							24-Hour Noise Level (dBA CNEL)						
		No Wall	6' Wall	8' Wall	10' Wall	12' Wall	14' Wall	16' Wall	No Wall	6' Wall	8' Wall	10' Wall	12' Wall	14' Wall	16' Wall
R-1	Backyard	67.2	66.0	65.1	63.8	62.2	61.1	60.0	72.2	71.0	70.1	68.8	67.2	66.1	65.0
R-2	Frontyard	67.3	67.4	67.4	67.0	66.0	63.2	62.1	72.3	72.4	72.4	72.0	71.0	68.2	67.1
R-3	Backyard	62.9	62.9	62.7	61.3	58.3	57.4	56.9	67.9	67.9	67.7	66.3	63.3	62.4	61.9
R-4	Backyard	66.0	66.1	60.7	58.5	56.7	55.4	54.5	71.0	71.1	65.7	63.5	61.7	60.4	59.5
R-5	Backyard	63.9	63.9	61.0	59.8	58.8	57.5	56.7	68.9	68.9	66.0	64.8	63.8	62.5	61.7
R-6	Backyard	67.7	68.2	68.2	66.8	65.6	62.8	62.5	72.7	73.2	73.2	71.8	70.6	67.8	67.5
R-7	Frontyard	65.9	66.2	66.1	66.0	65.4	63.5	60.7	70.9	71.2	71.1	71.0	70.4	68.5	65.7
R-8	Backyard	68.2	68.3	68.3	68.3	67.7	65.2	62.7	73.2	73.3	73.3	73.3	72.7	70.2	67.7
R-9	Frontyard	66.5	66.7	66.7	66.6	64.6	61.3	60.1	71.5	71.7	71.7	71.6	69.6	66.3	65.1
R-10	Backyard	66.4	64.5	58.9	57.2	54.4	52.9	53.0	71.4	69.5	63.9	62.2	59.4	57.9	58.0
C-1	Community	53.3	53.9	53.9	53.9	53.9	54.0	54.0	58.3	58.9	58.9	58.9	58.9	59.0	59.0
C-2	Community	53.2	54.0	54.0	54.0	54.0	54.2	54.4	58.2	59.0	59.0	59.0	59.0	59.2	59.4
C-3	Community	55.1	56.2	56.2	56.2	56.2	56.2	56.4	60.1	61.2	61.2	61.2	61.2	61.2	61.4
C-4	Community	57.3	58.8	58.8	58.7	58.7	58.7	58.7	62.3	63.8	63.8	63.7	63.7	63.7	63.7

Future CNEL noise levels calculated based on the Caltrans conversion between noise descriptors methodology (Section 2.2.3 Technical Noise Supplement)

Noise Barrier Barrier Attenuation

ID	Location	Noise Level (dBA CNEL)						
		No Wall	6' Wall	8' Wall	10' Wall	12' Wall	14' Wall	16' Wall
R-1	Backyard		1.2	2.1	3.4	5.0	6.1	7.2
R-2	Frontyard		-	-	0.3	1.3	4.1	5.2
R-3	Backyard		-	0.2	1.6	4.6	5.5	6.0
R-4	Backyard		-	5.3	7.5	9.3	10.6	11.5
R-5	Backyard		-	2.9	4.1	5.1	6.4	7.2
R-6	Backyard		-	-	0.9	2.1	4.9	5.2
R-7	Frontyard		-	-	-	0.5	2.4	5.2
R-8	Backyard		-	-	-	0.5	3.0	5.5
R-9	Frontyard		-	-	-	1.9	5.2	6.4
R-10	Backyard		1.9	7.5	9.2	12.0	13.5	13.4
C-1	Community		-	-	-	-	-	-
C-2	Community		-	-	-	-	-	-
C-3	Community		-	-	-	-	-	-
C-4	Community		-	-	-	-	-	-

Urban Crossroads
EL
RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 08559
RUN: Future_6
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

28 August 2013
TNM 2.5
Calculated with TNM 2.5

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

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R-1	52	1	62.0	67.2	66	5.2	10	Snd Lvl	66.0	1.2	8	-6.8
R-2	53	1	0.0	67.3	66	67.3	10	Snd Lvl	67.4	-0.1	8	-8.1
R-3	54	1	0.0	62.9	66	62.9	10	----	62.9	0.0	8	-8.0
R-4	55	1	0.0	66.0	66	66.0	10	Snd Lvl	66.1	-0.1	8	-8.1
R-5	56	1	0.0	63.9	66	63.9	10	----	63.9	0.0	8	-8.0
R-6	57	1	0.0	67.7	66	67.7	10	Snd Lvl	68.2	-0.5	8	-8.5
R-7	58	1	0.0	65.9	66	65.9	10	----	66.2	-0.3	8	-8.3
R-8	59	1	0.0	68.2	66	68.2	10	Snd Lvl	68.3	-0.1	8	-8.1
R-9	60	1	0.0	66.5	66	66.5	10	Snd Lvl	66.7	-0.2	8	-8.2
R-10	61	1	0.0	66.4	66	66.4	10	Snd Lvl	64.5	1.9	8	-6.1
C-1	62	1	0.0	53.3	66	53.3	10	----	53.9	-0.6	8	-8.6
C-2	63	1	0.0	53.2	66	53.2	10	----	54.0	-0.8	8	-8.8
C-3	64	1	0.0	55.1	66	55.1	10	----	56.2	-1.1	8	-9.1
C-4	65	1	0.0	57.3	66	57.3	10	----	58.8	-1.5	8	-9.5

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	14	-1.5	-0.2	1.9
All Impacted	7	-0.5	0.3	1.9
All that meet NR Goal	0	0.0	0.0	0.0

RESULTS: SOUND LEVELS **08559**

Urban Crossroads **28 August 2013**
EL **TNM 2.5**
Calculated with TNM 2.5
RESULTS: SOUND LEVELS
PROJECT/CONTRACT: **08559**
RUN: **Future_8**
BARRIER DESIGN: **INPUT HEIGHTS**
ATMOSPHERICS: **68 deg F, 50% RH**

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

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R-1	52	1	62.0	67.2	66	5.2	10	Snd Lvl	65.1	2.1	8	-5.9
R-2	53	1	0.0	67.3	66	67.3	10	Snd Lvl	67.4	-0.1	8	-8.1
R-3	54	1	0.0	62.9	66	62.9	10	----	62.7	0.2	8	-7.8
R-4	55	1	0.0	66.0	66	66.0	10	Snd Lvl	60.7	5.3	8	-2.7
R-5	56	1	0.0	63.9	66	63.9	10	----	61.0	2.9	8	-5.1
R-6	57	1	0.0	67.7	66	67.7	10	Snd Lvl	68.2	-0.5	8	-8.5
R-7	58	1	0.0	65.9	66	65.9	10	----	66.1	-0.2	8	-8.2
R-8	59	1	0.0	68.2	66	68.2	10	Snd Lvl	68.3	-0.1	8	-8.1
R-9	60	1	0.0	66.5	66	66.5	10	Snd Lvl	66.7	-0.2	8	-8.2
R-10	61	1	0.0	66.4	66	66.4	10	Snd Lvl	58.9	7.5	8	-0.5
C-1	62	1	0.0	53.3	66	53.3	10	----	53.9	-0.6	8	-8.6
C-2	63	1	0.0	53.2	66	53.2	10	----	54.0	-0.8	8	-8.8
C-3	64	1	0.0	55.1	66	55.1	10	----	56.2	-1.1	8	-9.1
C-4	65	1	0.0	57.3	66	57.3	10	----	58.8	-1.5	8	-9.5

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	14	-1.5	0.9	7.5
All Impacted	7	-0.5	2.0	7.5
All that meet NR Goal	0	0.0	0.0	0.0

Urban Crossroads
EL
RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 08559
RUN: Future_10
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

28 August 2013
TNM 2.5
Calculated with TNM 2.5

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

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R-1	52	1	62.0	67.2	66	5.2	10	Snd Lvl	63.8	3.4	8	-4.6
R-2	53	1	0.0	67.3	66	67.3	10	Snd Lvl	67.0	0.3	8	-7.7
R-3	54	1	0.0	62.9	66	62.9	10	----	61.3	1.6	8	-6.4
R-4	55	1	0.0	66.0	66	66.0	10	Snd Lvl	58.5	7.5	8	-0.5
R-5	56	1	0.0	63.9	66	63.9	10	----	59.8	4.1	8	-3.9
R-6	57	1	0.0	67.7	66	67.7	10	Snd Lvl	66.8	0.9	8	-7.1
R-7	58	1	0.0	65.9	66	65.9	10	----	66.0	-0.1	8	-8.1
R-8	59	1	0.0	68.2	66	68.2	10	Snd Lvl	68.3	-0.1	8	-8.1
R-9	60	1	0.0	66.5	66	66.5	10	Snd Lvl	66.6	-0.1	8	-8.1
R-10	61	1	0.0	66.4	66	66.4	10	Snd Lvl	57.2	9.2	8	1.2
C-1	62	1	0.0	53.3	66	53.3	10	----	53.9	-0.6	8	-8.6
C-2	63	1	0.0	53.2	66	53.2	10	----	54.0	-0.8	8	-8.8
C-3	64	1	0.0	55.1	66	55.1	10	----	56.2	-1.1	8	-9.1
C-4	65	1	0.0	57.3	66	57.3	10	----	58.7	-1.4	8	-9.4

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	14	-1.4	1.6	9.2
All Impacted	7	-0.1	3.0	9.2
All that meet NR Goal	1	9.2	9.2	9.2

Urban Crossroads
EL
RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 08559
RUN: Future_12
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

28 August 2013
TNM 2.5
Calculated with TNM 2.5

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

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R-1	52	1	62.0	67.2	66	5.2	10	Snd Lvl	62.2	5.0	8	-3.0
R-2	53	1	0.0	67.3	66	67.3	10	Snd Lvl	66.0	1.3	8	-6.7
R-3	54	1	0.0	62.9	66	62.9	10	----	58.3	4.6	8	-3.4
R-4	55	1	0.0	66.0	66	66.0	10	Snd Lvl	56.7	9.3	8	1.3
R-5	56	1	0.0	63.9	66	63.9	10	----	58.8	5.1	8	-2.9
R-6	57	1	0.0	67.7	66	67.7	10	Snd Lvl	65.6	2.1	8	-5.9
R-7	58	1	0.0	65.9	66	65.9	10	----	65.4	0.5	8	-7.5
R-8	59	1	0.0	68.2	66	68.2	10	Snd Lvl	67.7	0.5	8	-7.5
R-9	60	1	0.0	66.5	66	66.5	10	Snd Lvl	64.6	1.9	8	-6.1
R-10	61	1	0.0	66.4	66	66.4	10	Snd Lvl	54.4	12.0	8	4.0
C-1	62	1	0.0	53.3	66	53.3	10	----	53.9	-0.6	8	-8.6
C-2	63	1	0.0	53.2	66	53.2	10	----	54.0	-0.8	8	-8.8
C-3	64	1	0.0	55.1	66	55.1	10	----	56.2	-1.1	8	-9.1
C-4	65	1	0.0	57.3	66	57.3	10	----	58.7	-1.4	8	-9.4

