

Memorandum

To: Amanda Lee
Associate Environmental Coordinator

Date: June 3, 2022

From: DEPARTMENT OF TRANSPORTATION
DISTRICT 3/NORTH REGION
Office of Environmental Engineering

File: 01-HUM-101
PM: 89.4
EA: 01-0K510
EFIS: 0120000108
Boyd Draw Bike Path

Subject: Environmental Impact Evaluation – Air Quality, Traffic Noise, and Greenhouse Gas

AIR QUALITY:

Long-Term Operational Effects:

Humboldt County is designated as attainment or is unclassified for all current National Ambient Air Quality Standards. Therefore, conformity requirements do not apply.

The purpose of this project is to construct a bike path under Highway 101 at Bridge #04-0085 (Boyd Draw) to connect Heindon Road with Wymore Road. This project will provide connectivity for bicyclists using the local road system paralleling the highway. The proposed modifications would not result in changes to the traffic volume, fleet mix, speed, location of existing facility or any other factor that would cause an increase in emissions relative to the no build alternative; therefore, this project would not cause an increase in operational emissions.

Long-Term Greenhouse Gas Emissions:

The proposed project was assessed for potential to increase operational Greenhouse Gas (GHG) emissions. The scope of the project is a non-capacity and will not add additional lanes which will not result in additional trips or change the speed or alignment of the roadway. Long-term operational GHG emissions are not predicted to increase from the project. Therefore, impact regarding GHG is not expected and no further analysis is required.

Short-Term Effects (Construction Emissions):

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction-related activities. Emissions from construction equipment also are expected and would include carbon monoxide (CO), nitrogen oxides (NO_x), volatile organic compounds (VOCs), directly-emitted particulate matter (PM₁₀ and PM_{2.5}), and toxic air contaminants such as diesel exhaust particulate matter. Construction activities are expected to increase traffic congestion in the area, resulting in increases in emissions from traffic during the delays. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Fugitive dust would be generated during grading and construction operations. Sources of fugitive dust include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site may deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM₁₀ emissions may vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM₁₀ emissions depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Greenhouse Gas (GHG) Construction Emissions:

The proposed project would result in generation of short-term construction-related GHG emissions. Construction GHG emissions consist of emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays and detours due to construction. These emissions would be generated at different levels throughout the construction phase.

The Caltrans Construction Emission Tool (CAL-CET2021 version 1.0) was used to estimate average carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), Hydrofluorocarbons (HFCs) emissions from construction activities. Table 1 summarizes estimates of GHG emissions during the construction period for the project.

Table 1. Maximum Greenhouse Gas Emissions from Construction

Construction Year 2023	CO₂	CH₄	N₂O	HFC
Total: Tons	11	<1	<1	<1

NOISE:

Based on the scope of work, this project is considered a Type III project. Traffic noise impact is not predicted to occur from the proposed project; therefore, noise abatement is not considered.

Under Title 23, Part 772 of the Code of Federal Regulations (23CFR772), projects are categorized as Type I, Type II, or Type III projects.

Type I projects are proposed federal or federal-aid highway projects for the construction of a highway on a new location or addition of a through-traffic lane(s), the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment of the highway. This project is not considered a Type I project.

A Type II project involves construction of noise abatement on an existing highway with no changes to highway capacity or alignment. A Type III project is a project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.

Construction Phase:

During construction noise may be generated from the contractors' equipment and vehicles. Caltrans requires the Contractor to conform to the provisions of Standard Specification, Section 14-8.02 "Noise Control" which states "Control and monitor noise from work activities." And "Do not exceed 86 dBA LMax at 50 feet from the job site activities from 9 p.m. to 6 a.m."

Jason Lee

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cc: Project File