



COLORADO
Department of Transportation



October 13, 2022

Stephanie Pollack
Acting Administrator, Federal Highway Administration
U.S. Department of Transportation
1200 New Jersey Avenue S.E.
Washington, DC 20590

Re: Docket No. FHWA-2021-0004

Dear Acting Administrator Pollack:

We are pleased to offer comments on the Federal Highway Administration's (FHWA) proposed rule, "National Performance Management Measures; Assessing Performance of the National Highway System, Greenhouse Gas Emissions Measure" (Docket No. FHWA-2021-0004) (July 15, 2022). As states that are working to make smart infrastructure investments and cut greenhouse gas (GHG) emissions, we thank FHWA for taking action to establish a framework for states to measure GHG emissions and set targets for reducing emissions from National Highway System roadways.

Transportation accounts for more than one quarter of all GHG emissions in the United States, more than any other sector.¹ As transportation officials, we recognize that the investments we make have the potential to support or delay progress toward reducing GHG emissions and avoiding the worst impacts of climate change. The proposed national performance measure for

¹ U.S. Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks. <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>.

GHGs is an important action to complement and tell the story of the work that our states are doing to reduce GHG emissions from transportation.

This letter builds on an earlier letter of support for the proposed rule—signed by ten states and the District of Columbia—submitted to FHWA on August 2, 2022.²

With this letter, the undersigned Departments of Transportation (DOTs), representing 10 states and the District of Columbia, are submitting joint comments to highlight the following key points:

I. The proposed Performance Measure is an appropriate tool for assessing GHG emissions from transportation on the National Highway System (NHS).

FHWA’s proposed performance measure for GHG emissions represents an important step toward better understanding and accounting for the environmental effects of federally funded transportation investments. The proposed measure supports statutory objectives of the national Transportation Performance Management (TPM) framework by promoting the national goal of environmental sustainability and “increasing the accountability and transparency of the Federal-aid highway program, and improving project decision making through performance-based planning and programming.”³

State DOTs are well positioned to track GHG emissions from highways and integrate that information into transportation decision making processes. The proposed GHG measure is similar and complementary to the other national measures that DOTs already use to assess performance under the TPM framework, including existing measures related to safety and system performance.

II. The proposed Performance Measure will support improved environmental performance of the NHS and help achieve climate goals.

In addition to the national policies targeting emissions reductions of 50–52% by 2030 and net-zero emissions by 2050, many states, including those represented in this letter, have also established their own emissions reductions targets, either by statute or policy. Meeting these climate commitments will require substantial cuts in pollution from transportation, the largest source of GHG emissions in the United States. The proposed measure will inform the state and local planning processes needed to help address these emissions.

A combination of short-range and long-range planning for emissions reductions is needed to realize the benefits of the proposed measure. In the short term, we expect 2- and 4-year plans to reflect the GHG reduction benefits of policies, programs, and

² Comment Letter on Proposed National Performance Management Measures; Assessing Performance of the National Highway System, Greenhouse Gas Emissions Measure (Aug. 2, 2022), <https://www.regulations.gov/comment/FHWA-2021-0004-0008>.

³ 23 USC § 150(a), (b).

projects that are already in place or in the process of implementation. Meanwhile, longer range goals will help illustrate the expected trajectory for GHG reductions based on new policies, plans, and projects, alongside changes to travel behavior and fleet composition.

States that have independently taken steps to measure and report GHG emissions from transportation (details below) have found the process can inform planning and decision making, including project prioritization and state-wide transportation planning processes.

