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# **ATTACHMENT K-2**

## **DNL CALCULATOR**

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## 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 \(/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/\)](#).

## 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****Record Date**

mm/dd/yyyy

**User's Name****Railroad #1 Track Identifier:**

North Coast Transit District

**Rail # 1****Train Type**Electric ☐Diesel ☒

Effective Distance

85

Average Train Speed

30

Engines per Train

2

Railway cars per Train

50

Average Train Operations (ATO)

50

Night Fraction of ATO

15

Railway whistles or horns?

Yes: ☐ No: ☐Yes: ☒ No: ☐

Bolted Tracks?

Yes: ☐ No: ☐Yes: ☒ No: ☐**Train DNL**

0

82

Calculate Rail #1 DNL

82

Reset

Add Road Source

Add Rail Source

Add Road Source

Add Rail Source

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Airport Noise Level

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Loud Impulse Sounds?

☐Yes ☐No

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Combined DNL for all Road and Rail sources

0

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Combined DNL including Airport

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Site DNL with Loud Impulse Sound

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Calculate

Reset

## 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 (</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* (</resource/313/hud-noise-guidebook/>)
  - Construct noise barrier. See the **Barrier Performance Module** (</programs/environmental-review/bpm-calculator/>)

## Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (</resource/3822/day-night-noise-level-assessment-tool-user-guide/>)

Day/Night Noise Level Assessment Tool Flowcharts (</resource/3823/day-night-noise-level-assessment-tool-flowcharts/>)

assessment-tool-flowcharts/)