



**APPENDIX F  
STANDARD LANGUAGE**

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## STANDARD PLATTE RIVER DEPLETION LANGUAGE

This project has elements that will cause a depletion to the South Platte River basin. To address the effects this depletion will have on federally listed species downstream that depend on the river for their survival, CDOT, as a state agency, is participating in the South Platte Water Related Activities Program (SPWRAP). CDOT is cooperating with the Federal Highway Administration (FHWA), which provides a federal nexus for the project. In response to the need for formal consultation for the water used from the South Platte basin, FHWA has prepared a Programmatic Biological Assessment (PBA) dated 02/22/2012 that estimates total water usage until 2019. The PBA addresses the following species: Least Tern (interior population) (*Sternula antillarum*), pallid sturgeon (*Scaphirhynchus albus*), Piping Plover (*Charadrius melodus*), western prairie fringed orchid (*Platanthera praeclara*), and the Whooping Crane (*Grus americana*). On 04/04/2012, the USFWS signed a Biological Opinion that concurs with this approach and requires a yearly reporting of water usage. The water used for this project will be reported to the USFWS at the year's end after the completion of the project as per the aforementioned consultation. Effects to species not addressed in the PBA or affected by causes other than water depletions to the South Platte will be analyzed separately.

## GLOBAL CLIMATE CHANGE CUMULATIVE EFFECTS STANDARD LANGUAGE

Climate change is an important national and global concern. While the earth has gone through many natural changes in climate in its history, there is general agreement that the earth's climate is currently changing at an accelerated rate and will continue to do so for the foreseeable future. Anthropogenic (human-caused) greenhouse gas (GHG) emissions contribute to this rapid change. Carbon dioxide (CO<sub>2</sub>) makes up the largest component of these GHG emissions. Other prominent transportation GHGs include methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).

Many GHGs occur naturally. Water vapor is the most abundant GHG and makes up approximately two thirds of the natural greenhouse effect. However, the burning of fossil fuels and other human activities are adding to the concentration of GHGs in the atmosphere. Many GHGs remain in the atmosphere for time periods ranging from decades to centuries. GHGs trap heat in the earth's atmosphere. Because atmospheric concentration of GHGs continues to climb, our planet will continue to experience climate-related phenomena. For example, warmer global temperatures can cause changes in precipitation and sea levels.

To date, no national standards have been established regarding GHGs, nor has the Environmental Protection Agency (EPA) established criteria or thresholds for ambient GHG emissions pursuant to its authority to establish motor vehicle emission standards for CO<sub>2</sub> under the Clean Air Act. However, there is a considerable body of scientific literature addressing the sources of GHG emissions and their adverse effects on climate, including reports from the Intergovernmental Panel on Climate Change, the US National Academy of Sciences, and EPA and other Federal agencies. GHGs are different from other air pollutants evaluated in Federal environmental reviews because their impacts are not localized or regional due to their rapid dispersion into the global atmosphere, which is characteristic of these gases. The *affected environment* for CO<sub>2</sub> and other GHG emissions is the entire planet. In addition, from a quantitative perspective, global climate change is the cumulative result of numerous and varied emissions sources (in



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terms of both absolute numbers and types), each of which makes a relatively small addition to global atmospheric GHG concentrations. In contrast to broad scale actions such as actions involving an entire industry sector or very large geographic areas, it is difficult to isolate and understand the GHG emissions impacts for a particular transportation project. Furthermore, presently there is no scientific methodology for attributing specific climatological changes to a particular transportation project's emissions.