When aligned with implementation of other programs – such as the Carbon Reduction Program and National Electric Vehicle Infrastructure (NEVI) Formula Program – the proposed performance measure will help states achieve federal and state climate and clean transportation goals. The following examples of existing state leadership support and complement goals of the proposed rule:

- **California** has been committed to reducing GHG emissions through changes to transportation infrastructure since the landmark Sustainable Communities Act in 2008, which required long-range plans to align transportation, housing, and land use decisions toward achieving GHG emissions reduction targets. California has accelerated efforts to reduce transportation sector emissions in recent years, including through the adoption of the holistic investment framework in the Climate Action Plan for Transportation Infrastructure and implementation of SB 743, which works to reduce vehicle miles traveled (VMT) attributable to transportation projects.
- Late last year, **Colorado** enacted a GHG transportation planning standard that requires the Department of Transportation and the state's five metropolitan planning agencies to create transportation plans that provide more travel choices, resulting in reduced GHG emissions. The benefits from this standard are equivalent to burning 169 million fewer gallons of gasoline or taking approximately 300,000 cars off the road for a year. These benefits directly improve air quality by also reducing the pollutants that cause ozone and smog. In addition, Colorado's cost/benefit analysis of the rule found significant economic benefits resulting from improved active transportation and reduced vehicle travel expected by the rule.
- **Connecticut's** Global Warming Solutions Act established a target to reduce GHG emissions economy-wide by 45% below 2001 levels by 2030 and 80% below 2001 levels. Additionally, the Governor's EO No. 21-3 directs CTDOT to set a 2030 VMT reduction target and develop a plan of investments to influence the reductions. The Proposed Performance Measure will complement existing efforts by the State of Connecticut to reduce transportation emissions and vehicle miles traveled.
- The **District of Columbia** has been tracking greenhouse gas emission since 2006 and has made the commitment to reduce 50% greenhouse gas emission by 2032 and 100% by 2050, through a series of planning and legislative efforts. DDOT has adopted several mode-shift and vehicle electrification strategies in its 2021 update of the districtwide long-range transportation plan, moveDC. In addition, DC has been collaborating with its MPO, the National Capital Region Transportation Planning Board, on the recently adopted regional on-road transportation GHG goals of 50% below 2005 levels by 2030 and 80% below by 2050.

- **Hawaii** DOT is taking a multipronged approach to reduce GHG emissions. This includes greening operations through use of improved construction materials, fleet electrification, and a 20-year energy savings contract. HDOT is also working with private industry to reduce their emissions by increasing EV penetration and expanding the use of carbonized concrete. Finally, HDOT has added the reduction of GHG emissions as a performance measure in capacity projects.
- In 2019, the governor of **Illinois** signed Executive Order 2019-06, setting greenhouse gas emission reduction targets consistent with the United Nations Paris Agreement. As part of achieving these commitments, the state is implementing the Climate and Equitable Jobs act of 2021 which puts the state on a path toward 100% clean energy by 2050 and getting 1 million electric vehicles on the road by 2030. Illinois demonstrates its commitment to decreasing GHG emissions by investing more than \$6 billion in non-motorized transportation through Rebuild Illinois, the state's most recent capital bill. IDOT is also developing an evaluation tool to prioritize new capacity projects that takes into account potential impacts on greenhouse gas and air pollution emissions.
- **Minnesota** DOT adopted transportation sector GHG emission reduction targets in the 2017 Minnesota Statewide Multimodal Transportation Plan and has reported GHG emission estimates and targets on the NHS to FHWA as part of bi-annual performance reporting. Minnesota's Climate Action Framework presents a climate vision for the state and includes a Clean Transportation goal with a target to reduce GHG emissions from the transportation sector by 80% by 2040.
- **Oregon** reports greenhouse gas emissions across all sectors, including transportation. The state and larger local jurisdictions are required to set GHG reduction goals and provide monitoring reports. ODOT is developing an online performance dashboard and further has developed and applies a process for evaluating greenhouse gas emissions implications of transportation projects as part of its regular Statewide Transportation Improvement Program planning processes.
- In 2019, **Pennsylvania's** Governor signed executive order 2019-01 establishing statewide greenhouse gas reduction goals. The order states that Pennsylvania "shall strive to achieve a 26 percent reduction of net greenhouse gas emissions statewide by 2025 from 2005 levels, and an 80 percent reduction of net greenhouse gas emissions by 2050 from 2005 levels." It also includes a goal that all commonwealth agencies replace 25 percent of the state government passenger car fleet with battery electric and plug-in electric hybrid cars by 2025 and evaluate opportunities for the reduction of vehicle miles traveled and incorporation of new technology where appropriate.
- **Vermont's** Global Warming Solutions Act, Act 153 (2020), establishes greenhouse gas emissions reduction targets (26% below 2005 levels by 2025, 40% below 1990 levels by 2030, and 80% below 1990 levels by 2050) and required the development of the Initial Vermont Climate Action Plan which was adopted on December 1, 2021. The transportation sector makes up the largest share (40%) of Vermont's GHG emissions. The Vermont Agency of Transportation has embarked upon Smart Growth, VMT, and GHG research projects and recently issued a scope of work to develop a methodology to estimate the effect on GHG emissions of the investments in the Agency of Transportation Capital Program and STIP/TIP that can be applied each year to track and report progress towards achieving the State's greenhouse reduction goals.

