UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF KENTUCKY
PADUCAH DIVISION
Electronically filed

COMMONWEALTH OF KENTUCKY;

STATE OF SOUTH DAKOTA;

STATE OF ALABAMA;

STATE OF ALASKA;

STATE OF ARKANSAS;

STATE OF FLORIDA;

STATE OF IDAHO;

STATE OF INDIANA;

STATE OF IOWA;

STATE OF KANSAS;

STATE OF MISSISSIPPI;

STATE OF MONTANA;

STATE OF NEBRASKA;

STATE OF NORTH DAKOTA;

STATE OF OHIO;

STATE OF OKLAHOMA

STATE OF SOUTH CAROLINA;

STATE OF UTAH;

COMMONWEALTH OF VIRGINIA;

STATE OF WEST VIRGINIA; and

Civil Action No. 5:23-cv-162-BJB

STATE OF WYOMING

Plaintiffs

v.

FEDERAL HIGHWAY ADMINISTRATION;

SHAILEN BHATT in his official capacity at Administrator of the Federal Highway Administration;

U.S. DEPARTMENT OF TRANSPORTATION;

PETE BUTTIGIEG in his official capacity as Secretary of Transportation;

JOSEPH R. BIDEN in his official capacity as President of the United States

Defendants

COMPLAINT

With one of his first executive orders, President Biden announced that it would be "the policy of [his] Administration . . . to reduce greenhouse gas emissions." Exec. Order No. 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, at section 1 (Jan. 20, 2021). Accordingly, he directed all executive departments and agencies to review existing regulations and consider revising them in order to further that policy. *Id.* In line with that direction, the Federal Highway Administration ("FHWA") and the U.S. Department of Transportation ("U.S. DOT") (collectively, "the Agencies") promulgated a rule

requiring all States with National Highway System mileage to take affirmative steps to set declining targets to reduce on-road CO_2 emissions.

The rule, *National Performance Management Measures; Assessing Performance of the National Highway System, Greenhouse Gas Emissions Measure*, 88 Fed. Reg. 85364 (December 7, 2023) (hereinafter "Final Rule") [Exhibit 1], certainly follows President Biden's policy wishes, but the Agencies simply do not have authority to issue it. Congress has not given FHWA or U.S. DOT authority to regulate greenhouse gas emissions ("GHG"). Nor can the Agencies compel the States to administer a federal regulatory program or mandate them to further Executive policy wishes absent some other authority to do so—which is lacking as to this rule. Furthermore, the Final Rule is arbitrary and capricious. The Plaintiffs, Kentucky, South Dakota, Alabama, Alaska, Arkansas, Florida, Idaho, Indiana, Iowa, Kansas, Mississippi, Montana, Nebraska, North Dakota, Ohio, Oklahoma, South Carolina, Utah, Virginia, West Virginia, and Wyoming, by and through their Attorneys General, seek judicial relief from this unlawful and unconstitutional rule.

PARTIES

Plaintiffs

1. The Commonwealth of Kentucky is a sovereign State of the United States of America. The Commonwealth sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests.

2. The Attorney General of the Commonwealth of Kentucky is authorized to bring legal actions on behalf of the Commonwealth and its citizens. Ky. Rev. Stat.

§ 15.020. The Attorney General is "charged with the duty of protecting the interest of all the people," *Hancock v. Terry Elkhorn Mining Co.*, 503 S.W.2d 710, 715 (Ky. 1973), including by ensuring that government actors perform their duties lawfully, *see Commonwealth ex rel. Beshear v. Bevin*, 498 S.W.3d 355, 362 (Ky. 2016); *see also Cameron v. EMW Women's Surgical Ctr., PSC,* 595 U.S. 267, 278 (2022) (recognizing that the Attorney General is "deemed Kentucky's 'chief law officer' with the authority to represent the Commonwealth 'in all cases'").

3. Within the Commonwealth of Kentucky, there are over 4,000 center-line miles of National Highway System.[1] And, as demonstrated by the recent expansion of the four-lane section of U.S. Highway 641 from Murray to Hazel on the Kentucky-Tennessee line—completing "Kentucky's section of a corridor from Interstate Highway 69 at Benton to Paris, Tennessee, and Interstate Highway 40 to the south"—the National Highway System within the Commonwealth continues to grow.[2] Similarly, the current state road plan designates the I-69 Ohio River Crossing Project as a "mega project."[3] These projects, and similar expansions, will certainly result in additional vehicular traffic and thus, CO_2 emissions.

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[1] *Estimated MAP-21 NHS Mileages*, U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/map21estmileage.cfm (last visited Nov. 27, 2023) [hereinafter U.S. DOT Estimate NHS Mileages].

[2] Crystal Staley, *Gov. Beshear Joins Local Leaders to Cut Ribbon on New U.S. Highway 641 in Southern Calloway County,* OFFICE OF THE GOVERNOR (Oct. 12, 2023), https://www.kentucky.gov/Pages/Activity-stream.aspx?n=GovernorBeshear&prId=1979.

[3] *Kentucky's 2022-2028 Enacted Highway Plan*, KENTUCKY TRANSPORTATION CABINET at 13 (Jun. 2022), *available at* https://transportation.ky.gov/Program-Management/2022%20Enacted%20Highway%20Plan/2022%20Enacted%20Highway%20Plan%20Combined%20Book%20June%2028%202022.pdf.

4. South Dakota is a sovereign State of the United States. It sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests, as well as its rights and prerogatives as a State under Federal highway statutes.

5. The State of South Dakota is a large State with long stretches of Interstate and National Highway System miles that help connect the nation and the people and businesses of South Dakota to the nation and world. A modern highway system in good or better condition supports the economy of the State and the quality of life of its residents. The improvement and preservation of the highway system in South Dakota is supported in significant part by the South Dakota Department of Transportation ("SDDOT") which, like other state DOTs, receives apportioned and other funds from Defendant Federal Highway Administration. Receipt of those funds subjects SDDOT to various regulations, including by defendant Agencies. SDDOT proudly undertakes its work in compliance with Federal requirements and strives to make effective decisions on the investment of highway funds (for projects large and small) to provide maximum benefit to the State, enhancing the economy and the quality of life while complying with environmental requirements. However, some highway investments, and straightforward economic growth, can result in additional CO_2 emissions. The State seeks the ability to continue to make decisions to maximize the benefits of its highway investments by avoiding the harm of being subject to unlawful regulation via the Final Rule, which, among other things, would impose costs and restrict or burden the State's choices in implementing its Federally-assisted highway program.

6. Alabama is a sovereign State of the United States of America. It sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests.

7. The Attorney General of Alabama is authorized to bring legal actions on behalf of Alabama and its citizens. Ala. Code §§ 36-15-1, 36-15-12. The Attorney General is the "chief law officer of the state" and maintains "direction and control" over "[e]ssentially all litigation concerning the interest of the state." *Chapman v. Gooden*, 974 So. 2d 972, 988 (Ala. 2007) (quoting *Ex parte Weaver*, 570 So.2d 675, 679-80 (Ala.1990)) (emphasis and quotation marks omitted).

8. Within Alabama, there are over 4,000 center-line miles of National Highway System.[4] The Governor of Alabama recently announced "three major interstate projects" including the widening of I-65 and I-59.[5] These projects, and similar expansions, will certainly result in additional vehicular traffic and thus, CO_2 emissions.

9. Alaska is a sovereign State of the United States. It sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests, as well as its rights and prerogatives as a State under Federal highway statutes.

10. The Attorney General of Alaska represents the State of Alaska in all actions in which Alaska is a party. Alaska Statutes 44.23.020(b)(3); *Standard Alaska Production Co. v. Schaible*, 874 F.2d 624, 627 (9th Cir. 1989). The Alaska Attorney

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[4] U.S. DOT Estimate NHS Mileages, *supra* note 1.

[5] *Governor Ivey Announces Widening of I-65, Hoover Interchange Project and Widening of I-59*, ALA. THE OFFICE OF ALABAMA GOVERNOR KAY IVEY (AUG. 31, 2023), https://governor.alabama.gov/newsroom/2023/08/governor-ivey-announces-widening-of-i-65-hoover-interchange-project-and-widening-of-i-59/.

General is also required to review federal statutes, regulations, and executive orders that may preempt state law or that were not properly adopted in accordance with federal statutory authority. Alaska Statutes 44.23.020(h).

11. Alaska has 6,181 center-line miles of paved public roads, with the vast majority of those operated and maintained by the Alaska Department of Transportation and Public Facilities ("DOT&PF"). Included in DOT&PF's road inventory is 2,228 center-line miles of the National Highway System,[6] which connect Alaska's urban areas to each other and to the Arctic oil fields. Additionally, the DOT&PF provides ferry services to 30 communities stretched along 3,500 miles of coastline through its Alaska Marine Highway System.[7] To preserve and expand this network of highways DOT&PF receives congressionally apportioned and other federal funding through the defendant Federal Highway Administration. The public's use of these preserved and expanded highway systems, through normal demographic and economic growth, could result in additional CO_2 emissions. The State of Alaska and DOT&PF seek to accommodate normal demographic and economic growth without threat of enforcement of FHWA's unlawful regulation, which would impose costs upon the State and burden the State's enhancement and preservation of its highway system.

12. The State of Arkansas is a sovereign State of the United States of America. The State sues to vindicate its sovereign, quasi-sovereign, proprietary, and

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6 U.S. DOT Estimate NHS Mileages, *supra* note 1.

7 *Alaska Marine Highway System route descriptions,* https://dot.alaska.gov/amhs/route.shtml (last visited Dec. 18, 2023).

parens patriae interests. The Attorney General of Arkansas has authority to sue on behalf of the State, Ark. Code Ann. § 25-16-703, and believes Arkansas will be harmed by the Final Rule, and therefore joins.

13. Florida is a sovereign State of the United States. It sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests, as well as its rights and prerogatives as a State under Federal highway statutes.

14. Within Florida, there are over 12,000 miles of National Highway System. In recent years, Florida has experienced a major increase in its population, which currently sits at close to 22 million residents. Florida has also welcomed upwards of 137 million tourists to the State in 2023 alone. Both the population and number of visitors to the State are projected to continue to increase, likely increasing vehicle traffic in the State.

15. Florida is a fuel-diverse state and relies on several options to ensure its economic success and a high quality of life for both residents and visitors alike. For example, Florida produces a wide variety of agriculture products that must be trucked and shipped via traditional methods; has a top-15 global economy for imports and exports through its world-renowned seaports; utilizes compressed natural gas for school buses and local transit assets; and relies on traditional fuel sources to support recovery efforts after natural disasters such as hurricanes.

16. The Final Rule requires the Florida Department of Transportation ("FDOT") to track emissions, set declining targets for emissions that the State must try to reach, and to report on the same. FDOT does not currently track the data or

prepare the types of reports that are now required by the Final Rule. In addition to FDOT's responsibility to track these requirements, the 27 MPOs across the State and the respective joint targets required by the Rule bring the total targets across the State to over 70—a clear burden and economic hardship on Florida's local partners. The effort to comply with the Rule will have a vast, direct impact on the lives of Floridians and Florida's economy.

17. The State of Idaho is a sovereign State of the United States of America. The State sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests. The Attorney General of Idaho has authority to sue on behalf of the State, Idaho Code 67-1401, and believes Idaho will be harmed by the Final Rule, and therefore joins.

18. Idaho is a rural State with 2,561 centerline miles on the NHS, and over 56,000 public road (centerline) miles. Idaho's population is rapidly increasing from 1.57 million in 2010 to 1.84 million in 2020, for a total rate of growth rate of 17.3 percent. Idaho maintains an inland seaport in Lewiston, Idaho that shipped over 772,000 bushels of wheat and barley and 185,000 tons of cargo in 2020. Idaho trucks moved over 195,000 kilotons of freight and drove over 26.62 million ton-miles in 2020. Idaho exported over $3.4 billion dollars of commodities to over 165 global partners in 2020. The top three commodities by value are semiconductors and industrial items, food and agriculture items and mining products. Given Idaho's proximity to Canada, a large portion of trade flows between the two countries via Idaho ports of entry. Trade with Canada ($1.1 billion) dominated international movements in 2020.

Idaho's other top trade global partners are Taiwan, Singapore and Mexico, valued at nearly $1 billion in 2020.

19. There are seven MPOs in Idaho: Kootenai, Lewis and Clark Valley, Community Planning Association of Southwest Idaho (representing two MPOs), Magic Valley, Bannock, and Bonneville. The Idaho Transportation Department has over 700 projects scheduled or already under construction with a combined value of $3.4 billion, many of which will expand and improve sections of the National Highway System. Idaho continues to invest in expanding and improving its highways to improve safety, enhance mobility, and promote economic growth and development. These and other projects will certainly result in additional vehicular traffic and thus, CO_2 emissions.

20. The State of Idaho is a large State with long stretches of Interstate and National Highway System miles that help connect the nation and the people and businesses of Idaho to the nation and world. A modern highway system in good or better condition supports the economy of the State and the quality of life of its residents. The improvement and preservation of the highway system in Idaho is supported in significant part by the Idaho Transportation Department ("ITD") which, like other state DOTs, receives apportioned and other funds from Defendant Federal Highway Administration.

21. Idaho, like other State DOTs, receives funding from the Federal Highway Administration which subjects ITD to numerous regulations, including the Final Rule challenged in this lawsuit. As a relatively rural State with many

industries that utilize heavy equipment, and which frequently experiences severe winter conditions amidst mountainous terrain, the Final Rule's unlawful mandate to reduce vehicular CO_2 emissions will negatively impact the State's economy and the well-being of its residents. The State seeks the ability to continue to make decisions to maximize the benefits of its highway investments by avoiding the harm of being subject to unlawful regulation via the Final Rule, which, among other things, would impose costs and restrict or burden the State's choices in implementing its Federally-assisted highway program.

22. Plaintiff State of Iowa is a sovereign State of the United States of America. Iowa sues to vindicate its sovereign, quasi-sovereign, and proprietary interests, including its interests in protecting its citizens. Iowa brings this suit through its Attorney General, Brenna Bird. She is authorized by Iowa law to sue on the State's behalf under Iowa Code § 13.2. Her address is 1305 E. Walnut St., Des Moines, Iowa 50309. The Attorney General believes Iowa will be harmed by the Final Rule, and therefore joins.

23. The State of Indiana is a sovereign State of the United States of America. It sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests.

24. The Attorney General of the State of Indiana is authorized to bring civil actions on behalf of the State, its agencies, and its citizens. *See* Ind. Code §§ 4-6-2-1(a), 4-6-1-6, 4-6-3-2(a); *Zoeller v. East Chicago Second Century, Inc.*, 904 N.E.2d 213, 218-19 (Ind. 2009).

25. Within the State of Indiana, there are more than 4,819 center-line miles of National Highway System.[8] Indiana continues to invest in expanding and improving its highways to improve safety, enhance mobility, and boost economic growth and development.[9] These and other projects will certainly result in additional vehicular traffic and thus, CO_2 emissions.

26. Plaintiff State of Iowa is a sovereign State of the United States of America. Iowa sues to vindicate its sovereign, quasi-sovereign, and proprietary interests, including its interests in protecting its citizens. Iowa brings this suit through its Attorney General, Brenna Bird. She is authorized by Iowa law to sue on the State's behalf under Iowa Code § 13.2. The Attorney General believes Iowa will be harmed by the Final Rule, and therefore joins.

27. The State of Kansas is a sovereign State of the United States of America. The State sues to vindicate its sovereign, quasi-sovereign, and proprietary interests. The Attorney General of Kansas has authority to sue on behalf of the State, Kan. Stat. Ann. § 75-702(a), and believes Kansas will be harmed by the Final Rule, and therefore joins.

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[8] *See Estimated MAP-21 NHS Mileages*, U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/map21estmileage.cfm (last visited Dec. 19, 2023).

[9] *See, e.g.*, *INDOT Major Projects*, INDIANA DEPARTMENT OF TRANSPORTATION, https://in.gov/indot/projects/ (last visited Dec. 19, 2023); *INDOT Other Projects*, INDIANA DEPARTMENT OF TRANSPORTATION, https://www.in.gov/indot/projects/other-projects/ (last visited Dec. 19, 2023).

28. The State of Mississippi is a sovereign State of the United States of America. The State sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests.

29. The Attorney General of the State of Mississippi is authorized to bring legal actions on behalf of the State and its citizens. Miss. Const. art. VI, § 173; Miss. Code Ann. § 7-5-1; *see also Gandy v. Reserve Life Ins. Co.*, 279 So. 2d 648, 649 (Miss. 1973).

30. Within the State of Mississippi, there are over 3,800 center-line miles of National Highway System.[10] Earlier this year, state lawmakers invested over $2 billion toward infrastructure projects that include plans to expand and improve sections of the National Highway System to improve safety, enhance mobility, and boost economic growth and development.[11] These and other projects will certainly result in additional vehicular traffic and thus, CO_2 emissions.

31. The State of Montana is a sovereign State of the United States of America. The State sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests.

32. The State of Montana is a large State with long stretches of Interstate and National Highway System miles that help connect the nation and the people and

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[10] U.S. DOT Estimate NHS Mileages, *supra* note 1.

[11] *See*, *e.g.*, Press Release, *Governor Reeves Signs Bills Investing Over $2 Billion Toward Transportation and Infrastructure Improvements* (Apr. 20, 2023), https://mailchi.mp/b1d352597194/governor-tate-reeves-volunteer-firefighter-1053647?e=ae3824fee2 (last visited Dec. 18, 2023); WMC, *MDOT gets $25M to widen I-55 in DeSoto County* (Apr. 10, 2023), https://www.actionnews5.com/2023/04/10/mdot-gets-25m-widen-i-55-desoto-county/ (last visited, Dec. 18, 2023).

businesses of Montana to the nation and world. A modern highway system in good or better condition supports the economy of the State, the quality of life of its residents, and the safety of travelers. The improvement and preservation of the highway system in Montana is supported in significant part by the Montana Department of Transportation ("MDT") which, like other state DOTs, receives apportioned and other funds from Defendant Federal Highway Administration. Receipt of those funds subjects MDT to various regulations, including by defendant Agencies. Some highway investments, and straightforward economic growth, can result in additional CO_2 emissions. The State of Montana seeks the ability to continue to make decisions to maximize the benefits of its highway investments. The Final Rule would impose costs and restrict or burden the State's ability to do so.

33. Nebraska is a sovereign State of the United States. It sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests.

34. The Attorney General of Nebraska is authorized to bring legal actions on behalf of the State and its citizens. Neb. Rev. Stat. § 84-203.

35. Nebraska is home to over 3,700 center-line miles of the National Highway System[12] and over 480 miles of Interstate.[13] Given Nebraska's central location, the State's highways play an important role in ensuring that people and goods can move across the country. The Nebraska Department of Transportation

[12] U.S. DOT Estimate NHS Mileages, *supra* note 1.

[13] *FAQ's and Frequently Requested Information*, Nebraska Department of Roads, https://perma.cc/3QZ9-VMFX (last visited Dec. 19, 2023).

oversees Nebraska's vast highway system and receives funds from Defendant Federal Highway Administration.

36. State of Nebraska officials recently announced the launch of various expensive, years-long highway construction and maintenance projects. The infrastructure projects, projected to cost $689 million, will make Nebraska's highways safer and more efficient. And the projects will certainly result in increased traffic and a corresponding increase in CO_2 emissions.

37. The State of North Dakota is a sovereign State of the United States. The Attorney General of North Dakota "may institute legal proceedings necessary to protect the interests of the state and defend all actions affecting public interest." *Bonniwell v. Flanders*, 62 N.W.2d 25, 28 (N.D. 1953); *see also* N.D.C.C. § 54-12-01. North Dakota brings this lawsuit, through its Attorney General, to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests.

38. Within the State of North Dakota, there are over 3,600 center-line miles of National Highway System.[14] The North Dakota Department of Transportation ("NDDOT"), like other State DOTs, receives funding from the Federal Highway Administration which subjects NDDOT to numerous regulations, including the Final Rule challenged in this lawsuit. As a relatively rural State with many industries that utilize heavy equipment, and which frequently experiences severe winter conditions, the Final Rule's unlawful mandate to reduce vehicular CO_2 emissions will negatively impact the State's economy and the well-being of its residents.