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	14	-1.4	2.7	12.0
All Impacted	7	0.5	4.6	12.0
All that meet NR Goal	2	9.3	10.6	12.0

Urban Crossroads 28 August 2013
EL TNM 2.5
Calculated with TNM 2.5
RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 08559
RUN: Future_14
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

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

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R-1	52	1	62.0	67.2	66	5.2	10	Snd Lvl	61.1	6.1	8	-1.9
R-2	53	1	0.0	67.3	66	67.3	10	Snd Lvl	63.2	4.1	8	-3.9
R-3	54	1	0.0	62.9	66	62.9	10	----	57.4	5.5	8	-2.5
R-4	55	1	0.0	66.0	66	66.0	10	Snd Lvl	55.4	10.6	8	2.6
R-5	56	1	0.0	63.9	66	63.9	10	----	57.5	6.4	8	-1.6
R-6	57	1	0.0	67.7	66	67.7	10	Snd Lvl	62.8	4.9	8	-3.1
R-7	58	1	0.0	65.9	66	65.9	10	----	63.5	2.4	8	-5.6
R-8	59	1	0.0	68.2	66	68.2	10	Snd Lvl	65.2	3.0	8	-5.0
R-9	60	1	0.0	66.5	66	66.5	10	Snd Lvl	61.3	5.2	8	-2.8
R-10	61	1	0.0	66.4	66	66.4	10	Snd Lvl	52.9	13.5	8	5.5
C-1	62	1	0.0	53.3	66	53.3	10	----	54.0	-0.7	8	-8.7
C-2	63	1	0.0	53.2	66	53.2	10	----	54.2	-1.0	8	-9.0
C-3	64	1	0.0	55.1	66	55.1	10	----	56.2	-1.1	8	-9.1
C-4	65	1	0.0	57.3	66	57.3	10	----	58.7	-1.4	8	-9.4

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	14	-1.4	4.1	13.5
All Impacted	7	3.0	6.8	13.5
All that meet NR Goal	2	10.6	12.0	13.5

Urban Crossroads
EL
RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 08559
RUN: Future_16
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

28 August 2013
TNM 2.5
Calculated with TNM 2.5

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

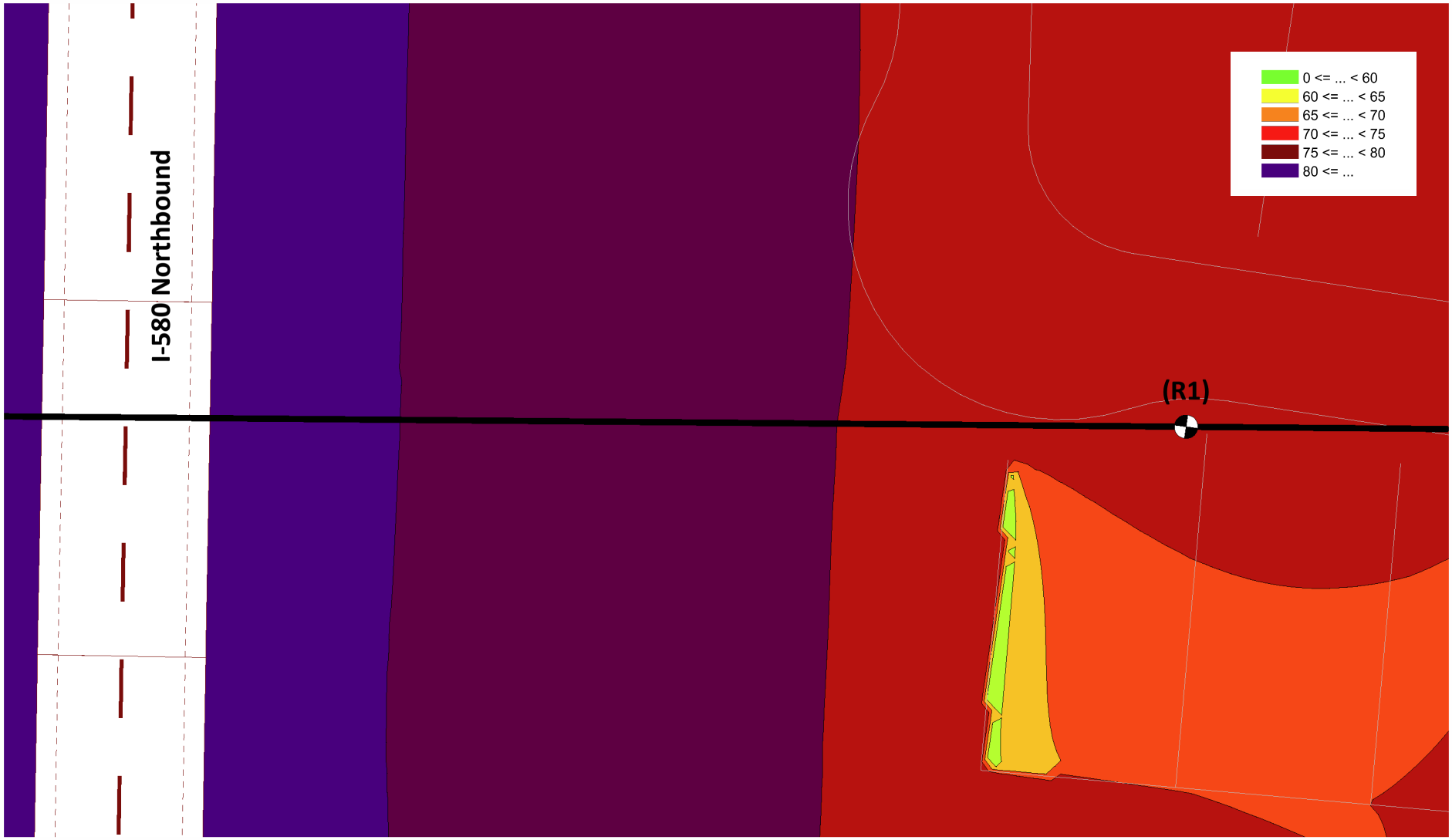
Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R-1	52	1	62.0	67.2	66	5.2	10	Snd Lvl	60.0	7.2	8	-0.8
R-2	53	1	0.0	67.3	66	67.3	10	Snd Lvl	62.1	5.2	8	-2.8
R-3	54	1	0.0	62.9	66	62.9	10	----	56.9	6.0	8	-2.0
R-4	55	1	0.0	66.0	66	66.0	10	Snd Lvl	54.5	11.5	8	3.5
R-5	56	1	0.0	63.9	66	63.9	10	----	56.7	7.2	8	-0.8
R-6	57	1	0.0	67.7	66	67.7	10	Snd Lvl	62.5	5.2	8	-2.8
R-7	58	1	0.0	65.9	66	65.9	10	----	60.7	5.2	8	-2.8
R-8	59	1	0.0	68.2	66	68.2	10	Snd Lvl	62.7	5.5	8	-2.5
R-9	60	1	0.0	66.5	66	66.5	10	Snd Lvl	60.1	6.4	8	-1.6
R-10	61	1	0.0	66.4	66	66.4	10	Snd Lvl	53.0	13.4	8	5.4
C-1	62	1	0.0	53.3	66	53.3	10	----	54.0	-0.7	8	-8.7
C-2	63	1	0.0	53.2	66	53.2	10	----	54.4	-1.2	8	-9.2
C-3	64	1	0.0	55.1	66	55.1	10	----	56.4	-1.3	8	-9.3
C-4	65	1	0.0	57.3	66	57.3	10	----	58.7	-1.4	8	-9.4

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	14	-1.4	4.9	13.4
All Impacted	7	5.2	7.8	13.4
All that meet NR Goal	2	11.5	12.5	13.4

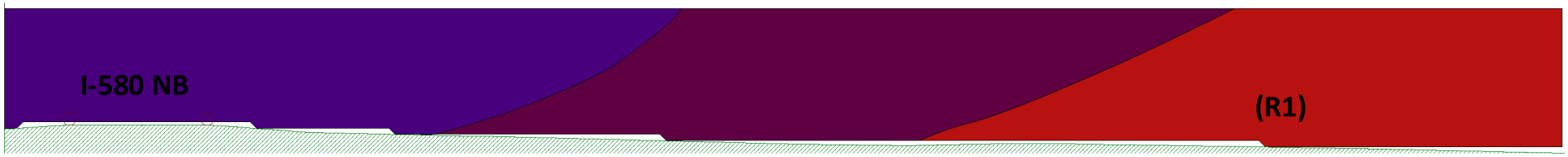
APPENDIX 7.2:

FOCUSED EXTERIOR NOISE CONTOUR BOUNDARIES

Noise Receiver Location (R1)

