

COMMENTS ON THE ADDITION OF THE PROPOSED I-70 EXPANSION PROJECT  
TO THE DENVER REGIONAL TRANSPORTATION PLAN and  
TRANSPORTATION IMPROVEMENT PROGRAM

The Rocky Mountain Chapter of the Sierra Club submits these comments asking the Board of the Denver Regional Council of Governments (DRCOG) not to add the currently proposed 10-lane cut-and-cover version of the I-70 expansion project to the Regional Transportation Plan (RTP) unless operational limits on trucks are adopted to protect the health of residents in communities with close proximity to the highway alignment between Brighton Blvd and Colorado Blvd.

The Federal-Aid Highway Act authorizes metropolitan planning organizations to include operational practices and mitigation in RTPs to protect environmental resources. These provisions provide authority to ensure that emissions from a project will not cause violations of a National Ambient Air Quality Standard that would cause an area such as Denver to become nonattainment under the Clean Air Act for a highway-related pollutant. Emissions from an expanded I-70 with 30% more traffic than in 2015 are highly likely to cause violations of the NAAQS for PM2.5. If those violations occur, the Denver region will be subject to growth limitations and the obligation to develop control strategies designed to eliminate the violations. It would be much less burdensome for the region to adopt a preventive approach to ensure that NAAQS violations will not occur, and that the public will be protected from the severe adverse health outcomes that will be caused by exposing nearby residents to hazardous pollution levels.

**I. Health Impacts Of Exposure to Air Pollutants Emitted from I-70 are Severe, and Should be Addressed in the Planning Process.**

Various provisions of federal transportation planning law require that Metropolitan Planning Organizations (MPOs) consider the air pollution effects of the projects included in a regional plan, and evaluate mitigation measures that can minimize these effects. These include the statutory duty to adopt a plan that “accomplishes” the planning objective to “minimize air pollution,” 23 U.S.C. section 134(c), the duty to consult with regulatory agencies regarding the air pollution effects of projects in a plan, section 134(i)(5), and the authority to adopt mitigation measures to preserve environmental quality, section 134(i)(2)(D).

The need for consideration of I-70 project mitigation as part of the regional planning process is driven by two factors: 1) the failure of CDOT to adequately address project emissions in the NEPA process; and 2) the authority given to DRCOG by the Federal Aid Highway Act to adopt operational measures to improve system performance that can also significantly reduce air quality impacts in the I-70 corridor.

**A. Health Impacts Are Occurring and Should be Reduced.**

Evidence documented by Denver Environmental Health showing disparate health outcomes for residents in the Globeville/Elyria/Swansea neighborhoods and the city council districts where I-70 is located compared to other council districts in Denver, including a 50% higher incidence of mortality related to cardiovascular disease, 50,000 more years of life lost annually, and 40% greater rate of hospitalization of children for asthma, demonstrate that these residents are

disproportionately affected by the diseases of air pollution. The contribution that emissions from current vehicle travel on heavily trafficked highways such as I-70 make to these adverse community health outcomes must be evaluated, disclosed to decisionmakers and the public, and considered in the evaluation of alternatives to determine the extent to which community health can be enhanced by not increasing exposure to traffic pollution in these neighborhoods.

Both emissions from an expected 30% increase in traffic traveling in the I-70 Project area, and emissions during construction of the project from heavy equipment, could cause violations of national ambient air quality standards (NAAQS) in the Project area. The Clean Air Act (CAA), Part C, requires that States adopt an implementation plan containing control measures to prevent violations of NAAQS in areas that currently attain the NAAQS. If violations of these air quality standards occur, the CAA requires that the plan for the area be revised to reduce ambient concentrations below the level of the NAAQS. 40 CFR §51.160. Violations trigger obligations to develop and implement a control strategy to eliminate the NAAQS violations, and imposes limitations on the permitting of new or modified sources. Preventing violations of the NAAQS protects public health by avoiding pollutant concentrations known to be harmful, is cheaper than requiring emission reductions after violations occur, and is less burdensome on other emission sources.

Had these impacts of traffic and construction emissions on ambient concentrations of PM<sub>2.5</sub> and mobile source air toxic pollutants been included in the Supplemental Draft EIS for the Project, DRCOG might reasonably have relied upon that work to make decisions about appropriate mitigation. However, they were not addressed in the EIS. Therefore DRCOG has an obligation to assess and disclose these impacts as part of its duty to “minimize air pollution” and consider mitigation measures.

**B. Consideration of Alternatives and Mitigation Measures to Reduce Public Exposure to Harmful Pollutants, and to Ensure Attainment of NAAQS Required as Part of the Regional Planning Process.**

CDOT contends in the SDEIS for the Project that the proposed Project is proposed to accommodate at least a 30% increase in traffic and related increases in pollutant exposures in an area where traffic pollution is currently contributing to adverse health impacts in nearby communities. Not included in the analysis are reasonable alternatives and mitigation measures that enhance the human environment by reducing public exposure to these harmful pollutants. At a minimum, the SDEIS must include an evaluation of measures such as, but not limited to, diverting future traffic to other interstate alignments (I-76 and I-270) where commercial and industrial uses are the predominant near-highway land use, dense urban neighborhoods are not in close proximity to the highway, and schools are not located next to the highway right-of-way. So long as the currently proposed cut-and-cover alternative in the existing I-70 alignment remains the preferred alternative, another option that must be included is the buy-out of all nearby residents, and the re-location of school buildings located within the zone of adverse health impacts adjacent to the Project alignment.

The SDEIS is not adequate under the National Environmental Policy Act (NEPA), or under the requirements of the Federal Aid Highway Act, 23 USC § 109(h), because the Draft Statement, along with the Air Quality Technical Report prepared as Attachment J for the I-70 East SDEIS, fails to –

1. investigate and disclose the impact that highway emissions are having on community health in the Project study area;
2. investigate and identify alternatives and/or mitigation measures that can enhance the human environment by reducing community exposure to harmful air pollutants, and avoid the adverse health effects that will result from increasing exposure to these pollutants that will result if traffic in the corridor is allowed to increase by 30%;
3. investigate and disclose likely violations of the NAAQS for PM<sub>2.5</sub> and NO<sub>2</sub> caused by those pollutants emitted from vehicles traveling on the completed project and in the area affected by the Project;
4. use credible scientific methods to investigate and disclose likely violations of the NAAQS for PM-10 caused by particulate matter (PM) emitted from or by vehicles traveling on the completed project and in the area affected by the Project;
5. investigate and disclose likely violations of the NAAQS for PM-10, PM<sub>2.5</sub> and NO<sub>2</sub> caused by those pollutants emitted from heavy equipment and traffic during construction of the Project;
6. investigate and identify alternatives and/or mitigation measures that are necessary and sufficient to prevent or avoid violations of the NAAQS for PM-10, PM<sub>2.5</sub> and NO<sub>2</sub>;
7. demonstrate compliance with the obligations imposed by the Federal-Aid Highway Act, 23 USC §109(h), to estimate the costs of mitigation, compare those costs with the transportation benefits of the proposed Project, determine whether the Project is in the best overall public interest, and commit to implement any necessary mitigation; and
8. include a conformity determination for the Project as required by § 176(c) of the Clean Air Act (CAA) and implementing regulations. 40 CFR §§ 93.116, 123.