Under the National Environmental Policy Act (NEPA), detailed environmental analysis should be focused on issues that are significant and meaningful to decision-making.<sup>1</sup> Federal Highway Administration (FHWA) has concluded, based on the nature of GHG emissions and the exceedingly small potential GHG impacts of the proposed action, as discussed below and shown in **Table 1**, that the GHG emissions from the proposed action will not result in "reasonably foreseeable significant adverse impacts on the human environment" (40 CFR 1502.22(b)). The GHG emissions from the project build alternatives will be insignificant, and will not play a meaningful role in a determination of the environmentally preferable alternative or the selection of the preferred alternative. More detailed information on GHG emissions "is not essential to a reasoned choice among reasonable alternatives" (40 CFR 1502.22(a)) or to making a decision in the best overall public interest based on a balanced consideration of transportation, economic, social, and environmental needs and impacts (23 CFR 771.105(b)). For these reasons, no alternatives-level GHG analysis has been performed for this project.

The context in which the emissions from the proposed project will occur, together with the expected GHG emissions contribution from the project, illustrate why the project's GHG emissions will not be significant and will not be a substantial factor in the decision-making. The transportation sector is the second largest source of total GHG emissions in the U.S., behind electricity generation. The transportation sector was responsible for approximately 27 percent of all anthropogenic (human caused) GHG emissions in the U.S. in 2010.<sup>2</sup> The majority of transportation GHG emissions are the result of fossil fuel combustion. CO<sub>2</sub> makes up the largest component of these GHG emissions. U.S. CO<sub>2</sub> emissions from the consumption of energy accounted for about 18 percent of worldwide energy consumption CO<sub>2</sub> emissions in 2010.<sup>3</sup> U.S. transportation CO<sub>2</sub> emissions accounted for about 6 percent of worldwide CO<sub>2</sub> emissions.<sup>4</sup>

While the contribution of GHGs from transportation in the U.S. as a whole is a large component of U.S. GHG emissions, as the scale of analysis is reduced the GHG contributions become quite small. Using CO<sub>2</sub> because of its predominant role in GHG emissions, **Table 1** presents the relationship between current and projected Colorado highway CO<sub>2</sub> emissions and total global CO<sub>2</sub> emissions, as well as information on the scale of the project relative to statewide travel activity.

Based on emissions estimates from EPA's Motor Vehicle Emissions Simulator (MOVES) model<sup>5</sup>, and global CO<sub>2</sub> estimates and projections from the Energy Information Administration, CO<sub>2</sub> emissions from motor vehicles in the entire

<sup>1</sup> See 40 CFR 1500.1(b), 1500.2(b), 1500.4(g), and 1501.7

<sup>2</sup> Calculated from data in U.S. Environmental Protection Agency, Inventory of Greenhouse Gas Emissions and Sinks, 1990-2010.

<sup>3</sup> Calculated from data in U.S. Energy Information Administration International Energy Statistics, Total Carbon Dioxide Emissions from the Consumption of Energy, <http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=90&pid=44&aid=8>, accessed 2/25/13.

<sup>4</sup> Calculated from data in EIA figure 104: <http://www.eia.gov/forecasts/archive/ieo10/emissions.html> and EPA table ES-3: <http://epa.gov/climatechange/emissions/downloads11/US-GHG-Inventory-2011-Executive-Summary.pdf>

<sup>5</sup> <http://www.epa.gov/otaq/models/moves/index.htm>. EPA's MOVES model can be used to estimate vehicle exhaust emissions of carbon dioxide (CO<sub>2</sub>) and other GHGs. CO<sub>2</sub> is frequently used as an indicator of overall transportation GHG emissions because the quantity of these emissions is much larger than that of all other transportation GHGs combined, and because CO<sub>2</sub> accounts



state of Colorado contributed less than one tenth of one percent of global emissions in 2010 (0.0348 percent). These emissions are projected to contribute an even smaller fraction (0.0261%) in 2040<sup>6</sup>. Vehicle miles traveled (VMT) in the project study area represents \_\_\_ percent of total Colorado travel activity; and the project itself would increase statewide VMT by \_\_\_ percent. (Note that the project study area, as defined for the MSAT analysis, includes travel on many other roadways in addition to the proposed project.) As a result, based on the build alternative with the highest VMT<sup>7</sup>, FHWA estimates that the proposed project could result in a potential increase in global CO<sub>2</sub> emissions in 2040 of 0.\_\_\_\_ percent (less than one thousandth of one percent), and a corresponding increase in Colorado's share of global emissions in 2040 of 0.\_\_\_\_ percent. This very small change in global emissions is well within the range of uncertainty associated with future emissions estimates.<sup>8, 9</sup>

