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Noise and Vibration

Noise and Vibration

The Noise and Vibration unit is responsible for developing policy and providing guidance for highway transportation related noise and vibration issues. Much of our work focuses on analyzing and mitigating noise impacts of federally funded construction projects. We also provide support for evaluating operational and construction related noise and vibration concerns. Topic areas we assist with are: noise barriers, quiet pavement, bridge noise, rumble strips, hydroacoustics, and bioacoustics.

We work with other Caltrans offices, divisions, and outside agencies to develop innovative design approaches to lower noise levels generated by transportation noise infrastructure. We can provide support in evaluating new products or processes that may lower noise impacts.

Caltrans Traffic Noise Analysis Protocol (April 2020)

The [California DOT Traffic Noise Analysis Protocol \(PDF\)](#) presents Caltrans policies and procedures for traffic noise studies in conformance with 23 CFR 772. The Protocol is required in order to obtain FHWA approval for transportation projects authorized under title 23, United States Code. The [2011 Protocol](#) , which superseded the [2006 Protocol](#) , came into effect on July 13, 2011 to provide new provisions, updates, and clarifications in conformance with the revised 23 CFR 772 promulgated by the FHWA on July 13, 2010. The 2011 Protocol has since been superseded by the 2020 Protocol.

Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol (September 2013)

The [Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol \(TeNS\) \(PDF\)](#) provides additional details and expands on the concepts and procedures outlined in the Protocol. It includes technical background information relating to the analysis and reporting of traffic and construction noise and abatement strategies. The contents provided in the TeNS are for informational purposes and should not be considered as official policies, standards, or regulations unless they are referenced in the Protocol. Aside from some Caltrans-specific methods and procedures, most methods and procedures recommended in the TeNS are based on industry standards and practices. This document can be used as a guide for training purposes or as a reference to understand the technical concepts, terminologies, and methodologies of traffic and construction noise analysis.

Reasonableness Allowance - Construction Cost

Cost considerations for determining noise abatement reasonableness are based on an allowance per benefited receptor. This reasonable allowance maybe adjusted based on the most recent annual Construction Price Index. The annual price index for the fourth quarter of any year is usually posted by February of the following year. The following reasonableness allowances apply:

- The base cost allowance for 2025 reasonable analysis should use \$170,000.
- The base cost allowance for 2024 reasonable analysis should use \$146,000.
- The base cost allowance for 2023 reasonable analysis should use \$146,000.
- The base cost allowance for 2022 reasonable analysis should use \$107,000.
- The base cost allowance for 2021 reasonable analysis should use \$107,000.
- The base cost allowance for 2020 reasonable analysis should use \$107,000.

Noise Report Templates

The [Annotated Noise Study Report \(NSR\) – April 2015 \(DOCX\)](#) provides a template to document a project’s noise assessment findings and determine the acoustical feasibility of potential abatement strategies. The NSR template presents information in conformance with NEPA and CEQA requirements.

The [Noise Abatement Decision Report \(NADR\) – October 2012 \(DOCX\)](#) provides a template to document the reasonableness of potential abatement strategies and identify abatement strategies that meet the reasonable and feasible criteria to be incorporated into the project design. The NADR presents key information on abatement for consideration throughout the environmental review process based on the best available information at the time when the draft Environmental Document is published. The NADR is developed by a California licensed professional civil engineer using information in the NSR to establish the acoustical and nonacoustical feasibility factors, the acoustical design goal, and the relationship between noise abatement allowances and the engineer's cost estimate.

Topics and Resources:

- [Guidance Manuals](#)
- [On-Demand Trainings](#)
- [Quiet Pavement](#)
- [Rumble Strips](#)

Statewide Campaigns

- [ADA Access](#)
- [Adopt-A-Highway](#)
- [Cal OES: Power Outage and Fire Recovery Resources](#)
- [California Climate Investments](#)

- ▶ [Amber Alert](#)
- ▶ [Be Work Zone Alert](#)
- ▶ [CAL FIRE](#)

- ▶ [California Connected](#)
- ▶ [California Transportation Plan 2050](#)

- ▶ [Clean California](#)
- ▶ [Go Safely California](#)
- ▶ [HeatReadyCA.com](#)
- ▶ [Move Over Law](#)

- ▶ [REAL ID](#)
- ▶ [Save Our Water](#)
- ▶ [Stormwater Education Campaign](#)
- ▶ [Unclaimed Property](#)

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