[14] U.S. DOT Estimate NHS Mileages, *supra* note 1.

39. The State of Ohio is a sovereign State of the United States of America. The State sues to vindicate its sovereign, quasi-sovereign, and proprietary interests.

40. The Attorney General of the State of Ohio "is the chief law officer for the state and all its departments." Ohio Rev. Code 109.02; *see* Ohio Constitution, Art. III, § 1. He also has all the common-law powers understood, at the time of the Ohio Constitution's adoption, to inhere in the position of Attorney General. *State ex rel. Merrill v. Ohio Dep't of Nat. Res.*, 130 Ohio St. 3d 30, 38 (Ohio 2011).

41. Within the State of Ohio is the Nation's fifth largest interstate system, with over 8,000 lane miles, and Ohio is located within a day's drive of more than 60% of the populations of the United States and Canada.[15] Ohio, through the Ohio Department of Transportation ("ODOT"), strives to maintain its National Highway System, which consists of roadways important to the Nation's and the State's economy, defense, and mobility. Highway investments, and economic growth, will result in additional greenhouse-gas emissions from vehicles, and the State of Ohio will continue to make decisions to maximize all the benefits of its highway investments. Unlawful regulation will increase costs to the State of Ohio, its agencies, its citizens, and its industries and burden the State of Ohio's choices in implementing its highway programs.

[15] *2023 ODOT Facts Book*, Ohio Dep't of Transp., https://www.transportation.ohio.gov/about-us/facts-book/facts-book-archives/odot-facts-book-000-0-2022-23.

42. The State of Oklahoma is a sovereign state of the United States of America. The State sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests.

43. Oklahoma brings this suit by and through its Attorney General, Gentner Drummond, who is authorized by Oklahoma law to sue on Oklahoma's behalf. OKLA. STAT. tit 74, § 18(b)(A)(2)-(3).

44. Oklahoma has over 4,500 miles of roadways within the National Highway System.[16] Highway transportation is vital to the economy and the welfare of the people in Oklahoma. Indeed, the Oklahoma Legislature declared it to be essential. "Recognizing that safe and efficient highway transportation is a matter of important interest to all the people in the state, the Legislature … determine[d] and declare[d] that an integrated system of roads and highways is essential to the general welfare of the State of Oklahoma." OKLA. STAT. tit 69, § 101(a). Oklahoma sues to defend its ability to make choices in support of highway transportation, the economy, and the welfare of the people of Oklahoma.

45. The State of South Carolina is a sovereign State of the United States of America. The State sues to vindicate its sovereign, quasi-sovereign, proprietary, and parens patriae interests. The Attorney General of South Carolina has authority to sue on behalf of the State, *Condon v. State*, 583 S.E.2d 430, 434 (S.C. 2003), and believes South Carolina will be harmed by the Final Rule, and therefore joins.

[16] *Id.*

46. Plaintiff State of Utah is a sovereign State of the United States of America. Utah sues to vindicate its sovereign, quasi-sovereign, and proprietary, and *parens patriae* interests. Utah brings this suit through its Attorney General, Sean D. Reyes. He is authorized by Utah law to sue on the State's behalf. *See* Utah Const. art. VII, § 16; Utah Code § 67-5-1.

47. Within the State of Utah, there are over 2,400 center-line miles of National Highway System.[17] The Utah Department of Transportation has over 200 projects scheduled or already under construction with a combined value of over $3 billion, many of which will expand and improve sections of the National Highway System.[18] These and other projects will result in additional vehicular traffic and thus, CO_2 emissions.

48. The Commonwealth of Virginia is a sovereign State of the United States of America. Virginia sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests.

49. The Attorney General of the Commonwealth of Virginia is the chief legal officer of the Commonwealth of Virginia and has the duty under Va. Code § 2.2-513 to "represent the interests of the Commonwealth … in matters before or controversies with the officers and several departments of the government of the United States."

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[17] *Id.*

[18] *UDOT Announces Major Protects for 2023 and Reminds Drivers to Be Safe in Work Zones as Highway Construction Ramps Up*, UTAH DEP'T OF TRANSP., https://udot.utah.gov/connect/2023/04/20/udot-announces-major-projects-for-2023-and-reminds-drivers-to-be-safe-in-work-zones-as-highway-construction-ramps-up/#:~:text=In%202023%2C%20UDOT%20has%20217,themselves%20and%20construction%20crews%20safe (last visited Dec. 19, 2023).

Further, "all legal service in civil matters for the Commonwealth … including the conduct of all civil litigation in which [it is] interested, shall be rendered and performed by the Attorney General." Va. Code Ann. § 2.2-507.

50. The Commonwealth of Virginia contains over 4,000 center-line miles of National Highway System.[19] Virginia continues to add to the highway system throughout the Commonwealth through upcoming planned and funded projects including capacity expansions to Interstates 64, 95, and 81.

51. West Virginia is a sovereign State of the United States of America. It sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests.

52. The Attorney General of the State of West Virginia "is the State's chief legal officer[.]" *State ex rel. McGraw v. Burton*, 569 S.E.2d 99, 107 (W. Va. 2002). His "inherent constitutional functions . . . include . . . ensuring that . . . legal policy and positions [asserted] by the State of West Virginia and State entities, particularly before tribunals," reflect "meaningful consideration of the potential effects of such legal policy and positions on the full range of State entities and interests[.]" *Id.* at 115–16. His express statutory duties include "appear[ing] as counsel for the state in all causes pending . . . in any federal court[] in which the state is interested[.]" W. Va. Code § 5-3-2.

[19] U.S. DOT Estimate NHS Mileages, *supra* note 1.

53. West Virginia is a rural State with 1,988 center-line miles of National Highway System roads.[20] The State is hard at work improving and expanding its road system with "$4 billion in active construction projects" as of December 12, 2023.[21] These projects are critical in a region that has sometimes struggled with economic isolation and underdevelopment—but they could also be expected to increase CO_2 emissions from additional traffic.

54. West Virginians depend on fossil fuels for their livelihoods and other activities. Their average daily commutes equal or exceed 30 minutes in 22 counties, with average commutes in one county exceeding 42 minutes.[22] Because most West Virginians get to work by automobile,[23] they drive many miles in a year's time. Indeed, the average West Virginian logs 16,876 miles per year.[24] Few West Virginians own all-electric vehicles,[25] which means that most rely on fossil fuels for their

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[20] *Trends, Drivers, and Opportunities*, WEST VIRGINIA DIVISION OF TRANSPORTATION at 3 (Feb. 2021), https://transportation.wv.gov/highways/programplanning/LRTP/Documents/FactSheet_Funding_Final.pdf.

[21] Jeff Jenkins, *Wriston: State passes $1B mark in highway projects bid out this year*, METRONEWS (Dec. 12, 2023), https://wvmetronews.com/2023/12/12/wriston-state-passes-1b-mark-in-highway-projects-bid-out-this-year/.

[22] *Mean Commuting Time for Workers, Annually: West Virginia*, FEDERAL RESERVE BANK OF ST. LOUIS (2022), https://fred.stlouisfed.org/release/tables?eid=318730&rid=415.

[23] *West Virginia Transportation by the Numbers*, U.S. DEPARTMENT OF TRANSPORTATION, at 2 (Jan. 2020), https://www.bts.dot.gov/sites/bts.dot.gov/files/states2020/West_Virginia.pdf.

[24] *Average miles driven per year by Americans*, METROMILE (Sept. 13, 2021), https://www.metromile.com /blog/average-miles-driven-per-year-by-americans/.

[25] *Electric Vehicle Registrations by State*, U.S. DEPARTMENT OF ENERGY (Jul. 2023), https://afdc.energy.gov/data/10962.

transportation. West Virginians also drive older vehicles[26] and more pickup trucks,[27] which emit more CO_2 per mile because they are generally less fuel efficient.[28]

55. This driving-centric economy has significant revenue consequences for the State. In 2020, motor fuel taxes contributed $427 million to the State Road Fund—that's $22 million more than the State Road Fund received from federal aid.[29]

56. Wyoming is a sovereign State of the United States. It sues to vindicate its sovereign, quasi-sovereign, proprietary, and *parens patriae* interests, as well as its rights and prerogatives as a State under Federal highway statutes.

57. The Attorney General of the State of Wyoming is authorized to bring legal actions on behalf of the State and its citizens. Wyo. Stat. Ann. § 9-1-603.

58. The State of Wyoming is a large State with long stretches of Interstate and National Highway System miles that help connect the nation and the people and businesses of Wyoming to the nation and world. A modern highway system in good or better condition supports the economy of the State and the quality of life of its residents. The improvement and preservation of the highway system in Wyoming is supported in significant part by the Wyoming Department of Transportation (WYDOT) which, like other state DOTs, receives funds from Defendant Federal

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[26] *Autos Drive West Virginia Forward*, ALLIANCE FOR AUTOMOTIVE INNOVATION (2023), https://www.autosinnovate.org/resources/insights/wv (noting that "[t]he West Virginia average age of vehicles is 13.1 years" in comparison to "[t]he national average [of] 12.2").

[27] iSeeCars, *Which states have the most pickup trucks*, WANE.COM (Jun. 19, 2022), https://www.wane.com/top-stories/which-states-have-the-most-pickup-trucks/ (reporting that West Virginia ranks seventh).

[28] *Cf. The 2022 EPA Automotive Trends Report*, U.S. Environmental Protection Agency (Dec. 2022), at ES-2 – ES-4, https://www.epa.gov/system/files/documents/2022-12/420s22001.pdf.

[29] *Trends, Drivers, and Opportunities*, *supra* note 20 at 1.

Highway Administration. WYDOT undertakes its work in compliance with Federal requirements and strives to make effective decisions on the investment of highway funds to provide maximum benefit to the State, enhancing the economy and the quality of life. However, some highway investments and projects, and straightforward economic growth, can result in additional CO_2 emissions. Wyoming seeks the ability to continue to make decisions to maximize the benefits of its highway investments by avoiding the harm of being subject to the Final Rule.

Defendants

59. Defendant Federal Highway Administration is an agency within the U.S. Department of Transportation. Its headquarters are located in the District of Columbia. FHWA is subject to the Administrative Procedure Act.

60. Defendant Shailen Bhatt is the Administrator of FHWA. His role is to carry out the "duties and powers vested in the Secretary by chapter 4 of title 23 for highway safety programs, research, and development related to highway design, construction and maintenance, traffic control devices, identification and surveillance of accident locations, and highway-related aspects of pedestrian safety." 49 U.S.C. § 104. He is also charged with performing "additional duties and powers prescribed by the Secretary," *id.*, which includes authority to administer certain chapters of title 23 of the U.S. Code. *See* 49 CFR 1.85(a).

61. Defendant U.S. Department of Transportation ("U.S. DOT") is an executive department, 5 U.S.C. § 101, located in the District of Columbia. As an executive department, U.S. DOT is subject to the Administrative Procedure Act.

62. Defendant Pete Buttigieg is the Secretary of the Department of Transportation. He is responsible for establishing and implementing a national highway performance program. 23 U.S.C. § 119(a).

63. Defendant Joseph R. Biden is sued in his official capacity as the President of the United States. He signed Executive Order No. 13990, "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis" on January 25, 2021, [Exhibit 2] and Executive Order No. 14008, "Tackling the Climate Crisis at Home and Abroad" on February 1, 2021, [Exhibit 3].

64. Defendants U.S. DOT and FHWA issued the Final Rule in response to President Biden's Executive Orders 13990 and 14008. Final Rule at 85365, 85369.

JURISDICTION AND VENUE

65. The Court has federal subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1361 and 5 U.S.C. §§ 702–03.

66. The Court is authorized to award the requested declaratory and injunctive relief under 5 U.S.C. §§ 702 and 706, 28 U.S.C. § 1361, the U.S. Constitution, and the Court's equitable powers.

67. Venue is proper within this District pursuant to 28 U.S.C. § 1391(e). Defendants are United States agencies and officers sued in their official capacities. Plaintiff Commonwealth of Kentucky is a resident of every judicial district in its sovereign territory, including this judicial district and division.

68. The Paducah Division of the Western District of Kentucky is a proper division for this action because a substantial part of the events giving rise to this

action occurred in the division, Kentucky's Attorney General maintains a physical office within the division at Benton, Kentucky, and no defendant resides in the Commonwealth.

FACTUAL BACKGROUND

The 2017 GHG Rule and its Repeal

69. On January 18, 2017, the Agencies issued a rule requiring States to establish targets regarding a measure of on-road CO_2[30] emissions. *National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program*, 82 Fed. Reg. 11 at 5970 *et seq.* (Jan. 18, 2017) ("2017 Rule") [Exhibit 4]. This rule required states to set targets for CO_2 emissions relative to 2017 emissions levels. *Id.* at 6018.

70. For its authority to promulgate the 2017 Rule, the Agencies cited to 23 U.S.C. § 150(c)(3). *Id.* at 5994.

71. That provision was added to the U.S. Code by the 2012 Moving Ahead for Progress in the 21st Century Act. It directs the Secretary of the Department of Transportation to establish:

> (i) minimum standards for States to use in developing and operating bridge and pavement management systems;
> (ii) measures for States to use to assess-
> I. the condition of pavements on the Interstate system;

[30] CO_2—carbon dioxide—is a naturally occurring gas that is essential for plant life and an important component of Earth's air. While CO_2 comes from both natural and anthropogenic sources, like the burning of fossil fuels, natural sources are predominant. *See Carbon Dioxide 101*, U.S. DEPARTMENT OF ENERGY NATIONAL ENERGY TECHNOLOGY LABORATORY, https://netl.doe.gov/coal/carbon-storage/faqs/carbon-dioxide-101.

II. the condition of pavements on the National Highway System (excluding the Interstate);
III. the condition of bridges on the National Highway System;
IV. the performance of the Interstate System; and
V. the performance of the National Highway System (excluding the Interstate System)

(iii) minimum levels for the condition of pavement on the Interstate System, only for the purposes of carrying out section 119(f)(1); and

(iv) the data elements that are necessary to collect and maintain standardized data to carry out a performance-based approach.

72. Under 23 U.S.C. § 150(c)(3), all of these standards are to be established "for the purpose of carrying out Section 119" of title 23, which requires the "Secretary [to] establish and implement a national highway performance program." 23 U.S.C. § 119(a). The purposes of that program are "to provide support for the condition and performance of the National Highway System," "for the construction of new facilities on the National Highway System," and "for activities to increase the resiliency of the National Highway System to mitigate the cost of damages from sea level rise, extreme weather events, flooding, wildfires, or other natural disasters," and to "ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established" in a State's asset management plan. 23 U.S.C. § 119(b).

73. Nothing in Section 119 or Section 150 refers to or gives the Agencies authority to mandate the States reduce CO_2 or other GHG emissions.

74. Indeed, that was the determination of the Agencies when, in May of 2018, they repealed the 2017 Rule. *See National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the*

Interstate System, and Congestion Mitigation and Air Quality Improvement Program, 83 Fed. Reg. 105 at 24920 (May 31, 2018) (hereinafter "2018 Repeal") [Exhibit 5]. In repealing the rule, the Agencies found that interpreting the term "performance" to include "environmental performance" was "a strained reading of the statutory language in section 150, and one that did not fully consider the limitations imposed by the statute itself." *See* 2018 Repeal at 24923–24924.

75. The Agencies also noted that there was nothing in the law relating to the National Highway Performance Program ("NHPP") that specifically directed or required the Agencies to adopt a GHG measure. *See id*. "Instead [the law] encourage[s] State DOTs and MPOs to consider a variety of ways to incorporate environmental considerations under their existing authority." *Id*. at 24923. Thus, the Agencies determined it was for the States, not the Agencies, to determine how, if at all, to address CO_2 emissions.

President Biden's Climate Policy

76. U.S. DOT and FHWA began reconsidering their stance after President Biden proclaimed there to be a "climate crisis" that all agencies needed to address. In Executive Order 13990, President Biden "direct[ed] all executive departments and agencies to immediately review and . . . take action to address the promulgation of Federal regulations and other actions during the last 4 years that conflict with [the Administration's policy of reducing greenhouse gas emissions], and to immediately commence work to confront the climate crisis." Exec. Order 13990 at Section 1. In Executive Order 14008, the President asserted that "[r]esponding to the climate crisis

will require both significant short-term global reductions in greenhouse gas emissions and net-zero global emissions by mid-century or before." Exec. Order 14008 at Section 101.

77. The President said his purpose in issuing Executive Order 14008 was to "build[] on" his actions with respect to the Paris Agreement, which included having the United States rejoin as a party to the Agreement despite the Trump Administration's earlier withdrawal from the Agreement. *Id*. at Section 102.

78. The Paris Agreement exists under the United Nations Framework Convention on Climate Change ("UNFCCC"), which the U.S. ratified in 1992 with the advice and consent of the Senate. The Senate has not voted on whether to join the Paris Agreement.[31] Although the United Nations asserts the Paris Agreement is a "legally binding international treaty" on climate change,[32] the Obama Administration joined the Agreement with the view that it was "an executive agreement containing no substantive, legal obligations beyond the UNFCCC," and, therefore, believed it did not require the advice and consent of the Senate.[33] Similarly, when President Biden had the United States rejoin the Paris Agreement, he did not seek the advice and consent of the Senate.

79. The Paris Agreement calls for all parties—194 countries plus the European Union[34]—to reduce greenhouse gas emissions, ostensibly to limit the global

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[31] *United States Rejoins the Paris Agreement on Climate Change: Options for Congress*, Congressional Research Service (Feb. 25, 2021), https://crsreports.congress.gov/product/pdf/IF/IF11746.
[32] *The Paris Agreement*, United Nations, https://www.un.org/en/climatechange/paris-agreement (last visited Dec. 7, 2023).
[33] *Supra* note 29.
[34] *Supra* note 30.

temperature increase during this century to 1.5 degrees Celsius (2.7 degrees Fahrenheit).[35]

80. The Sixth Assessment Report by the Intergovernmental Panel on Climate Change ("IPCC") estimates that meeting the temperature goal requires decreasing global net CO_2 emissions to net-zero by 2050. *National Performance Management Measures; Assessing Performance of the National Highway System, Greenhouse Gas Emissions Measure*, 87 Fed. Reg. 135 at 42406 ("Proposed Rule"), [Exhibit 6]. This estimate is based on the IPCC belief that there is a consensus among scientists that global warming is largely caused by anthropogenic sources.[36] However, there is no consensus.[37] First, scientists are by no means unanimous that global warming is largely the result of anthropogenic sources.[38] Second, many scientists

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[35] *See Key aspects of the Paris Agreement*, UNITED NATIONS, https://unfccc.int/most-requested/key-aspects-of-the-paris-agreement#:~:text=2)%20%E2%80%93%20The%20Paris%20Agreement%2C,'climate%20neutrality'%20(Art (last visited Nov. 29, 2023).

[36] *See, e.g.*, Gabriele C. Hegerl, et al., *Understanding and Attributing Climate Change*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *available at* https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter9-1.pdf; Sergey K. Gulev, et al., *Chapter 2: Changing State of the Climate System*, IPCC SIXTH ASSESSMENT REPORT, *available at* https://www.ipcc.ch/report/ar6/wg1/chapter/chapter-2/ (2021) ("Change in [temperature] from natural factors since 1750 is negligible in comparison to anthropogenic drivers (very high confidence).").

[37] The Merriam-Webster dictionary defines consensus as being "general agreement: unanimity." https://www.merriam-webster.com/dictionary/consensus.