- In 2018, **Washington** State DOT voluntarily established a performance measure for GHG on the NHS. WSDOT has reported GHG emission estimates and targets on the NHS to FHWA as part of bi-annual performance reporting. Washington continues to implement policies and programs to reduce emissions including the 2022 Move Ahead Washington transportation revenue package that directs a significant share of investments toward transit, safe bike and pedestrian facilities, high-speed rail, electrification of ferries and cars, and other non-highway programs.

III. The proposed Performance Measure supports improved performance of the NHS by enhancing the resilience of our roads and bridges.

A future with higher GHG emissions is a future with higher temperatures and greater climate-related risks to our nation’s infrastructure. Higher temperatures will result in greater sea-level rise, which will inundate more low-lying ports, coastal railways and roadways. Higher temperatures also lead to more record-breaking heatwaves, more wildfires, and more frequent and intense storms, which pose additional risks to infrastructure.⁴ Research has shown that a future with lower GHG emissions will have quantifiable benefits in terms of reduced risk to our nation’s infrastructure, agriculture and public health.⁵ For example, according to estimates from the Federal Office of Management and Budget (OMB), emissions reductions from climate investments in the Inflation Reduction Act could save tens of billions of dollars annually from avoided climate-related damages.⁶ Therefore, by encouraging states to prioritize and plan programs and projects that reduce GHG emissions from transportation, the proposed rule will support improved performance of the NHS by reducing the risk of climate change-related impacts.

IV. Reducing transportation-sector GHG emissions to levels aligned with national 2030 and 2050 commitments – and state and local emissions targets – will require a range of coordinated policy actions at the federal, state, and local levels.

We recognize that state DOTs will need to coordinate planning efforts across state agencies, federal and local government partners, external stakeholders, and others to successfully implement the proposed rule. For example, in setting targets, state DOTs will need to account for the emissions impact of a range of policies, including those related to vehicle fuel switching, tailpipe emissions, and vehicle miles traveled.

To achieve GHG emissions reductions in line with the proposed rule and established state targets, state DOTs will need to engage within their own departments, with MPOs, and across agencies to identify and implement low-carbon investments and policies.

⁴ U.S. Global Change Research Program, Fourth National Climate Assessment, Chapter 12: Transportation (2018) <https://nca2018.globalchange.gov/chapter/12/>.

⁵ Climate Impact Lab, <https://impactlab.org/>.

⁶ “OMB Analysis: The Social Benefits of the Inflation Reduction Act’s Greenhouse Gas Emission Reductions” (Aug. 2022),

<https://www.whitehouse.gov/wp-content/uploads/2022/08/OMB-Analysis-Inflation-Reduction-Act.pdf>.

Advancing new low-carbon transportation strategies will also require extensive engagement with public- and private-sector partners.