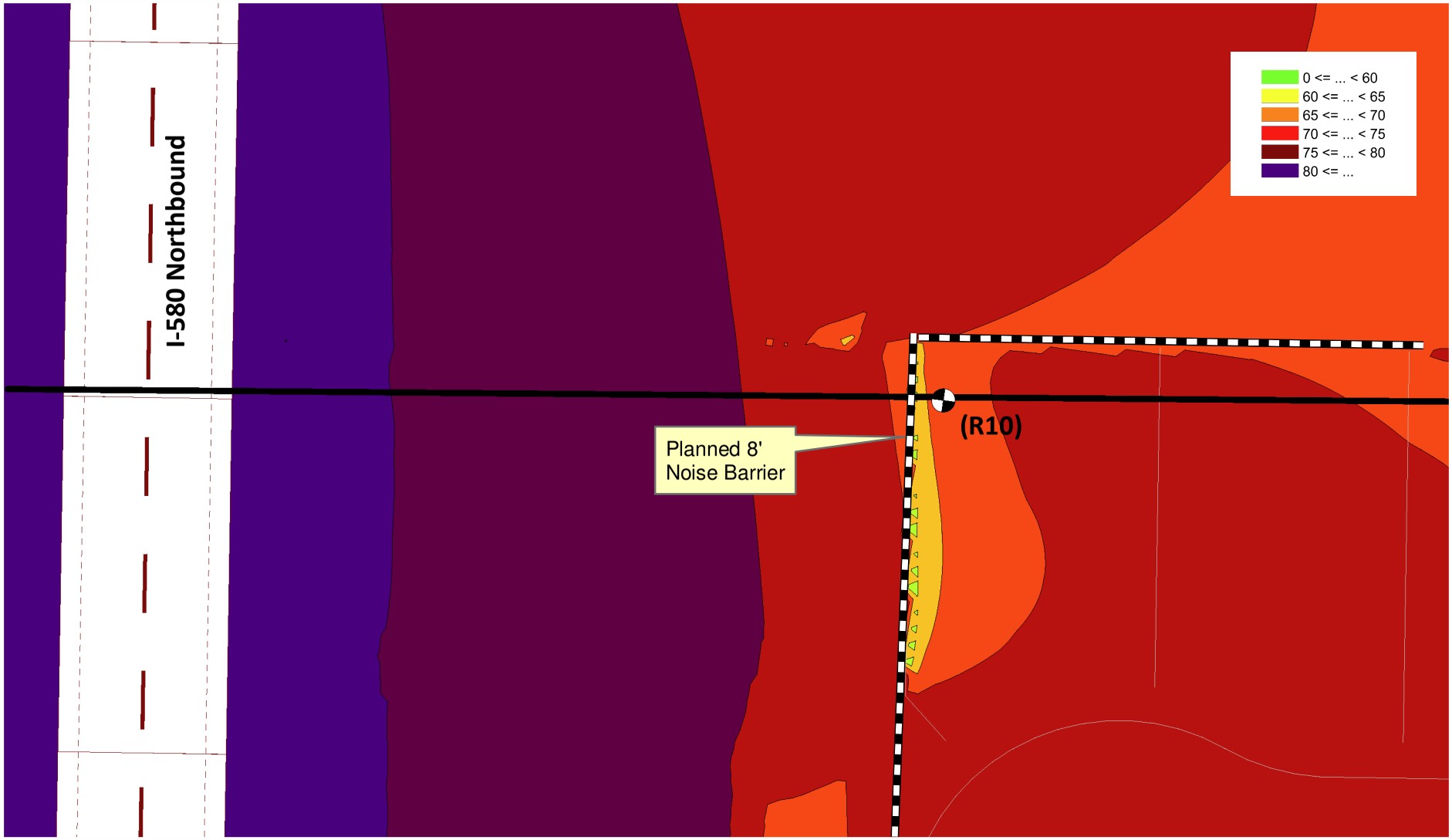


Plan View

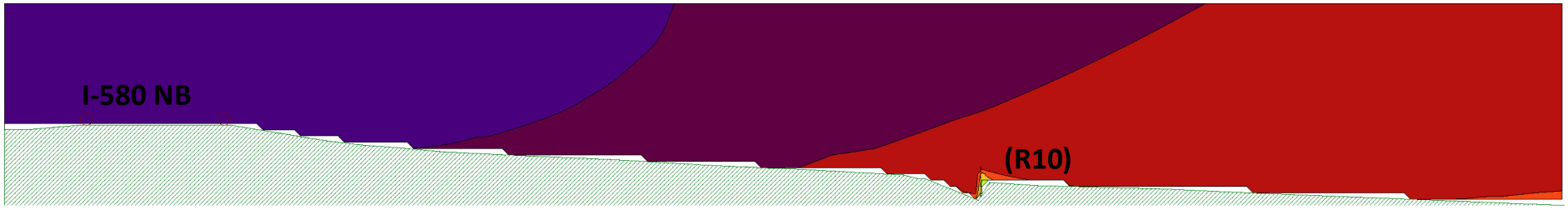


Cross-Section View

Noise Receiver Location (R10)

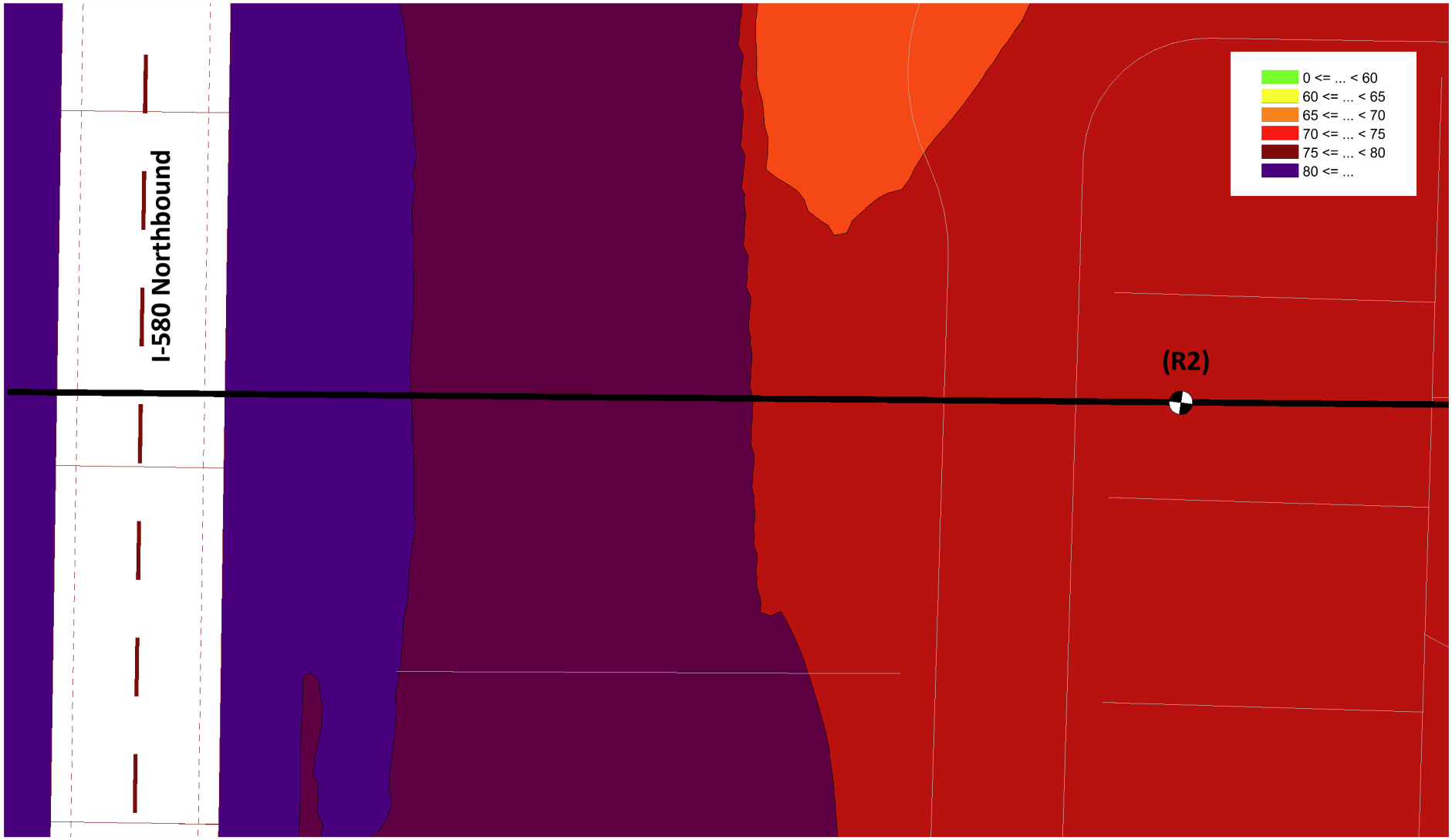


Plan View

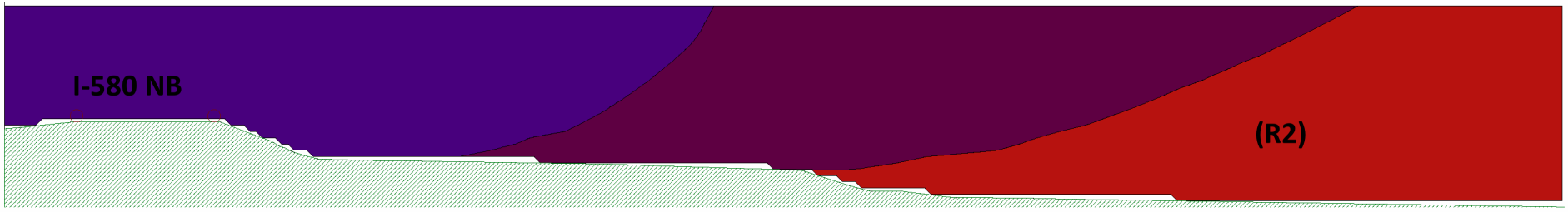


Cross-Section View

Noise Receiver Location (R2)

