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Subtopic G1: Air Quality – Toxics and Health

Forty-two public and agency comments were submitted on the subtopic of G1: Air Quality – Toxics and Health. From those 42 comments, 12 common concern statements were developed. Themes associated with the G1: Air Quality – Toxics and Health subtopic include:

- The Draft PEIS did not evaluate health effects or provide data to identify exposure and health impacts associated with air pollution by alternative.
- Because air quality affects ecosystem, plant, and animal health, the PEIS should identify the alternative with the least amount of air pollution.
- The PEIS should also include all motor vehicle related pollutants that endanger human health or are associated with adverse health effects.
- The risk of cancer is substantially greater for those who live, work, or attend school near the highway.
- The economic analysis should be expanded to compare the environmental benefits achieved by alternatives that produce lower adverse impacts on health, visibility, and ecology.
- The Draft PEIS did not adequately address nitrogen, ozone, polycyclic aromatic hydrocarbons, mobile source air toxics, PM₁₀, PM_{2.5}, greenhouse gases, global warming, and energy.
- Chemical reactions produce haze, create health problems, and contribute to climate changes.
- Visibility in wilderness areas will be affected by construction, which was not considered in the PEIS.
- Mitigation measures for air quality should be identified.
- Because construction activities will most affect Clear Creek County, there are concerns about the lack of air quality monitoring data for the county. Air quality impacts during construction should be quantified.
- Highway alternatives will worsen the already high air pollution levels in Clear Creek County, when there are other alternatives that would have fewer impacts.

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CCS No.	Community Values Common Concern Statements (CCSs)
Subtopic G1: Air Quality – Toxics, Health	
G 1 - a	<p>Health Effects Evaluation</p> <p>The National Environmental Policy Act of 1969 (NEPA) mandates a more precise discussion of air pollution and public health concerns due to exposure to air toxics from automobile and truck exhaust. The Programmatic Environmental Impact Statement (PEIS) must include an evaluation of health effects and exposure data to identify exposure and health impacts by alternative. Of specific concern are the following:</p> <ul style="list-style-type: none"> • Current air quality issues, such as extended periods of idling trucks in the Downieville area with its narrow constrained canyon, cause health concerns to nearby residents. Air quality affects ecosystem, plant, and animal health. • Health impacts of the alternatives should be disclosed by showing existing health exposure levels, likely exposure levels during construction, and 2025 exposure levels for residents. Human health related to carbon monoxide (CO), particulate matter (PM_{2.5}), ozone, and volatile organic compounds (VOC) toxics are a concern in the Corridor and in the region as a whole and should be addressed in the PEIS. The PEIS should identify the alternative with the least amount of air pollution. • Health impacts on persons living near the proposed highway expansion should be studied and given consideration in selecting a preferred alternative. <ul style="list-style-type: none"> • Cancer risks will be substantially greater to populations (especially children) living, working, and going to school near the highway. Modeling conducted by Resource Systems Group for several highway projects shows that exposures to both gaseous and particulate pollution are much greater (10 times for air toxics at 20 meters versus 200 meters from the highway) close to the highway. • Idaho Springs has two schools, a recreational center, and a senior center within 100 yards of the highway. Construction detours on Colorado Boulevard will route traffic within 10 to 15 yards of classrooms, a playground, and five historic churches.
G 1 - b	<p>Motor Vehicle-Related Pollutants</p> <p>According to Section 109 of NEPA, the PEIS must consider adverse effects of all motor vehicle-related pollutants found by EPA to endanger human health or to be associated with adverse health effects (including diesel particulate matter [DPM], benzene, formaldehyde, acetaldehyde, dioxin, acrolein, 1,3-butadiene). Air pollution impacts, as defined under Section 109, should include the gathering and evaluation of evidence on potential pollution hazards, and these hazards must include motor vehicle-related pollutants (National Ambient Air Quality Standards [NAAQS]) but should not be restricted to criteria pollutants.</p> <ul style="list-style-type: none"> • The Draft PEIS discounts important pollutants, sources, and their interactions and underestimates air quality and climate impacts of the alternatives as a result. The suggestion that more traffic will result in less pollution is questionable. • The Draft PEIS does not sufficiently address/evaluate excess nitrogen. Nitrogen chemicals (NO_x and NH₃) are increasing throughout the Intermountain West, and these increased levels of nitrogen can be taken up by ecosystems, leading to harmful imbalances in the ecosystems. • The Draft PEIS must address how the I-70 communities will be affected by more than 100 polycyclic aromatic hydrocarbons (PAHs) that are present in combustion byproducts from car and truck exhaust. • The Draft PEIS does not adequately address MSATs in regard to alternative impacts. Numerous MSATs (benzene, 1,3-butadiene, formaldehyde, acetaldehyde, acrolein, methyl tertiary butyl ether [MTBE], DPM) can and should be quantified with MOBILE6 and the available hazardous air pollutants command.