#### **1. Impact on Community Health of Emissions from Traffic on I-70 Not Assessed or Disclosed by CDOT.**

Overall impacts of air pollutants emitted from the Project on community health are the primary concern of this comment. The adverse health outcomes among residents in the I-70 Project area reported by Denver Environmental Health [DEH ] in the community health status report released last month demonstrate that these residents are currently experiencing serious adverse effects of current pollutant exposures, and that the impact of future increases in pollutant exposures must be fully disclosed in the EIS. See [https://www.denvergov.org/Portals/746/documents/HIA/HIA%20Composite%20Report\\_9-18-14.pdf](https://www.denvergov.org/Portals/746/documents/HIA/HIA%20Composite%20Report_9-18-14.pdf). The higher pollutant exposures expected from increasing traffic by 30% in these neighborhoods will significantly further degrade the health status of these communities. Sacrificing the health of children and increasing years of life lost to build a regional transportation facility is not an acceptable public policy. To ensure open disclosure and consideration of the consequences that Project emissions will have on health, a health impact assessment must be included in the current NEPA review because of the evidence provided by DEH showing that residents in these communities are now experiencing disparate health outcomes compared to other communities in Denver.

The SDEIS contains no discussion of the current health status of these communities, and no investigation of the likely impact that increased vehicle emissions will have on community health. The impacts that Project emissions will have on air quality in the affected communities are only partially addressed. The SDEIS includes modeling to estimate future concentrations in the ambient air for only two transportation-related pollutants: PM-10 and carbon monoxide. The other two criteria pollutants emitted from highways that EPA has identified as having the

greatest impact on nearby community health, and has recently required be monitored adjacent to highways, PM2.5 and NO2, are not evaluated for impact on future air quality. A shorthand method for using the modeled concentrations of PM-10 to estimate future PM2.5 concentrations indicates that Project emissions will worsen health status in the communities by violating the NAAQS for PM2.5.

In addition to determining the impact of Project emissions on the attainment of the NAAQS, the SDEIS should have included an assessment of the health impacts on the community that will result from the full mix of criteria and toxic air pollutants emitted from motor vehicles. Residents do not just breath one pollutant at a time, and the adequacy of national air quality standards to protect health do not account for the cumulative and synergistic effects on human health that result from exposure to the full array of criteria and toxic air pollutants emitted from highways.

## **2. Adverse Health Outcomes Are Occurring Disproportionately in Communities Affected by I-70 Pollution.**

The final DEH report identifies four metrics of health as demonstrating a significant disparity between community health in the four city council districts where I-70 is located, and especially Globeville/Elyria/Swansea (GES) neighborhoods, and other parts of Denver: 1) mortality caused by cardiovascular disease, 2) hospitalization of children for asthma, 3) cancer, and 4) obesity. In addition, the draft DEH report identified years of life lost as another important metric of community health which was significantly worse in the GES neighborhoods compared to the city as a whole.

### **i) Disproportionately High Cardiovascular Mortality.**

The data reported by DEH , HIA, Fig. 6, show that residents in the four city council districts where I-70 is located.(1, 8, 9, and 11) have the highest cardiovascular mortality rates. Residents in city council Dists 1 and 9 experience 30% greater cardiovascular mortality than dist 2 (213 vs. 155). In districts 8 and 11, respectively, cardiovascular mortality is 77% higher than dist 2 (275 vs. 155), and 74% higher (270 vs. 155). On average, cardiovascular mortality in these four council districts along I-70 is roughly 50% greater than other parts of the city. These are remarkably huge differences in cardiovascular mortality, the largest single cause of death in Denver and the U.S.

Increased community exposure to Project emissions will occur primarily in Districts 9 and 8. District 9 includes the GES and other neighborhoods along the east side of I-25 from the Auraria campus to the Commerce City line, including the neighborhoods along I-70 east of the mousetrap. The mortality rate in council district 9 is identical to the rate in council district 1 (213/100,000). District 1 includes the neighborhoods on the west side of I-25 from the Auraria campus north to the city line, including the neighborhoods along I-70 west of the mousetrap. Together, these two districts have significantly higher cardiovascular mortality rates than all other council districts except 8 and 11. In addition to emissions from I-70, residents in Dists 1 and 9 are exposed to emissions from I-25, residents in Dist 8 are most exposed to the additional pollution burden coming from the refineries, and district 11 is most exposed to emissions from the I-225 interchange, Pena Blvd and airport operations. A recent study at LAX indicates that residents along the path of aircraft take-offs and landings are exposed to aircraft emissions that are roughly comparable to the emissions from highways in these neighborhoods. It makes sense that all 4 of these council districts show greater rates of the diseases of air pollution,

including cardiovascular disease, when compared to other council districts not exposed to emissions from major highways and other high emitting sources.

These data point an incriminating finger at air pollution from the high traffic volumes on interstate highways because all the council districts with higher pollution levels from both interstates and major stationary sources have elevated cardiovascular mortality rates. If higher mortality were observed only in one district, then air pollution could not account for the disparity between that district and both cleaner districts and districts with high pollution levels.

### **ii) Disproportionately Higher Years of Life Lost.**

These massively greater mortality rates obviously contribute to increased years-of-life-lost. Missing from the final DEH report, but no less relevant to the need for a NEPA analysis of health risks, is the discussion of years-of-potential-life-lost (YPLL) that was included in the draft HIA, at p. 9 (published for comment in April). The draft described this metric as commonly "used as an indicator of health equity. Generally, this is a measure of premature death before the age of 75 compared across a population or geographic area. The assumption is that a higher number indicates inequitable social or physical determinants of health. Data from Denver Health indicate that "years of potential life lost" is higher in Globeville and Elyria Swansea than in Denver overall." The draft reported that years-of-life-lost, averaged across the community, is 3.5 years greater for the residents of GES neighborhoods compared to other Denver residents. This means residents of these neighborhoods are losing 50,000 years of life annually compared to other Denver neighborhoods. Deletion of this metric in the final HIA is not explained anywhere. Purging this critical metric of community health from the report makes the report less valuable to residents and decisionmakers because of its importance as a measure for comparing community health among neighborhoods.