We appreciate the federal leadership that will help make it possible for states and MPOs to reduce emissions from the National Highway System. This includes new funding in the Bipartisan Infrastructure Law for states to advance low-carbon transportation, such as the NEVI Formula Program and the Carbon Reduction Program, the Low or No Emission transit bus program, and the Reconnecting Communities Pilot program. The Inflation Reduction Act also includes valuable tax incentives for the purchase of both personal and commercial electric vehicles to help accelerate the transition to vehicle electrification. Continuing to update regulations like CAFE standards and cleaner fuels will also be a critical complement to other federal, state and local efforts to achieve deep emission reductions from transportation.

Finally, we encourage FHWA to work closely with DOTs to understand their needs and provide technical assistance and guidance that makes it easier for state DOTs and MPOs to meet the requirements of the proposed rule.

Attached below, please find a list of responses to specific prompts provided by FHWA in the NPRM.

We appreciate this opportunity to provide comments and look forward to working with FHWA on implementation of the final rule.

Sincerely,



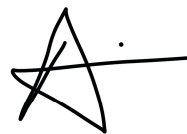
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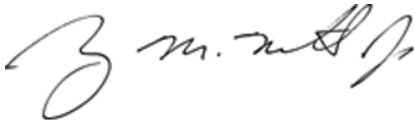
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Secretary of Transportation (he/him/his)
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The following comments are responses to specific provisions and questions proposed by FHWA in the NPRM.

1. Performance Measure and Metric

1.1. “What changes to the proposed measure [(percent change in tailpipe CO₂ emissions on NHS roadways compared to the reference year)] or its implementation in TPM could better the impact of transportation decisions on CO₂ emissions, and enable States to achieve tailpipe CO₂ emissions reductions necessary to achieve national targets?”

We support the proposed GHG measure—calculated using fuel consumption data already reported to FHWA—as an easily implemented method of quantifying emissions, given available information and data. We also recognize that additional steps, including those taken through interagency collaboration within each state and with federal support, will be needed to conduct meaningful assessments of transportation emissions and make progress towards targets.

We also encourage FHWA to consider other methodologies that may better align with existing state programs and practices. For example, states like California currently use vehicle-miles traveled (VMT) data rather than fuel consumption data to quantify GHG emissions, which comes with benefits like higher resolution data, distinguishing between GHG emissions reductions from technological shifts and those from VMT-reducing strategies, and more accurately capturing where GHG emissions are actually occurring, given fuel consumption is sensitive to fuel price.

As the composition of the vehicle fleet includes a larger share of electric and other zero-emission vehicles, tailpipe emissions will become a more limited share of transportation-related emissions. FHWA should monitor and adjust the performance measure as vehicles transition to zero-emission technologies. For example, using a VMT-based approach, as noted above, could help states and MPOs better measure the environmental performance and sustainability of the National Highway System during this transition.

In addition, FHWA could encourage states and MPOs to submit supplemental measurement, reporting, and target-setting information based on GHG emissions per capita. Per capita emissions can provide a better understanding of the trajectory of GHG emissions in terms of the competing dynamics of system improvements and increasing use, a particularly important consideration for fast-growing areas.

1.2. “FHWA requests comments on any U.S. Government emissions factors or calculation methods that may be useful.”

For consistency and ease, FHWA should establish CO₂ emissions factors for tailpipe emissions from each common on-road fuel type. FHWA should also consider accommodations for alternative emissions factors for fuel blends when states and MPOs can provide credible alternatives.

1.3. “FHWA proposes to define the term *reference year* as calendar year 2021 for the purpose of the GHG measure.”

We support establishing a baseline for transportation emissions on the NHS based on the most recent, complete, and representative data available.

However, calendar year 2021 may not be the most appropriate reference year, given uncertainties regarding effects of the pandemic on travel behavior and the ongoing economic recovery. Because any individual year may be anomalous in one location or another, FHWA could consider using an average of previous years as a baseline reference to more clearly reflect trends.

