



# Minnesota Department of Transportation

395 John Ireland Boulevard  
Saint Paul, MN 55155

August 19, 2016

Gregory G. Nadeau  
Administrator, Federal Highway Administration  
U.S. Department of Transportation  
1200 New Jersey Avenue S.E.  
Washington, DC 20590

Re: Docket No. FHWA-2013-0054

Dear Administrator Nadeau:

We are pleased to provide comments on the Federal Highway Administration's (FHWA) "National Performance Management Measures; Assessing the Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program;" proposed rule (Docket Number FHWA-2013-0054) published in the Federal Register on April 22, 2016.

Currently, the transportation sector is the number one source of greenhouse gas (GHG) emissions in the US. We need a national performance measure for GHGs to encourage and track efforts to reduce GHG emissions from the transportation sector.

The State Departments of Transportation (DOTs) from the following states coordinated on this joint letter that supports the creation of a new national system performance measure specific to GHG emissions from the transportation sector.

- California
- Colorado
- Delaware
- Minnesota
- Oregon
- Pennsylvania
- Vermont
- Virginia
- Washington

We request national leadership on this issue to encourage action to reduce transportation GHG emissions. States vary in their development of specific plans to reduce emissions and their internal capacity to effectively track and reduce CO<sub>2</sub> to meet goals. To get a more complete understanding of the current status of State DOTs ability to address system-wide GHG emissions, FHWA may want to issue a full NPRM to allow for broad comment on the specifics of a proposed policy.

We propose a measure with a low barrier to entry that should not add substantial new costs or administrative burdens to State DOTs, but will help develop a knowledge base in all states. This should be considered a first step towards the GHG emissions goals outlined in the Paris Climate Accord.

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Some key points to highlight in our proposal include the following:

- The measure should be required for all State DOTs; GHG emissions have the same impact, regardless of where they are emitted.
- The measure should NOT be connected to any funding programs, NEPA, or Conformity at this time.
- FHWA should work with states to develop guidance and procedures to ensure consistent target setting and reporting.
- FHWA should provide direct support to State DOTs who have not previously addressed GHG emissions.

Preparation of the comments was a concerted multi-state effort and our comments represent a consensus of the states listed. Some of these State DOTs will also submit individual comments to highlight areas of particular interest to their states. We urge you to consider those individual comments as an extension of the comments listed here.

We appreciate the opportunity to provide comments and look forward to working with FHWA on implementation of the final rule. If you have questions or would like to discuss the issues raised in this letter, please contact Tim Sexton, Minnesota Department of Transportation, at (651) 366-3622.

Sincerely,



Charles A. Zelle, Commissioner  
Minnesota Department of Transportation



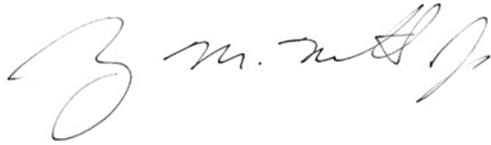
Matthew L. Garrett, Director  
Oregon Department of Transportation



Aubrey L. Layne, Jr.  
Virginia Secretary of Transportation



Leslie S. Richards, Secretary  
Pennsylvania Department of Transportation



Roger Millar, PE, AICP  
Secretary of Transportation  
Washington State Department of Transportation



Malcolm Dougherty  
Director, California Department of  
Transportation



Shailen P. Bhatt  
Executive Director  
Colorado Department of Transportation

Jennifer Cohan, Secretary  
Delaware Department of Transportation



Chris Cole, Secretary  
Vermont Agency of Transportation

**The following comments are responses to questions presented by FHWA in the NPRM.**

1. *Should the measure address all on-road mobile sources or should it focus only on a particular vehicle type (e.g., light-duty vehicles)?*

The proposed measure should include all on-road mobile source vehicle types. Flexibility should be allowed for states to also report non-road emissions.

2. *Should the measure be normalized by changes in population, economic activity, or other factors (e.g., per capita or per unit of gross state product)?*

Both total emissions (mass-based) and emissions per capita should be used, initially.

Including both metrics can help inform the national discussion and empower state decision makers. Total emissions are important because truly addressing climate change requires a reduction in emissions below current and historical levels. On the national level, total emissions are important as the ultimate metric used to describe US on-road mobile sources emissions. At the state level, per capita emissions are more informative for policy makers. State DOTs have more ability to make investment decisions to influence the per capita metric than total emissions, which may be influenced by in/out migration that is largely beyond their control.

Guidance should be provided for both metrics, including parameters about what population numbers to use such as the population of registered drivers.

3. *Should the measure be limited to emissions coming from the tailpipe, or should it consider emissions generated upstream in the life cycle of the vehicle operations (e.g., emissions from the extraction/refining of petroleum products and the emissions from power plants to provide power for electric vehicles)?*

The measure should be limited to tailpipe emissions.

Tailpipe emissions are the largest source of transportation emissions. Limiting the measure to tailpipe emissions will simplify the calculations and allow transportation agencies to focus on aspects of the sector that they are more able to influence. Lifecycle emissions are more difficult to estimate and are largely captured and regulated separately.