The fact that this key metric was deleted without explanation is highly suspicious. Without any explanation, the motive for removing this important metric must be questioned especially since Thad Tecza was told by staff at DEH before the release of the final report that there would be no changes in the data included in the final compared to the draft. The lack of any explanation suggests an intent to deceive the public, and smacks of cover-up. This omission from the final DEH report further highlights the need for these disparate health outcomes to be explored in an EIS.

### **iii) Disproportionately Higher Hospitalization of Children for Asthma.**

The other adverse health outcome for which the disparity between the GES neighborhoods and other areas of the City is quantified is hospitalization for childhood asthma. The final DEH report, Fig. 7, shows 40% greater incidence (38.6 vs. 28.5 admissions/1,000) of hospitalization of children in Elyria/Swansea, and 20% higher in Globeville than the rest of the city. The additional emissions from the train traffic on the main line running between Elyria and Swansea is a plausible explanation for the higher incidence in these neighborhoods. Certainly 40%, and even 20% more children hospitalized for asthma is a significant adverse health outcome for a community that also suffers from other adverse social and economic factors.

The facts that 1) the GES neighborhoods have 3.5 years shorter longevity, or 50,000 years of life lost, compared to the rest of Denver (which was shown by the YPLL data presented in the draft report, but purged from the final), 2) the residents in the districts along the I-70 corridor experienced 50% higher cardiovascular mortality than other parts of the city, and 3) that

significantly more children in GES neighborhoods require hospital care for asthma strongly suggests that these adverse health outcomes are linked to air pollution. There is enough variability in socio-economic factors across the four council districts that comprise north Denver that socio-economic factors alone cannot account for higher cardiovascular mortality rates in all four I-70 districts. Some other extrinsic factor, such as air pollution, must be a causative factor.

### **3. The Disparate Adverse Health Outcomes Observed in Communities Along the I-70 Corridor Are Causally Related to Exposure to Traffic Pollutants.**

The DEH report does not offer any explanation for these disparate health outcomes other than air pollution. Air pollution is the only environmental factor identified in the report that is causally related to these diseases. Air pollution offers the only reasonable explanation for the elevated incidence in the GES neighborhoods of the four health outcomes identified by DEH as being significantly worse than other areas of Denver. Increased mortality associated with cardiovascular disease is one of the most significant adverse health outcomes identified by EPA as associated with exposure to PM<sub>2.5</sub>. The correlation between the observed health outcome among residents in the four I-70 districts and the health outcomes predicted by the health effects data reviewed by EPA is strong. Air pollution is also the only well-documented explanation for the higher incidence of hospitalization for asthma among children. Air pollution also includes indoor air pollution from smoking and other sources in the home, so not all of it comes from highways. But the health effects research reviewed by EPA includes studies showing the prevalence of childhood asthma is linked to increased exposure to air pollution from major traffic corridors. The HIA provides no evidence to show that smoking in the home differs enough between council districts to explain the significantly greater hospitalization of children for asthma.

#### **i) DEH Report Identifies Air Pollution As Causally Linked to Disparate Health Outcomes.**

The DEH report does not offer any other explanation for these disparate health outcomes. Along with air pollution, the DEH report lists possible environmental factors contributing to adverse health outcomes -- noise from trains, traffic and industry, elevated summertime e-coli in the S. Platte, and soil contamination. See HIA, Environmental Quality, p. 19. But the report notes that soil contaminants have been removed from the community as part of the CERCLA clean-up of the areas around the former smelters. The HIA offers no plausible explanation for how these remaining environmental factors other than air pollution are linked to the adverse health outcomes that demonstrate worsened health for residents in the GES neighborhoods compared to other parts of Denver. EPA's analysis of the effects of air pollutants on health in the Integrated Science Assessments for PM and NO<sub>2</sub> provides a scientific basis for linking PM to all of these adverse health outcomes, and NO<sub>2</sub> to some of them. But none of the other environmental risk factors identified in the DEH report have any apparent causal relationship to these adverse health outcomes. For example, noise has never been identified as a cause of childhood asthma, and e-coli in the river is not linked to pre-mature mortality from cardiovascular disease. The only environmental factor listed in the report that is known to be associated with these diseases is air pollution.

Of the sources of air pollution in these neighborhoods, the HIA states: "Vehicle exhaust is the main source of air pollution in Denver." "The [GES] neighborhoods are close to sources of air pollution from vehicles on I-70 and I-25, which carry approximately 150,000 and 250,000

vehicles per day respectively, and are the main sources of air pollution. Stationary sources such as industrial plants also impact air quality." HIA, pp. 20, 19. The report claims that the highest traffic density in the city is downtown, but CDOT traffic measurements show that the highest traffic density in the metro area is actually at the mousetrap, in the center of Globeville and upwind of Elyria and Swansea where 326,000 vehicles pass through daily.

The communities near the mousetrap are exposed to the highest pollutant levels in Colorado. At the mousetrap the total daily trips passing through the interchange are 326,000, more than 30 percent more traffic than any other location in the state. Traffic counts reported by CDOT for 2012 show AADT at the mousetrap as (truck share shown in parenthesis)<sup>1</sup>

I-25 south of interchange: 243,000 (9.1%)

I-25 north of interchange: 198,000 (10.9%)

I-70 west of interchange: 150,000 (9.1%)

I-70 east of interchange: 140,000 (9.3%)

Especially important is the fact that the share of AADT represented by truck trips at the mousetrap is much higher than at other locations along I-25. CDOT's data show that approximately 40 percent more truck trips use the I-25 segments north and south of the mousetrap than on I-25 south of downtown at 8th Avenue. Together, the higher AADT and the greater number of truck trips show that the mousetrap is the location in the Denver CBSA where mobile source emissions are the highest.

In addition, regional air quality monitor data received by EPA from the CDPHE, Air Pollution Control Division, and reported on EPA's Air Data website, demonstrate that cumulative effect of traffic emissions combined with industrial pollution is greatest along the interstates. Monitored levels of total particulate matter pollution from all sources in the metro area are highest at the Birch Street monitoring station in Commerce City, located about 2 miles north of Denver city line, and 1.25 miles east of the I-76/I-270 interchange. In the SDEIS, CDOT determined that the pollution levels reported at this monitor are representative of background levels to which I-70 will add emissions from the highway.

Thus when total pollution burden (highway emissions plus existing background) is considered, the neighborhoods along I-70 experience the highest pollution concentrations in the metro area. Therefore it is consistent with the air quality data for the most adverse health outcomes to be observed in the four council districts where I-70 is located.