[38] *See* Earl J. Ritchie, Fact Checking the Claim of 97% Consensus on Anthropogenic Climate Change, Forbes (Dec. 14, 2016), https://www.forbes.com/sites/uhenergy/2016/12/14/fact-checking-the-97-consensus-on-anthropogenic-climate-change/?sh=60e04bf71157 (finding that to the extent there is a consensus, it is lower than the 97% that is popularly cited—even when looking at the articles often cited for that number); Richard Harris, *'Uncertain' Science: Judith Curry's Take on Climate Change*, NPR (Aug. 22, 2013), https://www.npr.org/2013/08/22/213894792/uncertain-science-judith-currys-take-on-climate-change (discussing climate scientist Judith Curry's belief that "[i]f all other things remain equal, it's clear that adding more carbon dioxide to the atmosphere will warm the planet," but "not all things are equal" and there are many uncertainties and unknowns, so she is dubious about "a strong consensus" about the role of humans in climate change).

question the validity of the studies or data.[39] The models of the future used by the IPCC have not been demonstrated to account for the changes in key variables impacting the climate.[40] Indeed, some of the scenarios used by the IPCC "represent[] not just an implausible future," but also deviate from the present reality.[41]

81. This failure to account for current realities is revealed in the plans to meet the global temperature goal. Although the Paris Agreement sets a "global" goal, each country and the European Union decides its own plans for reducing GHG emissions and they are by no means equal. For instance, under existing Nationally Determined Contributions (NDCs), China is planning to increase GHG emissions until 2030,[42] whereas Europe and the United States have goals to significantly decrease GHG emissions by 2030.[43]

82. The use of coal-fired power generation demonstrates the inequality starkly. Even though the United States has decreased coal generation by 96

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[39] *See id.*; Ross McKitrick, *The IPCC's attribution methodology is fundamentally flawed,* CLIMATE ETC. (Aug. 18, 2021), https://judithcurry.com/2021/08/18/the-ipccs-attribution-methodology-is-fundamentally-flawed/ (arguing that the "Optimal Fingerprinting" methodology used by the IPCC in its sixth report to attribute climate change to greenhouse gases "is seriously flawed and its results are unreliable and largely meaningless"); Kenneth P. Green, *Doomsday predictions rely on flawed climate models*, THE FRASER INSTITUTE BLOG (Feb. 15, 2022), https://www.fraserinstitute.org/blogs/doomsday-predictions-rely-on-flawed-climate-models#:~:text=But%20empirical%20evidence%20taken%20from,10%20years%20to%20save%20the.

[40] *See* Roger Pielke, Jr. & Justin Ritchie, *How Climate Scenarios Lost Touch With Reality*, 37 ISSUES IN SCIENCE & TECHNOLOGY 4 (2021), *available at* https://issues.org/climate-change-scenarios-lost-touch-reality-pielke-ritchie/.

[41] *Id.* (explaining that for the IPCC, [i]t's as if the profound changes in the world's mix of energy resources and technologies in the past three decades, from the rise of natural gas to the growth of renewable energy, had never happened").

[42] *China*, CLIMATE ACTION TRACKER, https://perma.cc/W5NG-57JJ (explaining that "[u]nder China's NDC targets, the country's emission levels would reach 14.0 $GtCO_2e$/year in 2030, an increase of 28% from 2010 levels").

[43] *United Kingdom*, CLIMATE ACTION TRACKER, https://perma.cc/ST62-V79K; *USA*, CLIMATE ACTION TRACKER, https://perma.cc/G3KV-VHSB.

gigawatts since the Paris Agreement—far surpassing any other country's decrease[44] —there has been a cumulative net worldwide increase of 206 gigawatts.[45] This is because other countries have continued to increase the use of coal-fired power. In particular, China has increased its coal-fired power generation by 233 gigawatts since 2015.[46]

2022 Proposed Rule

83. According to U.S. DOT and FHWA, President Biden made reducing greenhouse gas emissions a "national priority" through Executive Orders 13990 and 14008. *See* Proposed Rule at 42046.

84. The Agencies concluded that the repeal of the 2017 Rule "conflicts with th[e] national objective[]" of reducing greenhouse gas emissions. *Id*. Therefore, the Agencies proposed "reestablish[ing] a GHG performance measure." *Id*. While the Proposed Rule was "similar to the repealed 2017 GHG measure." *id*., it went further by setting emissions targets the States must meet. Specifically, it required States to reduce CO_2 emissions to meet the Biden Administration's economy-wide goal of having "net-zero" emissions by 2050. *Id*. at 42402.

85. The Agencies were explicit that they were proposing the rule because of the President's policy wishes. They described the Proposed Rule as "essential" to achieving the "Administration's target of net-zero emissions, economy-wide, by 2050"

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[44] The next highest decrease is the United Kingdom with a decrease of 18 gigawatts.

[45] *Net Additional Coal Generation Capacity Since the Paris Agreement*, ENERGY POLICY RESEARCH FOUNDATION (2023), *available at* https://eprinc.org/wp-content/uploads/2023/11/EPRINC-Chart2023-44-GlobalPowerPlantAdditionsSinceTheParisAccords-Version1.pdf.

[46] *Id*. This is more than five times the amount increased by any other country.

and believed it "would help the United States confront the increasingly urgent climate crisis."[47] *Id*. at 42402–03.

86. Accordingly, the Proposed Rule mandated that State departments of transportation and metropolitan planning organizations establish declining CO_2 targets that "align with the Administration's net-zero targets as outlined in the national policy established under Executive orders [13990 and 14008]." *Id*. at 42401.

87. In the Proposed Rule, the Agencies asserted they had legal authority for the Rule under 23 U.S.C. §§ 150 and 119, as well as 23 U.S.C. §§ 101(b)(3)(G); 134(a)(1); 134(c)(1); and 135(d)(1) and (d)(2). *Id*. at 42403.

88. The States party to this challenge submitted comments opposing the proposed rule. Kentucky Attorney General Daniel Cameron led a comment letter on behalf of the Commonwealth of Kentucky and nineteen other states including South Dakota, Alabama, Alaska, Arkansas, Florida, Kansas, Mississippi, Montana, Nebraska, Oklahoma, South Carolina, Utah, Virginia, West Virginia and Wyoming, who are parties to this case. [Exhibit 7]. The Transportation Departments of Idaho, Montana, North Dakota, South Dakota, and Wyoming also submitted a comment. [Exhibit 8]. The Florida Department of Transportation submitted its own comment, which also identified major flaws with the Proposed Rule. [Exhibit 9]. All of these comments disputed the Agencies' assertion of legal authority.

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[47] Scientists are not in agreement that there is a climate crisis. *See, e.g., World Climate Declaration*, *available at* https://clintel.org/world-climate-declaration/ (A global network of scientists asserting there is no climate crisis and specifically that "[t]here is no statistical evidence that global warming is intensifying hurricanes, floods, droughts and suchlike natural disasters, or making them more frequent").

2023 Final Rule

89. On December 7, 2023, the Agencies published the Final Rule in the Federal Register.

90. Despite having the benefit of numerous comments pointing out the constitutional and statutory violations, including comments from the Plaintiffs, the Final Rule—while making some clarifications—does not address the foundational issues with the rule.

91. The Final Rule adds a new greenhouse gas performance measure to the existing FHWA national performance measures to be used by states to assess performance of the National Highway System.

92. The Final Rule requires State DOTs and MPOs to "establish declining targets for reducing CO_2 emissions generated by on-road mobile sources." Final Rule at 85364. Targets for the first four-year period must be established and reported to FHWA no later than February 1, 2024. *Id*. at 85372.

93. The Final Rule also requires State DOTs and MPOs to report biennially on their progress, which FHWA will use to "determine whether a State DOT has made significant progress toward the achievement of the 4-year target for the GHG measure." *Id*.

94. State DOTs are required to calculate and report both the GHG measure (the "percent change in on-road tailpipe CO_2 emissions on the NHS relative to the reference year") and the GHG metric (the "tailpipe CO_2 emissions on the NHS for a given year computed in million metric tons (mmt) and round[ed] to the nearest

hundredth"). *Id*. at 85364, 85372. They are to use their "best available vehicle miles traveled (VMT) data when establishing targets, reporting baseline and actual performance and discussing progress." *Id.* at 85372.

95. As with the 2017 rule and the Proposed Rule, the Agencies assert that their authority for this imposition on the States comes from 23 U.S.C. § 150(c). The Agencies argue that because 23 U.S.C. § 150(c) "clearly directs FHWA to establish performance measures that the State DOTs can use to assess performance of the Interstate and non-Interstate [National Highway System]," the agencies have authority to require State DOTs to establish targets to reduce CO_2 emissions to address the "system's environmental performance." *Id*. at 85364.

96. In the Proposed Rule, the Agencies also cited the Infrastructure Investment and Jobs Act[48] as a source of authority for the rule. *See* Proposed Rule at 42408. However, in the Final Rule, the Agencies acknowledge that the IIJA "does not explicitly direct FHWA to assess environmental performance." Final Rule at 85368. Instead, the Agencies cite to programs included in the IIJA, such as the Carbon Reduction Program, as "examples of Congress' express focus on using transportation programs to reduce GHG emissions from transportation sources." *Id*.

Injury to the States

97. The Final Rule causes an injury in fact on the Plaintiff States. *See Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992).

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[48] Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, §§ 50201-222, 135 Stat. 429 (2021) *available at https://www.congress.gov/117/plaws/publ58/PLAW-117publ58.pdf* [hereinafter "IIJA"].

98. By February 1, 2024, the States must establish initial targets for the GHG measure and report them to the Agencies. Final Rule at 85372 ("In the final rule, FHWA establishes that State DOTs will establish initial targets for the GHG measure and report them no later than February 1, 2024.").

99. As "the object of" the Final Rule's requirement, "there can be 'little question' that the rule [injures] the States." *W. Va. v. EPA*, 142 S. Ct. 2597, 2606 (2022) (citing *Lujan*, 504 U.S. at 561–62). To meet the injury requirement of standing, the Plaintiff States need show nothing else; they are the ones targeted by the Final Rule's requirements.

100. This injury is not negated by the Agencies eliminating the language in the Proposed Rule that explicitly mandated the States meet the Administration's emissions target of net-zero by 2050. *See* Proposed Rule at 42401 ("[T]he proposed rule would require State DOTs and MPOs that have [National Highway System] mileage within their . . . boundaries . . . to establish declining CO_2 emissions targets to reduce CO_2 emissions generated by on-road mobile sources . . . that align with the Administration's net-zero targets."); *id.* at 42403 ("[A] requirement for State DOTs and MPOs to establish declining targets for reductions in tailpipe CO_2 emissions on the NHS . . . is vital to achieving 50 to 52 percent reductions by 2030 and net-zero emissions economy-wide by 2050."); Final Rule at 85372 (explaining it does not include the requirement present in the Proposed Rule that the GHG measure "demonstrate reductions toward net-zero targets").

101. While the Proposed Rule's mandated emissions target of net-zero was an obvious display of the rule's unconstitutionality, the Final Rule's removal of that language does not mean there is no injury to the Plaintiff States or that the rule is lawful. The Final Rule remains fundamentally the same as the Proposed Rule: it requires States to establish, monitor and demonstrate progress toward a certain type of target for CO_2 emissions—declining targets—as mandated by the Agencies, who lack authority to impose such a mandate.

102. Furthermore, the changes in the Final Rule to the emissions target language do not alter the Agencies' intent behind the rule. Even in the Proposed Rule, which contained the explicit mandated net-zero target language, the Agencies denied that the Rule mandated targets. Proposed Rule at 42401 ("The proposed rule would not mandate the level of the targets."). And in the Final Rule, the Agencies are clear they still believe the rule is essential to achieving the Administration's goal of reaching net-zero. *See, e.g.*, Final Rule at 85371 ("FHWA considers the GHG measure essential . . . to improve transportation sector performance and work toward achieving net-zero emissions economy-wide by 2050."). Just because the Agencies remove the language that explicitly mandates the States set declining targets to achieve net-zero by 2050 does not mean the actual impact of the rule will not be to force States to achieve net-zero by 2050. Indeed, the Final Rule says that "[i]f significant progress is not made for the target established for the GHG measure . . . then the State DOT shall document the actions it will take to achieve the GHG performance target." Final Rule at 85392. This is mandatory language that gives

States no ability to refuse to follow whatever GHG measure the Agencies impose on them.

103. Achieving "net-zero"[49] by 2050 means drastic changes. According to the International Energy Agency, it will require "halting sales of new internal combustion engine passenger cars by 2035, and phasing out all unabated coal and oil power plants by 2040."[50] But most Americans still drive internal combustion engine passenger cars, and America's roads and infrastructure, including power grids, simply are not ready for the wholesale switch to electric vehicles.[51] Coal still provides almost 20 percent of electricity in the United States,[52] and provides over half of the electricity in eight states, including several of the Plaintiff States.[53] In Kentucky, almost seventy percent of all electricity is generated by coal.[54] Missouri and Wyoming both draw over seventy percent of their electricity from coal, and in West Virginia, coal produces almost ninety percent of the state's electricity.[55]

104. Trying to reach net-zero to slow the average temperature increase also means the economy will take a hit. A 2023 study looked at various models and found that attempting to limit the temperature increase to 1.5 degrees Celsius would result

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[49] According to the Agencies in the Proposed Rule, "[n]et-zero . . . means that human activities produce no more greenhouse gases than they remove from the atmosphere." Proposed Rule at 42419.

[50] *Net Zero by 2050*, INTERNATIONAL ENERGY AGENCY (May 2021), https://perma.cc/N23E-LRRD.

[51] *See* Letter from 3,882 vehicle dealerships to President Biden, *available at* https://evvoiceofthecustomer.com/ (urging President Biden to pause the electric vehicle mandate because consumers are unwilling to purchase electric vehicles when there is a lack of reliable charging networks, concerns about electric grid stability, and issues with sourcing of materials).

[52] *What is U.S. electricity generation by energy source?*, U.S. ENERGY INFORMATION ADMINISTRATION (Oct. 2023), https://www.eia.gov/tools/faqs/faq.php?id=427&t=3.

[53] *Which U.S. States are Still Dependent on Coal for Electricity?*, COMMODITY.COM (Feb. 17, 2023), https://commodity.com/blog/coal-dependent-states/.

[54] *Id.*

[55] *Id.*

in a cost of 5.0% of GDP.[56] In contrast, the expected benefits only amount to 0.5% of GDP.[57] Notably, the Agencies do not try to address this huge discrepancy in costs and benefits. Instead, they simply say they cannot quantify the benefits, Final Rule at 85389, but nonetheless describe them as "substantial and justify finalizing this action," *id*. at 85369.

105. It is the Plaintiff States and the people living in them who will be most adversely affected by this massive discrepancy in costs and benefits.

106. Any mandated decline in on-road CO_2 emissions will disproportionately affect States with more rural areas. States with higher average annual miles per driver tend to be more rural.[58] On average, rural residents drive ten miles more per day than urban residents.[59]

107. States with fewer metropolitan areas have fewer options available to them to reduce CO_2. Many of the ideas for how States can decrease GHG emissions—congestion pricing, road pricing, ramp metering, increased coordination with transit and non-motorized improvements, paying fees to scrap low mileage heavy duty vehicles—are options more conducive to metropolitan areas, not rural ones.[60] Low population densities limit the efficacy of public transit and congestion pricing as options that would reduce vehicle miles traveled and, consequently, CO_2 emissions.

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[56] Richard S.J. Tol, *Costs and Benefits of the Paris Climate Targets*, 14 CLIMATE CHANGE ECONOMICS 4 (2023), *available at* https://www.worldscientific.com/doi/10.1142/S2010007823400031.

[57] *Id*.

[58] Average miles driven per year by Americans, METROMILE (Sep. 13, 2021), https://perma.cc/3TW7-S7JT.

[59] *Fact #759: December 24, 2012 Rural vs. Urban Driving Differences*, DEPARTMENT OF ENERGY (Dec. 24, 2012), https://perma.cc/N3N5-LGEH.

[60] *See, e.g.*, 2017 Rule at 5997; Proposed Rule at 42410 (2022).

Drivers in rural states drive relatively long distances, often in heavy-duty vehicles required for business or agriculture or because they need to be able to maneuver effectively in inclement weather and through altitude changes. The distance and terrain also make non-motorized and electric options impractical. For example, in Alaska, electric vehicle charging systems are non-existent outside a handful of urban areas, with Alaska accounting for just 0.1% of the country's total charging stations.[61] The transportation of people and goods over the long distances between communities in Alaska is dependent upon the burning of fossil fuels, which necessarily result in CO_2 emissions.

108. Further, achieving declining targets is especially problematic in the context of economic growth, a goal of governments. The notice of the Final Rule acknowledges that a growing economy makes reducing CO_2 emissions "challenging." Final Rule at 85370.

109. The Final Rule also imposes compliance costs. Even without the language requiring States to set declining targets to achieve net-zero, the Agencies estimate implementing the Final Rule will cost up to $12.7 million (discounted at 3 percent) for the first ten years of implementation. Final Rule at 85365.

110. The Agencies estimate that the level of effort for setting the initial target—the one due on February 1, 2024—will be approximately twice that of subsequent reporting periods. *Id.* at 85388. The Regulatory Impact Analysis

[61] *Charging Stations in Alaska: Your Ultimate Guide* (Dec. 9, 2023), https://energy5.com/charging-stations-in-alaska-your-ultimate-guide (last visited Dec. 18, 2023); *Electric Vehicle Charging Stations by State*, ELECTRIC DRIVER (Dec. 1, 2022), https://electricdriver.co/articles/electric-vehicle-charging-availability-by-state/ (last visited Dec. 18, 2023).

estimated State DOTs will need to expend 208 hours to set the initial declining target with a manpower cost to each State of $636,708.[62] And this does not take into account the disruptive harm of a rushed deadline. February 1, 2024 is nearly 12 years after the passage of the statute which Defendants claim authorizes the Final Rule. Yet States are given only two months to establish declining targets and make a filing. The tight timeline will certainly have consequences for the other work streams of state transportation officials.

111. By way of example, the state of Florida has 27 MPOs. In addition to the 27 targets that each MPO must set, 25 of Florida's 27 MPOs must also set additional targets for one or more urbanized areas in order to fully comply with the Rule. The Rule requires over 70 targets be set in the state of Florida alone.

112. The cost of meeting the biennial reporting requirements of the rule is estimated to cost State DOTs and MPOs $2.7 million when discounted at 3 percent.[63]

COUNT I
The Final Rule exceeds the Agency's statutory authority.

113. The Plaintiff States incorporate by reference the allegations in each of the foregoing paragraphs as if fully stated herein in their entirety.

114. The Agencies lack authority to impose the Final Rule.

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[62] *Summary Report Economic Assessment: National Performance Management Measures; Assessing Performance of the National Highway System, Greenhouse Gas Emissions Measure RIN 2125-AF99 Proposed Rule*, at Table 5 (June 2022), *available at* https://www.regulations.gov/document/FHWA-2021-0004-0002 [hereinafter Economic Assessment]. The economic assessment estimates State DOTs will need to expend 104 hours each successive time, with a cost of $1,322,393 for each successive four-year period.

[63] *Id*. at 22.

115. "Agencies have only those powers given to them by Congress, and enabling legislation is generally not an open book to which the agency may add pages and change the plot line." *W. Va. v. EPA*, 142 S. Ct. at 2609 (cleaned up, citation omitted).

116. When interpreting a statute "that confers authority upon an administrative agency, th[e] inquiry must be 'shaped, at least in some measure, by . . .' whether Congress in fact meant to confer the power the agency has asserted." *Id.* at 2607–08 (quoting *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 159 (2000)).

117. According to the Agencies, they have authority to require States to reduce on-road CO_2 emissions under 23 U.S.C. §§ 150, 119, 101, 134, 135. Final Rule at 85365, 85367–69.

118. With respect to 23 U.S.C. § 150, the Agencies say that the term "performance" can include "environmental performance" because that interpretation is consistent with the national goals established under 23 U.S.C. § 150(b). *Id.* at 85364.

119. 23 U.S.C. § 150(b) does say "[i]t is in the interest of the United States to focus the Federal-aid highway program on . . . environmental sustainability." But the provision of Section 150 that actually authorizes the Agencies to establish performance measures says the Secretary "shall . . . limit performance measures only to those described in this subsection." 23 U.S.C. § 150(c)(2)–(3). The subsection referred to does not include a CO_2 measure. *See id.* The goals in subsection (b) are not

a directive to rewrite subsection (c). *See Kentucky v. Biden*, 23 F.4th 585, 604 (6th Cir. 2022) (explaining that purpose statements are not operative provisions so they "cannot confer freestanding powers . . . unbacked by operative language elsewhere in the statute"). Therefore, the performance measures are limited to those described in the subsection.