We acknowledge that limiting the measure to tailpipe emissions would not account for the electricity used to power vehicles with electric drivetrains. Many of the state DOTs are working with stakeholders and other state agencies regarding the EPA Clean Power Plan, state

renewable portfolio standards, state and regional cap and trade programs, and permitting requirements that all seek to address emissions from the electricity sector.

4. *Should the measure include non-road sources, such as construction and maintenance activities associated with Title 23 projects?*

The measure should estimate emissions based on state gasoline and diesel fuel sales that capture on-road tailpipe emissions.

If a non-fuels sales based measure is selected (e.g., vehicle mile traveled), then construction and maintenance activities should NOT be included at this time. Construction is typically completed by contractors so collecting usage data would be difficult and may pose legal challenges. Further, construction and maintenance emissions are a small fraction of on-road mobile source emissions.

Multiple states have researched reporting construction and maintenance emissions and found that analyzing these emissions requires significant staff resources but provides little value, considering the relatively small contribution of these activities to the total emissions. Still, we encourage flexibility for states who wish to report non-road CO<sub>2</sub> emissions, for states with fuel sales that include non-road fuel sales, or for State DOTs who want to conduct separate inventories of non-road sources to help monitor impacts of non-road strategies. Currently motor gasoline fuel sales data from EIA does not differentiate end source use but EIA does provide diesel fuel estimates by end use including the on-highway and off-highway categories.

5. *Should CO<sub>2</sub> emissions performance be estimated based on gasoline and diesel fuel sales, system use (vehicle miles traveled), or other surrogates?*

CO<sub>2</sub> emissions performance should be based on gasoline and diesel fuel sales, initially. States should be allowed to use separate methodology if approved by FHWA as equivalent or superior.

Gasoline and diesel fuel sales have a direct correlation to CO<sub>2</sub> emissions and the data is already available to FHWA via the US Energy Information Administration and GHG emission inventories prepared by many state environmental agencies. FHWA should work with states on a standard process for this approach, including consideration of a potential reporting time lag. FHWA should work with Energy Information Administration (EIA) to obtain data in a timely manner.

FHWA should also work with State DOTs to develop staff expertise and high-quality data to support a future modeled approach (e.g., VMT, speed, and vehicle characteristics) to evaluate statewide transportation CO<sub>2</sub> emissions. Most State DOTs currently lack modeling expertise

and high-quality statewide data (e.g., VMT, speed, and vehicle characteristics) are not available in many states. For example, it can be difficult to collect VMT data for local roads. A future measure based on vehicle miles traveled (VMT) would be informative for policy-makers and may be required by state regulations. Allowance should be made for states who can demonstrate a rigorous approach to VMT-based reporting. FHWA should also work with states on a standard process for this approach and use this opportunity to coordinate on methods for improving current VMT data provided by FHWA to states.

Regardless of the way the measure is calculated, demand management will remain a powerful policy lever, and FHWA should provide states and MPOs with guidance on VMT reduction strategies.

6. *Due to the nature of CO<sub>2</sub> emissions (e.g. geographic scope and cumulative effects) and their relationship to climate change effects across all parts of the country, should the measure apply to all States and MPOs? Are there any criteria that would limit the applicability to only a portion of the States or MPOs?*

The measure should apply to all states and be reported by the State DOTs.

All CO<sub>2</sub> emissions are created equal and have the same effect on the climate, regardless of whether they come from a large state or a small metropolitan area. A fuel sales-based measure will capture CO<sub>2</sub> emissions from urban and rural areas alike. Highly populated urban areas produce more aggregate CO<sub>2</sub> emissions but also have more options for reducing emissions than less densely populated areas. Therefore, MPOs will play a critical role in reducing transportation CO<sub>2</sub> emissions and should be encouraged to participate in intra-state target-setting discussions.

7. *Would a performance measure on CO<sub>2</sub> emissions help to improve transparency and to realign incentives such that State DOTs and MPOs are better positioned to meet national or multi-state regional climate change goals?*

A CO<sub>2</sub> emissions measure should improve transparency.

Transportation should be responsible for its fair share of CO<sub>2</sub> reductions. FHWA should work with State DOTs to develop a national climate change goal for transportation that aligns with the 21<sup>st</sup> Conference of the Parties of the United Nations Framework Convention on Climate Change (aka, “Paris Agreement”). Once a national climate change goal is established, states should use the CO<sub>2</sub> performance measure to drive decisions that help to meet, or exceed, national climate change goals.

8. *The target establishment framework proposed in this rulemaking requires that States and MPOs would establish 2 and 4 year targets that lead to longer term performance expectations documented in longer range plans. Is this framework appropriate for a CO<sub>2</sub> emissions measure? If not, what would be a more appropriate framework?*

A CO<sub>2</sub> emissions measure should have 4 year and 20 year targets.