**ii) EPA Finds Causal Relationship Between Exposure to Traffic Pollutants, Cardiovascular Disease, Pre-Mature Mortality, Asthma and other Adverse Health Outcomes Observed in the I-70 Corridor.**

The U.S. Environmental Protection Agency (EPA) has now identified four criteria pollutants emitted from highways as presenting significant health risks that must be prevented through attainment of the NAAQS near highways: carbon monoxide (CO), PM-10, PM2.5, and nitrogen

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<sup>1</sup> Colorado Department of Transportation, Traffic Data Explorer, 2013. Available online at:

<http://dtdapps.coloradodot.info/Otis/TrafficData> (last accessed October 30, 2013).

oxides (NO<sub>2</sub>).<sup>2</sup> This public health concern is reflected in requirements that states must now establish roadside monitors for PM<sub>2.5</sub> and NO<sub>2</sub> in addition to the long-standing requirement to monitor CO.<sup>3</sup> In addition to these four mobile source-related criteria pollutants, EPA has identified 92 mobile source air toxic (MSAT) pollutants. MSATs are governed by technology-based standards that must be met in emissions from tailpipes, but are not governed by ambient air standards that limit the concentrations of pollutants to which the public may be exposed. None of these standards take into account the interactions among these pollutants in the ambient air, or their cumulative impact on human health.

Together, these pollutants create a hazardous pall of pollution in the neighborhoods around highways that has been shown to contribute to cardiovascular and respiratory diseases among children, adults and the elderly that 1) increases the need for hospital and urgent care, 2) causes pre-mature death that significantly shortens the lives of residents, 3) increases the prevalence of asthma among children which interferes with school attendance and education, and requires medical treatment and hospitalization, 4) interferes with normal lung development in children and adolescents that results in permanent, lifetime impairment of lung function, 5) increases the incidence of debilitating or fatal cancers, and 6) impairs immune function.

In its recent reviews of the adequacy of the NAAQS for PM<sub>2.5</sub> and NO<sub>2</sub>, EPA has identified causal relationships between exposure to these pollutants and many of the adverse health outcomes associated with exposure to highway pollutants. In its review of the health effects literature available through 2009 as part of the Agency's determination to make the NAAQS for PM<sub>2.5</sub> more protective, EPA found [bold in original]<sup>4</sup> –

- **“a causal relationship exists between short-term exposures to PM<sub>2.5</sub> and mortality.”**
- **“a causal relationship exists between long-term exposures to PM<sub>2.5</sub> and mortality.”**
- **“a causal relationship exists between short-term exposures to PM<sub>2.5</sub> and cardiovascular effects.”**
- **“a causal relationship exists between long-term exposures to PM<sub>2.5</sub> and cardiovascular effects.”**

Although EPA did not attribute these effects exclusively to fine particles emitted from motor vehicles, EPA did cite studies that establish a causal relationship between exposure to traffic PM, or one or more components of traffic PM emissions, and pre-mature mortality and emergency treatment for cardiovascular outcomes. For example, “multiple outcomes have been linked to a PM<sub>2.5</sub> crustal/soil/**road dust** source, including cardiovascular mortality”; “studies have reported associations between other sources (i.e., traffic and wood smoke/vegetative burning) and cardiovascular outcomes (i.e., mortality and ED visits)”; “Studies that only examined the effects of individual PM<sub>2.5</sub> constituents found evidence for an association between EC and cardiovascular hospital admissions and cardiovascular mortality”;<sup>5</sup> “studies found an association between mortality and the

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<sup>2</sup> 40 CFR Part 50.

<sup>3</sup> 40 CFR Part 58; 77 Fed. Reg. at 39009 (June 29, 2012); 78 Fed. Reg. at 16,184 (March 14, 2013), *Revisions to Ambient Nitrogen Dioxide Monitoring Requirements*, Final Rule.

<sup>4</sup> *Integrated Science Assessment for Particulate Matter* (US EPA, December 2009), pp. 2-10, 2-11, 2-12.[hereinafter *ISA for PM*]

<sup>5</sup> Note that “EC” is short-hand for “elemental carbon” which is primarily unburned carbon from fossil fuel combustion, and is a significant component of fine particles emitted from diesel and gasoline engines.



PM2.5 sources: ..., traffic”; “recent studies have suggested that PM (both PM<sub>2.5</sub> and PM<sub>10-2.5</sub>) from .. road dust sources or PM tracers linked to these sources are associated with cardiovascular effects.”<sup>6</sup>

In addition, EPA cited studies demonstrating a causal relationship between exposure to PM<sub>2.5</sub> and childhood asthma: “road dust and traffic sources of PM have been found to be associated with increased respiratory symptoms in asthmatic children and decreased PEF in asthmatic adults.”<sup>7</sup>

EPA also found a causal relationship between exposure to NO<sub>2</sub> and childhood hospitalization for asthma:

“Epidemiologic evidence exists for **positive associations of short-term ambient NO<sub>2</sub> concentrations below the current [1983] NAAQS level with increased numbers of ED visits and hospital admissions for respiratory causes, especially asthma.** These associations are particularly consistent among children and older adults (65+ years) when all respiratory outcomes are analyzed together, and among children and subjects of all ages for asthma admissions.”<sup>8</sup>

More recent studies not available for EPA’s 2008 *ISA for Oxides of Nitrogen*, or 2009 *ISA for PM*, confirm and strengthen these associations. All of the relevant research currently available that establishes the relationship between exposure to traffic pollution and the adverse health outcomes occurring in residents living along the I-70 corridor, including cardiovascular disease, pre-mature mortality, childhood asthma and cancer, should be included in an assessment of the relationship between adverse health outcomes observed in the I-70 Project area and traffic pollution.

### iii) EPA Finds No Threshold for Safe Exposure to Highway Pollutants.

In addition to EPA’s findings that there is a causal relationship between the mobile source-related pollutants emitted from highways and the disparate health outcomes reported by DEH in the communities along I-70, EPA also found that there is no safe level of exposure to these pollutants. In the *ISA for PM*, at p. 2-25, EPA concluded that “evidence from the studies evaluated supports the use of a no-threshold, log-linear model.” EPA reached a similar conclusion with respect to NO<sub>2</sub>: ” In studies that have examined concentration-response relationships between NO<sub>2</sub> and health outcomes, the concentration-response relationship appears linear within the observed range of data, including at levels below the current standard. There is **little evidence of any effect threshold.**”<sup>9</sup> [Emphasis in original.]

The most critical implication of these findings for purposes of assessing health impacts under NEPA is that evidence showing that concentrations of PM<sub>2.5</sub> and NO<sub>2</sub> are below the NAAQS for these pollutants cannot be relied upon to support a conclusion that exposure to existing concentrations of each of these pollutants is not contributing to the adverse health outcomes being observed in the near-highway communities along I-70.

However, no determination of pollutant exposures for near-highway communities can be made from information provided in the SDEIS because only background concentrations for PM-10 and CO are provided from a monitoring station outside the Project area, and no near-highway measurements are provided for any of the four mobile source-related criteria pollutants.

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<sup>6</sup> *ISA for PM*, p. 2-26.

<sup>7</sup> *Id.*

<sup>8</sup> *Integrated Science Assessment for Oxides of Nitrogen – Health Criteria* (US EPA, July 2008), p. 5-11.

