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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**

**User's Name**

**Road # 1 Name:**

**Road #1**

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
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Effective Distance	<input type="text" value="46"/>	<input type="text" value="46"/>	<input type="text" value="46"/>
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Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
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Average Speed	<input type="text" value="30"/>	<input type="text" value="30"/>	<input type="text" value="30"/>
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Average Daily Trips (ADT)	<input type="text" value="12546"/>	<input type="text" value="396"/>	<input type="text" value="264"/>
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Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
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Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>
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Vehicle DNL	<input type="text" value="64"/>	<input type="text" value="59"/>	<input type="text" value="68"/>
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<input type="button" value="Calculate Road #1 DNL"/>	<input type="text" value="70"/>	<input type="button" value="Reset"/>
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**Road # 2 Name:**

**Road #2**

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	400	400	400
Distance to Stop Sign			
Average Speed	30	30	30
Average Daily Trips (ADT)	22904	723	482
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	53	48	56
Calculate Road #2 DNL	58	Reset	

**Road # 3 Name:**

**Road #3**

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	470	470	470
Distance to Stop Sign			
Average Speed	30	30	30
Average Daily Trips (ADT)	12224	386	257
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNI	49	44	52

Vehicle DNL

Calculate Road #3 DNL

Railroad #1 Track Identifier:

**Rail # 1**

**Train Type**                      **Electric**                       **Diesel**

Effective Distance                                           

Average Train Speed                                           

Engines per Train                                           

Railway cars per Train                                           

Average Train Operations (ATO)                                           

Night Fraction of ATO                                           

Railway whistles or horns?                      Yes:  No:                       Yes:  No:

Bolted Tracks?                      Yes:  No:                       Yes:  No:

**Train DNL**                                           

Calculate Rail #1 DNL

Airport Noise Level

Loud Impulse Sounds?                       Yes  No

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Combined DNL for all Road and Rail sources	<input type="text" value="70"/>
Combined DNL including Airport	<input type="text" value="N/A"/>
Site DNL with Loud Impulse Sound	<input type="text"/>

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## 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/>)