120. Further, the Supreme Court has rejected expansive constructions of statutes if allowing the broader interpretation would mean relying on a "cryptic" delegation of authority. *See Brown & Williamson*, 529 U.S. at 160.

121. The reference in § 150(b) to environmental sustainability as a national goal is not a clear grant of authority sufficient for the Agencies to require States to establish and demonstrate progress in achieving declining targets for on-road CO_2 emissions.

122. Indeed, the Agencies acknowledge there is no clear grant of authority. In the Final Rule, the Agencies explain that, "[a]s noted in FHWA's May 2018 repeal of the 2017 GHG measure, nothing in the statute specifically requires FHWA to adopt a GHG emissions measure." Final Rule at 85368.

123. Yet, the Agencies argue they have authority because "no provision of law prohibits FHWA from adopting a GHG emissions measure, despite ample opportunity for Congress to do so." *Id*. That assertion badly misapprehends how agency action is authorized. It is clearly not the case that an agency has authority to do everything other than what Congress expressly forbids it from doing. Rather, the inverse is true: an agency only has authority to do what Congress explicitly says it may do. If a

"cryptic" or "subtle" delegation of authority is insufficient, the complete absence of any delegation of authority certainly is insufficient.

124. Moreover, in contrast to the Agencies' seeming belief that nothing in statute prevents them from implementing this kind of rule, an interpretation of "performance" that includes "environmental performance" is not just an expansive interpretation, it is an interpretation that is inconsistent with the law.

125. The National Highway Performance Program ("NHPP") was originally created by the Moving Ahead for Progress in the 21st Century Act, which Congress signed into law in 2012.[64] "The NHPP provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS."[65] The program has been continued and funded by both the Fixing America's Surface Transportation Act ("FAST Act"), Pub. L. 114-94 (Dec. 4, 2015), and the Bipartisan Infrastructure Law, which was enacted as the Infrastructure Investment and Jobs Act ("IIJA"), Pub. L. 117-58 (Nov. 15, 2021).

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[64] *MAP-21 – Moving Ahead for Progress in the 21st Century Act*, U.S. DEPARTMENT OF TRANSPORTATION FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION (last updated Jan. 17, 2023), https://www.fmcsa.dot.gov/mission/policy/map-21-moving-ahead-progress-21st-century-act

[65] *Fixing America's Surface Transportation Act or "FAST Act*," U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, https://www.fhwa.dot.gov/fastact/factsheets/nhppfs.cfm; *see* Sec. 1106 of PL 112-141 (2012), *available at* https://www.govinfo.gov/content/pkg/PLAW-112publ141/pdf/PLAW-112publ141.pdf.

126. The NHPP "is the largest of the federal-aid highway programs."[66] For each of the next four fiscal years, Congress has appropriated over $29 billion for the program.[67] Funding for the NHS is state-focused. The NHPP continues the National Highways System Designation Act's practice of determining each state's funding based on a percentage established by statute.[68] Each state can then use the funds "to achieve national performance goals consistent with state and metropolitan planning."[69]

127. Under 23 U.S.C. § 150(c)(3), the minimum standards and measures to be established under the NHPP are "for the purpose of carrying out section 119." Section 119 defines eligibility criteria for projects funded under the National Highway Performance Program. To be eligible, the program must meet three requirements: 1) be part of a program that supports "progress toward the achievement of national performance goals for improving infrastructure condition, safety, congestion reduction, system reliability, or freight movement on the National Highway System;" 2) be consistent with sections 134 and 135, and 3) be for one or more of the purposes delineated in the section. 23 U.S.C. § 119(d). The phrasing of

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[66] *Surface Transportation Funding and Programs Under the Fixing America's Surface Transportation Act (FAST Act; P.L. 114-94)*, CONGRESSIONAL RESEARCH SERVICE (Feb. 2016), at 7, https://www.everycrsreport.com/files/20160218_R44388_45d356fde41643e8fa33b0b5208995c257b56866.pdf.

[67] *National Highway Performance Program (NHPP) Fact Sheet*, U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nhpp.cfm.

[68] *Id*.

[69] *Federal Highway Programs: In Brief*, CONGRESSIONAL RESEARCH SERVICE (Feb. 2022), at 5, https://crsreports.congress.gov/product/pdf/R/R47022#:~:text=NHPP%20is%20the%20largest%20of,virtually%20all%20other%20major%20highways.

the law is that a project must comply with both the first "*and*" second requirement, "*and*" be for one or more of the purposes in subsection (2).

128. The Final Rule mandates action that does not meet all three requirements and, therefore, is not permissible under the statute.

129. First, the goals that a program under 23 U.S.C. § 119 must support—infrastructure condition, safety, congestion reduction, system reliability, or freight movement on the National Highway System—are "consistent with an interpretation of 'performance' that focuses on the *physical* condition of the system and the *efficiency* of transportation operations across the system." 2018 Repeal at 24924 (emphasis added). The goals do not support a broader interpretation that includes environmental performance. *Id*.

130. Second, the purposes that are related to the environment are not ones that would encompass the GHG measure in the Final Rule. Purposes related to the environment in subsection (2) of Section 119(d) are not stand-alone eligibility parameters; the project must be one that focuses on infrastructure. Subsection (2) lists as one of the permissive purposes "environmental restoration and pollution abatement in accordance with section 328." Section 328 of title 23 refers to "environmental restoration and pollution abatement to minimize or mitigate the impacts of any transportation project funded under this title . . . [that] may be carried out to address water pollution or environmental degradation caused wholly or partially by a transportation facility." The specificity in this provision as to the type of issue that can be addressed—water pollution or environmental degradation caused

by a *transportation facility*—makes it clear this language is not a blank check authorizing the Agencies to promulgate a rule in response to *mobile on-road CO_2 sources*.

131. Likewise, even though one of the delineated purposes in Section 119 is "[e]nvironmental mitigation efforts," the statute explicitly and clearly limits the scope of the permitted environmental mitigation efforts. By law, only those efforts that are "described in subsection (g)" of Section 119 are allowed. The efforts described in subsection (g) relate to natural habitats and wetlands. Nothing in the subsection refers to carbon emissions.

132. Further, a general rule in aid of statutory construction is that "the specific governs the general." *Morales v. Trans World Airlines, Inc.*, 504 U.S. 374, 384 (1992).

133. Within 23 U.S.C. § 150(c), paragraph (5) is the provision concerned with congestion and "on-road mobile source emissions." The provision has the purpose of carrying out section 149 of title 23, and that section does not list CO_2 as one of the covered pollutants. Yet, rather than respect that Congress had specifically addressed performance measures for emissions in paragraph (c)(5), the Agencies conclude that a general reference to "performance" is sufficient to justify mandatory measures regarding GHG emissions. On the contrary, applying ordinary rules of statutory construction makes plain that, because Congress expressly stated in paragraph 150(c)(5) how emissions were to be addressed, the rest of subsection 150(c)—including

paragraph (c)(3)—provides no authority to regulate emissions, including CO_2 emissions.

134. The Agencies' interpretation—expanding the set of performance measures authorized by law— is contrary to, not merely in addition to, what Congress authorized in 23 U.S.C. § 150(c). In subsection 150(c), Congress plainly stated that the Agencies shall "limit performance measures only to those described in this subsection." 23 U.S.C. § 150(c)(2)(C). The words "limit" and "only" are clear, and their use expressly prohibits U.S. DOT and FHWA from attempting to expand the list of performance measures.

135. Nothing in the IIJA gives the Agencies authority to promulgate the Final Rule either.

136. The new language from IIJA makes it a purpose of the National Highway Performance Program to provide "support for activities to increase the resiliency of the National Highway System to mitigate the cost of damages from sea level rise, extreme weather events, flooding, wildfires, or other natural disasters." Pub. L. 117-58, section 11105; 23 U.S.C. § 119(b).

137. This language does not authorize the Agencies to support activities that attempt to prevent those natural disasters or climate change more generally. Instead, it authorizes the Agencies only to support "activities to increase the resiliency of the National Highway System to *mitigate the cost of damages*" from natural disasters. The language is intended to address physical issues with roads, not CO_2 emissions in the air, and it is clearly meant to be responsive to damage, not preventative.

138. The Agencies admit that Congress did not give them explicit authority to address on-road CO_2 emissions through the IIJA. Final Rule at 85368 ("The [IIJA] does not explicitly direct FHWA to assess environmental performance."). And if Congress did not explicitly give FWA such extraordinary authority, it does not have it. *See W. Va. v. EPA*, 142 S. Ct. at 2609.

139. That there are programs in the IIJA that relate to carbon reduction and transportation emissions does nothing to change that. In fact, these programs make it obvious that Congress could have chosen to give the Agencies authority to address on-road carbon emissions, but clearly chose not to do so.

140. The Agencies list six other provisions that "support FHWA's authority" for the Final Rule, Final Rule at 85368, but none of these clearly grant the Agencies authority to require states to set declining targets for on-road CO_2 emissions. The absence of a clear grant of authority means the Agencies do not have authority. *See Brown & Williamson*, 529 U.S. at 160, *W. Va. v. EPA*, 142 S. Ct. at 2609.

COUNT II
The Agencies do not have authority to mandate CO_2 emissions standards for the States.

141. The Plaintiff States incorporate by reference the allegations in each of the foregoing paragraphs as if fully stated herein in their entirety.

142. Both the operative statute and the Constitution prohibit the Final Rule's mandate to the States.

143. It is clear that Congress did not intend to confer power on the Agencies to mandate that States set targets for CO_2 emissions. And the mandate of the Final

Rule requiring States to set declining emissions targets contravenes several statutory provisions and violates the principles of federalism, which those statutes sought to protect.

144. Congress envisioned a role for the states with respect to the NHPP. By law, States must "develop a risk-based asset management plan . . . to improve or preserve the condition of the assets and performance of the [NHS]." 23 U.S.C. § 119(e)(1). The plan needs to "include strategies . . . that would make progress toward achievement of the *State targets* for asset condition and performance of the [NHS] in accordance with section 150(d) and supporting the progress toward the achievement of the national goals identified in section 150(b)." 23 U.S.C. § 119(e)(2) (emphasis added).

145. According to 23 U.S.C. § 150, it is the States that set the performance targets. 23 U.S.C. § 150(d) ("[E]ach State shall set performance targets."). The Agencies' role is only to certify the States' plans. *See* 23 U.S.C. § 119(e)(6).

146. With the Final Rule, the Agencies are forcing States to implement the President's controversial climate change policy by requiring them to "establish declining targets for reducing CO_2 emissions generated by on-road mobile sources . . . [and] report on their progress." Final Rule at 85366. In effect, the Agencies are attempting to compel the States to be foot soldiers in service to President Biden's climate change agenda, notwithstanding their own sovereign interests and policies, and Congress's express enactment. This approach goes far beyond even the Obama–Biden administration's GHG rule (2017 Rule) where FHWA wrote: "The FHWA

believes that State DOTs and MPOs have the discretion to establish their targets. The MAP-21 does not provide FHWA the authority to approve or reject State DOT or MPO established targets." 2017 Rule at 5989.

147. Regulatory action cannot be used in this manner. Just because the President believes that reducing on-road CO_2 emissions is key to addressing climate change, *see* Final Rule at 85369 ("[T]he establishment of declining targets is vital given the urgency of the climate crisis."), does not mean the Agencies can compel the States to administer a federal administrative regulatory program absent statutory authority.

148. The newly enacted IIJA did not change the Agency's statutory authority to regulate. As made explicit in a comment to the Proposed Rule by a group of U.S. Senators, the "IIJA established new programs to *incentivize* and *reward* state DOTs and MPOs for implementing emissions reduction strategies."[70] Indeed, according to Senate Minority Leader Mitch McConnell and Ranking Member of the Senate Committee on Environment and Public Works Shelley Moore Capito, "[n]othing in the IIJA provides FHWA with the authority to dictate how states should use their federal formula funding."[71]

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[70] Letter in Response to FHWA Proposed Rule by Republican Senators (July 28, 2022), *available at* https://www.regulations.gov/comment/FHWA-2021-0004-0007 (emphases added); *see* IIJA at §§ 50201-222.

[71] Letter from Senator McConnell and Senator Capito to State Governors (Feb. 9, 2022), *available at* www.epw.senate.gov/public/_cache/files/8/c/8c3b1b65-550b-493b-b6cd-33b108e53eac/B44AC4860614C4E3FD4712AAB8652E9C.2022-02-07-general-iija-governors-letter.pdf.

149. The Agencies are attempting to impose what Congress decided not to impose. Even the version of the IIJA that was initially passed by the House did not extend the Agencies' authority as broadly as they now claim. The House version had a section devoted to carbon pollution reduction, in which it made funds available for States to set emissions goals and allowed the Secretary to shift federal funding for the fifteen states that performed the worst in meeting their goals.[72] In contrast, the enacted and codified version of the IIJA did not require the Secretary to evaluate the progress of the States in meeting emissions goals or condition funding on meeting any such goals. IIJA at § 11403.

150. The Constitution is also clear that action by the States cannot be mandated through federal action like the Final Rule.

151. "The Federal Government may not compel the States to enact or administer a federal regulatory program." *New York v. United States*, 505 U.S. 144, 188 (1992). "[T]he Constitution protects us from our own best intentions: It divides power among sovereigns and among branches of government precisely so that we may resist the temptation to concentrate power in one location as an expedient solution to the crisis of the day." *Id*. at 187.

[72] H.R. 3684, 117th Congress (engrossed in House Jul. 1, 2021), at § 1213, *available at* https://www.congress.gov/bill/117th-congress/house-bill/3684/text/eh [hereinafter "House Version"]; *see also* Michael Laris, *Infrastructure Proposal Creates a Program to Cut Emissions. Critics Say It's Missing Major Pieces*, THE WASHINGTON POST (Aug. 3, 2021), https://www.washingtonpost.com/transportation/2021/08/03/carbon-emissions-reduction-infrastructure/.

152. Even if Congress believed the Final Rule was the best means of reducing CO_2 in order to address climate change, the States could not be directed to implement the policy choices of the federal government.[73] *See Printz v. United States*, 521 U.S. 898, 924 (1997).

153. The Agencies recognize they lack authority to mandate the States meet certain targets. In the Proposed Rule, they claimed the GHG measure did "not mandate the level of the targets." Proposed Rule at 42401. And in the Final Rule, the Agencies said they are "not requiring that declining targets align to the Administration's net-zero targets as outlined in the national policy established under E.O. 14008." Final Rule at 85374.

154. Yet, contrary to their claim and despite the changes to the language used, the Final Rule is still mandating States support and aid in the Administration's goal of reaching net-zero by 2050 because, under the Final Rule, States still have to set *declining* targets. *See* Final Rule at 85364 ("State DOTs and MPOs have the flexibility to set targets that work for their respective climate change policies and other policy priorities, so long as they are declining."); *id*. at 85380 ("The requirement for State DOTs and MPOs to establish declining targets for tailpipe CO_2 emissions on the NHS is vital given the urgency of the climate crisis. Declining targets will help . . . make Federal infrastructure investment decisions that reduce climate pollution, a principle set forth in E.O. 14008.").

[73] The Constitution permits the Federal Government to hold out incentives to the States to encourage them to adopt a suggested regulatory scheme, *see, e.g., South Dakota v. Dole*, 483 U.S. 203 (1987), but the Rule would "require" action by the States, *see* Proposed Rule at 42402, 42413; Final Rule at 85364.

155. The language used by the Agencies is mandatory. *See* Final Rule at 85364 ("The GHG measure requires State DOTs and MPOs that have NHS mileage within their . . . boundaries . . . to establish declining targets for reducing CO_2 emissions generated by on-road mobile sources."); *id.* at 85380. And the way an agency talks about the rule matters. *See W. Va. v. EPA*, 142 S. Ct. at 2611–12 (finding the EPA was asserting an unprecedented and overly broad power based on how the EPA described the rule). The Agencies cannot expect the States or this Court to treat as optional what they talk about as requirements.

156. Because the Final Rule does not permit the States to choose what target to set (i.e., they are not able to set targets that maintain current CO_2 emissions levels rather than declining targets), it violates 23 U.S.C. § 150(d), which clearly says "each State shall set performance targets." The Agencies are infringing on the role Congress clearly envisioned for the States.

COUNT III
The Final Rule violates the Major Questions Doctrine.

157. The Plaintiff States incorporate by reference the allegations in each of the foregoing paragraphs as if fully stated herein in their entirety.

158. Congress did not authorize the Agencies to address climate change.

159. Under the major questions doctrine, an agency's claim of authority must be clearly supported by statute before an agency can assert "'unheralded' regulatory power over a 'significant portion of the American economy.'" *W. Va. v. EPA*, 142 S. Ct. at 2608 (citation omitted). The Supreme Court has accordingly rejected agencies' claims of regulatory authority when the underlying claim of authority concerns an

issue of "vast 'economic and political significance,'" unless Congress has clearly spoken to empower the agency. *See Util. Air. Regulatory Grp. v. EPA*, 573 U.S. 302, 324 (2014).

160. The Final Rule, which mandates every state, the District of Columbia, and Puerto Rico to reduce on-road CO_2 emissions, results in federal regulation of a vast portion of the American economy.

161. Studies have identified several "drastic changes" that would be required for the U.S. to achieve net-zero by 2050, including having 50% of all new cars sold after 2030 be battery-powered, switching over one quarter of homes from natural gas or oil heats to electric heat pumps, and shutting down "virtually all of the 200 remaining coal-burning power plants" by 2030.[74]

162. Even without the Proposed Rule's language mandating States set their declining targets to achieve net-zero emissions by 2050, that is clearly the Agencies' goal. *See* Final Rule at 85365.

163. And, regardless, requiring declining targets for all States will still affect a vast portion of the American economy. States will be forced to make choices about projects, contracts, and regulations in order to make and meet the declining targets. All of these choices can impact a State's economy, which in turn affects the nation's economy.

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[74] *See e.g.*, Brad Plumer, *To Cut Emissions to Zero, U.S. Needs to Make Big Changes in Next 10 Years*, THE NEW YORK TIMES (Dec. 15, 2020), https://www.nytimes.com/2020/12/15/climate/america-next-decade-climate.html.

164. The Final Rule will result in a major change in the States' selection of transportation projects.

165. Congress has delineated specific purposes for the NHPP and specified what constitutes an eligible facility and project. *See* 23 U.S.C. § 119.

166. Prior to the Final Rule, funds were distributed to the States who then selected projects on which to use those funds. The Final Rule, however, effectively requires that the States select projects that will help the State achieve a "declining target" for CO_2 emissions—or face potential penalties.[75] *See* Final Rule at 85368–69 (explaining that the GHG measure "does not force investments in specific projects," but "FHWA has determined that the targets for the GHG measure should show a reduction in CO_2 emissions").

167. The Agencies' economic assessment states, "it is not possible to conclude with any degree of certainty whether and how the GHG measure might cause State DOTs and MPOs to make transportation investment and operations decisions that they otherwise would not have made."[76] *Id*. at 6.

168. However, later on, the Economic Assessment acknowledges that "the rule may result in some offsetting loss of benefits from investment projects that would no longer be pursued, if funds are shifted towards other projects as a result of the rule." *Id*. at 29.

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[75] While the Final Rule does not propose penalty authority or levels, both the Notice of Proposed Rulemaking and the Economic Assessment for the proposed rule volunteered that FHWA has penalty authority elsewhere that could be applied. *See* Proposed Rule at 42415, n.39; Economic Assessment, *supra* note 60 at 9.

[76] Economic Assessment, s*upra* note 60 at 6.

