

A GUIDE TO UNDERSTANDING AIR QUALITY AND TRAFFIC NOISE

Air Quality

The quality of air has a direct effect on human health as well as the environment. The federal government through the U.S. Environmental Protection Agency (EPA) has set standards called National Ambient Air Quality Standards (NAAQS) for various components found in the air to ensure that the air will be healthy.

AIR POLLUTION IS GENERATED MAINLY FROM TWO SOURCES:

- 1) mobile (Vehicles)
- 2) stationary (Natural or Man-generated)

The Connecticut Department of Transportation's (ConnDOT) main concern is with pollutants related to mobile sources. These include ozone, carbon monoxide, volatile organic compounds, nitrogen oxides, particulate matter and sulfur dioxides.

Air quality emission levels are measured by the Department of Environmental Protection (DEP) with monitors at various sites throughout the state. In addition, advanced computer models are used to determine if implementing a transportation project would negatively impact the environment in the future. No new project can be built that would cause an increase of pollution or delay attainment of the NAAQS, without mitigation.

MOBILE EMISSIONS LAWS/REGULATIONS

The Clean Air Act Amendments (CAAA) were enacted with the power to penalize states by taking Federal transportation monies away from projects if air quality standards are not met. Title I of the CAAA defines mobile sources as motor vehicles, aircraft, seagoing vessels and other transportation modes. EPA sets non-attainment designation for geographic areas throughout the United States.

The State must formulate, conform and implement a State Implementation Plan (SIP) to deal with the goal of obtaining NAAQS. Transportation projects must conform to the submitted and approved SIP.

The National Environmental Policy Act also requires documentation and procedures to ensure protection of the environment, including air quality.

The DEP requires that an Indirect Source Permit be submitted for specific types of projects such as new roadways. DEP then evaluates the air quality impacts related to that transportation project and issues a permit if it meets the NAAQS and incorporates mitigation measures that may be required.

TRAFFIC NOISE

It is ConnDOT's responsibility to address noise impacts due to highway traffic. ConnDOT administers two programs related to traffic noise and noise abatement. Type I projects are associated with proposed construction of a highway on new location or the physical alteration of an existing highway which substantially changes either the horizontal or vertical alignment of the roadway, or increases the number of through-traffic lanes. Type II, or Retrofit projects, are those for noise abatement along an existing highway. For Federal-aid projects, the Federal Highway Administration (FHWA) requires that a traffic noise analysis be conducted and noise abatement considered.

ConnDOT has written policies and procedures for Federal-aid and non-Federal-aid (State) projects.

Noise level and impact are affected by the location, elevation and intensity of the noise source (highway traffic), and their relationship to the location and elevation of the receptor (residence).

Traffic noise impact analysis compares the existing noise climate with the predicted noise climate due to a proposed transportation project. The need to consider noise abatement measures is based upon established Noise Abatement Criteria (NAC).

POLICY STATEMENT

It is the policy of ConnDOT to:

1. Assess the potential traffic noise impacts for defined NAC land use Activity Categories, and for land uses planned, designed and programmed, for highway improvement projects. Consideration is given to incorporating adequate noise impact mitigation measures into the construction plans, specifications and estimates for highway projects which have been determined to have noise impact. In considering such mitigation, attention shall be given to reasonableness, feasibility and cost-effectiveness. The reasonableness, feasibility and cost-effectiveness of noise abatement must be determined based upon the criteria defined in the ConnDOT's Policy and Procedures guide, for Type I and Type II noise abatement projects.
2. Conduct traffic noise impact analysis for new highway construction or major highway improvements, in accordance with accepted practices.

There may be extenuating circumstances where unique or unusual conditions warrant special consideration of highway traffic noise impacts and/or implementation of noise abatement measures. Extenuating circumstances are considered on an individual project basis.

CONSTRUCTION NOISE

Construction noise is considered in the current ConnDOT Standard Specifications for Roads, Bridges, and Incidental Construction,(Form 814A and 815, Section 1.10.05, Noise Pollution).

Contractors shall take measures to control the noise intensity caused by construction operations and equipment, including, but not limited to, equipment used for drilling, pile driving, blasting, excavation and hauling. All methods and devices employed to minimize noise shall be subject to the continuing approval of the engineer. The maximum allowable level of noise at the nearest residence or occupied building shall be 90 decibels on the "A" weighted scale (dbA), the scale that closely approximates human hearing. Any construction operation that exceeds the standard will cease until a different construction methodology is developed to allow the work to proceed within the 90 dbA limit.

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