2. Target Setting Process

2.1. “FHWA encourages comments on how to structure improving targets for the GHG measure, as well as the associated reporting and significant progress requirements in 23 CFR part 490, subpart A.”

We support FHWA’s proposed requirement that states set declining targets for tailpipe CO₂ emissions on the NHS that align with federal goals of reducing CO₂ emissions 50 to 52 percent below 2005 levels by 2030 and reaching net-zero by 2050. We recognize that addressing climate change will require urgent progress on reducing GHG emissions from transportation. As DOTs, we also understand the importance of improving the performance of the transportation system, a role that extends to other areas where urgent action is needed, including safety.

We support an approach that allows states to determine the trajectories of their own short-term targets, as long as those state targets are consistent with the national policy goals of reducing CO₂ emissions 50-52% below 2005 levels by 2030 and net-zero by 2050. Such accommodation is sensible, in recognition of varying circumstances among states, including diverse existing policies and vehicle fleets, that affect the rate of emissions reductions, particularly in the short term.

FHWA should provide further guidance on setting targets consistent with federal policy goals for 2030 and 2050, including quantifying the share of emissions reductions from transportation on the NHS that FHWA expects will be needed to

align with those targets. Additionally, FHWA should offer and provide technical assistance to state DOTs and MPOs to ensure robust target-setting processes.

2.2. “FHWA seeks comment on potentially introducing a new requirement for State DOTs and MPOs to establish 8- and 20-year targets at the beginning of each 4-year performance period.”

We support state DOTs and MPOs setting additional long-term targets at intervals that are consistent with national performance measurement periods. Given the time required to implement policies and affect measurable change, longer-term targets that also function as policy goals allow for more forward-looking evaluation of emissions trajectories.

2.3. “Besides requiring targets that reduce GHGs over time, are there any specific ways the proposed GHG measure could be implemented within the framework of TPM to better support emissions reductions to achieve national policies for reductions in total U.S. GHG emissions?”

To better achieve emissions reductions on the scale needed to meet state and national goals, we support the integration of processes to evaluate reasonable cost-effective strategies that support GHG reductions. Implementation tools and resources, such as the National Cooperative Highway Research Program’s *Reducing Greenhouse Gas Emissions: A Guide for State DOTs*,⁷ will be needed to complement the performance measures and support state climate action. Integrating these concepts into state DOT planning, project prioritization, design, operation, and maintenance activities will help support national and state goals.

2.4. “FHWA requests comment on what the due date [to report State DOT initial targets for the proposed GHG measure] should be in the event a final rule is not effective in advance of the October 1, 2022, reporting date.”

We support FHWA’s efforts to align reporting for the proposed GHG performance measure with the existing four-year TPM reporting period. We also recognize the urgent need for a nationwide reporting framework. However, an initial reporting date of October 1, 2022, is not feasible. In light of this, we suggest that FHWA set the initial reporting date for October 1, 2023, with the next reporting date to follow on October 1, 2024, to align with midpoint performance period progress reports. This timeframe would allow state DOTs a chance to analyze current year data, work through modeling scenarios, receive needed technical assistance, and make progress toward developing carbon reduction strategies required under the Carbon Reduction Program.

⁷ NCHRP WebResources (Mar. 8, 2022), <https://crp.trb.org/nchrpwebresource1/>.

3. Costs and Benefits

3.1. “FHWA is seeking comment on assumptions that were developed as part of the [Regulatory Impact Analysis (RIA)], as well as information on other benefits or costs that would result from implementation of the rule.”