<sup>9</sup> *ISA for Oxides of Nitrogen*, p. 5-15.

#### **4. Existing Adverse Health Outcomes in I-70 Project Area, and Likely Increase Adverse Health Outcomes from Higher Project Emissions, Not Adequately Disclosed by Modeling for Attainment of PM-10 and CO NAAQS.**

The SDEIS air quality analysis is not a surrogate for a comprehensive health impact assessment because 1) the NAAQS are not an adequate surrogate for the health effects associated with exposure to the full array of pollutants emitted from highways, and 2) the modeling reported in the Air Quality Technical Report only includes two of the four NAAQS that establish limits on ambient concentrations of mobile source-related pollutants. Evidence provided in the SDEIS, but not analyzed or discussed for decisionmakers or the public, strongly suggests that Project emissions will cause the NAAQS for PM<sub>2.5</sub> to be violated. Other highway pollution data suggest that the NAAQS for NO<sub>2</sub> may be violated by Project emissions as well. Emissions of these pollutants from the Project must also be modeled to determine if these NAAQS will be violated.

##### **i) NAAQS Not a Surrogate for Overall Highway Pollutant Exposures.**

All the air pollutants emitted from mobile sources in the I-70 corridor contribute to the adverse health effects experienced by residents in the neighborhoods along I-70. These include the four mobile source related criteria pollutants governed by a NAAQS pursuant to section 109 of the CAA, and the mobile source air toxic (MSATs) pollutants regulated pursuant to section 202(l). 42 U.S.C. § 7521(l).

EPA has listed pollutants as MSATs that cause chronic adverse health effects, such as cancer, and acute effects from short-term exposures (hours or days) such as asthma attacks. Congress listed benzene, 1,3 butadiene and formaldehyde as mobile source-related air toxics in the 1990 CAA amendments when it required EPA to set vehicle emission standards for these pollutants. *Id.* EPA included these three statutory MSATs and ten other mobile source-related toxic pollutants on a list of 33 priority pollutants targeted for control under EPA's Integrated National Urban Air Toxics Strategy. 64 Fed. Reg. 38,706 (July 19, 1999). This Strategy "established a list of urban HAPs ["hazardous air pollutants"] which pose the greatest threats to public health in urban areas, considering emissions from major, area and mobile sources." *Id.* at 38,714. EPA observed that "mobile sources are an important contributor to the urban air toxics problem." *Id.* at 38,705.

The neighborhoods near I-70 suffer from some of the worst air in the state. More than half a million pounds of toxics were released into the air in Globeville, Swansea, and Elyria in 2012, according to EPA's Toxics Release Inventory – more than any other zip code in Colorado, and more than 20 percent of the state's total toxic air releases.<sup>10</sup> Denver County as a whole suffers from some of the worst diesel particulate pollution in the entire nation – ranking 9th out of the 3,109 counties nationwide. The lifetime cancer risk from diesel soot in Denver exceeds the risk of all other air toxics tracked by EPA. Diesel soot is a major component of PM<sub>2.5</sub> near highways, and is a major source of the health risks linked to breathing fine particles. The average lifetime diesel soot cancer risk for a resident of Denver County is 1 in 1,938, which is

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<sup>10</sup> EPA's TRI website at: <http://www2.epa.gov/toxics-release-inventory-tri-program> using zip code 80216.

516 times greater than the EPA's acceptable cancer level of 1 in a million.<sup>11</sup> This diesel pollution is likely most concentrated at the mousetrap, where Colorado's two most heavily traveled highways – I-70 and I-25 -- intersect.

EPA's findings that exposure to MSATs poses serious threats to public health were significantly enhanced by research conducted by the South Coast Air Quality Management District to monitor and model exposures to 31 urban toxic air pollutants in the Los Angeles air basin. Four studies have now been completed in a series known as the *Multiple Air Toxics Exposure Study* (MATES). Beginning with MATES-II (March 2000), the measurements of toxic air pollutants in the ambient air throughout the Los Angeles basin provided compelling new evidence that the cancer risk attributable to public exposure to ambient concentrations of toxic air pollutants is much higher than had been previously suspected, and is attributable primarily to mobile source emissions. The total cancer risk from all sources, including traffic ("on-road mobile"), non-road mobile and stationary sources, averaged across the region was found to be 1400 per million. On-road vehicle emissions account for half of this risk, or 700 per million. This equates to about 1 cancer for each 1450 exposed people.

MATES-II also demonstrated that higher levels of exposure and risk occur near highways. The study found that the range of cancer risks varied significantly across the region, from 1,120 in a million in the cleanest neighborhoods to about 1,740 in a million in the most polluted. *Id.*, p. 7-1, ¶ 1. The Report found the greatest risk levels at locations where "the dominance of mobile sources is even greater than at other sites." *Id.*, ¶ 2. It also found that "model results, which are more complete in describing risk levels...than is possible with the monitored data, show that the higher risk levels occur... near freeways." *Id.*, p. ES-5, ¶ 2. "Results show that the higher pollutant concentrations generally occur near their emission sources." *Id.*, ¶ 4. These findings provide further evidence that neighborhoods near highways would experience higher concentrations than the regional averages. Based on all these observations, MATES-II concluded that "[f]or mobile source compounds such as benzene, 1-3 butadiene, and particulates associated with diesel fuels, higher concentration levels are seen along freeways and freeway junctions." *Id.*, p. 5-9.

MATES-IV (September, 2014),<sup>12</sup> the most recent iteration of the toxic air pollutant exposure research in the Los Angeles basin, shows significant reductions in toxic pollutant concentrations other than diesel particulate and associated cancer risks. But the most recent data does not support the conclusion that cleaner vehicles have eliminated the health risks from exposure to MSATs. The MSATs included in the study, benzene and 1,3 butadiene, "were down 35% and 11%, respectively." But this reduction was significantly less than the reductions in air toxics emitted from stationary sources. The remaining emissions continue to present a significant health risk, especially in locales near highways and interchanges where concentrations are highest.

While diesel particles are counted as part of PM<sub>2.5</sub> and are included in monitored concentrations, other components of diesel exhaust that include MSATs, and MSATs emitted

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<sup>11</sup> Clean Air Task Force website, Diesel Soot Health Impacts: Where You Live, Denver County. Available at: <http://www.catf.us/diesel/dieselhealth/county.php?c=08031&site=0> (last accessed October 14, 2013).

<sup>12</sup> MATES-IV (South Coast Air Quality Management District, 2014) available at : <http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-draft-report-10-1-14.pdf?sfvrsn=2>.

from gasoline vehicles are not. Emitted as gases from diesel and gasoline vehicles, other MSATs include benzene, formaldehyde, 1,3 butadiene, and the other hazardous air pollutants listed by EPA in its Urban Air Toxics strategy. The AQ Technical Report lists some of these MSATs, and provides estimates of the reductions in these pollutants expected by 2035. However, the SDEIS does not link current emissions to the community exposures that are contributing to adverse health outcomes in nearby communities, and makes no effort to estimate the residual impact that the emission of these pollutants will have on human health during the 20 years after the Project comes into service.