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G1-c	<p>Ozone</p> <p>The following concerns were noted in relation to ozone:</p> <ul style="list-style-type: none"> • The PEIS has not sufficiently addressed/evaluated ozone, which has adverse impacts on human health and ecosystem well-being. • Ozone levels in Rocky Mountain National Park and in Denver are already a documented threat to human health. • Ozone impacts on ecosystems in the Colorado Rocky Mountain area also have been found; and ozone is increasing throughout the region. • The Draft PEIS does not address possible effects on the Denver metropolitan area ozone problem.
G1-d	<p>Health Costs</p> <p>The economic analysis should be expanded to compare the environmental benefits achieved by alternatives that produce lower adverse impacts on health, visibility, and ecology. A 2000 FHWA Report to Congress estimated that annual health costs of air pollution from transportation sources are substantial, even without the inclusion of many significant pollutants (such as PM_{2.5} and air toxics) that would increase the costs even further.</p>
G1-e	<p>Inadequate Air Quality and Climate Assessment</p> <p>An adequate air quality and climate assessment must take into account changes in all key sources and impacts throughout the region over the next 50 years. Air quality impacts on human health, ecology, and visibility are associated with a full suite of important chemical emissions and their chemical products; these emitted chemicals come from many important sources throughout the region, and all of these should be taken into account in the assessment. All of these important emission sources change as a result of changes in human activity, technology, and other factors associated with behavior and development choices.</p> <p>Therefore, the scope of pollutants, impacts, and sources needs to be expanded to include the following factors:</p> <ul style="list-style-type: none"> • Increased oil and gas drilling • Increased petroleum-based transportation • Development trends <p>The air quality and climate analysis should also:</p> <ul style="list-style-type: none"> • consider all key emission sources and their projected changes; • compare current and future impacts of concern resulting from different transportation options in the context of other developments; and • take into account chemical transport, transformation, and deposition processes when estimating impacts resulting from different transportation options. <p>The chemical interactions and known impacts associated with chemical products resulting from a complex mix of emissions should be considered and cannot be discounted. Many directly emitted chemicals (such as NO_x, VOC, SO₂, and NH₃) also interact to produce other chemicals (for example, ozone, PM_{2.5}, acids, and other nitrogen chemicals) that are known to harm human health, produce haze, cause ecological damage, and contribute to climate change.</p>
G1-f	<p>Long-Term Climate Change</p> <p>The PEIS does not compare the alternatives in relation to the effect of continued and increased use of fossil fuels along the Corridor causing long-term climate change. The following were noted:</p> <ul style="list-style-type: none"> • Emissions of CO₂ from activities along the Corridor join with emissions from other activities throughout the region to add to the CO₂ levels, which, in turn, contribute to climate change. • Emissions of PM_{2.5}, along with PM_{2.5} formed in the air from other noxious chemicals, contribute to regional climate change, as these small particles interact with incoming solar radiation to produce haze and, eventually, alter temperature patterns regionally.