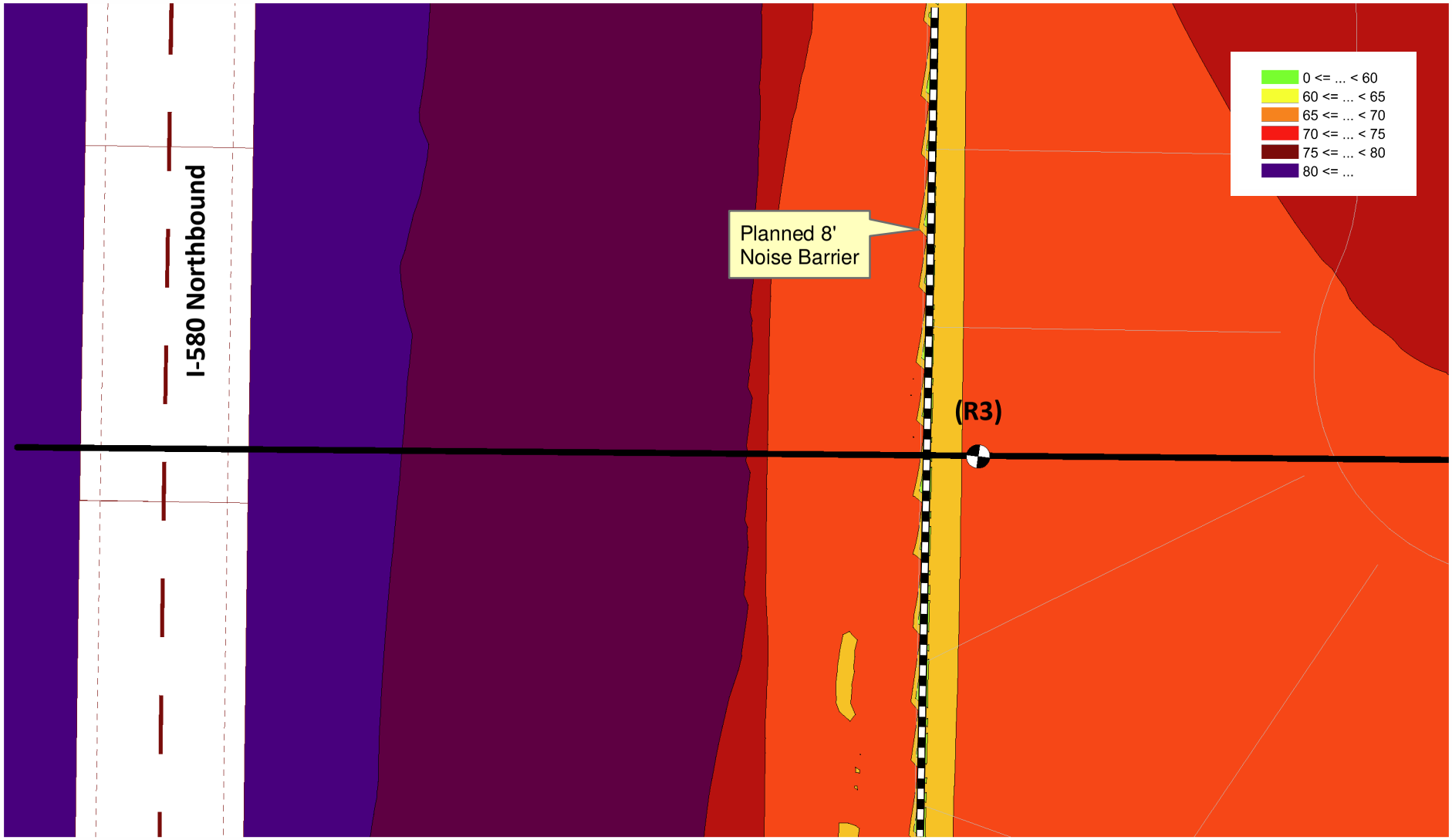


Plan View

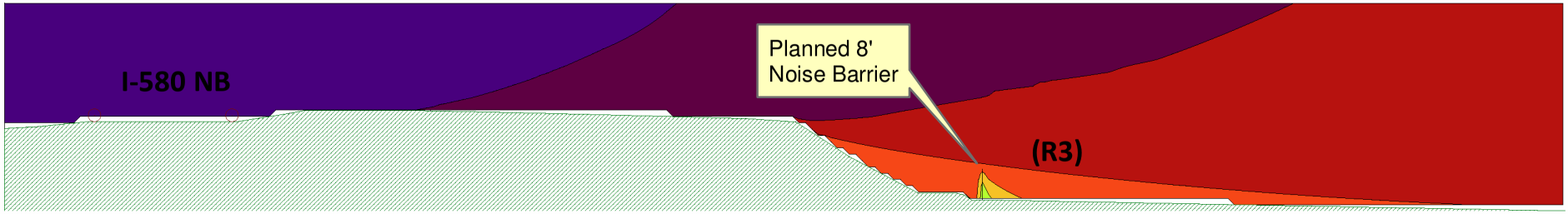


Cross-Section View

Noise Receiver Location (R3)

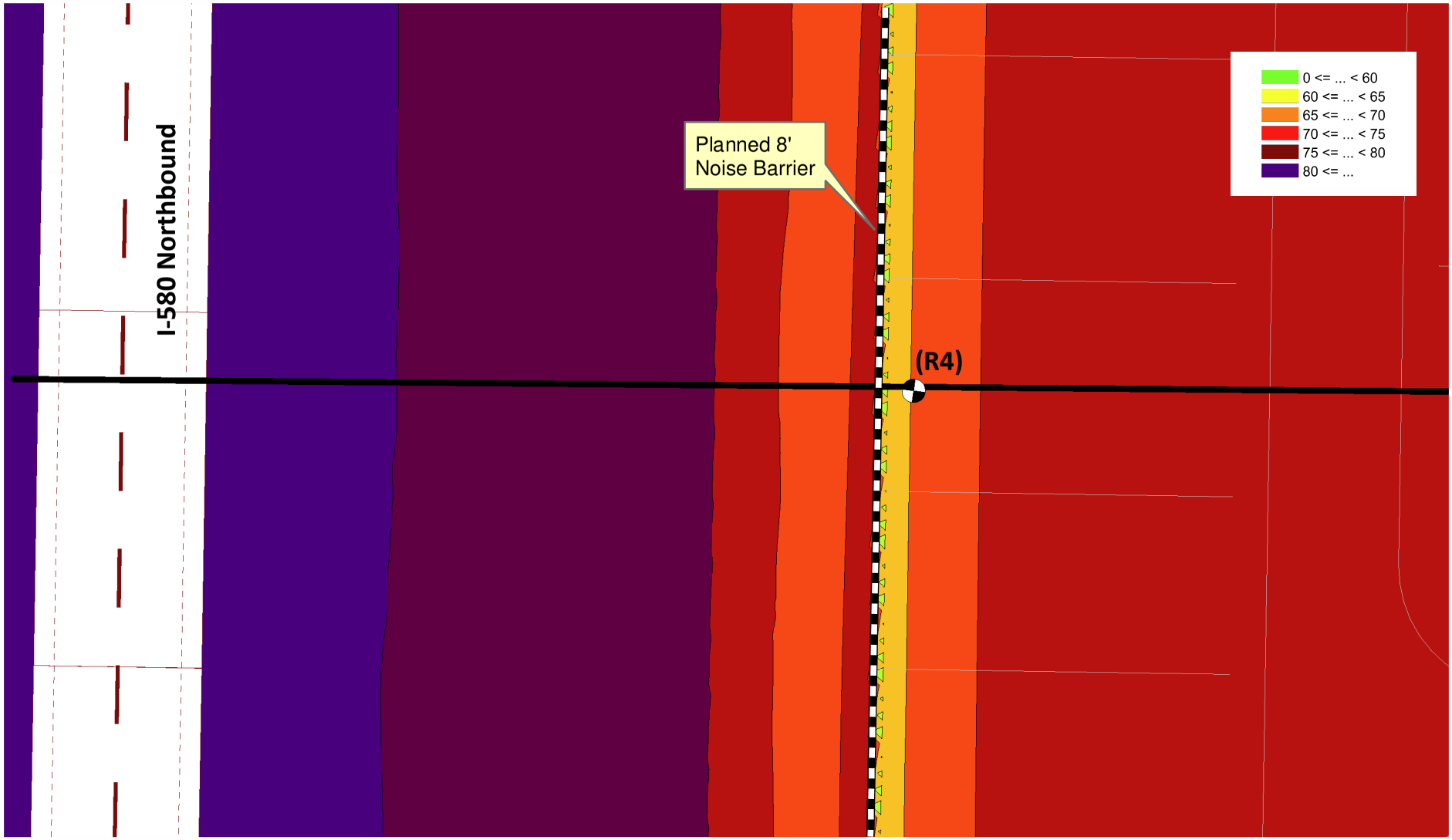


Plan View

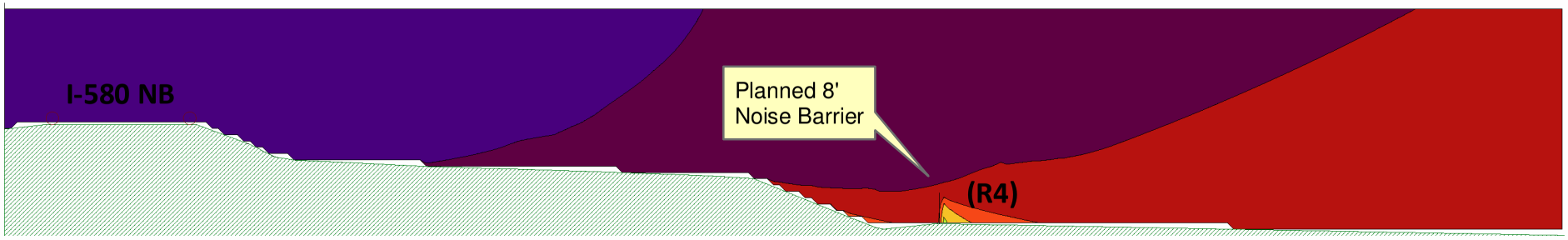


Cross-Section View

Noise Receiver Location (R4)

