

What is air pollution?

Air pollution comes from many different sources: stationary sources, such as factories, power plants, and dry cleaners; on- and off-road mobile sources, such as cars, buses, planes, trucks, and trains; and naturally occurring sources, such as windblown dust and emissions from vegetation.

How is air quality measured?

The Clean Air Act of 1970 (CAA), as amended, identifies six commonly found air pollutants. Each of the criteria pollutants has been proven through scientific study to have adverse effects on human health and the environment and/or property. National Ambient Air Quality Standards (NAAQS) have been set by the EPA to measure these pollutants which are:

- Ozone (O₃)
- Carbon monoxide (CO)
- Particulate matter (10 microns or less [PM₁₀] and 2.5 microns or less [PM_{2.5}])
- Nitrogen dioxide (NO₂)
- Sulfur dioxide (SO₂)
- Lead (Pb)

Of the NAAQS criteria pollutants, only carbon monoxide, PM₁₀, and ozone have been of concern in the Denver region, as present and/or historical monitoring data have shown exceedances of the standards. Of these three, ozone is the only pollutant for which the region is currently in nonattainment or the area persistently exceeds NAAQS.

I-70 East project and air quality

I-70 East project team has conducted a rigorous air quality analysis using MOVES model, the latest air quality modeling software available. Based on the analysis performed, the preliminarily identified preferred alternative does not exceed NAAQS for PM₁₀. The rest of the alternatives will slightly exceed NAAQS if no additional mitigation is implemented.

What are some air quality mitigation measures?

Recognizing the concern about potential impacts to air quality from the I-70 East project, CDOT is performing a detailed study analyzing air quality, both now and over the next 20 years. This study examines 12 air pollutants, mobile source air toxics, and looks at emissions levels over time to account for increased traffic volume.

In addition, CDOT will make sure several air quality control measures are implemented during construction, including:

- Checking air quality to make sure standards are met
- Covering, wetting, compacting, or using chemicals to control dust
- Using wind barriers and wind screens to prevent the spread of dust from the site
- Installing gravel pad(s) to prevent dirt from being tracked onto public streets
- Using vacuum-powered street sweepers to remove dirt tracked onto streets
- Covering all dump trucks leaving sites to keep dirt and dust from spilling onto streets

Because children are especially sensitive to air quality effects, CDOT has committed to protect those who attend Swansea Elementary School, which is located next to the highway. By providing new doors, new windows, and a new heating, ventilation, and air conditioning (HVAC) system, CDOT will help keep the pollution and dust from entering the school building, especially during construction. CDOT is also seeking ways to help the homeowners close to the project area to upgrade their houses with new doors, windows, and HVAC systems.

Other measures will be taken to reduce air pollutants in the area after the project is done. These include, but are not limited to:

- Routine street sweeping to reduce dust
- Increased street sweeping in the project area after snow storms to reduce the accumulation of particulate matter along the roadways
- Optimized signal timing at intersections and along arterial streets near the freeway to reduce vehicle delay and tailpipe emissions
- Congestion pricing and commuter incentive programs that reduce peak-period highway congestion and emissions
- Transportation demand management options, such as high-occupancy vehicle lanes and agreements with major employers to promote and implement flexible work programs

Air quality and health

Health problems related to air and soil pollutants are of particular concern in residential areas that are very close to a highway. These health conditions (e.g., increased incidence of asthma) can be similar to those associated with living near heavy industrial activities, which also are present in the Elyria and Swansea Neighborhood. Many of the health conditions found in this neighborhood also can be linked with smoking, poor dietary habits, genetics, and alcohol use. A number of factors used to measure health conditions—such as death, asthma, obesity, diabetes, and cancer—also can be linked to other factors, such as age and income.

The demographics and health disparities faced by the residents of the Elyria and Swansea Neighborhood put increased importance on how I-70 is reconstructed and how residents are involved in CDOT's work