Appendix 4

Traffic Noise Model

Rincon Consultants
LS
12 May 2016
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 9908 S. Santa Monica Blvd Project
RUN: Existing
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 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 Lden	No Barrier Lden		Increase over existing		Type Impact	With Barrier Calculated Lden	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
NM1	1	1	0.0	74.0	66	74.0	10	Snd Lvl	74.0	0.0	8	-8.0
NM2	3	1	0.0	68.8	66	68.8	10	Snd Lvl	68.8	0.0	8	-8.0
NM3	5	1	0.0	64.2	66	64.2	10	----	64.2	0.0	8	-8.0
SR1	7	1	0.0	68.5	66	68.5	10	Snd Lvl	68.5	0.0	8	-8.0
SR2	9	1	0.0	71.5	66	71.5	10	Snd Lvl	71.5	0.0	8	-8.0
SR3	11	1	0.0	67.9	66	67.9	10	Snd Lvl	67.9	0.0	8	-8.0
SR4	13	1	0.0	65.3	66	65.3	10	----	65.3	0.0	8	-8.0
SR5 - 1st Floor	15	1	0.0	71.8	66	71.8	10	Snd Lvl	71.8	0.0	8	-8.0
SR6 - 1st Floor	17	1	0.0	70.2	66	70.2	10	Snd Lvl	70.2	0.0	8	-8.0
SR8	19	1	0.0	65.9	66	65.9	10	----	65.9	0.0	8	-8.0
SR7 - 1st Floor	21	1	0.0	70.0	66	70.0	10	Snd Lvl	70.0	0.0	8	-8.0
SR5 - 4th Floor	23	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
SR6 - 4th Floor	24	1	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0
SR7 - 4th Floor	25	1	0.0	69.0	66	69.0	10	Snd Lvl	69.0	0.0	8	-8.0
SR7 - Roof/Pool Deck	26	1	0.0	68.8	66	68.8	10	Snd Lvl	68.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	15	0.0	0.0	0.0
All Impacted	12	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Rincon Consultants
LS
12 May 2016
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 9908 S. Santa Monica Blvd Project
RUN: Existing Plus Project
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 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 Lden	No Barrier Lden Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated Lden	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
NM1	1	1	0.0	74.2	66	74.2	10	Snd Lvl	74.2	0.0	8	-8.0
NM2	3	1	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0
NM3	5	1	0.0	63.8	66	63.8	10	----	63.8	0.0	8	-8.0
SR1	7	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
SR2	9	1	0.0	71.5	66	71.5	10	Snd Lvl	71.5	0.0	8	-8.0
SR3	11	1	0.0	67.9	66	67.9	10	Snd Lvl	67.9	0.0	8	-8.0
SR4	13	1	0.0	65.1	66	65.1	10	----	65.1	0.0	8	-8.0
SR5 - 1st Floor	15	1	0.0	72.0	66	72.0	10	Snd Lvl	72.0	0.0	8	-8.0
SR6 - 1st Floor	17	1	0.0	70.3	66	70.3	10	Snd Lvl	70.3	0.0	8	-8.0
SR8	19	1	0.0	65.9	66	65.9	10	----	65.9	0.0	8	-8.0
SR7 - 1st Floor	21	1	0.0	70.3	66	70.3	10	Snd Lvl	70.3	0.0	8	-8.0
SR5 - 4th Floor	23	1	0.0	70.5	66	70.5	10	Snd Lvl	70.5	0.0	8	-8.0
SR6 - 4th Floor	24	1	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0
SR7 - 4th Floor	25	1	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0
SR7 - Roof/Pool Deck	26	1	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	15	0.0	0.0	0.0
All Impacted	12	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Rincon Consultants
LS
12 May 2016
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 9908 S. Santa Monica Blvd Project
RUN: Cumulative
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 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 Lden	No Barrier Lden		Increase over existing		Type Impact	With Barrier Calculated Lden	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
NM1	1	1	0.0	74.7	66	74.7	10	Snd Lvl	74.7	0.0	8	-8.0
NM2	3	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0
NM3	5	1	0.0	64.8	66	64.8	10	----	64.8	0.0	8	-8.0
SR1	7	1	0.0	69.3	66	69.3	10	Snd Lvl	69.3	0.0	8	-8.0
SR2	9	1	0.0	72.3	66	72.3	10	Snd Lvl	72.3	0.0	8	-8.0
SR3	11	1	0.0	68.1	66	68.1	10	Snd Lvl	68.1	0.0	8	-8.0
SR4	13	1	0.0	65.9	66	65.9	10	----	65.9	0.0	8	-8.0
SR5 - 1st Floor	15	1	0.0	72.4	66	72.4	10	Snd Lvl	72.4	0.0	8	-8.0
SR6 - 1st Floor	17	1	0.0	70.6	66	70.6	10	Snd Lvl	70.6	0.0	8	-8.0
SR8	19	1	0.0	66.1	66	66.1	10	Snd Lvl	66.1	0.0	8	-8.0
SR7 - 1st Floor	21	1	0.0	70.6	66	70.6	10	Snd Lvl	70.6	0.0	8	-8.0
SR5 - 4th Floor	23	1	0.0	71.0	66	71.0	10	Snd Lvl	71.0	0.0	8	-8.0
SR6 - 4th Floor	24	1	0.0	69.5	66	69.5	10	Snd Lvl	69.5	0.0	8	-8.0
SR7 - 4th Floor	25	1	0.0	69.7	66	69.7	10	Snd Lvl	69.7	0.0	8	-8.0
SR7 - Roof/Pool Deck	26	1	0.0	69.5	66	69.5	10	Snd Lvl	69.5	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	15	0.0	0.0	0.0
All Impacted	13	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