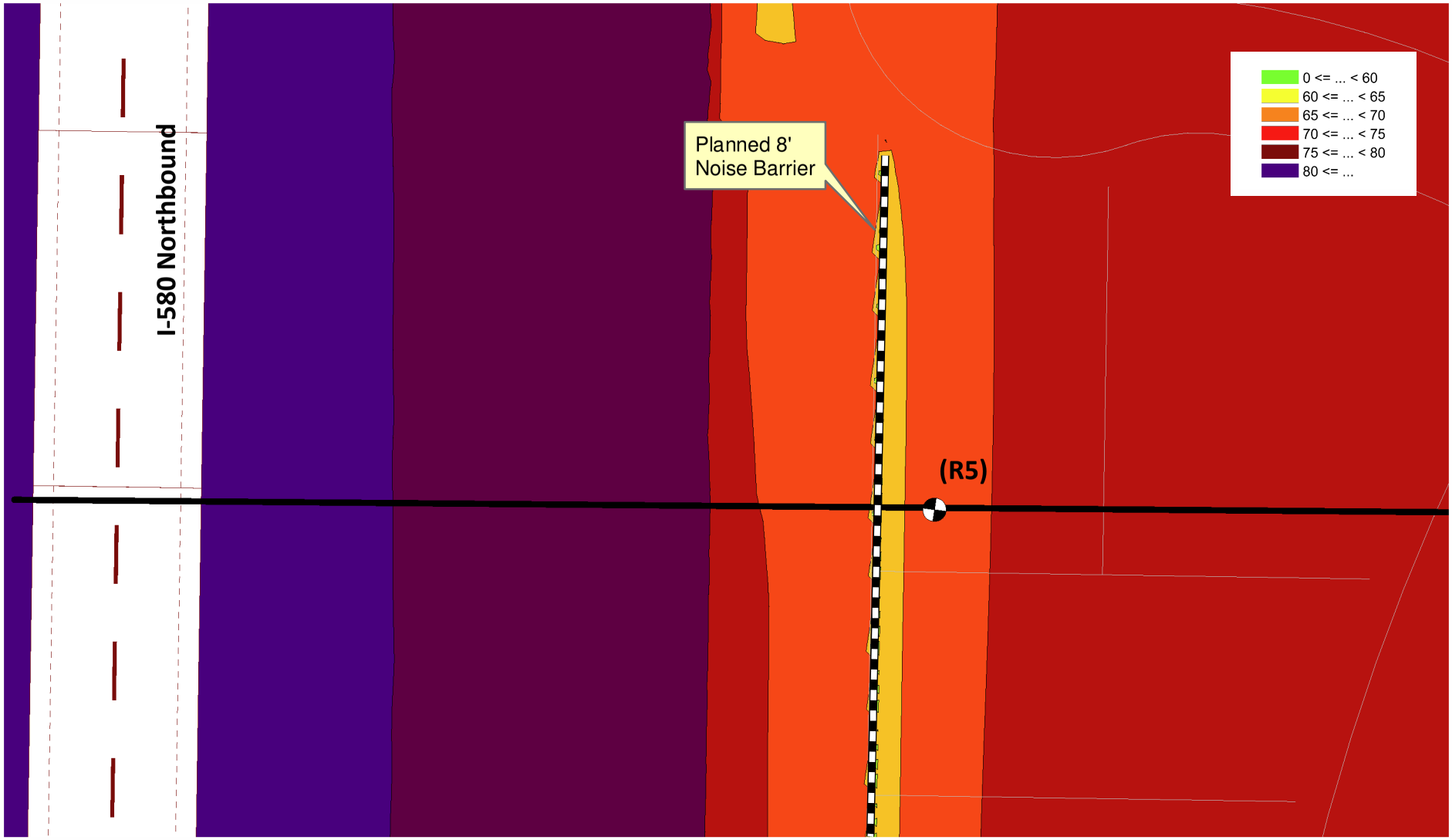


Plan View

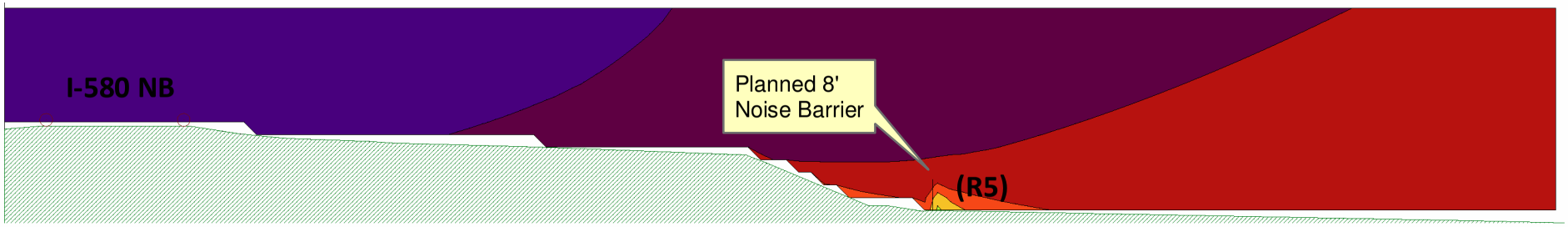


Cross-Section View

Noise Receiver Location (R5)

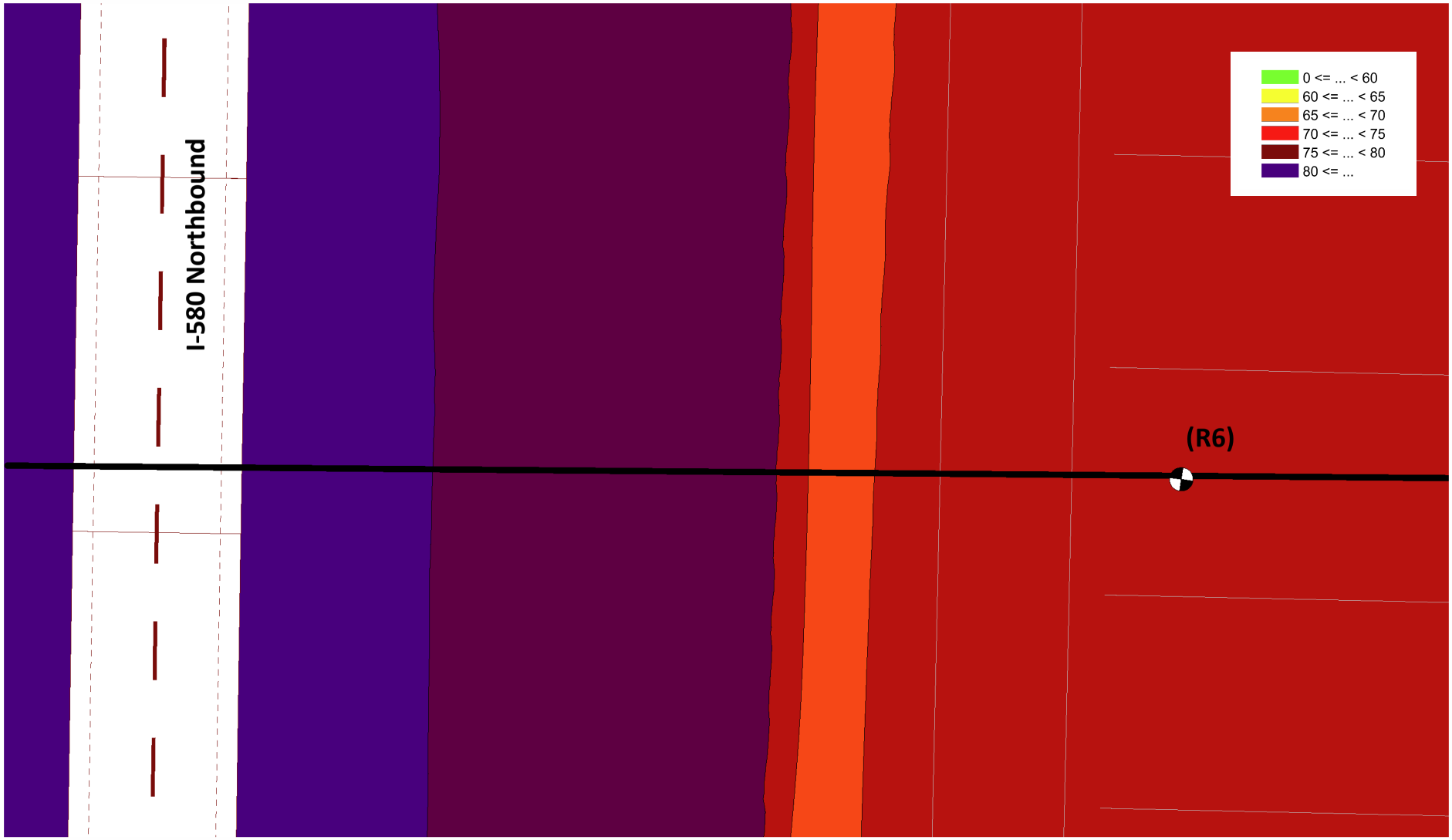


Plan View

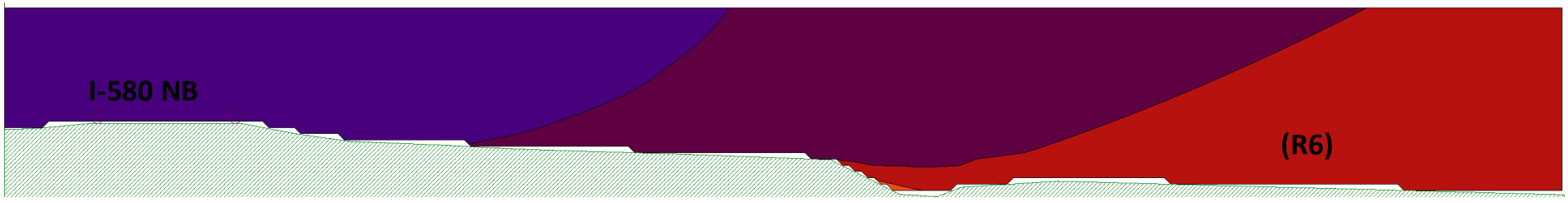


Cross-Section View

Noise Receiver Location (R6)