3.1.1. “The RIA includes assumptions regarding the applicability, level of effort and frequency of activities under proposed §§ 490.105 [target establishment by State DOTs and MPOs], 490.107 [reporting by State DOTs and MPOs], 490.109 [FHWA’s assessment of significant progress toward State DOT targets and action plans by State DOTs that do not make significant progress], 490.511 [calculating the GHG metric], and 490.513 [calculating the GHG measure]. Are these assumptions reasonable? Are there circumstances that may result in greater or lesser burden relative to the RIA assumptions?”

We believe the assumptions FHWA used for its Regulatory Impact Analysis are reasonable. The calculation of the proposed GHG performance measure and target setting are not expected to result in significant costs or burdens on staff at the state level. State DOTs already compile required data as part of existing reporting obligations.

Though separate from the cost of implementing the proposed rule—and therefore outside the scope of the RIA—it is worth noting that achieving GHG emissions reductions in line with the proposed rule and established state targets, will require state DOTs to actively engage within their own departments, with MPOs, and across agencies to identify and implement appropriate low-carbon investments and policies. Effectively and equitably advancing new low-carbon transportation strategies will also require engagement with public- and private-sector partners.

Technical assistance and guidance from FHWA—particularly incorporating strategies that leverage federal funding for clean transportation, such as the Carbon Reduction Program and NEVI—could make it easier for state DOTs and MPOs to meet targets set under the proposed rule.

3.1.2. “Would the staff time spent implementing this measure reduce the burden of carrying out other aspects of State DOT and MPO missions, such as forecasting fuel tax revenues?”

Assessment of GHG emissions from transportation and the target setting processes can increase public understanding and awareness of related policy efforts. It will also help to promote better coordination and cooperation between state and MPO roles on GHG reduction efforts.

3.1.3. “Would the proposed rule result in economies of scale or other efficiencies, such as the development of consulting services or specialized tools that would lower the cost of implementation?”

State DOTs are actively investing to build internal capacity, recognizing that some specialized tools, data, and consulting services may be required to implement the GHG performance measure. A common national measure and reporting framework could help to standardize the process of GHG emissions tracking, and this could lead to some efficiencies, including through the broad adoption of standard practices by state DOTs and consultants. For example, the proposed national framework could lead to efficiencies when hiring consultants to conduct analysis using the Motor Vehicle Emission Simulator (MOVES) and the Energy and Emissions Reduction Policy Analysis Tool (EERPAT). The proposed rule may also lead states to develop common contract language with providers of fuel sales data.

3.2. “Would the proposed rule result in the qualitative benefits identified in the RIA, including more informed decision- making, greater accountability, and progress on National Transportation Goals identified in MAP–21? Would the proposed rule result in other benefits or costs? Would the proposed measure change transportation investment decisions and if so, in what ways?”

The GHG emissions data compiled and reported under this proposed performance measure would help State DOTs and MPOs better understand their individual emissions and track their progress, which can help inform future decisions regarding programs and policies designed to achieve emissions targets.

3.3. “For State DOTs and MPOs that have already implemented their own GHG measure(s), FHWA welcomes information on the impact and effectiveness of their GHG emissions measure(s).”

In July 2019, Colorado Department of Transportation (CDOT) established performance measures for surface transportation GHG emissions based on VMT estimates. Reporting on these measures occurs quarterly as part of the Governor’s publicly available performance dashboard.

Oregon compiles and reports annually on greenhouse gas emissions across all sectors, including transportation. The State and larger local jurisdictions are required to set GHG reduction goals and provide monitoring reports. Oregon Department of Transportation (ODOT) is developing an online performance dashboard and further has developed and implemented a process for evaluating

greenhouse gas emissions implications of transportation projects as part of its regular capital planning and Statewide Transportation Improvement Program planning processes.

Washington State Department of Transportation (WSDOT) established a performance measure for GHG on the NHS in 2018. Since then, WSDOT has been reporting GHG emission estimates and targets on the NHS to FHWA as part of a voluntary bi-annual performance report. WSDOT has found that the performance measures have value by bringing awareness to the effectiveness of proposed actions and any need for readjustment of policies and programs.