169. In reality, the Final Rule means the States will have to select projects based on the policy objectives of the President. The Final Rule says it "does not force investments in specific projects," but in the same paragraph says, "FHWA has determined that the targets for the GHG measure should show a reduction in CO_2 emissions," which will help achieve the "principle set forth in E.O. 14008"—that is, the principle of responding to the perceived climate crisis by achieving net-zero emissions by 2050. *See* Final Rule at 85368–69; Executive Order 14008, section 101. Not only is this restrained project selection unconstitutional under federalism principles, *supra* Count II, but also as an unauthorized assertion of unheralded regulatory authority over the economies of all of the States.

170. The Defendants are fully aware of and acknowledge the magnitude of their proposed policy to address CO_2 emissions. In the joint press release issued when the Agencies finalized the rule, Defendant Administrator Bhatt said, "Transportation is the leading source of greenhouse gas emissions in the U.S. . . . . We don't expect state DOTs and MPOs to solve a problem this large on their own."[77]

171. Congress has not clearly spoken to empower the Agencies to assert such unheralded regulatory authority.

172. In fact, it is clear that Congress has *not* empowered the Agencies to act in this manner. A comparison of the House version[78] and the final enacted version of

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[77] *Biden-Harris Administration Finalizes Greenhouse Gas Emissions Reduction Tool, Moves Climate Change Performance Measure Forward*, U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION (Nov. 22, 2023), https://highways.dot.gov/newsroom/biden-harris-administration-finalizes-greenhouse-gas-emissions-reduction-tool-moves.

[78] H.R. 3684, 117th Congress (engrossed in House Jul. 1, 2021), at § 1213, *available at* https://www.congress.gov/bill/117th-congress/house-bill/3684/text/eh [hereinafter "House Version"].

the IIJA demonstrates Congress decided to not give the Agencies expanded authority to address climate change.

173. In the House version, the bill called for 23 U.S.C. § 119(d) to be amended by striking "or freight movement on the National Highway System" and inserting "freight movement, environmental sustainability, transportation system access, or combating climate change." House Version at § 1201. The final version made no such change. IIJA at § 11105.

174. Likewise, there were a number of other places where the House version added language to focus on climate change, but that language was not included in the enacted version of the IIJA. *See, e.g.*, House Version at § 1202 (amending 23 U.S.C. § 135(f) to add a climate change and resilience section requiring the transportation planning process to "assess strategies to reduce the climate change impacts of the surface transportation system and conduct a vulnerability assessment to identify opportunities to enhance the resilience of the surface transportation system and ensure the efficient use of Federal resources"); *see also id.* at § 1201 (amending 23 U.S.C. § 119(e) by striking "analysis" and inserting "analyses, both of which shall take into consideration climate change adaptation and resilience"). All of these indicate that the language in the statute as enacted does not authorize the Agencies to address climate change.

175. Indeed, Congress has not given authority to any agency to address climate change writ large in any capacity it wishes. While Congress has given authority to NHTSA and EPA to address some issues relating to climate change, that

authority is not unlimited and is clearly tethered to Congressional authorization. *See W. Va. v. EPA,* 142 S. Ct. at 2609. NHTSA and EPA have statutory authority only to reduce emissions from new vehicles. *See* 42 U.S.C. § 7521. That is a stark contrast to the Final Rule, which requires States to contort transportation investment decisions to reduce CO_2 emissions. Even if NHTSA and EPA had authority to require States to set declining targets for on-road CO_2 emissions, it would not mean U.S. DOT and FHWA had authority. Congress must clearly delegate the authority to U.S. DOT and FHWA if Congress wants them to address the extraordinary issue of climate change by regulating on-road CO_2 emissions.

176. How (or whether) to address on-road CO_2 emissions is an issue of vast economic and political significance. Congress has not given the Agencies authority to regulate it.

COUNT IV
The Final Rule is arbitrary and capricious in violation of the Administrative Procedure Act.

177. The Plaintiff States incorporate by reference the allegations in each of the foregoing paragraphs as if fully stated herein in their entirety.

178. Under the Administrative Procedure Act, agency action cannot be arbitrary or capricious. *See FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 513 (2009). This means that, *inter alia*, the agency cannot rely on "factors which Congress has not intended it to consider," and the agency must "examine the relevant data and articulate a satisfactory explanation for its action." *Motor Vehicle Mfrs. Ass'n of the*

U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983). The Agencies have violated both of these principles.

179. By relying on climate-change factors, the Agencies have proposed an arbitrary action. Congress has not authorized them to consider CO_2 emissions, much less develop a rule to reduce them. *Supra* Count III. The Agencies cannot simply say they "ha[ve] reexamined th[e] determination from the 2018 repeal final rule" to assert "FHWA has the authority." Final Rule at 85374. The lack of authority for the subject of the Rule makes it arbitrary.

180. Even if the Final Rule was not *per se* arbitrary, the Agencies have failed to articulate a satisfactory explanation for why they are imposing it on the States.

181. Agencies have leeway to exercise expert discretion, but when exercising it, they must justify the choices they make by providing the basis for exercising their expert discretion. *See Burlington Truck Lines, Inc. v. United States,* 371 U.S. 156, 167 (1962). And while "[a]n agency's view of what is in the public interest may change . . . [,] an agency changing its course must supply a reasoned analysis[.]" *Greater Boston Television Corp. v. FCC*, 444 F.2d 841, 852 (D.C. Cir. 1970); *see also Burlington*, 371 U.S. at 167 (noting that if an agency is not required to provide the reasoned analysis, it "can become a monster which rules with no practical limits on its discretion") (internal citation omitted).

182. The Agencies said they are imposing a new version of the once-repealed GHG measure because they reconsidered the arguments for the 2018 repeal and found them lacking. Final Rule at 85366. Specifically, they are imposing the GHG

measure "[i]n light of the Agency's policy emphasis on using its available authorities to confront worsening climate change—as well as the new facts identified in reports issued between 2018 and 2021 that expand our knowledge of the severe consequences of climate change." Proposed Rule at 42405; *see also* Final Rule at 85369 (adopting in full the analysis in the Proposed Rule justifying the reconsideration). Accordingly, "FHWA reconsidered its legal authority, reexamined the assumptions regarding potential costs and potential duplication that underlay the repeal of the 2017 measure, and propose[d] adopting a GHG performance measure." Proposed Rule at 42405.

183. The Agencies do not provide a sufficiently reasoned analysis for imposing the Final Rule. First, even according to the descriptions given by the Agencies, the new reports they identified are not specific to on-road CO_2 emissions; they simply address greenhouse gases generally. *See id.* The Agencies' summarized the IPCC Sixth Assessment Report from 2021 as saying human activities have increased atmospheric GHG emissions, which have raised the average surface temperature, and there may be "evidence linking human production of GHG emissions to extreme events such as heatwaves, heavy precipitation, droughts, and hurricanes." *Id.* The 2018 reports discuss assertions that limiting global warming "would likely require a decrease in global net anthropogenic CO_2 emissions[.]" *Id.* These general climate change reports are not sufficient justification for why the Agencies need to mandate declining on-road CO_2 emissions targets for all of the States.

184. Second, the reexamination of the assumptions regarding potential costs and duplication of efforts is based on a difference in policy, not technical expertise. The Agencies reject the earlier conclusion that it "was not possible to predict, with any reasonable degree of certainty, the extent to which the influence effects of the GHG measure might result in actual changes in emissions levels" and say they now "anticipate[] that this proposed rule would result in substantial benefits that are neither speculative nor uncertain." *Id*. at 42410. Yet, in the *same paragraph*, they say the "benefits are not easily quantifiable." *Id*.; *see also id*. at 42404 ("The [regulatory impact analysis] discusses anticipated benefits of the rule qualitatively; they are not quantified because they are difficult to forecast and monetize."). The Agencies' ability to predict did not change, the Administration's policy goals did.

185. In the Proposed Rule, the Agencies said the "GHG measure aligns with the national goal of reducing CO_2 emissions 50 to 52 percent below 2005 levels by 2030 in support of the Paris Agreement." *Id*. at 42411. This "national policy" that supports the Paris Agreement is just part of an Executive policy; the Senate has not given its advice and consent. Further, these are political choices, not exercises of technical expertise and discretion or legislative enactments. The numerous references to how the proposed GHG measure "aligns" with the Executive Orders establishing the net-zero targets demonstrate the Agencies are fully aware they are relying on Executive policy wishes. *Id*. at 42401, 42402–42403, 42406; Final Rule at 85365.

186. The failure to supply a reasoned analysis that provides a basis for the Agencies exercising technical discretion makes the Final Rule arbitrary and capricious.

COUNT V
The Final Rule violates the Spending Clause.

187. The Plaintiff States incorporate by reference the allegations in each of the foregoing paragraphs as if fully stated herein in their entirety.

188. Because all States receive Federal highway formula funds and the Final Rule will, in effect, restrict the ways States use those funds, the Final Rule must comply with the constitutional limits on the Spending Clause.

189. "The legitimacy of Congress' power to legislate under the spending power . . . rests on whether the State voluntarily and knowingly accepts the terms of the 'contract.'" *Pennhurst State Sch. & Hosp. v. Halderman*, 451 U.S. 1, 17 (1981). "States cannot knowingly accept conditions of which they are 'unaware' or which they are 'unable to ascertain.'" *Arlington Cent. Sch. Dist. Bd. of Educ. v. Murphy*, 548 U.S. 291, 296 (2006) (quoting *Pennhurst*, 451 U.S. at 17)).

190. Therefore, "Congress must provide 'clear notice' of the obligations a spending law entails." *Kentucky v. Yellen*, 54 F.4th 325, 348 (6th Cir. 2022) (quoting *Pennhurst* 451 U.S. at 25).

191. And when an agency purports to act relative to a spending law, courts have to determine whether they (or the States) "must accept as binding an agency regulation establishing an otherwise-uncertain spending-law condition." *Yellen*, 54

F.4th at 353. To do so, courts impose a "clear-statement rule" on agency action implementing Spending Clause legislation. *See id.* at 347–48. Under this clear-statement rule, "Congress *itself* must have spoken with a 'clear voice.'" *Id.* at 354 (quoting *Pennhurst*, 451 U.S. at 17).

192. Here, 23 U.S.C. § 150(c)(3) comes nowhere near being a clear statement that would put States on notice that the Agencies could use it to mandate States set declining on-road CO_2 emissions targets. The Final Rule is thus *ultra vires*.

PRAYER FOR RELIEF

WHEREFORE, the Plaintiff States respectfully ask this Court to:

1. Declare the Final Rule is unlawful because it was promulgated in excess of the Agencies' statutory authority, violates the Constitution by usurping the role of the Legislature and of the States, and is arbitrary and capricious;
2. Vacate and set aside the Final Rule in its entirety;
3. Issue preliminary and permanent injunctive relief prohibiting the Agencies from implementing, applying, enforcing, or otherwise proceeding on the basis of the Final Rule;
4. Award the Plaintiffs reasonable costs and fees, including attorney's fees, pursuant to any applicable statute or authority;
5. Grant the Plaintiffs such additional relief that the Court deems appropriate.

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CERTIFICATE OF SERVICE

I certify that on December 21, 2023, the above document was filed with the CM/ECF filing system, which electronically served a copy to all counsel of record.

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DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

23 CFR Part 490

[FHWA Docket No. FHWA–2021–0004]

RIN 2125–AF99

National Performance Management Measures; Assessing Performance of the National Highway System, Greenhouse Gas Emissions Measure

AGENCY: Federal Highway Administration (FHWA), U.S. Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: This final rule amends FHWA's regulations governing national performance management measures and establishes a method for the measurement and reporting of greenhouse gas (GHG) emissions associated with transportation (GHG measure). It requires State departments of transportation (State DOT) and metropolitan planning organizations (MPO) to establish declining carbon dioxide (CO_2) targets for the GHG measure and report on progress toward the achievement of those targets. The rule does not mandate how low targets must be. Rather, State DOTs and MPOs have flexibility to set targets that are appropriate for their communities and that work for their respective climate change and other policy priorities, as long as the targets aim to reduce emissions over time. The FHWA will assess whether State DOTs have made significant progress toward achieving their targets.

DATES: This final rule is effective January 8, 2024.

FOR FURTHER INFORMATION CONTACT: Mr. John G. Davies, Office of Natural Environment, (202) 366–6039, or via email at *JohnG.Davies@dot.gov,* or Mr. Lev Gabrilovich, Office of the Chief Counsel, (202) 366–3813, or via email at *Lev.Gabrilovich@dot.gov.* Office hours are from 8 a.m. to 4:30 p.m., E.T., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Electronic Access and Filing

This document, the notice of proposed rulemaking (NPRM), all comments received, and all supporting material may be viewed online at *www.regulations.gov* using the docket number listed above. Electronic retrieval help and guidelines are available on the website. It is available 24 hours each day, 365 days each year. An electronic copy of this document may also be downloaded from the Office of the Federal Register's website at *www.federalregister.gov* and the Government Publishing Office's website at *www.GovInfo.gov.*

I. Executive Summary

The FHWA is amending its regulations on national performance management measures at 23 CFR part 490 (part 490) and establishing a method for the measurement and reporting of GHG emissions. The environmental sustainability, and specifically the carbon footprint, of the transportation system is a critically important attribute that State DOTs can and should use to assess the performance of the Interstate and non-Interstate NHS. Section 150(c) of Title 23, U.S.C., clearly directs FHWA to establish performance measures that the State DOTs can use to assess performance of the Interstate and non-Interstate NHS. Although the statute does not define the meaning of ''performance'' of the Interstate and non-Interstate NHS under 23 U.S.C. 150(c), Congress identified national goals under 23 U.S.C. 150(b), which include environmental sustainability. *See* 23 U.S.C. 150(b)(6). To support the environmental sustainability national goal, FHWA is interpreting ''performance'' of the Interstate System and non-Interstate NHS under 23 U.S.C. 150(c) to include the system's environmental performance. This definition of ''performance'' is also consistent with other Title 23, U.S.C. provisions, such as 23 U.S.C. 119, discussed later in this preamble.

The GHG measure established in this rule is the same as the measure proposed in the NPRM, which is the percent change in on-road tailpipe CO_2 emissions on the NHS relative to the reference year. The FHWA is finalizing a reference year of 2022 as part of this rule. The measure is part of the National Highway Performance Program (NHPP) performance measures that FHWA established in part 490 through prior rulemakings. The GHG measure requires State DOTs and MPOs that have NHS mileage within their State geographic boundaries and metropolitan planning area boundaries, respectively, to establish declining targets for reducing CO_2 emissions [1] generated by on-road mobile sources. The regulation uses ''NHS'' to mean the mainline highways of the NHS, consistent with the applicability of the measure described in § 490.503(a)(2). Consistent with the Transportation Performance Management (TPM) framework, State DOTs will establish 2- and 4-year statewide emissions reduction targets, and MPOs will establish 4-year emissions reduction targets for their metropolitan planning areas. In addition, the rule will require certain MPOs serving UZAs with populations of 50,000 or more to establish additional joint targets. Specifically, when the metropolitan planning area boundaries of two or more MPOs overlap any portion of an UZA, and the UZA contains NHS mileage, those MPOs will establish joint 4-year targets for that UZA. This joint target will be established in addition to each MPO's target for their metropolitan planning area. State DOTs and MPOs have the flexibility to set targets that work for their respective climate change policies and other policy priorities, so long as they are declining. The State DOTs and MPOs are also required to report on their progress in meeting the targets. The final rule applies to the 50 States, the District of Columbia, and Puerto Rico, consistent with the definition of the term ''State'' in 23 U.S.C. 101(a). To realize the benefits of a GHG measure as soon as is practicable, State DOTs will first establish targets and report those targets by February 1, 2024, and subsequent targets will be established and reported no later than October 1, 2026, with biennial reports thereafter.

The GHG measure will help the United States (U.S.) confront the increasingly urgent climate crisis. The Sixth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC), released on August 7, 2021, confirms that human activities are increasing GHG concentrations that have warmed the atmosphere, ocean, and land at a rate that is unprecedented in at least the last 2000 years.[2] Changes in extreme events, along with anticipated future increases in the occurrence and severity of these events because of climate change, threaten the reliability, safety, and efficiency of the transportation system and the people who rely on it to move themselves and transport goods. At the same time,

[1] The proposed GHG measure specifically applies to CO_2 emissions, which is the predominant human-produced GHG. CO_2 is also the predominant GHG from on-road mobile sources, accounting for approximately 97 percent of total GHG emissions weighted by global warming potential in 2021. See U.S. Environmental Protection Agency, 2023: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2021, table 2–13, available at *https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021.*

[2] *See* IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, available at *https://www.ipcc.ch/report/ar6/wg1/#SPM.*

transportation contributes significantly to the causes of climate change,[3] representing the largest source of U.S. CO_2 emissions, and each additional ton of CO_2 produced by the combustion of fossil fuels contributes to future warming and other climate impacts.

The GHG measure aligns with Executive Orders (E.O.) described later in this preamble and supports the U.S. target of reducing GHG emissions 50–52 percent below 2005 levels in 2030, on course to reaching net-zero emissions economywide no later than 2050.[4] As a matter of transportation policy, DOT considers the GHG measure essential to improve transportation sector performance and demonstrate Federal leadership in the assessment and disclosure of climate pollution. The first step toward reducing GHG emissions involves inventorying and monitoring those emissions. By providing consistent and timely information about on-road mobile source emissions on the NHS, the GHG measure has the potential to increase public awareness of GHG emissions trends, improve the transparency of transportation decisions, enhance decisionmaking at all levels of government, and support better informed planning choices to reduce GHG emissions or inform tradeoffs among competing policy choices.

Furthermore, the rule responds to the direction in sections 1 and 2 of E.O. 13990 (86 FR 7037) that Federal agencies review any regulations issued or similar actions taken between January 20, 2017, and January 20, 2021, and, consistent with applicable law, take steps to address any such actions that conflict with the national objectives set forth in the order to address climate change. The FHWA reviewed its 2018 final rule (83 FR 24920, May 31, 2018) that repealed a GHG measure FHWA adopted in 2017 (2017 GHG measure) and determined that the repeal conflicts with those objectives.

After reviewing the 2018 final rule, FHWA has reconsidered its position that the Agency's authority to promulgate the 2017 final rule reflected a ''strained reading of the statutory language in section 150.'' 83 FR at 24923. The FHWA now concludes, as it did when establishing a GHG measure in the 2017 PM3 final rule, that it has the legal authority to establish the GHG measure under 23 U.S.C. 150. Specifically, FHWA is clearly directed under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V) to establish measures for States to use to assess the performance of the Interstate System and non-Interstate NHS. Although the statute does not define performance, 23 U.S.C. 150(b)(6) identifies environmental sustainability as a national goal of the Federal-aid highway program, and Congress, in 23 U.S.C. 150(a), has declared that performance management, including the use of performance measures, is key to meeting the national goals of section 150(b). To address the national goal of environmental sustainability, FHWA has determined that the performance of the Interstate System and the NHS under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V) logically includes environmental performance. The GHG measure is also appropriate in light of other provisions of Title 23, U.S.C., notably the NHPP provisions at 23 U.S.C. 119, which include requirements for State asset management plans that support progress toward the achievement of the national goals identified in 23 U.S.C. 150(b), including the national goal to enhance the performance of the transportation system while protecting and enhancing the natural environment at 23 U.S.C. 150(b)(6), and include a risk management analysis that specifically addresses extreme weather and resilience. *See* 23 U.S.C. 119(e)(2) and (e)(4)(D). This reconsideration is discussed in detail in section III.B in the NPRM, *see* 87 FR 42407–42410, and section III below.

The regulatory impact analysis (RIA) prepared pursuant to E.O. 12866, as amended by E.O. 14094, is available in the rulemaking docket (Docket No. FHWA–2021–0004). The RIA estimates the costs associated with establishing the GHG measure, derived from the costs of implementing the GHG measure for each component of the rule that may involve costs. To estimate the costs, FHWA assessed the level of effort that would be needed to comply with each applicable section in part 490 with respect to the GHG measure, including labor hours by labor category, over a 10-year study period (2023–32). Total costs over this period are estimated to be $10.8 million, discounted at 7 percent, and $12.7 million, discounted at 3 percent. The RIA also discusses anticipated benefits of the rule qualitatively because the anticipated quantitative benefits are difficult to forecast and monetize. These benefits include: (1) more-informed decision-making through the creation of complete, consistent, and timely information on GHG emissions; (2) greater accountability through the establishment of a more highly visible and transparent performance reporting system; and (3) improved progress toward achieving national transportation goals by including declining targets for CO_2 emissions on the NHS in the set of existing performance requirements designed to help the Federal-aid highway program support balanced performance outcomes and national climate policies.