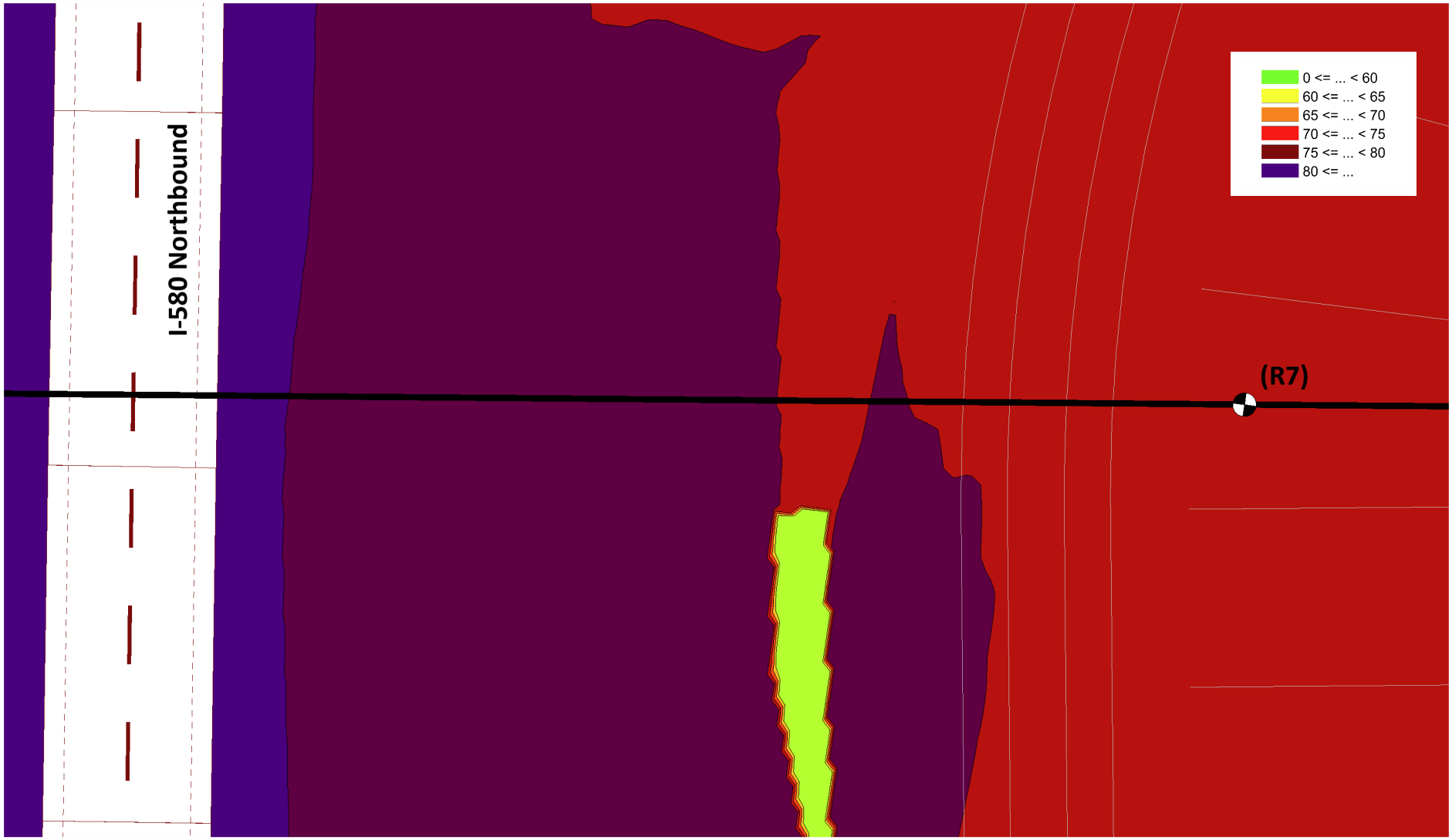


Plan View

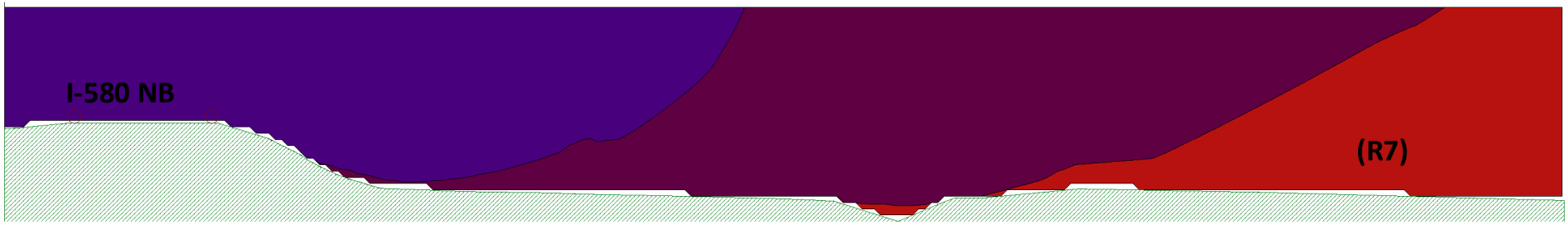


Cross-Section View

Noise Receiver Location (R7)

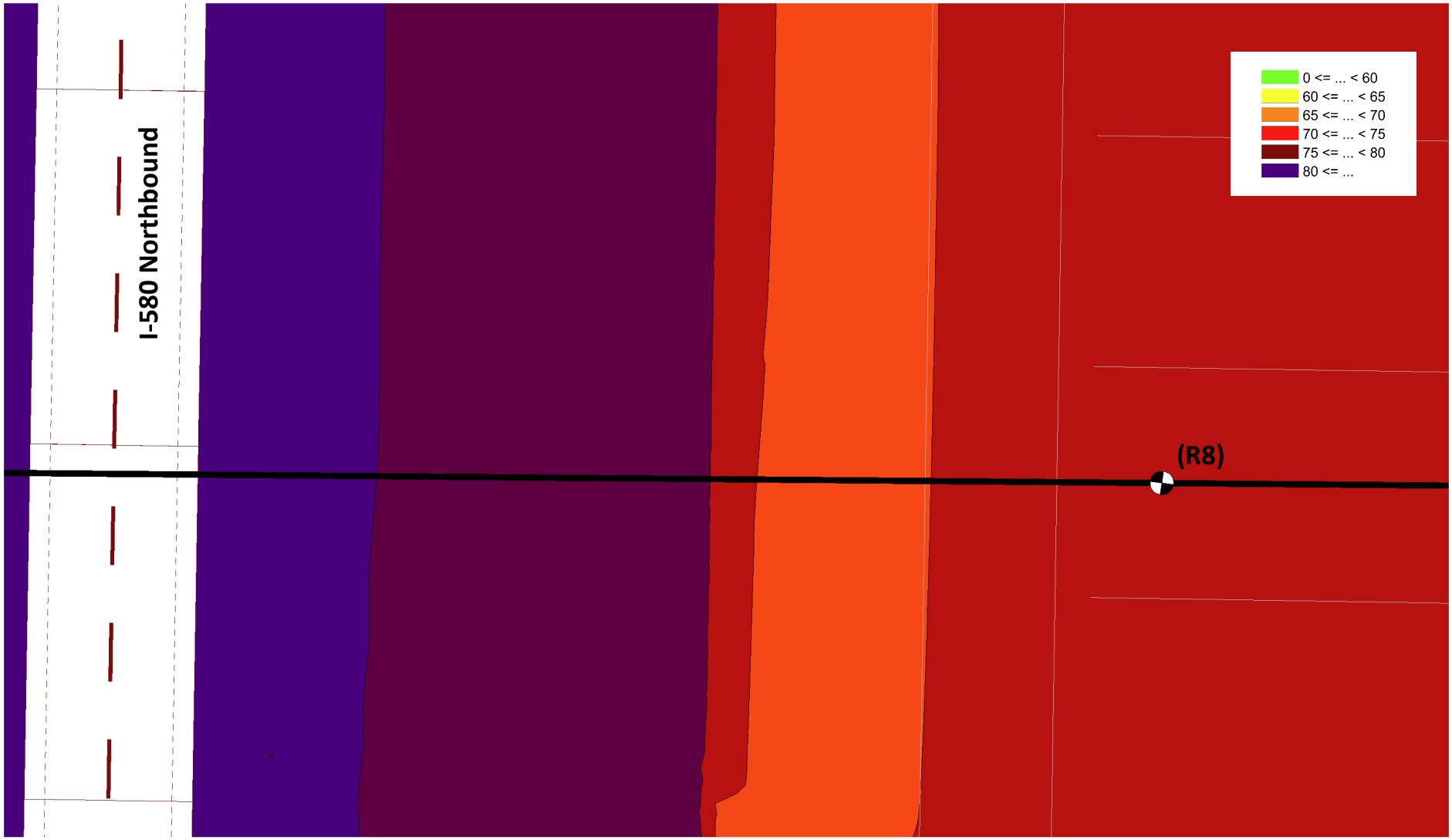


Plan View

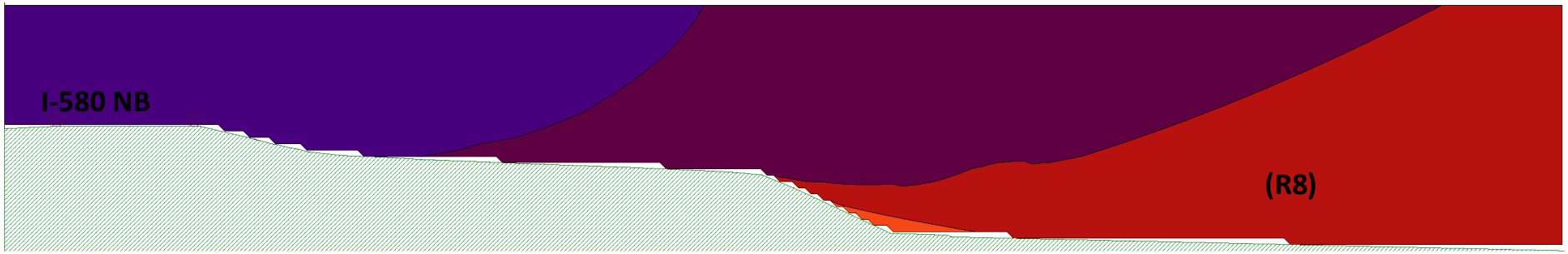


Cross-Section View

Noise Receiver Location (R8)

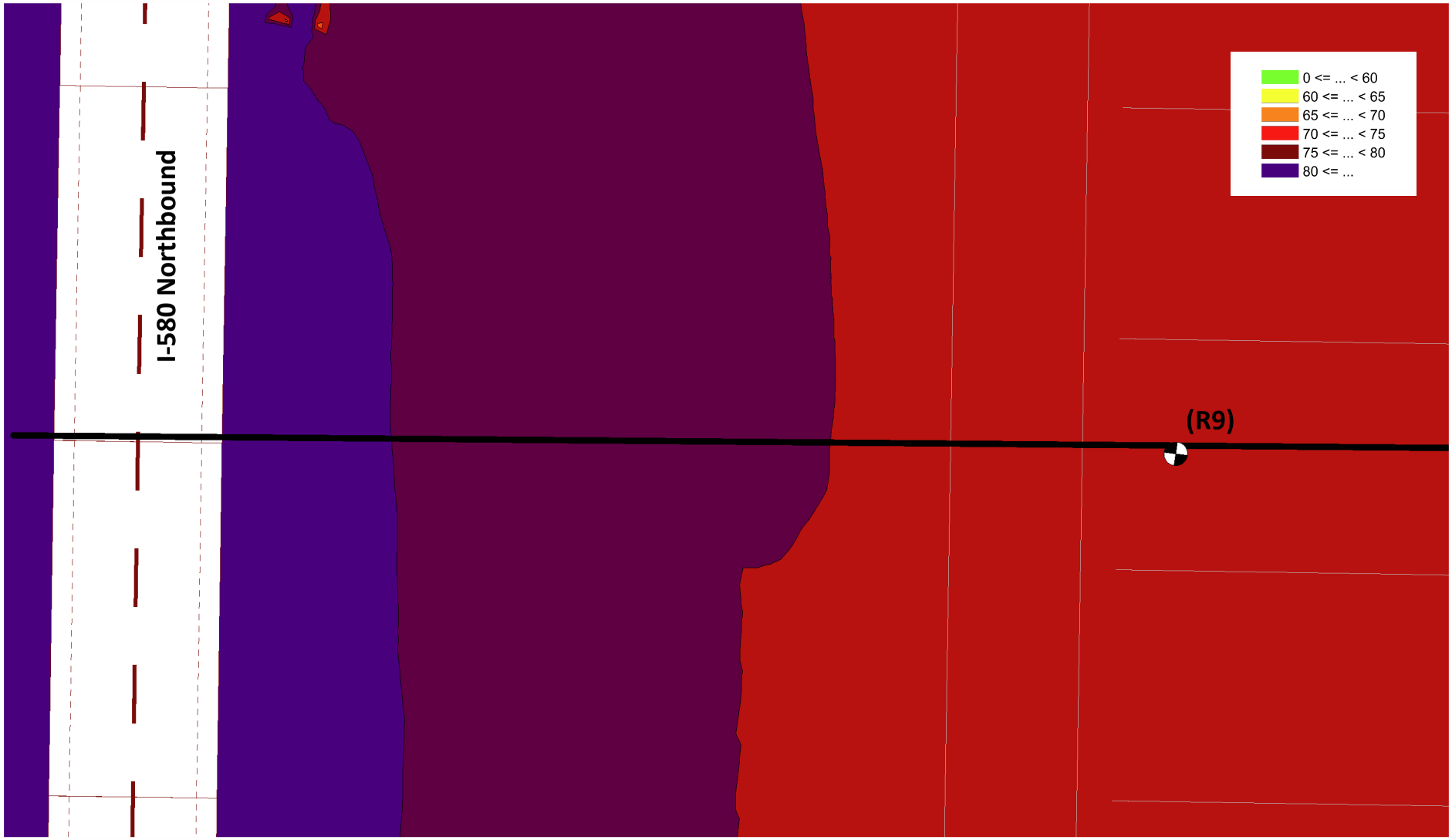


Plan View

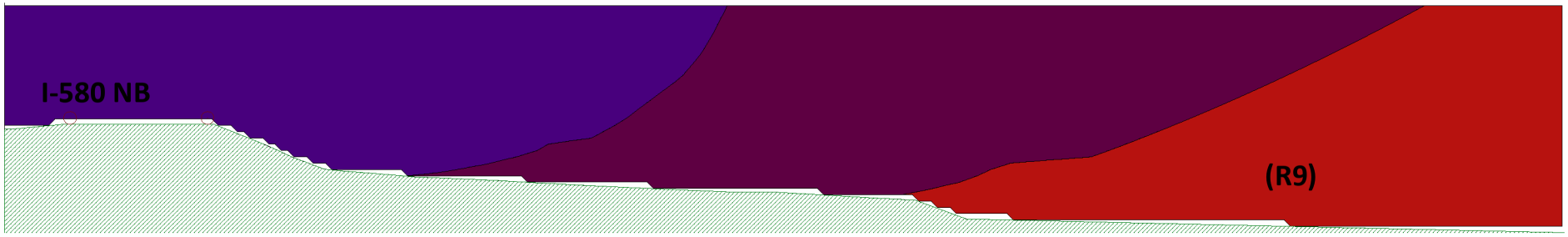


Cross-Section View

Noise Receiver Location (R9)