The DEH report, Fig. 11, provides compelling proof that traffic emissions cause benzene pollution levels that are 3 to 5 times higher in neighborhoods near the interstates than in other areas away from major highways. [In response to inquiry, Gregg Thomas at DEH informed me that the units in Fig. 11 are modeled benzene concentrations.] This pattern of elevated exposure to a potent carcinogen near highways is likely typical of other MSATs emitted from highways. These modeling results provide a local example of the exposures that contribute to adverse health outcomes in these neighborhoods.

In its 2009 comments on the DEIS, EPA flagged this omission as a major flaw in the DEIS. As the results of the latest MATES report shows, the health risks associated with exposure to MSATs remain significant. The addition of trend data in the SDEIS showing gradual reductions in future exposure to these pollutants is not enough to establish that the contribution these pollutants make to health effects resulting from continuing exposure to mobile source pollutants will no longer have a significant impact on health. Unless transportation planners can establish that no beneficial improvement in health could be achieved by implementing alternatives that remove traffic and pollution from these communities, the obligation remains to disclose the impact that future emissions of mobile source pollutants will have on community health, and to consider mitigation as part of the planning process that could eliminate or minimize those impacts.. The available evidence confirms that MSATs will continue to contribute to cumulative pollutant exposures, and future overall adverse health outcomes in communities along the I-70 corridor. These impacts are a “significant impact on the human environment” that must be assessed and disclosed under NEPA, and are also the kinds of impacts that are subject to mitigation under 23 U.S.C. section 109(h) and as part of the regional planning process under section 134(i)(2)(D).

**ii) Not All Impacts of Highway-related Pollutants on National Ambient Air Quality Standards Have Been Investigated and Disclosed.**

The Air Quality Technical Report (AQ Report), supplemental draft environmental impact statement (SDEIS), claims, at p. 83, that –

Motor vehicle emissions from the implementation of the No-Action and Build Alternatives in the study area have been evaluated. With the exception of PM for several of the project alternatives, the project is not expected to cause any new violations of any standard, increase frequency or severity of any existing violation, or delay timely attainment of the NAAQS.

This assertion is not correct because the AQ Report only includes modeling of expected ambient concentrations for CO and PM-10. An emissions inventory has been developed for PM2.5, but the ambient concentrations of PM2.5 have not been specifically modeled or reported. An emissions inventory has been reported for NO2, but no modeling has been conducted. No explanation is offered in the AQ Report for why PM2.5 and NO2 have not been

modeled to determine the impact that emissions of these pollutants will have on attainment of the applicable NAAQS. In addition, the claim that one Build Alternative will not violate the NAAQS for PM-10 is not credible for the reasons discussed below.

Given EPA's findings that emissions of PM<sub>2.5</sub> and NO<sub>2</sub> from highways present a significant risk of causing violations of the NAAQS for those pollutants in neighborhoods near highways, and highway emissions studies that confirm those findings, emissions of those pollutants significantly impact the human environment and therefore trigger the obligation under NEPA to (i) investigate and disclose to the public and decisionmakers in the SDEIS the likelihood that emissions of those pollutants from the I-70 Project threaten to violate the NAAQS for PM<sub>2.5</sub> and NO<sub>2</sub>, and (ii) to identify alternatives or mitigation measures sufficient to prevent or avoid any likely violations of such NAAQS. In addition, section 109(h) of the Federal-Aid Highway Act requires that any such mitigation measures needed to prevent violations of NAAQS be implemented in the ROD. As discussed in more detail in the legal section of these comments, the failure to investigate and disclose potential violations of these NAAQS, and the failure to identify such alternatives and/or mitigation measures as are necessary to prevent or avoid such violations makes this SDEIS inadequate as a matter of law.

**PM<sub>2.5</sub> Attainment.** EPA found the highest relative risk factors for the adverse health outcomes observed in the near-I-70 neighborhoods to be associated with exposure to PM<sub>2.5</sub> (fine particles smaller than 2.5 micrometers in diameter), also referred to as soot. This is the air pollutant emitted from diesel trucks and gasoline vehicles, and particles that result from brake and pavement wear. But the impact of PM<sub>2.5</sub> emitted from the Project on ambient air quality are not modeled in the AQ Technical Report, and not discussed in the SDEIS.

A short-hand approach for using the modeling results for PM-10 to approximate the concentrations of PM<sub>2.5</sub> demonstrates that traffic emissions of PM<sub>2.5</sub> from every Project scenario will violate the 24-hour NAAQS for PM<sub>2.5</sub>. Compliance with the annual NAAQS for PM<sub>2.5</sub> is not discussed or demonstrated anywhere in the SDEIS.

The emissions inventory developed for the analysis and modeling of of PM-10 concentrations includes an emissions inventory for PM<sub>2.5</sub>, which constitutes a fraction of total PM-10. The inventory data show that PM-10 particles less than 2.5 μm in diameter comprise 57% of total PM-10 emissions from the I-70 Project. See *AQ Report*, Tables 22 and 23, p.69 (showing that daily total PM-10 emissions from traffic in the I-70 in January 2035 will be 0.7 tons/day, and of that total 0.4 t/d will be PM<sub>2.5</sub>).

The air quality modeling for PM-10 estimates that the cleanest build alternative (the lowered 10-lane scenario with a single 800 feet cover, an interchange at Vasquez Blvd/Steele St and managed lanes) will add 38 μg/m<sup>3</sup> to daily (24-hr) background concentrations of PM-10. The emission inventory data states that of this 38 μg/m<sup>3</sup> of PM-10 added by Project emissions to ambient air concentrations, 57% will be PM<sub>2.5</sub>. Thus if the 43% of the PM-10 that is larger than 2.5 μm is removed from the calculation, the concentration that remains is particles in the PM<sub>2.5</sub> size range. Thus the modeling demonstrates that traffic emissions from the project will add (38 x .57) 21.7 μg/m<sup>3</sup> to daily concentrations of PM<sub>2.5</sub> at the peak receptor locations.

Using the same methodology used in the AQ Report to estimate future 24-hour concentrations of PM-10, this 21.7 μg/m<sup>3</sup> of PM<sub>2.5</sub> must be added to the 98<sup>th</sup> percentile concentrations of PM<sub>2.5</sub> measured at the monitoring station used to establish background air quality for the Project area. Background 24-hour concentrations of PM<sub>2.5</sub> at the Commerce City monitoring

station (Birch Street and 71<sup>st</sup>) , using EPA's methodology for calculating the 24-hour "design value,"<sup>13</sup> consistently exceed 20 µg/m<sup>3</sup> in the project area. See Design Values for 2011, 2012, 2013 (attached hereto as Appendix A).