II. Background and Regulatory History

The 2012 Moving Ahead for Progress in the 21st Century Act (MAP–21) (Pub. L. 112–141) and the 2015 Fixing America's Surface Transportation (FAST Act) (Pub. L. 114–94) transformed the Federal-aid highway program by establishing performance management requirements and tasking FHWA with carrying them out. To implement this program, FHWA established an organizational unit with dedicated full-time staff to coordinate with program staff from each of the performance areas to design and establish an approach to effectively implement the Title 23 performance provisions. The FHWA has technical and policy experts on staff to assist State DOTs and MPOs with implementing performance management and oversee program requirements. The FHWA implemented this performance management network through multiple rulemakings, which established in 23 CFR part 490 the performance measures and requirements for target establishment, reporting on progress, and how determinations would be made on whether State DOTs have made significant progress toward applicable targets.

The TPM requirements provide increased accountability and transparency, and facilitate efficient investment of Federal transportation funds through a focus on performance outcomes for the seven national

[3] Jacobs, J.M., M. Culp, L. Cattaneo, P. Chinowsky, A. Choate, S. DesRoches, S. Douglass, and R. Miller, 2018: Transportation. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 479–511. doi: 10.7930/NCA4.2018.CH12.

[4] White House Fact Sheet: The Biden-Harris Electric Vehicle Charging Action Plan (December 13, 2021), available at *https://www.whitehouse.gov/briefing-room/statements-releases/2021/12/13/fact-sheet-the-biden-harris-electric-vehicle-charging-action-plan/;* White House Fact Sheet: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies (Apr. 22, 2021), available at *https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/;* White House Fact Sheet: President Biden's Leaders Summit on Climate (Apr. 23, 2021), available at *https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/23/fact-sheet-president-bidens-leaders-summit-on-climate/.*

transportation goals concerning safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery delays. *See* 23 U.S.C. 150(b). Through performance management, recipients of Federal-aid highway funds make transportation investments to achieve short-term performance targets and make progress toward the seven statutory national transportation goals. Performance management allows FHWA to more effectively evaluate and report on the Nation's surface transportation conditions and performance.

Prior to MAP–21, there were no explicit statutory requirements for State DOTs or MPOs to demonstrate how their transportation programs supported national performance outcomes, making it difficult to assess the effectiveness of the Federal-aid highway program. The TPM requirements established in MAP–21 changed this paradigm by requiring State DOTs and MPOs to measure condition or performance, establish targets, assess progress toward targets, and report on condition or performance in a nationally consistent manner for the first time. *See* 23 U.S.C. 150(e); 23 CFR 490.107. As previously noted, FHWA conducted several rulemakings implementing the performance management framework. Most relevant to this proposed rule are three related national performance management measure rulemakings in which FHWA established various measures for State DOTs and MPOs to use to assess performance, found at 23 CFR part 490. The first rulemaking focused on Safety Performance Management (PM1), and a final rule published on March 15, 2016 (81 FR 13882), established performance measures for State DOTs to use to carry out the Highway Safety Improvement Program (HSIP). The second rulemaking on Infrastructure Performance Management (PM2) resulted in a final rule published on January 18, 2017 (82 FR 5886), that established performance measures for assessing pavement condition and bridge condition for the NHPP. The third rulemaking, System Performance Management (PM3), established measures for State DOTs and MPOs to use to assess the performance of the Interstate and non-Interstate NHS for the purpose of carrying out the NHPP; to assess freight movement on the Interstate System; and to assess traffic congestion and on-road mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality (CMAQ) Program. The PM3 final rule was published on January 18, 2017 (82 FR 5970). The PM3 rule addressed a broad set of performance issues and some of the national transportation goals, such as environmental sustainability, that were not addressed in the earlier rulemakings focused solely on safety and infrastructure condition. In the preamble to the PM3 proposed rule, published on April 22, 2016 (81 FR 23806), FHWA requested public comment on whether to establish a CO_2 emissions measure in the final rule and, if so, how to do so. The FHWA acknowledged the contribution of on-road sources to over 80 percent of U.S. transportation sector GHG emissions, and the historic Paris Agreement in which the U.S. and more than 190 other countries agreed in December 2015 to reduce GHG emissions, with the goal of limiting global temperature rise to less than 2 degrees Celsius above pre-industrial levels by 2050. The FHWA recognized that achieving U.S. climate goals would require significant GHG reductions from on-road transportation sources. *See* 81 FR 23830. Against this backdrop, FHWA stated that it was considering how GHG emissions could be estimated and used to inform planning and programming decisions to reduce long term emissions. The FHWA sought comment on the potential establishment and effectiveness of a GHG emissions measure as a planning, programming, and reporting tool, and FHWA requested feedback on specific considerations related to the design of such a measure. *See* 82 FR 23831.

In the PM3 final rule, after considering extensive public comments on whether and how FHWA should establish such a measure, FHWA established a GHG emissions performance measure to measure environmental performance in accordance with 23 U.S.C. 150(c)(3). The measure involved the percent change in CO_2 emissions from the reference year 2017, generated by on-road mobile sources on the NHS. After a change in Administration, FHWA repealed the 2017 GHG measure before the respective due dates for target setting or reporting. On October 5, 2017 (82 FR 46427), FHWA proposed to repeal the 2017 GHG measure. The FHWA requested public comment on whether to retain or revise the 2017 GHG measure. *See* 82 FR 46430. In light of policy direction at the time to review existing regulations to determine whether changes would be appropriate to eliminate duplicative regulations, reduce costs, and streamline regulatory processes, and after considering public comments received, on May 31, 2018 (83 FR 24920), FHWA repealed the GHG measure, effective on July 2, 2018. The FHWA identified three main reasons for the repeal: (1) reconsideration of the underlying legal authority; (2) the cost of the GHG measure in relation to the lack of demonstrated benefits; and (3) potential duplication of information produced by the GHG measure and information produced by other initiatives related to measuring CO_2 emissions.

On July 15, 2022 (87 FR 42401), FHWA published a NPRM to establish a GHG measure. After reconsidering the arguments for the 2018 final rule and finding them lacking, FHWA proposed to require State DOTs and MPOs that have NHS mileage within their State geographic boundaries and metropolitan planning area boundaries, respectively, to establish declining targets for reducing CO_2 emissions generated by on-road mobile sources, that align with the Administration's target of net-zero emissions, economy-wide, by 2050, accordance with the national policy established under section 1 of E.O. 13990, ''Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis'', section 201 of E.O. 14008, ''Tackling the Climate Crisis at Home and Abroad'', and at the Leaders Summit on Climate. Under the proposed rule, State DOTs would establish 2- and 4-year statewide emissions reduction targets, and MPOs would establish 4-year emissions reduction targets for their metropolitan planning areas. In addition, FHWA proposed to require MPOs serving select UZA to establish additional joint targets. The term ''urbanized area'' means a geographic area with a population of 50,000 or more, as designated by the Bureau of the Census. *See* 23 U.S.C. 101(a)(36); 23 CFR 450.104. The NPRM specified that when the metropolitan planning area boundaries of two or more MPOs overlap any portion of the same UZA, and the UZA contains NHS mileage, those MPOs would establish joint 4-year targets for that UZA. This joint target would be established in addition to each MPO's target for their metropolitan planning area. Further, FHWA proposed to require State DOTs and MPOs to set declining targets for reducing tailpipe CO_2 emissions on the NHS. Under the NPRM, State DOTs and MPOs would have the flexibility to set targets that work for their respective climate change policies and other policy priorities, so long as they aligned with the goal of net-zero GHG emissions, economy-wide, by 2050. The FHWA also proposed to require State DOTs and MPOs to report on their progress in

meeting the targets. The FHWA identified that the proposed rule would apply to the 50 States, the District of Columbia, and Puerto Rico, consistent with the definition of the term ''State'' in 23 U.S.C. 101(a). The FHWA now finalizes the proposed measure with some modifications.

III. Statutory Authority for Performance Management and the GHG Measure

The FHWA is establishing the GHG emissions performance measure under 23 U.S.C. 150(c)(3), which calls for FHWA to establish performance measures that the States can use to assess performance of the Interstate and non-Interstate NHS for the purpose of carrying out the NHPP under 23 U.S.C. 119. *See* 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V). The FHWA received many comments both in support and in opposition to the Agency's authority to promulgate this rulemaking. After considering these comments, FHWA reaffirms that Congress provided FHWA with clear authority to develop performance measures to help State DOTs and MPOs address significant and long-term issues impacting the performance of the transportation system. These comments and FHWA's response are further discussed in Section VII of this preamble.

The FHWA has determined that measuring environmental performance of the Interstate and non-Interstate NHS is vital to meeting the Agency's obligations under 23 U.S.C. 150. As discussed in the NPRM, Congress charged FHWA with establishing performance measures, but did not define the term ''performance,'' as used in 23 U.S.C. 150(c)(3). Thus, FHWA must interpret this term in the context of the statute, FHWA's statutory authority in Title 23, U.S.C., to administer the Federal-aid highway program, and congressional intent. Accordingly, FHWA is interpreting ''performance'' of the Interstate System and non-Interstate NHS under 23 U.S.C. 150(c) to include the system's environmental performance, consistent with the program's statutorily mandated goal to enhance the performance of the transportation system while protecting and enhancing the natural environment. *See* 23 U.S.C. 150(b). As described further in this preamble, FHWA interprets this national goal to mean that the Agency should take reasonable steps to assist State DOTs and MPOs measure and evaluate the GHG emissions on the Interstate and non-Interstate NHS. The FHWA's interpretation of performance under 23 U.S.C. 150(c) is consistent with 23 U.S.C. 119(e), which calls for State DOTs to develop a performance-driven asset management plan that would ''support progress toward the achievement of the national goals identified in section 150(b).'' 23 U.S.C. 119(e)(2). In addition, 23 U.S.C. 119(b) provides the purposes of the NHPP, which include supporting the condition and performance of the NHS, supporting construction of new facilities on the NHS, ensuring investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State asset management plan, and supporting activities to increase the resiliency of the NHS to mitigate the cost of damages from sea level rise, extreme weather events, flooding, wildfires, or other natural disasters. Assessing environmental performance provides support for activities to increase the resiliency of the NHS to mitigate the cost of damages from sea level rise, extreme weather events, flooding, wildfires, or other natural disasters.

Importantly, FHWA does not believe its authority in this area is unlimited. Since 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V) refers only to the performance of the Interstate System and the non-Interstate NHS, FHWA only has authority to apply this measure to the Interstate System and the non-Interstate NHS. In addition, FHWA is only requiring that State DOTs and MPOs establish declining targets for GHG emissions on the NHS. The FHWA is neither requiring any specific targets nor mandating any penalties for failing to achieve these targets. The measure and the associated targets are intended only to help State DOTs and MPOs consistently and transparently monitor the current performance of the NHS, and plan transportation projects in a way that protects the long-term performance of the NHS.

As described in the NPRM, *see* 87 FR 42408, Congress specifically directed FHWA to establish measures for States to use to assess the performance of the Interstate System and the non-Interstate NHS. *See* 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V). Although Congress did not define the meaning of performance under this provision, the statute identifies seven national goals to inform performance management. Environmental sustainability is one of the specifically identified goals, which is defined as ''enhanc[ing] the performance of the transportation system while protecting and enhancing the natural environment.'' 23 U.S.C. 150(b)(6). Congress directed FHWA to determine the nature and scope of the specific performance measures that will fulfill the statutory mandate in 23 U.S.C. 150(c), and has not clarified this authority even after FHWA finalized the three national performance management measure rulemakings described earlier. The FHWA notes that 23 U.S.C. 150(c)(2)(C) limits performance measures to those described in 23 U.S.C. 150(c). When FHWA repealed the GHG performance measure, the Agency took an unduly narrow view and determined that since 23 U.S.C. 150(c)(2)(C) directs FHWA to limit performance measures only to those described in 23 U.S.C. 150(c), FHWA's previous interpretation that performance of the Interstate System and the National Highway System under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V) includes environmental performance was overly broad. As FHWA described in the NPRM, *see* 87 FR 42408, this provision limits FHWA's authority to establish measures States use to assess performance only to the Interstate System and the non-Interstate NHS. However, the provision does not otherwise limit the meaning of ''performance,'' and upon reconsideration, FHWA has determined that its original interpretation of the scope of its section 150(c) authority from the 2017 final rule is the better read of the statute. Specifically, in light of the explicit statutory goal of environmental sustainability, the significant risks that climate change-driven extreme weather pose to the condition and performance of NHS, and FHWA's unquestioned authority to establish performance measures, FHWA believes that it is appropriate to interpret the meaning of performance of the Interstate System and the non-Interstate NHS under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V) to include environmental performance.

As described in the NPRM and previously discussed in this preamble, this GHG measure is consistent with other parts of Title 23, U.S.C., notably 23 U.S.C. 119. Section 119(d)(1) of Title 23, U.S.C., establishes eligibility criteria for using funds apportioned to a State for carrying out the NHPP, but does not set forth all relevant considerations for carrying out the program. For example, 23 U.S.C. 119(d)(2) identifies purposes for eligible projects, including development and implementation of a State DOT's asset management plan for the NHS under 23 U.S.C. 119(e), and environmental mitigation efforts related to projects funded under 23 U.S.C. 119(g). Section 119(e) calls for a performance-driven asset management plan that would ''support progress toward the achievement of the national goals identified in Section 150(b)'',

which includes the environmental sustainability national goal under 23 U.S.C. 150(b)(6). Risk-based asset management planning under 23 U.S.C. 119(e) includes consideration of life-cycle costs and risk management, financial planning, and investment strategies. Rapidly changing climate and increased weather extremes because of fossil fuel combustion directly impact the condition and performance of transportation facilities because of increases in heavy precipitation, coastal flooding, heat, wildfires, and other extreme events. Extreme events are already leading to transportation challenges, inducing societal and economic consequences, which will only increase in the years ahead. The number of billion-dollar climate disaster events has been much higher over the last 5 years than the annual average over the last 30 years.[5] Low-income and vulnerable populations are disproportionately affected by the impacts of climate change.[6] These impacts are not attributable to any single action, but are exacerbated by a series of actions, including actions taken under the Federal-aid highway program. Recognizing the need to plan for and consider the risks of extreme weather, Congress amended the requirements for States' asset management plans under 23 U.S.C. 119(e) to include lifecycle cost and risk management analyses that specifically consider extreme weather and resilience. *See* 23 U.S.C. 119(e)(4)(D) (as amended by Pub. L. 117–58, sec. 11105). Measuring environmental performance through the GHG performance measure will assist States in considering CO_2 emissions from transportation in the performance management framework, including the impact of CO_2 emissions on the medium- and long-term conditions of transportation assets arising from the risks of, and costs related to extreme weather, and help frame responses to the growing climate crisis. Therefore, the GHG performance measure is appropriate in light of 23 U.S.C. 119, and FHWA has determined that the Agency's interpretation of ''performance'' to include ''environmental performance'' is consistent with 23 U.S.C. 119.

As FHWA noted in the NPRM, several other provisions in Title 23, U.S.C., support FHWA's authority for its proposal to address GHG emissions in this rulemaking. To help conceptualize FHWA's framework for analyzing its authority under Title 23, U.S.C., this preamble restates these provisions as follows:

- In Section 101(b)(3)(G), Congress declared that ''transportation should play a significant role in promoting economic growth, improving the environment, and sustaining the quality of life.''
- Section 134(a)(1) states as a matter of transportation planning policy that ''[i]t is in the national interest to encourage and promote the safe and efficient management, operation, and development of surface transportation systems . . . while minimizing transportation-related fuel consumption and air pollution through metropolitan and statewide transportation planning processes identified in this chapter.''
- Section 134(c)(1) requires MPOs to develop long range plans and transportation improvement programs to achieve the objectives in 23 U.S.C. 134(a)(1) through a performance-driven, outcome-based approach to planning.
- Section 134(h) defines the scope of the metropolitan planning process. Paragraphs (h)(1)(E) and (I), respectively, require consideration of projects and strategies that will ''. . . protect and enhance the environment, promote energy conservation, improve the quality of life . . .'' and ''. . . improve the resiliency and reliability of the transportation system . . .''.
- Section 135(d)(1) defines the scope of the statewide planning process. Paragraphs (d)(1)(E) and (I), respectively, require consideration of projects, strategies, and services that will ''. . . protect and enhance the environment, promote energy conservation, improve the quality of life . . .'', and ''. . . improve the resiliency and reliability of the transportation system . . .''.
- Section 135(d)(2) requires the statewide transportation planning process to ''. . . provide for the establishment and use of a performance-based approach to transportation decision-making to support the national goals described in Section 150(b) of this title . . .''.

The FHWA reaffirms that these Title 23, U.S.C., provisions make it clear that assessing infrastructure performance under 23 U.S.C. 150(c)(3) properly encompasses the assessment of environmental performance, including GHG emissions and other climate-related matters. As noted in FHWA's May 2018 repeal of the 2017 GHG measure, nothing in the statute specifically requires FHWA to adopt a GHG emissions measure. However, consistent with the statutory provisions cited above, no provision of law prohibits FHWA from adopting a GHG emissions measure, despite ample opportunity for Congress to do so.

On November 15, 2021, President Biden signed the Infrastructure Investment and Jobs Act (IIJA) (Pub. L. 117–58, also known as the ''Bipartisan Infrastructure Law'') (BIL) into law. The BIL does not explicitly direct FHWA to assess environmental performance. However, Congress set forth new programs and eligibilities under BIL that State DOTs and MPOs will use to address GHG emissions, and environmental performance will be central to proper administration of the programs. Thus, this GHG measure will help State DOTs and MPOs effectively use these new transportation dollars. For example, BIL authorized a new Carbon Reduction Program (CRP) codified at 23 U.S.C. 175. The CRP provides billions of dollars for Fiscal Years 2022–2026 for use on a range of projects that can demonstrate reductions in transportation emissions over the project's lifecycle. The CRP also requires State DOTs to develop a carbon reduction strategy in consultation with any MPO designated within the State to support efforts to reduce transportation emissions and identify projects and strategies to reduce these emissions. *See* 23 U.S.C. 175(d). Similarly, BIL included new language regarding national electric vehicle charging and hydrogen, propane, and natural gas fueling corridors to support changes in the transportation sector that help achieve a reduction in GHG emissions. *See* 23 U.S.C. 151. These programs are two examples of Congress' express focus on using transportation programs to reduce GHG emissions from transportation sources. The FHWA's GHG measure will help State DOTs and MPOs track the effectiveness of their transportation investments in projects that reduce GHG emissions, both through these programs and through other programs, such as the Surface Transportation Block Grant Program authorized at 23 U.S.C. 133.

The establishment of the GHG measure does not force investments in specific projects or strategies to reduce emissions, nor does it require the achievement of an absolute reduction target. However, FHWA has determined that the targets for the GHG measure

[5] NOAA National Centers for Environmental Information (NCEI), 2022: U.S. Billion-Dollar Weather and Climate Disasters, available at *https://www.ncdc.noaa.gov/billions/*, DOI: 10.25921/stkw-7w73.

[6] Ebi, K.L., J.M. Balbus, G. Luber, A. Bole, A. Crimmins, G. Glass, S. Saha, M.M. Shimamoto, J. Trtanj, and J.L. White-Newsome, 2018: Human Health. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 539–571. doi: 10.7930/NCA4.2018.CH14.

should show a reduction in CO_2 emissions. As discussed in response to comments in Section VII of this preamble, the establishment of declining targets is vital given the urgency of the climate crisis. Establishing declining targets will help State DOTs and MPOs plan toward reductions in GHG emissions and make Federal infrastructure investment decisions that reduce climate pollution, a principle set forth in E.O. 14008 (86 FR 7626). State DOTs and MPOs will set targets that indicate a reduction in CO_2 emissions, which FHWA has determined will be supportive of the policy goals set forth in 23 U.S.C. 150(b).