Plan View



Cross-Section View

APPENDIX 8.1:

OFF-SITE TRAFFIC NOISE CONTOUR WORKSHEETS

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Tracy Boulevard
Road Segment: South of Linne Rd

Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	100	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-12.82	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-30.06	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-34.02	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	53.3	51.4	49.7	43.6	52.2	52.8
Medium Trucks:	46.7	45.2	38.8	37.3	45.8	46.0
Heavy Trucks:	46.8	45.3	36.3	37.5	45.9	46.0
Vehicle Noise:	54.9	53.1	50.2	45.3	53.9	54.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	84
CNEL:	9	19	42	90

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Tracy Boulevard
Road Segment: North of Valpico Rd

Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,600	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,360	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.49	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-18.73	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-22.68	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.7	62.8	61.0	54.9	63.6	64.2
Medium Trucks:	58.1	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.1	56.7	47.6	48.9	57.2	57.4
Vehicle Noise:	66.2	64.5	61.5	56.6	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	479
CNEL:	52	111	239	515

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Tracy Boulevard
Road Segment: Btwn Linne Rd and Valpico Rd

Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,730	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	873	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.41	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-20.65	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-24.61	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.7	60.8	59.1	53.0	61.6	62.2
Medium Trucks:	56.1	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	56.2	54.7	45.7	47.0	55.3	55.4
Vehicle Noise:	64.3	62.6	59.6	54.7	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	83	178	383

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Corral Hollow Road
Road Segment: Btwn I-580 EB Ramps and I-580-WB Ramps

Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,430	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	543	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-5.47	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-22.71	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-26.67	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	60.7	58.8	57.0	51.0	59.6	60.2
Medium Trucks:	54.1	52.6	46.2	44.6	53.1	53.3
Heavy Trucks:	54.1	52.7	43.6	44.9	53.2	53.4
Vehicle Noise:	62.3	60.5	57.5	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	120	260
CNEL:	28	60	130	279

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Corral Hollow Road
Road Segment: Btwn I-580 WB Ramps and Spine Rd

Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,330	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	633	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.81	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.05	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.00	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	59.4	57.7	51.6	60.2	60.8
Medium Trucks:	54.7	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	54.8	53.3	44.3	45.6	53.9	54.0
Vehicle Noise:	62.9	61.2	58.2	53.3	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	133	288
CNEL:	31	67	144	309

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Corral Hollow Road
Road Segment: Btwn N. Tracy Hills Rd and Linne Rd

Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,330	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	633	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.81	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.05	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.00	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	59.4	57.7	51.6	60.2	60.8
Medium Trucks:	54.7	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	54.8	53.3	44.3	45.6	53.9	54.0
Vehicle Noise:	62.9	61.2	58.2	53.3	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	133	288
CNEL:	31	67	144	309

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Corral Hollow Road
Road Segment: Btwn Spine Rd and N. Tracy Hills Rd

Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,330	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	633	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.81	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.05	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.00	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	59.4	57.7	51.6	60.2	60.8
Medium Trucks:	54.7	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	54.8	53.3	44.3	45.6	53.9	54.0
Vehicle Noise:	62.9	61.2	58.2	53.3	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	133	288
CNEL:	31	67	144	309

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Corral Hollow Road
Road Segment: Btwn Linne Rd and Valpico Rd

Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,330	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	533	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-5.56	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.79	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.75	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.6	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	54.0	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.2	60.4	57.5	52.6	61.1	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	55	119	256
CNEL:	28	59	128	276

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Corral Hollow Road
Road Segment: Btwn Valpico Rd and Schulte Rd

Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,925	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	993	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.86	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.09	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.05	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	56.7	55.2	48.8	47.3	55.7	56.0
Heavy Trucks:	56.7	55.3	46.3	47.5	55.9	56.0
Vehicle Noise:	64.9	63.1	60.2	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	84	180	388
CNEL:	42	90	194	417

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lammers Road
Road Segment: Btwn Valpico Rd and Old Schulte Rd

Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,600	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	560	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-5.34	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.58	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.53	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.8	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.2	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	54.2	52.8	43.8	45.0	53.4	53.5
Vehicle Noise:	62.4	60.6	57.7	52.8	61.3	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	57	123	265
CNEL:	29	61	132	285

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Corral Hollow Road
Road Segment: North of Schulte Rd

Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,760	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,076	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.35	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.89	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.84	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.9	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.9	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	68.1	66.3	63.4	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	137	295	635
CNEL:	68	147	317	683

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lammers Road
Road Segment: Btwn Old Schulte Rd and Eleventh St

Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,600	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	560	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-5.34	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.58	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.53	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.8	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.2	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	54.2	52.8	43.8	45.0	53.4	53.5
Vehicle Noise:	62.4	60.6	57.7	52.8	61.3	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	57	123	265
CNEL:	29	61	132	285

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Lammers Road
Road Segment: North of Eleventh St
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,990	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	399	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	36	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-6.81	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-24.05	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-28.01	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.2	57.3	55.6	49.5	58.2	58.8
Medium Trucks:	52.6	51.1	44.8	43.2	51.7	51.9
Heavy Trucks:	52.7	51.3	42.2	43.5	51.8	51.9
Vehicle Noise:	60.8	59.1	56.1	51.2	59.8	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	45	97	209
CNEL:	22	48	104	224

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Linne Road
Road Segment: East of Tracy Blvd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,680	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	368	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-7.16	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-24.40	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-28.36	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.0	57.1	55.3	49.3	57.9	58.5
Medium Trucks:	52.4	50.9	44.5	43.0	51.4	51.7
Heavy Trucks:	52.4	51.0	42.0	43.2	51.6	51.7
Vehicle Noise:	60.6	58.8	55.8	51.0	59.5	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	43	93	200
CNEL:	22	46	100	215

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Linne Road
Road Segment: Btwn Corral Hollow Rd and Tracy Blvd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,915	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	392	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-6.90	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-24.13	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-28.09	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	57.4	55.6	49.5	58.2	58.8
Medium Trucks:	52.6	51.1	44.8	43.2	51.7	51.9
Heavy Trucks:	52.7	51.3	42.2	43.5	51.8	52.0
Vehicle Noise:	60.8	59.1	56.1	51.2	59.8	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	45	97	209
CNEL:	22	48	104	225

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Valpico Road
Road Segment: Btwn Lammers Rd and Corral Hollow Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,480	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	448	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-6.31	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-23.55	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-27.50	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.8	57.9	56.2	50.1	58.7	59.3
Medium Trucks:	53.2	51.7	45.4	43.8	52.3	52.5
Heavy Trucks:	53.3	51.8	42.8	44.1	52.4	52.5
Vehicle Noise:	61.4	59.7	56.7	51.8	60.4	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	23	49	106	228
CNEL:	25	53	114	246

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Valpico Road
Road Segment: Btwn Corral Hollow Rd and Tracy Blvd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,475	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	848	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.54	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.78	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.74	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.6	60.7	58.9	52.9	61.5	62.1
Medium Trucks:	56.0	54.5	48.1	46.6	55.0	55.3
Heavy Trucks:	56.0	54.6	45.6	46.8	55.2	55.3
Vehicle Noise:	64.2	62.4	59.5	54.6	63.1	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	75	162	349
CNEL:	38	81	174	376

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Tracy Boulevard
Road Segment: South of Linne Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,070	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	107	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-12.53	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-29.77	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-33.72	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.6	51.7	50.0	43.9	52.5	53.1
Medium Trucks:	47.0	45.5	39.1	37.6	46.1	46.3
Heavy Trucks:	47.0	45.6	36.6	37.8	46.2	46.3
Vehicle Noise:	55.2	53.4	50.5	45.6	54.2	54.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	41	88
CNEL:	9	20	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Valpico Road
Road Segment: East of Tracy Blvd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,320	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,232	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.92	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.15	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.11	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.6	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	57.7	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	65.8	64.0	61.1	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	208	448
CNEL:	48	104	224	482

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Tracy Boulevard
Road Segment: Btwn Linne Rd and Valpico Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,020	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.74	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.97	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.93	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.4	61.5	59.7	53.7	62.3	62.9
Medium Trucks:	56.8	55.3	48.9	47.4	55.8	56.1
Heavy Trucks:	56.8	55.4	46.4	47.6	56.0	56.1
Vehicle Noise:	65.0	63.2	60.3	55.4	64.0	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	85	183	395
CNEL:	43	92	197	425

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Tracy Boulevard
Road Segment: North of Valpico Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,420	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,442	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-1.23	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-18.47	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-22.43	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	64.9	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	58.3	56.8	50.4	48.9	57.4	57.6
Heavy Trucks:	58.3	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	66.5	64.7	61.8	56.9	65.5	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	498
CNEL:	54	115	249	536

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Corral Hollow Road
Road Segment: Btwn I-580 WB Ramps and Spine Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,450	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,145	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.23	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-19.47	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-23.43	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.9	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.3	55.8	49.4	47.9	56.3	56.6
Heavy Trucks:	57.3	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	65.5	63.7	60.8	55.9	64.5	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	92	198	427
CNEL:	46	99	213	459