for 90 to 95 percent of the overall climate impact from transportation sources. MOVES includes estimates of both emissions rates and VMT, and these were used to estimate the Colorado statewide highway emissions in **Table 1**.

<sup>6</sup> Colorado emissions represent a smaller share of global emissions in 2040 because global emissions increase at a faster rate.

<sup>7</sup> Selected to represent a "worst case" for purposes of this comparison; the Preferred Alternative may have a smaller contribution.

<sup>8</sup> For example, Figure 114 of the Energy Information Administration's *International Energy Outlook 2010* shows that future emissions projections can vary by almost 20%, depending on which scenario for future economic growth proves to be most accurate.

<sup>9</sup>When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency is required make clear that such information is lacking (40 CFR 1502.22). The methodologies for forecasting GHG emissions from transportation projects continue to evolve and the data provided should be considered in light of the constraints affecting the currently available methodologies. As previously stated, tools such as EPA's MOVES model can be used to estimate vehicle exhaust emissions of carbon dioxide (CO<sub>2</sub>) and other GHGs. However, only rudimentary information is available regarding the GHG emissions impacts of highway construction and maintenance. Estimation of GHG emissions from vehicle exhaust is subject to the same types of uncertainty affecting other types of air quality analysis, including imprecise information about current and future estimates of vehicle miles traveled, vehicle travel speeds, and the effectiveness of vehicle emissions control technology. Finally, there presently is no scientific methodology that can identify causal connections between individual source emissions and specific climate impacts at a particular location.



**Table 1 Statewide and Project Emissions Potential, Relative to Global Totals**

	Global CO <sub>2</sub> Emissions, MMT <sup>10</sup>	Colorado Motor Vehicle CO <sub>2</sub> Emissions, MMT <sup>11</sup>	Colorado Motor Vehicle Emissions, % of Global Total	Project Study Area VMT, % of Statewide VMT	Percent Change in Statewide VMT due to Project
Current Conditions (2010)	29,670	10.3	0.0348%		(None)
Future Projection (2040)	45,500	11.9	0.0261%		

**Table Notes:** MMT = million metric tons. Global emissions estimates are from International Energy Outlook 2010, data for Figure 104, projected to 2040. Nevada emissions and statewide VMT estimates are from MOVES2010b.

These are the projections to 2040.

Hwy_miles	2012_DVMT (Avg Day)	2012_AVMT Annual	2040_DVMT (Avg Day)	2040_AVMT Annual
9,106	76,945,400	28,085,068,000	131,434,700	47,973,670,000

Please explain that this is only for state highways in Colorado

### Mitigation for Global GHG Emissions

To help address the global issue of climate change, USDOT is committed to reducing GHG emissions from vehicles traveling on our nation’s highways. USDOT and EPA are working together to reduce these emissions by substantially improving vehicle efficiency and shifting toward lower carbon intensive fuels. The agencies have jointly established new, more stringent fuel economy and first ever GHG emissions standards for model year 2012–2025 cars and light trucks, with an ultimate fuel economy standard of 54.5 miles per gallon for cars and light trucks by model year 2025. Further, on September 15, 2011, the agencies jointly published the first ever fuel economy and GHG emissions standards for heavy-duty trucks and buses.<sup>12</sup> Increasing use of technological innovations that can improve fuel economy, such as gasoline- and diesel-electric hybrid vehicles, will improve air quality and reduce CO<sub>2</sub> emissions future years.