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LS
12 May 2016
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 9908 S. Santa Monica Blvd Project
RUN: Cumulative Plus Project
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 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 Lden	No Barrier Lden		Increase over existing		Type Impact	With Barrier Calculated Lden	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
NM1	1	1	0.0	74.7	66	74.7	10	Snd Lvl	74.7	0.0	8	-8.0
NM2	3	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0
NM3	5	1	0.0	64.2	66	64.2	10	----	64.2	0.0	8	-8.0
SR1	7	1	0.0	69.3	66	69.3	10	Snd Lvl	69.3	0.0	8	-8.0
SR2	9	1	0.0	72.3	66	72.3	10	Snd Lvl	72.3	0.0	8	-8.0
SR3	11	1	0.0	68.1	66	68.1	10	Snd Lvl	68.1	0.0	8	-8.0
SR4	13	1	0.0	65.6	66	65.6	10	----	65.6	0.0	8	-8.0
SR5 - 1st Floor	15	1	0.0	72.5	66	72.5	10	Snd Lvl	72.5	0.0	8	-8.0
SR6 - 1st Floor	17	1	0.0	70.6	66	70.6	10	Snd Lvl	70.6	0.0	8	-8.0
SR8	19	1	0.0	66.1	66	66.1	10	Snd Lvl	66.1	0.0	8	-8.0
SR7 - 1st Floor	21	1	0.0	70.9	66	70.9	10	Snd Lvl	70.9	0.0	8	-8.0
SR5 - 4th Floor	23	1	0.0	71.0	66	71.0	10	Snd Lvl	71.0	0.0	8	-8.0
SR6 - 4th Floor	24	1	0.0	69.5	66	69.5	10	Snd Lvl	69.5	0.0	8	-8.0
SR7 - 4th Floor	25	1	0.0	69.6	66	69.6	10	Snd Lvl	69.6	0.0	8	-8.0
SR7 - Roof/Pool Deck	26	1	0.0	69.6	66	69.6	10	Snd Lvl	69.6	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	15	0.0	0.0	0.0
All Impacted	13	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Environmental Review Main (/programs/environmental-review/)

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the Day/Night Noise Level Calculator Electronic Assessment Tool Overview (https://onecpd.info/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/).

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Alternative 3
Record Date	08/05/2016
User's Name	Rincon

Road # 1 Name:	**S. Santa Monica Boulevard**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☐	**Heavy Trucks** ☐
Effective Distance	30		
Distance to Stop Sign			
Average Speed	25		
Average Daily Trips (ADT)	1182		
Night Fraction of ADT	15		
Road Gradient (%)			

Vehicle DNL	55.4		

Calculate Road #1 DNL | 55.4 | Reset

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	Yes No
Combined DNL for all Road and Rail sources	**0**
Combined DNL including Airport	
Site DNL with Loud Impulse Sound	

Calculate

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
  - Contact your Field or Regional Environmental Officer (https://www.onecpd.info/programs/environmental-review/hud-environmental-staff-contacts/)
  - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
  - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
  - Incorporate natural or man-made barriers. See *The Noise Guidebook (https://www.onecpd.info/resource/313/hud-noise-guidebook/)*
  - Construct noise barrier. See the Barrier Performance Module (https://onecpd.info/programs/environmental-review/bpm-calculator/)

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (https://www.onecpd.info/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (https://www.onecpd.info/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

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DNL Calculator

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Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
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- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Alternative 4
Record Date	08/05/2016
User's Name	Rincon

Road # 1 Name:	**S. Santa Monica Boulevard**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☐	**Heavy Trucks** ☐
Effective Distance	30		
Distance to Stop Sign			
Average Speed	25		
Average Daily Trips (ADT)	1075		
Night Fraction of ADT	15		
Road Gradient (%)			

Vehicle DNL	55		
Calculate Road #1 DNL	55	Reset	

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	Yes No
Combined DNL for all Road and Rail sources	**0**
Combined DNL including Airport	
Site DNL with Loud Impulse Sound	

Calculate

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
  - Contact your Field or Regional Environmental Officer (https://www.onecpd.info/programs/environmental-review/hud-environmental-staff-contacts/)
  - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
  - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
  - Incorporate natural or man-made barriers. See *The Noise Guidebook (https://www.onecpd.info/resource/313/hud-noise-guidebook/)*
  - Construct noise barrier. See the Barrier Performance Module (https://onecpd.info/programs/environmental-review/bpm-calculator/)

Tools and Guidance

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Day/Night Noise Level Assessment Tool Flowcharts (https://www.onecpd.info/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)