When the approximate 24-hour concentrations of PM<sub>2.5</sub> added by Project emissions, as derived from the PM-10 modeling results, are added to background PM<sub>2.5</sub> design values occurring at the Commerce City monitor, the modeling results for PM-10 demonstrate that even the cleanest Project alternative will contribute to 24-hour concentrations greater than 40 µg/m<sup>3</sup>. The 24-hour NAAQS is 35 µg/m<sup>3</sup>. The PM-10 modeling results for other Project alternatives show that PM<sub>2.5</sub> emitted from these alternatives will add even more than 40 µg/m<sup>3</sup> of PM<sub>2.5</sub> to background 24-hour concentrations. Therefore, all Project alternatives will cause violations of the 24-hour NAAQS for PM<sub>2.5</sub>.

Given this evidence that the 24-hour NAAQS for PM<sub>2.5</sub> will be violated, NEPA requires that the Draft EIS must consider Project alternatives or control strategies that will prevent or avoid these violations. See 40 CFR §§1502.1, 1502.2(d), 1502.14 and 1502.16(h). To determine whether alternatives or control strategies will be adequate to prevent NAAQS violations, the impact of Project emissions on PM<sub>2.5</sub> concentrations must include a quantitative assessment of the expected magnitude of violations of both the 24-hour and annual NAAQS, and a quantitative demonstration that alternatives or control strategies will achieve sufficient reductions in emissions to ensure attainment at all receptor locations included in the modeling analysis.

**PM-10 Attainment.** The modeling results for PM-10 show that traffic emissions from five of the six "build" Project alternatives will violate the 24-hour NAAQS for PM-10. See AQ Report, Table 20, p.65. These violations are expected to exceed the PM-10 NAAQS (150 µg/m<sup>3</sup>) by 20 to 45 µg/m<sup>3</sup>. Only one "build" alternative (the lowered 10-lane scenario with a single 800 feet cover, an interchange at Vasquez Blvd/Steele St and managed lanes referred to as the "Basic Option") and the No-build alternative are modeled as exactly attaining the NAAQS.

Despite the requirement of 40 CFR §1502.14(e) that the Draft EIS identify a "preferred alternative," no alternatives are identified as preferred. Each alternative is treated as an available option for CDOT and FHWA to select. Therefore the Draft EIS must identify Project alternatives or control strategies that will prevent or avoid these modeled NAAQS violations for each of the available options. See 40 CFR §§1502.1, 1502.2(d), 1502.14 and 1502.16(h).

In addition, the modeling result for the one lowered, managed lane option that allegedly does not violate the NAAQS is not credible. The emissions for the alternative that demonstrates attainment (the "Basic Option") is modeled to add only 38 µg/m<sup>3</sup> to ambient concentrations of PM-10, whereas emissions from the other lowered, managed lane option (with two covers and no interchange at Vasquez Blvd/Steele St referred to as the "Modified Option") is expected to add 82 µg/m<sup>3</sup> to background concentrations of PM-10, thereby causing concentrations at peak receptors to reach 195 µg/m<sup>3</sup>, violating the NAAQS by 45 µg/m<sup>3</sup>. See AQ Report, Table 20. Yet the expected winter day emissions of PM-10 from the two alternatives are virtually identical: 0.68 t/day. See AQ Report, Table 23 (p. 69). The discussion of PM emissions in the AQ Report, at p.68, explains that –

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<sup>13</sup> 40 CFR Part 50, Appendix N.

Although there are minor differences in emissions among the No-Action and Build Alternatives, there is no real discernible difference, since they are all very close in any given year. Therefore, the particulate matter emissions are not a discriminating factor in the selection of a preferred alternative.

It is not plausible that virtually identical emissions from the two lowered, managed lane alternatives could produce daily ambient concentrations of PM-10 that differ by 45 µg/m<sup>3</sup>.

The traffic data for these two alternatives also does not explain the large (55%) difference in peak daily ambient concentrations of PM-10 added by the two alternatives (38 µg/m<sup>3</sup> versus 82 µg/m<sup>3</sup>). The Basic Option has higher expected traffic (annual VMT = 2,959,000) on I-70, compared to expected traffic on the Modified Option (annual VMT = 2,935,000). Total VMT in the Project study area differs between the two alternatives by less than 0.35%: Basic Option = 25,036,000 versus Modified Option = 25,125,000. See I-70 East Environmental Impact Statement, Traffic Technical Report, Figures 86 and 88, pp. 95-96.

Given that the contribution added to ambient concentrations by the Modified Option (82 µg/m<sup>3</sup>) is much closer to the concentrations added by other alternatives without managed lanes, and without covers over segments of the lowered portion of the Project, the much lower contribution added by the Basic Option (38 µg/m<sup>3</sup>) is the implausible outlier. In the absence of any correlation between the significantly lower ambient concentrations for the Basic Option and key factors that could account for 55% lower concentrations, such as either lower total Project emissions or significantly lower traffic counts, the claim that the Basic Option will not contribute to violations of the NAAQS for PM-10 is not credible.

Information that would help better understand the modeling results is not provided in the AQ Technical report. Missing information includes data files showing inputs to the MOVES emission model and to the dispersion model runs.

### **Construction Emissions.**

Neither the Draft EIS, nor the AQ Technical Report include any discussion of the likely impact that construction emissions will have on air quality or adverse health outcomes in the communities affected by emissions from heavy equipment during construction operations.

Emissions during construction will be a much greater concern for this project than most highway projects because of the years of excavation and earth moving that will be required to dig the trench and haul the removed earth to a disposal site 20 or more miles away. For most projects, construction activities are limited to grading, laying a road bed and paving. Here, the years of excavation required will likely increase construction emissions by an order of magnitude compared to most projects.

Despite the potential significance of these emissions for community health, the SDEIS lacks any discussion of the mitigation measures available to CDOT to require contractors to use low sulfur fuels, employ low-emitting equipment that can minimize the impact of diesel fumes on local residents, and other mitigation measures identified in EPA's 2008 comment letter.

EPA has now added non-road emissions factors to the MOVES model for use in modeling the impact of activities such as construction on ambient air quality. This tool should be applied to the expected construction operations during the excavation of the I-70 trench in addition to more

traditional highway construction activities to estimate the likely impact on air quality near the construction zone.

In addition the alternatives and mitigation options discussed by EPA in 2009 should be committed to minimize public exposure during construction. Additional measures should be committed if emissions will potentially contribute to exceedances of short-term NAAQS

## **II. Mitigation to be Considered by DRCOG to Reduce Pollutant Exposures in the I-70 Corridor.**

Commenters request that DRCOG consider two operational measures as mitigation to reduce pollutant exposures in the neighborhoods adjacent to I-70.