Although the rule requires declining targets for CO_2 emissions, FHWA is not setting forth any requirements in this rulemaking to determine how State DOTs and MPOs should determine their declining targets. In addition, as directed by 23 U.S.C. 145, States determine which of their projects shall be federally financed by Federal-aid highway formula dollars. State DOTs and MPOs will set and determine targets based on appropriate data as informed by State DOT and MPO policies and priorities. The FHWA is not prescribing what declining targets would look like in each State or MPO, and FHWA is not requiring State DOTs and MPOs to achieve targeted emission reductions, nor prescribing the selection of specific projects under this rulemaking. Thus, this approach is consistent with the Agency's authority under 23 U.S.C. 150(c) to establish measures for States to use to assess the performance of the Interstate and non-Interstate NHS in the furtherance of the national goal to enhance the performance of the transportation system while protecting and enhancing the natural environment.

In addition, adopting the measure for GHG emissions under 23 U.S.C. 150(c)(3) is appropriate in light of the structure of the TPM program. As discussed in the NPRM, Congress required FHWA to establish performance measures for a number of programs in addition to the NHPP, including an emissions related measure for the CMAQ Program under 23 U.S.C. 149. As discussed in the NPRM and in response to comments in Section VII of this preamble, the existence of the CMAQ emissions measure has raised questions regarding whether Congress intended FHWA to only measure emissions when those emissions are related to CMAQ, which is limited to criteria pollutants and nonattainment or maintenance areas under the Clean Air Act. However, this language only indicates congressional intent that FHWA establish a performance measure for on-road mobile source emissions for the purposes of carrying out the CMAQ Program. Nothing in 23 U.S.C. 150 limits measures that take into account emissions only to measures established for the purposes of carrying out the CMAQ Program. The FHWA has determined that it is appropriate to examine relevant emissions as part of assessing performance of the Interstate and non-Interstate NHS in support of the NHPP.

For all of these reasons, FHWA asserts the GHG measure is consistent with FHWA's authority under 23 U.S.C. 150(c).

Reconsideration of Previous Actions

As discussed in Section II of this preamble, and detailed in Section III.C of the NPRM, FHWA has previously proposed and finalized actions related to a GHG measure. Specifically, FHWA previously finalized the PM3 rule, through which the Agency considered extensive public comments on whether and how FHWA should establish a GHG measure. The FHWA determined that it was appropriate to measure environmental performance, specifically as the percent change in CO_2 emissions from the reference year 2017, generated by on-road mobile sources on the NHS (82 FR 5970). On October 5, 2017 (82 FR 46427), however, FHWA proposed to repeal the 2017 GHG measure. As discussed in more detail in the NPRM to this action, FHWA repealed the GHG measure on May 31, 2018 (83 FR 24920), in light of policy direction from the previous administration to review existing regulations to determine whether changes would be appropriate to eliminate duplicative regulations, reduce costs, and streamline regulatory processes, and after considering public comments received. The repeal was effective on July 2, 2018. The FHWA identified three main reasons for the repeal: (1) reconsideration of the underlying legal authority; (2) the cost of the GHG measure in relation to the lack of demonstrated benefits; and (3) potential duplication of information produced by the GHG measure and information produced by other initiatives related to measuring CO_2 emissions.

As part of this rulemaking, FHWA evaluated each of these rationales to examine whether they remain appropriate in light of current information. First, FHWA proposed, and now finalizes, that the Agency has reconsidered its interpretation of the statute. Consistent with the reasoning set forth in the PM3 rule, FHWA believes adopting this measure under 23 U.S.C. 150(c) is appropriate in light of the Agency's authority under that section and based on the Agency's authority under Title 23, U.S.C. as a whole, as previously described in this section and detailed further in Section III.B of the NPRM. *See* 87 FR 42407–42410. Second, FHWA has determined that the benefits of the rulemaking, although difficult to quantify, are substantial and justify finalizing this action. In its 2022 NPRM, FHWA described how the substantial benefits of this regulation justified reconsidering and rejecting the Agency's conclusion in the 2018 final rule that the benefits of a GHG measure were too speculative and outweighed by the costs to justify retaining the measure as part of the TPM program. *See* 87 FR 42410–42411. The benefits and policy rationale for this regulation are further described in Section IV of this preamble. Third, and as discussed in the 2022 NPRM, *see* 87 FR 42411–42412, FHWA has determined that the information produced by the GHG measure is not duplicative in relation to information produced by other initiatives related to measuring CO_2 emissions, but rather complements that data to support a whole-of-government approach to addressing GHG emissions. The importance of this measure is further described in Section IV of this preamble.

FHWA adopts in full its analysis in the 2022 NPRM justifying the reconsideration and rejection of the conclusion from the 2018 final rule that 23 U.S.C. 150 did not provide FHWA with authority to measure the environmental performance of the NHS and adopt a GHG measure, and that the overall statutory scheme of Title 23, U.S.C. supported a narrower interpretation of performance of the NHS, and emphasizes some key points here. In the 2018 repeal, FHWA concluded that 23 U.S.C. 119(d)(1)(A) delineates the national goals that are relevant to eligibility of projects for funding under the NHPP, and the national goals included in section 119(d)(1)(A) are consistent with an interpretation of ''performance'' that focuses on the physical condition of the system and the efficiency of transportation operations across the system, rather than environmental performance. 83 FR 24923–24924. Upon reexamination of the statute, FHWA has determined that this previous interpretation was incorrect. Section 119(d)(1) of Title 23, U.S.C., establishes eligibility criteria for using funds apportioned to a State for carrying out the NHPP, but does not set forth all

relevant considerations for carrying out the program. Specifically, States are also required to establish asset management plans under 23 U.S.C. 119(e). These plans shall include strategies toward improving or preserving the condition of the assets and the performance of the system, including supporting progress toward the national goals in 23 U.S.C. 150(b). FHWA's previous interpretation ignored Congress's express direction for States to develop these plans for the NHS, which address both asset condition and system performance, and referenced all of the national goals in section 150(b), rather than a subset of goals such as the goals identified in 23 U.S.C. 119(d)(1). In addition, FHWA observes that 23 U.S.C. 119(d)(2) provides eligibility for projects under the NHPP that go beyond the limited subset of national goals listed in section 119(d)(1). The statute identifies eligible projects that support the national goal of environmental sustainability, such as environmental restoration and pollution abatement, control of noxious weeds and establishment of native species, and other environmental mitigation efforts. *See* 23 U.S.C. 119(d)(2)(M)–(O). When FHWA repealed the PM3 rule and determined that performance measures under 23 U.S.C. 150(c)(3) are limited to advancing the nationals goal in section 119(d)(1), the Agency did not appropriately consider the section 119(e) requirement to develop an asset management plan that supports achievement of *all* national goals in 23 U.S.C. 150(b), and eligibility for projects that support achieving environmental sustainability. In reexamining this authority, FHWA has determined that the Agency must consider the totality of 23 U.S.C. 150(b) when interpreting the meaning of performance on the Interstate and non-Interstate NHS and how performance is to be measured.

Additionally, FHWA has identified above several other provisions of Title 23, U.S.C., that support FHWA's proposal to address GHG emissions in this rulemaking and make it clear that assessing infrastructure performance under 23 U.S.C. 150(c)(3) properly encompasses the assessment of environmental performance, including GHG emissions. In the 2018 repeal final rule, FHWA considered these provisions irrelevant because they do not ''specifically direct[ ] or require[ ] FHWA to adopt a GHG measure.'' 83 FR at 24923. However, these provisions do not prohibit FHWA from adopting a GHG measure—nor does any other provision in Title 23—and by stating the importance of protecting the environment and improving the resiliency of the transportation system, including through the use of performance management, these provisions clearly support the use of a GHG measure to assess the environmental performance of the NHS. As discussed above, the passage of BIL added additional programs and eligibilities to Title 23, and the administration of these programs will greatly benefit from the measurement of the environmental performance, including measurement of GHG emissions on the NHS. FHWA believes that these provisions of Title 23, including those added after the 2018 repeal of the GHG measure, serve to underscore the importance of reestablishing the GHG measure.

As discussed in the preamble to the NPRM, FHWA acknowledges that this action largely reestablishes a measure similar to the measure finalized in 2017 and repealed in 2018. *See* 83 FR 24920. However, as discussed in the preamble to the NPRM, FHWA expects that States and MPOs have no reliance interests resulting from establishment and the repeal of the 2017 GHG measure. *See* 87 FR 42410. The FHWA repealed the 2017 GHG measure before the respective due dates for target setting or reporting, and FHWA is unaware of any State DOTs or MPOs that incurred costs because of the promulgation and prompt repeal of that measure. Nor did the repeal itself impose any compliance costs on State DOTs or MPOs. Accordingly, FHWA does not expect this final rule to result in any increased burden on State DOTs or MPOs by virtue of the fact that FHWA previously established a similar measure that was repealed before any State DOTs or MPOs relied on and implemented its target setting and reporting requirements. This measure is a new one, which State DOTs and MPOs have not previously implemented. As a result, FHWA expects that States and MPOs would not have any reliance interests based on the repeal of the 2017 GHG measure. After reviewing the comments on the proposal, FHWA reaffirms that any potential reliance interest would be outweighed by the benefits of this action, to the extent those interests exist.

IV. Basis & Benefits of These Regulations

The FHWA believes that the performance management requirements are a powerful tool for achieving all seven of the statutory national transportation goals, including the Federal-aid highway program's national goal for environmental sustainability identified under 23 U.S.C. 150(b)(6), and establishing a GHG measure in FHWA's TPM Program will provide a consistent basis for addressing the environmental sustainability of the transportation system and estimating on-road GHG emissions. In addition, the GHG measure will result in a consistent set of data that can be used to inform the future investment decisions of the Federal Government, State DOTs, and MPOs towards achieving their targets or goals.

By establishing the GHG performance measure, FHWA is taking action to address the largest source of U.S. CO_2 emissions. In 2021, the transportation sector accounted for 34.8 percent of total U.S. CO_2 emissions, with 82.7 percent of the sector's total CO_2 emissions coming from on-road sources.[7] The transportation sector is expected to remain the largest source of U.S. CO_2 emissions through 2050, increasing at an average annual rate of 0.3 percent per year despite improvements in the energy efficiency of light-duty vehicles, trucks, and aircraft.[8] Factors such as population growth, expansion of urban centers, a growing economy, and increased international trade are expected to result in growing passenger and freight movement. These changes can make GHG reductions and environmental sustainability both more challenging to implement and more important to achieve.[9]

In addition to being the largest source of U.S. CO_2 emissions,[10] the transportation sector is increasingly vulnerable to the effects of climate change including higher temperatures, more frequent and intense precipitation, and sea level rise. Much of existing transportation infrastructure was designed and constructed without consideration of these changes. The Sixth Assessment Report by the IPCC, released on August 7, 2021, confirms that human activities are increasing GHG concentrations that have warmed

[7] U.S. Environmental Protection Agency, 2023: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2021, *available at https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021.*

[8] U.S. Energy Information Administration, 2021: Annual Energy Outlook 2021, *available at https://www.eia.gov/outlooks/aeo/tables_ref.php.*

[9] Jacobs, J.M., M. Culp, L. Cattaneo, P. Chinowsky, A. Choate, S. DesRoches, S. Douglass, and R. Miller, 2018: Transportation. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 479–511. doi: 10.7930/NCA4.2018.CH12, *available at https://nca2018.globalchange.gov/chapter/12/.*

[10] See EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2021, at 2–28.

the atmosphere, ocean, and land at a rate that is unprecedented in at least the last 2000 years.[11] According to the report, global mean sea level has increased between 1901 and 2018, and changes in extreme events such as heatwaves, heavy precipitation, hurricanes, wildfires, and droughts have intensified since the last assessment report in 2014.[12] These changes in extreme events, along with anticipated future changes in these events because of climate change, threaten the reliability, safety and efficiency of the transportation system. At the same time, transportation contributes significantly to the causes of climate change [13] and each additional ton of CO_2 produced by the combustion of fossil fuels contributes to future warming and other climate impacts.

The first step toward reducing GHG emissions involves inventorying and monitoring those emissions. By establishing a consistent method for estimating GHG emissions and reporting on trends, the GHG measure aligns with E.O. 13990, E.O. 14008, and supports a U.S. target of reducing GHG emissions economy-wide 50 to 52 percent below 2005 by 2030, on a course toward reaching net-zero emissions economywide by no later than 2050.[14]

[11] See IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, available at *https://www.ipcc.ch/report/ar6/wg1/#SPM.*

[12] IPCC, 2021: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Pe´an, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press. In Press.

[13] Jacobs, J.M., M. Culp, L. Cattaneo, P. Chinowsky, A. Choate, S. DesRoches, S. Douglass, and R. Miller, 2018: Transportation. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 479–511. doi:10.7930/NCA4.2018.CH12.

[14] White House Fact Sheet: The Biden-Harris Electric Vehicle Charging Action Plan (December 13, 2021), available at *https://www.whitehouse.gov/briefing-room/statements-releases/2021/12/13/fact-sheet-the-biden-harris-electric-vehicle-charging-action-plan/;* White House Fact Sheet: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies (Apr. 22, 2021), available at *https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/;* White House Fact Sheet: President Biden's Leaders Summit on Climate (Apr. 23, 2021), available at *https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/23/fact-sheet-president-bidens-leaders-summit-on-climate/.*

Section 1 of E.O. 13990, ''Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis,'' (86 FR 7037), articulates national policy objectives, including listening to the science, improving public health and protecting the environment, reducing GHG emissions, and strengthening resilience to the impacts of climate change. The E.O. 14008, ''Tackling the Climate Crisis at Home and Abroad,'' (86 FR 7619), recommits the U.S. to the Paris Agreement and calls on the U.S. to begin the process of developing its nationally determined contribution to global GHG reductions. *See* E.O. 14008, § 102. The E.O. 14008 also calls for a government-wide approach to the climate crisis and acknowledges opportunities to create well-paying, union jobs to build a modern, sustainable infrastructure, to provide an equitable, clean energy future, and to put the U.S. on a path to achieve net-zero emissions, economywide, no later than 2050. *See id.,* § 201.

As a matter of transportation policy, FHWA considers the GHG measure essential not only to improve transportation sector performance and work toward achieving net-zero emissions economy-wide by 2050, but also to demonstrate Federal leadership in the assessment and disclosure of climate pollution from the transportation sector. Measuring and reporting complete, consistent, and timely information for on-road mobile source emissions is necessary so that all levels of government and the public can monitor changes in GHG emissions over time and make more informed decisions about the role of transportation investments and other strategies in achieving GHG reductions.

After reviewing the comments provided on the NPRM, FHWA has decided to finalize the measure proposed in the NPRM, which is the percent change in tailpipe CO_2 emissions on the NHS relative to the reference year. In choosing this measure, FHWA considered the measure's sensitivity to strategies and policies of interest to transportation agencies, as well as its simplicity, ease of calculation, and reliance on data States already report to FHWA. In particular, the GHG measure will utilize fuel use estimates collected by FHWA very shortly after these data are finalized, providing a consistent and timely data source that is better suited for setting targets and monitoring trends in mobile source CO_2 emissions on the NHS. As a new source of information, the measure has the potential to result in greater public awareness of GHG emissions trends, provide increased transparency and improved decisionmaking at all levels of government, and support better informed planning choices to reduce GHG emissions or inform tradeoffs among competing policy choices. In these capacities, the proposed GHG measure is integral to a whole-of-government approach to address climate change and its effects.

V. Summary of Comments

The FHWA received 39,751 submissions to the docket, including 39,522 from 7 comment campaigns, in response to the NPRM, resulting in 236 unique submissions containing 999 individual comments. The submissions were signed by 105,484 separate groups/individuals. The FHWA received comments from 98 advocacy and interest groups (including advocacy groups for active transportation and public transit, the natural environment, climate change action, clean air, and equity/environmental justice, among others), 31 State DOTs and the District of Columbia DOT, 33 State Attorneys General, one State Governor, 33 MPOs, two State environmental agencies, 10 County/Local government agencies, as well as 57 U.S. Senators from 38 states and 56 U.S. Representatives from 25 states. The FHWA also received comments from 24 industry associations (including the American Association of State Highway Transportation Officials (AASHTO), the Association of Metropolitan Planning Organizations (AMPO), and the American Public Transportation Association (APTA), as well as those representing highway and transportation users, roadway materials producers and roadway builders, and energy companies, among others). The FHWA also received comments from over 104,500 private citizens, the majority of which were submitted as part of comment campaigns.

VI. Summary of Changes Made in This Final Rule

This section provides a summary of the changes made in the rule compared to the NPRM. Section VII provides further discussion on the significant changes and the reasons they were made.

A. Reference Year

In the final rule, FHWA establishes that 2022 will be the reference year for this measure. The FHWA has changed

the definition in 23 CFR 490.505 and updated the calculation of the measure in 23 CFR 490.513(d) [15] accordingly.

B. Net-Zero

The definition of net-zero was removed from 23 CFR 490.101, and 23 CFR 490.105(e)(10) was revised so targets must be declining for reducing tailpipe CO_2 emissions on the NHS, but they are not required to demonstrate reductions toward net-zero targets.

C. State DOT Targets & Reports

In the final rule, FHWA establishes that State DOTs will establish initial targets for the GHG measure and report them no later than February 1, 2024. 23 CFR 490.105(e)(1) and 490.107(d). The February 1, 2024, date required changes to several sections of existing regulation. Below is a general summary of the initial target establishment requirements, the reporting process for the State Initial GHG Report due February 1, 2024, and the significant progress determinations that will be completed after the State biennial reports submitted by October 1, 2024, and 2026.

State DOT Target Establishment & Reporting Related to February 1, 2024

The performance period for the GHG measure will begin January 1, 2022 and extend 4 years. 23 CFR 490.105(e)(1). By February 1, 2024, State DOTs will establish initial targets for the GHG measure. 23 CFR 490.105(e)(1)(ii). Initially, State DOTs will establish 4-year targets; 2-year targets will not be established. 23 CFR 490.105(e)(1), 490.105(e)(4)(iii), and 490.105(e)(10)(i). For the initial 4-year target, the reference year will be used as the baseline. 23 CFR 490.105(e)(10)(i)(C).

State DOTs will report their 4-year targets to FHWA in the State Initial GHG Report by no later than February 1, 2024. 23 CFR 490.107(d). The State Initial GHG Report shall include the State DOT's 4-year target for the GHG measure, the basis for the target, a discussion of how the target relates to other longer-term performance expectations, and the metric information for the reference year. 23 CFR 490.107(d)(1). The metric reported will be calculated using the data specified in 23 CFR 490.107(d)(2). Because of the 2024 State Initial GHG Report, State DOTs will not include additional GHG information in the 2024 Mid Performance Period Progress Report, due October 1, 2024. 23 CFR 490.107(b)(2)(i). Biennial reporting related to the GHG measure will begin with the 2026 Full Performance Period Progress Report and the 2026 Baseline Performance Period Report. 23 CFR 490.107(b)(1)(i), 490.107(b)(2)(i), and 490.107(b)(3)(i).

Significant Progress Determination on Initial Targets

After the 2026 Full Performance Period Progress Report, FHWA will determine whether a State DOT has made significant progress toward the achievement of the 4-year target for the GHG measure. The FHWA will use the data described in 23 CFR 490.109(d)(1) when calculating the actual performance and making the significant progress determination. The performance for the reference year will be used as the baseline performance in the 2026 significant progress determination. 23 CFR 490.105(e)(10)(i)(C).

The significant progress determination requirements related to the GHG measure will be phased in as described in 23 CFR 490.109(e)(6). The FHWA will not determine significant progress toward 2-year targets for this measure after the 2024 Mid Performance Period Progress Report since 2-year targets will not have been established, and information related to the GHG measure will not have been included in the 2024 Mid Performance Period Progress Report. Therefore, in 2024, FHWA will classify the assessment of progress toward the achievement of 2-year targets for the GHG measure as ''progress not determined'' and they will not be subject to any additional reporting requirements. 23 CFR 490.109(e)(6).