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Corral Hollow Road
Road Segment: Btwn I-580 EB Ramps and I-580-WB Ramps
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,960	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	896	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.30	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-20.54	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-24.49	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.8	60.9	59.2	53.1	61.7	62.4
Medium Trucks:	56.2	54.7	48.4	46.8	55.3	55.5
Heavy Trucks:	56.3	54.9	45.8	47.1	55.4	55.5
Vehicle Noise:	64.4	62.7	59.7	54.8	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	168	362
CNEL:	39	84	181	390

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Corral Hollow Road
Road Segment: Btwn Spine Rd and N. Tracy Hills Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,330	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,633	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.69	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-17.93	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-21.89	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.5	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.8	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	58.9	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	67.0	65.3	62.3	57.4	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	251	541
CNEL:	58	125	270	582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Corral Hollow Road
Road Segment: Btwn N. Tracy Hills Rd and Linne Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,330	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,633	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.69	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.93	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.89	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.5	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	58.8	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	58.9	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	67.0	65.3	62.3	57.4	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	117	251	541
CNEL:	58	125	270	582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Corral Hollow Road
Road Segment: Btwn Valpico Rd and Schulte Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,945	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,395	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.38	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.62	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.57	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	62.9	61.1	55.0	63.7	64.3
Medium Trucks:	58.2	56.7	50.3	48.7	57.2	57.4
Heavy Trucks:	58.2	56.8	47.7	49.0	57.3	57.5
Vehicle Noise:	66.3	64.6	61.6	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	49	105	226	487
CNEL:	52	113	243	524

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Corral Hollow Road
Road Segment: Btwn Linne Rd and Valpico Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,895	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,090	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.45	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.69	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.64	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	57.1	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.1	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	65.3	63.5	60.6	55.7	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	89	192	413
CNEL:	44	96	206	444

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Corral Hollow Road
Road Segment: North of Schulte Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,360	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,436	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.04	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.19	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.15	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.6	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	68.8	67.0	64.1	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	152	328	706
CNEL:	76	164	353	760

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Lammers Road
Road Segment: Btwn Valpico Rd and Old Schulte Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,720	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	572	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-5.25	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.49	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.44	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.9	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.3	52.8	46.4	44.9	53.3	53.6
Heavy Trucks:	54.3	52.9	43.9	45.1	53.5	53.6
Vehicle Noise:	62.5	60.7	57.8	52.9	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	125	269
CNEL:	29	62	134	289

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Lammers Road
Road Segment: North of Eleventh St
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,010	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	401	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	36	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-6.79	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-24.03	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-27.99	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	57.4	55.6	49.6	58.2	58.8
Medium Trucks:	52.7	51.2	44.8	43.2	51.7	51.9
Heavy Trucks:	52.7	51.3	42.2	43.5	51.8	52.0
Vehicle Noise:	60.8	59.1	56.1	51.3	59.8	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	45	97	209
CNEL:	23	49	105	225

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Lammers Road
Road Segment: Btwn Old Schulte Rd and Eleventh St
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,670	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	567	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-5.29	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.52	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.48	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.9	59.0	57.2	51.1	59.8	60.4
Medium Trucks:	54.3	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	54.3	52.9	43.8	45.1	53.4	53.6
Vehicle Noise:	62.4	60.7	57.7	52.8	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	124	267
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Linne Road
Road Segment: Btwn Corral Hollow Rd and Tracy Blvd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,935	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	794	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.83	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.07	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.02	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	60.4	58.7	52.6	61.2	61.8
Medium Trucks:	55.7	54.2	47.8	46.3	54.8	55.0
Heavy Trucks:	55.7	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	63.9	62.1	59.2	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	334
CNEL:	36	77	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Linne Road
Road Segment: East of Tracy Blvd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,800	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	580	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-5.19	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.43	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.38	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	54.3	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.4	53.0	43.9	45.2	53.5	53.7
Vehicle Noise:	62.5	60.8	57.8	52.9	61.5	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	126	271
CNEL:	29	63	135	292

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Valpico Road
Road Segment: Btwn Corral Hollow Rd and Tracy Blvd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,850	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	885	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.35	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.59	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.55	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	56.2	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	56.2	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	64.4	62.6	59.7	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	77	167	359
CNEL:	39	83	180	387

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Valpico Road
Road Segment: Btwn Lammers Rd and Corral Hollow Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,605	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	461	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-6.19	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-23.43	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-27.38	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.0	58.1	56.3	50.2	58.9	59.5
Medium Trucks:	53.3	51.8	45.5	43.9	52.4	52.6
Heavy Trucks:	53.4	52.0	42.9	44.2	52.5	52.7
Vehicle Noise:	61.5	59.8	56.8	51.9	60.5	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	23	50	108	233
CNEL:	25	54	116	250

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Valpico Road
Road Segment: East of Tracy Blvd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,700	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,270	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.78	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.02	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.98	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.4	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	57.8	56.2	49.9	48.3	56.8	57.0
Heavy Trucks:	57.8	56.4	47.3	48.6	56.9	57.1
Vehicle Noise:	65.9	64.2	61.2	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	99	212	457
CNEL:	49	106	228	492

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Tracy Boulevard
Road Segment: South of Linne Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,900	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	190	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-10.03	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-27.27	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-31.23	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	54.2	52.4	46.4	55.0	55.6
Medium Trucks:	49.5	48.0	41.6	40.1	48.5	48.8
Heavy Trucks:	49.5	48.1	39.1	40.3	48.7	48.8
Vehicle Noise:	57.7	55.9	53.0	48.1	56.7	57.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	13	28	60	129
CNEL:	14	30	64	139

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Tracy Boulevard
Road Segment: North of Valpico Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,500	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,450	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.07	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.17	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.13	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	60.6	59.1	52.7	51.2	59.7	59.9
Heavy Trucks:	60.6	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	68.8	67.0	64.1	59.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	153	329	709
CNEL:	76	164	354	762

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Tracy Boulevard
Road Segment: Btwn Linne Rd and Valpico Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,200	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.03	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.27	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.22	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.1	62.2	60.5	54.4	63.0	63.6
Medium Trucks:	57.5	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	57.5	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	65.7	63.9	61.0	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	95	204	440
CNEL:	47	102	220	474

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Corral Hollow Road
Road Segment: Btwn I-580 EB Ramps and I-580-WB Ramps
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,350	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	635	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.79	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.03	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.99	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.4	59.5	57.7	51.6	60.3	60.9
Medium Trucks:	54.7	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	54.8	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	62.9	61.2	58.2	53.3	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	134	288
CNEL:	31	67	144	310

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Corral Hollow Road
Road Segment: Btwn I-580 WB Ramps and Spine Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,050	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	705	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.34	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.58	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.53	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	55.2	53.7	47.3	45.8	54.2	54.5
Heavy Trucks:	55.2	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	63.4	61.6	58.7	53.8	62.3	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	67	143	309
CNEL:	33	72	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Corral Hollow Road
Road Segment: Btwn N. Tracy Hills Rd and Linne Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,050	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	705	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.34	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.58	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.53	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	55.2	53.7	47.3	45.8	54.2	54.5
Heavy Trucks:	55.2	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	63.4	61.6	58.7	53.8	62.3	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	67	143	309
CNEL:	33	72	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Corral Hollow Road
Road Segment: Btwn Spine Rd and N. Tracy Hills Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,050	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	705	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.34	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.58	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.53	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	55.2	53.7	47.3	45.8	54.2	54.5
Heavy Trucks:	55.2	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	63.4	61.6	58.7	53.8	62.3	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	67	143	309
CNEL:	33	72	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Corral Hollow Road
Road Segment: Btwn Linne Rd and Valpico Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,350	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,135	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.27	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.51	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.47	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.9	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.3	55.8	49.4	47.9	56.3	56.5
Heavy Trucks:	57.3	55.9	46.8	48.1	56.4	56.6
Vehicle Noise:	65.5	63.7	60.7	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	91	197	424
CNEL:	46	98	212	457

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Corral Hollow Road
Road Segment: Btwn Valpico Rd and Schulte Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,800	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,580	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.84	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.07	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.03	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.7	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	58.7	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	66.9	65.1	62.2	57.3	65.9	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	114	246	529
CNEL:	57	123	264	569

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Lammers Road
Road Segment: Btwn Valpico Rd and Old Schulte Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,200	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,820	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.68	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.56	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.51	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	61.2	59.7	53.3	51.8	60.3	60.5
Heavy Trucks:	61.3	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	69.4	67.6	64.7	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	168	361	778
CNEL:	84	180	389	837

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Corral Hollow Road
Road Segment: North of Schulte Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,200	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	3,620	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.76	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.47	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.43	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	62.3	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	62.3	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	70.5	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	92	198	427	919
CNEL:	99	213	459	989

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Lammers Road
Road Segment: Btwn Old Schulte Rd and Eleventh St
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,250	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	3,025	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.98	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.25	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.21	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	61.5	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.6	60.1	51.1	52.4	60.7	60.8
Vehicle Noise:	69.7	67.9	65.0	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	176	379	816
CNEL:	88	189	407	878

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Lammers Road
Road Segment: North of Eleventh St
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,900	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,690	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	36	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.54	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.78	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.74	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.5	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.9	57.4	51.0	49.5	58.0	58.2
Heavy Trucks:	58.9	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	67.1	65.3	62.4	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	253	546
CNEL:	59	127	273	587

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Linne Road
Road Segment: East of Tracy Blvd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,200	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,220	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.96	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.20	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.15	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.6	56.1	49.7	48.2	56.6	56.9
Heavy Trucks:	57.6	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	65.8	64.0	61.0	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	96	207	445
CNEL:	48	103	222	479

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Linne Road
Road Segment: Btwn Corral Hollow Rd and Tracy Blvd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,450	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,645	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.66	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.90	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.86	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.5	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	58.9	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	58.9	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	67.1	65.3	62.3	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	117	252	543
CNEL:	58	126	271	585

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Valpico Road
Road Segment: Btwn Lammers Rd and Corral Hollow Rd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,250	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,225	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.94	-4.43	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.18	-4.43	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.14	-4.43	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.6	56.1	49.7	48.2	56.6	56.9
Heavy Trucks:	57.6	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	65.8	64.0	61.1	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	96	207	446
CNEL:	48	103	223	480

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Valpico Road
Road Segment: Btwn Corral Hollow Rd and Tracy Blvd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,050	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,805	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.26	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-17.50	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-21.45	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.3	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	67.5	65.7	62.8	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	125	268	578
CNEL:	62	134	289	622

Wednesday, November 13, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Valpico Road
Road Segment: East of Tracy Blvd
Project Name: Tracy Hills
Job Number: 8559

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,900	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,990	vehicles
Vehicle Speed:	55	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.17	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	82.40	-17.07	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-21.03	-4.43	-1.20	*-5.16*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.7	58.2	51.8	50.3	58.7	59.0
Heavy Trucks:	59.7	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	67.9	66.1	63.2	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	286	617
CNEL:	66	143	308	664

Wednesday, November 13, 2013