1) re-signing I-70 to route the 40% of traffic that is "through" traffic out of the neighborhoods where dense urban development and elementary schools are located within a few hundred meters of I-70 onto I-76 and I-270; and

2) routing all truck traffic off of the current alignment between Washington Street and Colorado Blvd which would require through truck traffic to use I-76 and I-270, and local truck traffic to disperse on local streets leading to their local destination rather than concentrating on the current alignment next to schools and houses along the highway.

These alternatives are reasonable because they will add mobility for traffic traveling through the metro area, without significantly increasing the cost of mobility, while at the same time providing health benefits for communities along the current I-70 alignment. These alternatives have not been evaluated in prior NEPA documents.

Consideration of these alternatives should include traffic modeling and air quality modeling to answer the following questions for decisionmakers and the public:

a) how much reduction in traffic emissions within the I-70 Project study area could be achieved by diverting truck traffic away from the segment of I-70 where NAAQS violations are expected by requiring that trucks use I-76 and I-270?

b) would the reductions in PM emissions achieved by a truck diversion rule be sufficient to ensure attainment of every applicable NAAQS for mobile source-related pollutants (PM-10, PM2.5, NO2 and CO)?

c) would the diversion of trucks from I-70 and onto I-76/I-270 increase emissions enough in those corridors to cause NAAQS violations?

(d) if the diversion of truck traffic would not be sufficient to ensure that attainment of any NAAQS will not be maintained in the Project study area, would the diversion of through traffic from the current I-70 alignment onto I-76 and I-270 be sufficient to ensure attainment during the life of the Project?

(e) how much of the traffic expected to use the current I-70 alignment in 2035 would be through traffic (i.e., not expected to exit or enter between the Mousetrap and Colorado Blvd)?

(f) if through traffic were diverted onto I-76 and I-270, would emissions from those highways cause any NAAQS to be violated along those alignments?



(g) if any NAAQS violations are predicted at receptor locations along those highways, are any of those receptors in a location which EPA defines as “ambient air,” 40 CFR § 50.1, i.e. a location outside the right-of-way owned by CDOT where the general public has access?

Without answers to these questions, informed decisions about these alternatives cannot be made.

CDOT Director Hunt has stated during public meetings that CDOT cannot limit truck or car access to segments of the interstate system, and that therefore the alternatives proposed here for evaluation are not permissible. This is an incorrect understanding of the law. CDOT may not have authority to limit vehicle access under statutes that it has authority to implement, but the State clearly has authority under the CAA to limit vehicle access if necessary to attain or maintain a NAAQS for mobile source-related pollutants, and DRCOG has authority to adopt operational measures designed to improve system performance.

Under the Clean Air Act the State may adopt measures pursuant to an indirect source review program to prevent a highway from attracting mobile sources, the emissions from which will cause or contribute to violations of a mobile source-related NAAQS. 42 U.S.C. § 7410(a)(5). When necessary to attain a mobile source-related NAAQS in a nonattainment area, or maintain a NAAQS in an attainment area, the State may also adopt directly into its SIP any of the transportation control measures authorized by CAA section 108(f)(1), including “(vii) programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration particularly during periods of peak use.” But rather than turning these decisions over to air quality planning agencies which may not choose the best operational strategy, we urge DRCOG to use its authority to adopt operational measures that will also mitigate the adverse health impacts of highway pollution.

### **III. Legal Authority for DRCOG to Consider Mitigation Relevant to Adding a Regionally Significant Project to the Regional Plan is Provided by Federal Aid Highway Act.**

Legal authority to assess impacts and adopt mitigation is provided by the regional planning section of the Federal Aid Highway Act and a section that requires consideration of mitigation for the impacts of federally funded highway projects. 23 U.S.C. section 109(h) and 134(i).

#### **A. Section 109(h).**

Section 109(h) of the Federal Aid Highway Act requires that highway projects be reviewed for their adverse environmental, social and economic impacts, and that mitigation strategies be identified to “eliminate or minimize” such “adverse” impacts. 23 USC § 109(h). The FHWA regulation implementing this section requires that an EIS prepared under NEPA also address the social and economic impacts required to be considered under § 109(h). 23 CFR §771.105. In addition, the metropolitan planning rule issued to implement ISTEPA requires that MPOs address the criteria required by § 109(h) in the transportation plan. 23 CFR §450.316(a)(13)(1993). The current planning rule does not retain this requirement, but if the state DOT does not address the requirements of § 109(h) in an EIS prior to action by an MPO to adopt a regionally significant project into a regional plan, then the MPO must satisfy the requirements of this section before adding the project to the regional plan.

**(i). Scope of Impacts to be Included in Discussion of Mitigation to Satisfy § 109(h)**

The actions taken by a MPO as part of the planning process are necessary steps in the federal funding of a project. A project may not be added to a TIP for federal funding unless it comes from a conforming regional plan. To the extent that section 134(i)(2)(D) requires that an MPO consider mitigation, then that consideration must also be sufficient to satisfy § 109(h).

Section 109(h) requires that all “adverse” “environmental, social and economic” impacts are subject to the statutory requirement to identify reasonable mitigation measures. The consideration of mitigation measures required by §§ 134(i)(2)(D) and 135(f)(4)(A) and (B) must be equally broad because FHWA/FTA may not approve the projects in a State TIP as eligible for federal funding until the determination required by section 109(h) has been made that the project is in the best overall public interest.

The requirements of NEPA, enacted January 1, 1970, were supplemented for highway projects by 23 USC § 109(h), enacted December 30, 1970. Section 109(h) of the Federal-Aid Highway Act requires a three-step evaluation of impacts and mitigation measures to ensure that “final decisions on the project are made in the best overall public interest.” 23 U.S.C. § 109(h) (2004). The first step is to determine the “possible adverse economic, social and environmental effects relating to any proposed project.” Id. The second step is to determine “the costs of eliminating or minimizing such adverse effects ....” Id. The third step is to consider “the costs of eliminating or minimizing such adverse effects” together with “the need for fast, safe and efficient transportation” to make a final decision on the project “in the best overall public interest.” Id. FHWA’s implementing regulation further requires that any measures necessary to mitigate these adverse effects be incorporated into the project. 23 C.F.R. § 771.105(d).

**b. Mitigation needs to be considered to Satisfy §§ 134(i)(2)(D).**

Section 134(i)(2)(D) requires that an MPO include in its RTP discussion of mitigation:

(D) Mitigation activities.—

(i) In general.—A long-range transportation plan shall include a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan.

(ii) Consultation.—The discussion shall be developed in consultation with Federal, State, and tribal wildlife, land management, and regulatory agencies.

For all of the reasons discussed above, the RTP should include discussion of mitigation measures designed to address the adverse health effects of air pollution from the I-70 project.

Respectfully submitted,

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