Many infrastructure investments take years to plan, scope, design, and build or implement, so it is unlikely that significant changes to statewide CO<sub>2</sub> emissions could be demonstrated using a 2-year target. Emission reductions for 4-year periods may be small, but should show continued progress towards longer term goals. A 4-year short-term target would also align the CO<sub>2</sub> measure with other national system performance measure reporting to promote consideration of the CO<sub>2</sub> effects when making investment decisions.

Major changes to the transportation system and system operations are needed to significantly reduce CO<sub>2</sub> emissions and avoid the most serious effects of climate change. This will be a long-term effort. A 20-year long-term CO<sub>2</sub> performance target is recommended to align with the long-range planning timeline. The hope is that alignment will help fit consideration of CO<sub>2</sub> emissions into the planning and project selection process.

9. *Should short term targets be a reflection of improvements from a baseline (e.g., percent reduction in CO<sub>2</sub> emissions) or an absolute value?*

Targets should be based on percent reductions from a mass-based 2005 baseline.

Targets based on a percent reduction should support State DOTs who want to calculate progress towards CO<sub>2</sub> reduction goals of the “Paris Agreement.” For State DOTs with state GHG reduction goals, these goals are also based on percent reductions from a baseline year. Calculating the percent reduction requires calculation of absolute values of GHG emissions, which may also be a useful tool for state policy discussions, at their discretion. However, absolute value CO<sub>2</sub> emissions are not recommended as a required target metric.

A 2005 baseline year is recommended to align goals with the 2005 baseline year used for CO<sub>2</sub> reduction goals in the “Paris Agreement.”

Note: the goal is an overall emissions reduction, but for states experiencing population growth, it is possible short term total emissions could increase while per capita emissions decrease. Setting targets for emissions for both total emissions and emissions per capita will help State DOTs tell the full “emissions story.”

*10. What data sources and tools are readily available or are needed to track and report CO<sub>2</sub> emissions from on-road sources?*

Transportation fuel sales data are available with a 1 to 2-year time lag in some states and with 2- to 3-year lag from the Energy Information Administration (EIA). The CO<sub>2</sub> performance measure should be based on the EIA dataset and provided to State DOTs by FHWA. States should be allowed to use a separate methodology, if approved by FHWA as equivalent or superior.

States will need additional tools to determine their target and understand the probable efficacy of potential reduction strategies. Outreach from FHWA to state environmental agencies, private fuel wholesalers, and EIA is encouraged to support faster fuels sales data reporting at the state level.

FHWA is encouraged to work with State DOTs to develop guidance for each specific step in the target setting and reporting process.

*11. What tools are needed to help transportation agencies project future emissions and establish targets for a CO<sub>2</sub> emission measure?*

FHWA should provide states estimates of ‘business as usual’ emissions in target years based on rules on the books and that align with state estimates of emissions, population growth, etc., including transportation fuel CO<sub>2</sub> reports.

FHWA should provide detailed information on the effectiveness of various strategies to reduce emissions.

FHWA should provide information on EIA assumptions regarding population growth, vehicle technology adoption rates, and similar inputs.

FHWA should provide direction on using population forecasts to determine per capita CO<sub>2</sub> emissions.

FHWA should provide estimates of state emissions from annual EIA forecasts.

*12. How long would it take for transportation agencies to implement such a measure?*

Reporting timelines for CO<sub>2</sub> measure should be consistent with reporting for other national system performance measures. Reporting timelines should account for fuel sales data reporting schedules and allow states a reasonable time period to prepare reports once the data is available.

State DOTs should be able to set targets for a fuel-sales based CO<sub>2</sub> measure within 2 years of the publication date for the final rule. For some State DOTs, forecasting future CO<sub>2</sub> emissions will involve significant coordination with other state and federal agencies.

A VMT-based CO<sub>2</sub> measure is more complex than the fuel-sales based CO<sub>2</sub> measure proposed by this group of State DOTs because it would require additional data, including VMT and vehicle speeds. A VMT-based CO<sub>2</sub> measure would take 3-5 years to implement because many State DOTs currently lack the data, staff, and expertise to prepare this type of analysis.

*13. Additionally, the FHWA requests data about the potential agency implementation costs and public benefits associated with establishing a CO<sub>2</sub> emissions measure.*

The fuel-sales based CO<sub>2</sub> measure we propose should have minimal implementation costs since FHWA would provide the critical fuel sales data and projections from EIA. A VMT-based CO<sub>2</sub> measure would require State DOTs to dedicate staff to this effort and incur new ongoing costs.

The amount of public benefit will depend on how ambitious State DOTs are in their target-setting.

FHWA should also consider the potential costs of inaction on the national scale. At a minimum, climate change is expected to increase the frequency and severity of extreme weather events, which will have major financial consequences for State DOTs and the national economy as a whole.

States vary in their development of specific plans to reduce emissions and their internal capacity to effectively track reduce CO<sub>2</sub> to meet goals. The fuel-sales based CO<sub>2</sub> measure we propose will support the development of this knowledge base in all states. The measure should also encourage ambitious target-setting and allow State DOTs with existing agency or state GHG emission reduction goals to pursue those separate efforts.