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G1-g	<p>Inadequate Air Monitoring</p> <p>The PEIS is inadequate in its discussion of air monitoring. The following points were made:</p> <ul style="list-style-type: none"> • There appears to be no PM₁₀ monitoring within several hundred feet of the right-of-way (high volume/high congestion area). PM₁₀ monitoring should be performed for existing conditions and during and after construction to adequately characterize air quality impacts. • The PEIS does not clarify how the PM₁₀ monitors mentioned in the document are relevant to expected PM₁₀ concentrations near the Corridor (proximity to major roadways, level of traffic, topographic and meteorologic conditions, and correlations with I-70 conditions). A map with location/type of air monitors would be valuable. • The lack of air quality monitoring data for Clear Creek County is a serious flaw because Garfield, Eagle, Summit, and Jefferson counties have air quality monitoring data, yet there are no data for Clear Creek County, which will be most affected by construction activities.
G1-h	<p>PM_{2.5}</p> <p>The Draft PEIS does not adequately address PM_{2.5} in regard to alternative impacts. PM_{2.5} monitoring should be performed for existing conditions and during and after construction to adequately characterize air quality impacts. Because haze is caused by PM_{2.5}, worsening haze (supported by trend data) is a good indicator for increasing threats to human health. EPA currently is reassessing the national standards for PM_{2.5} based on recent health assessments and has proposed more stringent standards.</p>
G1-i	<p>Failure to Address Impacts During Construction Period</p> <p>According to the PEIS, as many as 50,000 vehicles per day might be diverted onto local community streets during the 15-year construction period, thereby increasing the chances for health hazards to children (especially allergies, asthma, silicosis, and hearing problems) due to the dusty construction period and the release of extremely fine particles of crystalline silica. However, the PEIS does not:</p> <ul style="list-style-type: none"> • disclose/quantify the amount of daily traffic (past schools and residences) and the anticipated health effects for the construction period; • address air quality impacts and exposure effects from 15 years of construction stop-and-go traffic; or • quantify air quality impacts in Clear Creek County during construction activities.
G1-j	<p>Visibility/Haze</p> <p>Visibility associated with PM_{2.5} and PM₁₀ is a concern throughout the Region, and trend analysis indicates that haze is getting worse throughout the Intermountain West. Visibility in wilderness areas (James Peak and Mount Evans) will be affected during construction, and this was not considered in the PEIS.</p>
G1-k	<p>Greenhouse Gases, Global Warming, and Energy</p> <p>A policy-level EIS is defective if it does not consider how various alternatives would affect greenhouse emissions and global warming. It is noted that the US Department of Defense and major oil companies are seriously concerned about global warming and the depletion of non-renewable energy resources.</p> <p>If CDOT selects an alternative without full analysis and disclosure of implications and comparisons of alternatives regarding energy use, it will have ignored a resource concern of NEPA and a factor affecting the economical mobility of travelers within, to, and through the Corridor. This is a policy-level and program level aspect of this PEIS. CEQ Regulation 40 CFR 1502.16 states “shall include discussions of . . . (e) Energy requirements and conservation potential of various alternatives and mitigation measures.”</p> <p>Thus far, CDOT is inadequate in such analysis and documentation. Section 3.18, Energy, and especially Table 3.18-2 appear to be inadequate and deceptive.</p>

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G1-I	<p data-bbox="318 298 435 323">Mitigation</p> <p data-bbox="318 331 1032 357">Issues regarding mitigation of air quality include the following:</p> <ul data-bbox="373 365 1533 604" style="list-style-type: none"><li data-bbox="373 365 1533 424">• The PEIS should identify the mitigation measures (during and after construction) that will be applied for air quality:<li data-bbox="373 432 1533 512">• Because studies have shown that air pollution from cars and trucks can have serious health effects (particularly to young people), the PEIS should identify construction detours to avoid exposure risks.<li data-bbox="373 520 1533 604">• Because of an American Pediatric Association Policy Statement that recommends schools not be located near highways, the PEIS should consider school proximity in selecting an alternative and in defining mitigation measures such as school relocation.