<sup>10</sup> These estimates are from the EIA’s *International Energy Outlook 2010*, and are considered the best-available projections of emissions from fossil fuel combustion. These totals do not include other sources of emissions, such as cement production, deforestation, or natural sources; however, reliable future projections for these emissions sources are not available.

<sup>11</sup> MOVES projections suggest that Colorado motor vehicle CO<sub>2</sub> emissions may increase by 14.9 percent between 2010 and 2040; more stringent fuel economy/GHG emissions standards will not be sufficient to offset projected growth in VMT.

<sup>12</sup> For more information on fuel economy proposals and standards, see the National Highway Traffic Safety Administration’s Corporate Average Fuel Economy website: <http://www.nhtsa.gov/fuel-economy/>.





Consistent with its view that broad-scale efforts hold the greatest promise for meaningfully addressing the global climate change problem, FHWA is engaged in developing strategies to reduce transportation's contribution to GHGs—particularly CO<sub>2</sub> emissions—and to assess the risks to transportation systems and services from climate change. In an effort to assist States and MPOs in performing GHG analyses, FHWA has developed a *Handbook for Estimating Transportation GHG Emissions for Integration into the Planning Process*. The Handbook presents methodologies reflecting good practices for the evaluation of GHG emissions at the transportation program level, and will demonstrate how such evaluation may be integrated into the transportation planning process. FHWA has also developed a tool for use at the statewide level to model a large number of GHG reduction scenarios and alternatives for use in transportation planning, climate action plans, scenario planning exercises, and in meeting state GHG reduction targets and goals. To assist states and MPOs in assessing climate change vulnerabilities to their transportation networks, FHWA has developed a draft vulnerability and risk assessment conceptual model and has piloted it in several locations.

At the state level, there are also several programs underway in Colorado to address transportation GHGs. The Governor's Climate Action Plan, adopted in November 2007, includes measures to adopt vehicle CO<sub>2</sub> emissions standards and to reduce vehicle travel through transit, flex time, telecommuting, ridesharing, and broadband communications. CDOT issued a Policy Directive on Air Quality in May 2009. This Policy Directive was developed with input from a number of agencies, including the State of Colorado's Department of Public Health and Environment, EPA, FHWA, the Federal Transit Administration, the Denver Regional Transportation District and the Denver Regional Air Quality Council. This Policy Directive and implementation document, the CDOT Air Quality Action Plan address unregulated MSATs and GHGs produced from Colorado's state highways, interstates, and construction activities.

As a part of CDOT's commitment to addressing MSATs and GHGs, some of CDOT's program wide activities include:

- ▶ Researching pavement durability opportunities with the goal of reducing the frequency of resurfacing and/or reconstruction projects.
- ▶ Developing air quality educational materials, specific to transportation issues, for citizens, elected officials, and schools, including development of vehicle idling reduction programs for schools and communities.
- ▶ Offering outreach to communities to integrate land use and transportation decisions to reduce growth in VMT, such as smart growth techniques, buffer zones, transit-oriented development, walkable communities, access management plans, etc.
- ▶ Committing to research additional concrete additives that would reduce the demand for cement.
- ▶ Expanding Transportation Demand Management efforts statewide to better utilize the existing transportation mobility network.
- ▶ Continuing to diversify the CDOT fleet by retrofitting diesel vehicles, specifying the types of vehicles and equipment contractors may use, purchasing low-emission vehicles, such as hybrids, and purchasing cleaner burning fuels through bidding incentives where feasible.
- ▶ Exploring congestion and/or right-lane only restrictions for motor carriers.
- ▶ Funding truck parking electrification.
- ▶ Researching additional ways to improve freight movement and efficiency statewide.
- ▶ Committing to use ultra-low sulfur diesel for non-road equipment statewide.
- ▶ Developing a low-VOC emitting tree landscaping specification.



Even though project-level mitigation measures will not have a substantial impact on global GHG emissions because of the exceedingly small amount of GHG emissions involved, the above-identified activities are part of a program-wide effort by FHWA and CDOT to adopt practical means to avoid and minimize environmental impacts in accordance with 40 CFR 1505.2(c).

### *Summary*

This document does not incorporate an analysis of the GHG emissions or climate change effects of each of the alternatives because the potential change in GHG emissions is very small in the context of the affected environment. Because of the insignificance of the GHG impacts, those impacts will not be meaningful to a decision on the environmentally preferable alternative or to a choice among alternatives. As outlined above, FHWA is working to develop strategies to reduce transportation's contribution to GHGs—particularly CO<sub>2</sub> emissions—and to assess the risks to transportation systems and services from climate change. FHWA will continue to pursue these efforts as productive steps to address this important issue. Finally, the construction best practices described above represent practicable project-level measures that, while not substantially reducing global GHG emissions, may help reduce GHG emissions on an incremental basis and could contribute in the long term to meaningful cumulative reduction when considered across the Federal-aid highway program.



## RIGHT-OF-WAY AND RELOCATION STANDARD LANGUAGE

### *Model Relocation Statement*

In certain situations, it may also be necessary to acquire improvements that are located within a proposed acquisition parcel. In those instances where the improvements are occupied, it becomes necessary to “relocate” those individuals from the subject property (residential or business) to a replacement site. The Uniform Act provides for numerous benefits to these individuals to assist them both financially and with advisory services related to relocating their residence or business operation. Although the benefits available under the [Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, (Uniform Act)] are far too numerous and complex to discuss in detail in this document, they are available to both owner occupants and tenants of either residential or business properties. In some situations, only personal property must be moved from the real property and this is also covered under the relocation program. As soon as feasible, any person scheduled to be displaced shall be furnished with a general written description of the displacing agency’s relocation program that provides, at a minimum, detailed information related to eligibility requirements, advisory services and assistance, payments, and the appeal process. It shall also provide notification that the displace person(s) will not be required to move without at least 90 days advance written notice. For residential relocatees, this notice cannot be provided until a written offer to acquire the subject property has been presented, and at least one comparable replacement dwelling has been made available. Relocation benefits will be provided to all eligible persons regardless of race, color, religion, sex, or national origin. Benefits under the [Uniform] Act, to which each eligible owner or tenant may be entitled, will be determined on an individual basis and explained to them in detail by an assigned right-of-way Specialist.

### *Model Acquisition Statement*

For any person(s) whose real property interests may be impacted by this project, the acquisition of those property interests will comply fully with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act). The Uniform Act is a federally mandated program that applies to all acquisitions of real property or displacements of persons resulting from federal or federally assisted programs or projects. It was created to provide for and ensure the fair and equitable treatment of all such persons. To further ensure that the provisions contained within this act are applied “uniformly,” CDOT requires Uniform Act compliance on any project for which it has oversight responsibility regardless of the funding source. Additionally, the Fifth Amendment of the U.S. Constitution provides that private property may not be taken for a public use without payment of “just compensation.” All impacted owners will be provided notification of the acquiring agency’s intent to acquire an interest in their property including a written offer letter of just compensation specifically describing those property interests. A right-of-way specialist will be assigned to each property owner to assist them with this process.



## STATUE OF LIMITATIONS STANDARD LANGUAGE

The Federal Highway Administration may publish a notice in the Federal Register, pursuant to 23 United States Code (USC) § 139(l), once the Record of Decision (or Finding of No Significant Impact) is approved. If such notice is published, a claim arising under Federal law seeking judicial review of a permit, license, or approval issued by a Federal agency for a highway or public transportation capital project shall be barred unless it is filed within 150 days after publication of a notice in the Federal Register announcing that the permit, license, or approval is final pursuant to the law under which judicial review is allowed. If no notice is published, then the periods of time that otherwise are provided by the Federal laws governing such claims will apply.



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## FHWA STANDARD MOBILE SOURCE AIR TOXICS (MSAT) LANGUAGE