Biennial Reporting

FHWA revised proposed changes to section 490.107(b)(1), (b)(2), and (b)(3) to require biennial reporting related to the GHG measure to begin with the 2026 Full Performance Period Progress Report. And, consistent with 23 CFR 490.105(e)(5), the State DOT's 2- and 4-year targets will be reported in the 2026 Baseline Performance Period Report. See the discussion under ''State DOT Data for the GHG Metric Calculation'' for more information on the State DOT biennial reporting associated with the GHG metric.

D. State DOT Data for the GHG Metric Calculation

State DOTs are required to calculate and report both the GHG measure and the GHG metric, the latter of which is defined as the calculation of tailpipe CO_2 emissions on the NHS for a given year computed in million metric tons (mmt) and round to the nearest hundredth. 23 CFR 490.511(c). State DOTs use the metric to calculate the measure, which is the percent change between the current year and the reference year. To calculate the metric, State DOTs require several data inputs, and they are defined in 23 CFR 490.511(c). To ensure consistent calculation of the metric, the data requirements are defined in 23 CFR 490.509. To provide transparency and consistency, FHWA defines the specific data sources it will use when it calculates the metric and measure for the significant progress determination in 23 CFR 490.109(d).

In this final rule, proposed 23 CFR 490.509(h) was revised so that the State DOT will be able to use their best available vehicle miles traveled (VMT) data when establishing targets, reporting baseline and actual performance and discussing progress. This change addresses a comment that stated VMT data might not be finalized within the Highway Performance Monitoring System (HPMS) for all States by August 15th. The VMT data used by State DOTs will represent the prior calendar year and should be consistent with the final VMT data submitted by the State DOT to HPMS, to the maximum extent practicable. 23 CFR 490.509(h). The HPMS data as of November 30, 2023, will be used to calculate the metric for the reference year. 23 CFR 490.509(h).

Because FHWA will not necessarily have the VMT data the State DOT used, the biennial reporting requirements in proposed 23 CFR 490.107(b)(1)(ii)(H), (b)(2)(ii)(J), and (b)(3)(ii)(I) were revised in this final rule to require the State DOT to report the GHG metric value they calculated, the individual values used to calculate the GHG metric, and a description of the data source(s) used for the VMT information. This final rule removes the proposed requirement for the State DOT to report CO_2 emissions on all public roads as part of reporting the metric information since the values used to calculate the GHG metric can be used to calculate the all-roads value. A corresponding change was made to 23 CFR 490.511(f)(2) to align with the metric reporting requirements in the State DOT's biennial reports.

Section 490.109(d)(1)(vi) and (d)(1)(vii) were revised to require the significant progress determination to calculate the GHG metric and measure for the baseline and actual performance using the HPMS data available on November 30th of the year the significant progress determination is made. For the reference year, FHWA will use the HPMS data as of November 30, 2023. 23 CFR 490.109(d)(1)(vi)–(vii).

[15] In this section, the citations to 23 CFR part 490 refer to provisions as amended by this final rule.

Section 490.109(d)(1)(viii) was added to specify that the significant progress determination will use the CO_2 factors specified in section 490.509(f).

In the final rule, FHWA has added the requirement for State DOTs to submit the State Initial GHG Report, as described in VI.C. For that report, the State DOT will use the data specified in 23 CFR 490.107(d)(2) to calculate the metric.

Please note, 23 CFR 490.511 includes different requirements for State DOTs and MPOs when calculating the metric used to calculate the GHG measure. The State DOT's method is defined in 23 CFR 490.511(c) and the method will be the same for all states. The MPOs are granted flexibility in how they calculate the metric, as described in 23 CFR 490.511(d). This section only discusses the changes made in the final rule in relation to the data the State DOT will use when calculating the GHG metric. The changes made related to the MPO metric requirements are summarized below in Section VI.E.

E. Initial MPO Targets & Reports

The final rule, in 23 CFR 490.511(d), retains the additional flexibility granted to MPOs in how they calculate the GHG metric. The final rule removes the proposed requirement for MPOs and State DOTs to mutually agree upon a method for calculating the metric, and instead requires MPOs to report a description of their metric calculation method(s). When that method is not one of the ones specified in 23 CFR 490.511(d), the MPO will include information demonstrating the method(s) has valid and useful results for measuring transportation related CO_2. 23 CFR 490.107(c)(2)(ii). While MPOs are not required to select a metric calculation in coordination with their State DOT, they are encouraged to coordinate with the State DOT on the data used to the maximum extent practicable.

The final rule removes the proposed requirement for the MPO to report CO_2 emissions on all public roads.

F. Severability

The final rule adds a new section 23 CFR 490.515 that contains a severability clause applicable to the amendments to 23 CFR part 490 made by this final rule. FHWA believes that the amendments to part 490, including establishment and calculation of the GHG performance measure and declining targets, are capable of operating independently of one another. If one or more aspects of the GHG measure are determined to be invalid, the remaining provisions should remain unaffected and in force.

G. Other Changes

The final rule contains several technical changes from the proposed rule. These changes are described in Table 1.

TABLE 1—TECHNICAL EDITS TO THE FINAL RULE

CFR section	Description of change
23 CFR 490.101	Corrects the abbreviated name for the *Fuels and Financial Analysis System—Highways* (Fuels & FASH) database. Corresponding changes were made throughout the rule.
23 CFR 490.105(c)(5)	Clarifies language describing the GHG measure.
23 CFR 490.105(d)(4)	Clarifies the applicability of the joint targets.
23 CFR 490.105(e)(4)(i)(C)	Moves information about the performance period from the location proposed in the NPRM to here to align with references to the performance period throughout 23 CFR part 490.
23 CFR 490.105(f)(10)	Clarifies rule language.
23 CFR 490.107(a)(1)	Updates language to capture the edition of Section 490.107(d) in the final rule.
23 CFR 490.107(c)(2)	Revises the structure and organization of the paragraph to improve readability.
23 CFR 490.109(d)(1)(v) and (d)(1)(vii)	Clarifies that the reference year data will not be updated each time the data for the previous year is compiled.
23 CFR 490.109(d)(1)(viii)	Clarifies that the CO_2 factor specified in Section 490.509(f) will be used.
23 CFR 490.109(e)(4)(vi)	Substitutes ''accepted'' instead of ''cleared.''
23 CFR 490.109(e)(4)(vii)	Adds the HPMS data extraction date. Listing this date is consistent with Section 490.109(e)(4)(vi) and does not change the intended approach.
23 CFR 490.109(f)(1)(v)	Revises rule language to use consistent terminology.
23 CFR 490.505	Clarifies that approximately 97 percent of on-road tailpipe GHG emissions are CO_2.
23 CFR 490.509(f)	Clarifies rule language.
23 CFR 490.509(f)(2)	Revises rule language to use consistent terminology.

VII. Section-by-Section Discussion

This final rule was developed in response to comments received on the NPRM. Section VII summarizes major comments received and any substantive changes made to each section in this final rule. Editorial or minor changes in language are not addressed in this section. For sections where no substantive changes are discussed, the substantive proposal from the NPRM has been adopted in this final rule.

Questions Posed in the NPRM

The FHWA requested comment on a number of items in the NPRM. The FHWA invited comments on the following:

- How should FHWA structure improving targets for the GHG measure, as well as the associated reporting and significant progress requirements, and how could these targets align with and inform existing transportation planning and programming processes?
- 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?
- What changes to the proposed measure or its implementation in TPM could better the impact of transportation decisions on CO_2 emissions, and enable States to achieve tailpipe CO_2 emissions reductions necessary to achieve national targets?
- In instances that MPOs are establishing a joint UZA target, should FHWA require that the individual MPO-wide targets be the same as the jointly established UZA target?
- Should MPOs that establish a joint UZA target be exempt from establishing individual MPO-level targets, and instead only be required to adopt and support the joint UZA target?

• In cases where there are multiple MPOs with boundaries that overlap any portion of an UZA, and that UZA contains NHS mileage, should each of those MPOs establish their own targets, with no requirement for a joint UZA target?

• Are there other approaches to target setting in UZAs served by multiple MPOs that would better help MPOs reach net-zero emissions?

The FHWA also requested comment on assumptions that were developed as part of the RIA, as well as information on other benefits or costs that would result from implementation of the rule, as follows:

• The RIA includes assumptions regarding the applicability, level of effort and frequency of activities under proposed 23 CFR 490.105, 490.107, 490.109, 490.511, and 490.513. Are these assumptions reasonable? Are there circumstances that may result in greater or lesser burden relative to the RIA assumptions?

• 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? If so, please describe and provide any information on programs that would benefit from this measure and estimate any costs that would be reduced by implementing this measure.

• 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? If so, please describe such efficiencies and provide any information on potential cost savings.

• Would the proposed rule result in the qualitative benefits identified in the RIA, including more informed decisionmaking, 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? 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).

The FHWA received many comments on these items, and thanks commenters for their useful input. The FHWA considered these comments in developing this final rule and responds to significant adverse comments related to these questions and other comments in the following section.

General Comments

FHWA's Legal Justification for the GHG Measure

Comment: A large number of commenters addressed FHWA's legal authority for this measure. Many commenters affirmed FHWA's legal authority to establish the measure under 23 U.S.C. 150. These commenters note that under MAP–21, FHWA is required to establish ''performance'' measures to assess performance of the Interstate and non-Interstate NHS, *see* 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V), and FHWA's interpretation of ''performance'' to include environmental performance is consistent with the express statutory goals of the Federal-aid highway program, which include environmental sustainability under 23 U.S.C. 150(b)(6). In contrast, many commenters disputed FHWA's legal authority to establish the proposed measure. Several commenters stated that, contrary to FHWA's statements, this action will in fact set performance targets for the States and MPOs by requiring State DOTs and MPOs with NHS mileage to establish declining CO_2 emissions targets that align with the Administration's net-zero targets, while FHWA's authority is limited to establishing measures for States to use to measure performance. These commenters largely characterized the measure as a requirement that State DOTs and MPOs reduce GHG emissions. Notably, a large number of commenters stated that FHWA does not have the authority to regulate GHGs, as Congress has not assigned such authority to the Agency, and such authority would be more appropriately assigned to the Environmental Protection Agency (EPA). Similarly, several commenters claim that FHWA should not focus on regulating GHGs, and instead should work with the EPA to reduce CO_2 emissions. A commenter also asserted that the proposed rule inappropriately seeks to rebalance Congress's funding priorities.

Response: As discussed in Section III of this preamble, FHWA affirms that the Agency has the requisite statutory authority to adopt the GHG measure. A significant number of commenters questioning FHWA's authority to adopt the GHG measure have mischaracterized this rulemaking. The FHWA is not regulating GHG emissions via this measure, is not mandating any reductions, is not forcing States to select specific projects, and is not asserting authority through this rulemaking over GHG emissions from the transportation sector. Rather, this measure is designed to provide State DOTs and MPOs with the information necessary to make informed transportation decisions. Although FHWA is requiring that State DOTs and MPOs set targets—consistent with the rest of the TPM program—FHWA is not mandating specific targets and is not setting those targets for State DOTs and MPOs. The FHWA is also neither approving nor disapproving individual targets. Thus, FHWA is applying the Agency's authority under 23 U.S.C. 150(c) and is not extending beyond that authority. However, upon examining comments and the preamble to the NPRM, FHWA recognizes that the language regarding aligning with net-zero targets could be clarified to better indicate FHWA's intent. Therefore, FHWA is clarifying that the Agency is not requiring that declining targets align to the Administration's net-zero targets as outlined in the national policy established under E.O. 14008. Rather, FHWA recommends that State DOTs and MPOs consider the Administration's targets when setting their declining targets.

Comment: Several commenters asserted that FHWA has not sufficiently justified changing its approach. Commenters assert that FHWA is merely reinstating a previous action and is changing the Agency's position based on policy preferences provided in E.O.s rather than technical expertise, such as by stating that the emissions measure would result in substantial benefits, while also stating that the benefits are not easily quantifiable. Several commenters assert that FHWA has failed to adequately justify this measure by relying on general reports on CO_2 emissions and climate change harms. In addition, commenters asserted that FHWA may not merely reexamine previous assertions in rulemakings and must instead provide technical analysis in support of the rulemaking. Commenters asserted that FHWA failed to consider whether declining targets will interfere with other statutory schemes by encouraging States to adopt electric vehicles to reduce GHGs while not focusing on reducing criteria pollutants under CMAQ. In addition, commenters assert FHWA failed to consider whether the rulemaking will disadvantage States with a range of different conditions, such as extreme climates and freight traffic.

Response: The FHWA disagrees with these commenters' assertions. The FHWA has reexamined the rationale for the 2018 repeal and has determined that FHWA has the authority to adopt this GHG measure and has provided updated analyses identifying why the GHG measure is appropriate and reasonable in light of FHWA's statutory mandate to adopt performance measures. The

FHWA's legal authority, technical justification, and reasoned analysis for this measure are detailed in the NPRM and in Sections III. and IV. of this preamble. FHWA has acknowledged that it is changing the position the Agency put forward in the 2018 repeal final rule and provided detailed legal, technical, and policy reasons for doing so. Commenters' assertion that FHWA must do more to justify changing its approach has no basis in law. *See FCC* v. *Fox Television Stations, Inc.,* 556 U.S. 502, 515–16 (2009). The FHWA also disagrees with the commenters' assertions about FHWA's failure to consider whether declining targets will disadvantage States or cause any potential harm through the adoption of electric vehicles. These comments are predicated on a misconception that FHWA is requiring any specific behavior by State DOTs and MPOs to reduce GHG emissions. The FHWA is not mandating reductions, and this rulemaking does not require or purport to require State DOTs or MPOs to select GHG reducing projects. Rather, State DOTs and MPOs will determine appropriate declining targets based on the conditions relevant to the State DOTs and MPOs. The FHWA expects—but does not require—that this measure will help State DOTs and MPOs select projects that will reduce GHG emissions.

Comment: Several commenters assert that FHWA lacks the authority to adopt the GHG measure based on the recent decision of *West Virginia* v. *EPA,* 142 S. Ct. 2587 (2022), related to the Major Questions Doctrine.

Response: The FHWA disagrees with the assertion that this measure is inconsistent with recent Supreme Court precedent. This rulemaking is not an extraordinary case. It does not involve a novel interpretation of longstanding FHWA authority, nor does it represent an unheralded assertion of regulatory authority with the significant economic and political impacts that implicate a major questions case under *West Virginia* v. *EPA.* The FHWA's approach is in line with FHWA's prior requirements for performance measures related to the national goals in 23 U.S.C. 150(b). This rulemaking also does not require State DOTs and MPOs to change their approach to selecting projects. Rather, the measure will provide them with additional information to inform their decisionmaking. As described in the RIA, this rulemaking has minimal costs for State DOTs and MPOs. Additionally, there is clear congressional authorization to establish performance measures under 23 U.S.C. 150(c). Contrary to inaccurate statements made by commenters, FHWA is not regulating GHG emissions, but rather is setting forth an approach by which to measure GHG emissions related to transportation on the Interstate System and non-Interstate NHS, using publicly available data, which States and MPOs can use to make better-informed transportation investment decisions. Therefore, FHWA disagrees with the commenters' assertions related to the Major Questions Doctrine.

Comment: A number of commenters stated that FHWA does not have the authority to issue this GHG measure under 23 U.S.C. 150(c) because the statute limits performance measures only to those described in that subsection.

Response: As described in the NPRM and discussed in Section III of this preamble, FHWA has reconsidered its previous interpretation that this provision limits FHWA's authority to establish measures States use to assess performance on the NHS to measures that focus on the physical condition of the system and the efficiency of transportation operations across the system. FHWA now concludes that 23 U.S.C. 150(c) limits FHWA to establishing measures to carry out 23 U.S.C. 119 to measures that assess performance on the Interstate System and the NHS. However, the provision does not otherwise limit the meaning of ''performance.'' Thus, FHWA has concluded that the ''performance'' of the Interstate and non-Interstate NHS includes environmental performance, and FHWA disagrees with the commenters' conclusion that FHWA does not have authority to adopt this GHG measure.

Comment: Commenters noted that although FHWA is not proposing any penalties, FHWA would be able to influence the selection of projects by States that rely on formula funds that Congress requires FHWA to distribute to States.

Response: The FHWA did not propose, and is not finalizing, any requirements for specific use of funds related to the GHG measure. The measure and the associated targets established through the final rule are intended to help State DOTs and MPOs consistently and transparently monitor the current performance of the NHS, and plan transportation projects in a way that protects the long-term performance of the NHS. The final rule does not direct any action on the part of the State DOT or MPO with respect to selecting projects under the Federal-aid highway program. As per 23 U.S.C. 145, State DOTs determine which eligible projects are federally funded, and FHWA reaffirms that nothing in this final rule should be construed to affect that bedrock principle. Therefore, FHWA disagrees with the commenters' assertion that FHWA may influence project selection through this measure.

Comment: Commenters note that BIL did not provide FHWA with new authority to regulate GHGs, but rather BIL established new programs to incentivize and reward State DOTs and MPOs for implementing emissions reduction strategies. Commenters also note that BIL and the Inflation Reduction Act (IRA) (Pub. L. 117–169) did not authorize FHWA to mandate GHG performance targets that States would be required to meet. One commenter asserts that the legislative history of BIL indicates that Congress considered but did not pursue climate change policy for FHWA. Commenters assert that Congress specifically chose not to address GHG emissions under 23 U.S.C. 150(c), and thus FHWA lacks authority to issue this measure. Commenters also assert that since Congress addressed GHG emissions in programs like the CRP under 23 U.S.C. 175 but did not add them to the performance measures in 23 U.S.C. 150(c), Congress intended to set performance measures for some programs and not set performance measures for other programs.

Response: As described in Section III of this preamble, FHWA's authority for this measure arises under 23 U.S.C. 150(c), and FHWA's interpretation of that authority is informed in part by new changes from BIL. Additionally, FHWA did not propose—and is not finalizing—any FHWA-mandated performance targets that States would be required to meet. The BIL contains a number of programs that aim to reduce GHG emissions from transportation sources, and collection and analysis of the GHG measure can support implementation of those programs. However, FHWA did not propose, and is not finalizing, any requirements related to those programs. In addition, FHWA disagrees with the assertion that BIL does not address climate change. As discussed in this preamble, there are a number of GHG emissions-related provisions in BIL, such as those found in division A, title I, subtitle D, titled ''Climate Change.'' These provisions include both the CRP under 23 U.S.C. 175 and the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) program under 23 U.S.C. 176. The FHWA recognizes that these programs do not mandate reductions in GHG emissions, and as such, FHWA

does not assert authority over GHG emissions. However, FHWA disagrees with the commenters regarding congressional intent as related to the measurement of GHGs under 23 U.S.C. 150(c). Congress did not provide exact parameters for performance measures under 23 U.S.C. 150(c), and it did not clarify, let alone impose restrictions on, these parameters in BIL. Rather, FHWA must—based on the Agency's expertise—determine how to structure performance measures. As described in this preamble and in the preamble to the 2022 NPRM, FHWA has determined that measuring environmental performance is vital to assessing performance on the Interstate and non-Interstate NHS.

In addition, FHWA disagrees with the commenters' assertion that Congress's designation of mandatory performance measures for some programs but not others prohibits FHWA from exercising Agency expertise to define performance of the Interstate and non-Interstate NHS. Although Congress did not include a specific performance measure for GHG-related programs in enacting 23 U.S.C. 150, Congress also decided not to define performance under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V) and, in the decade since enactment of MAP–21, Congress has not qualified FHWA's authority to define performance on the NHS, even after FHWA promulgated a GHG measure in the PM3 rule. For the same reasons, FHWA also disagrees with the commenters' statements regarding legislative history of BIL and IRA, and in particular, the significance that can be attributed to GHG and environmental performance-related language not being included in the enacted legislation. By itself, congressional inaction on a subject is an unreliable indicator of legislative intent because ''several equally tenable inferences may be drawn from such inaction, including the inference that the existing legislation already incorporated the offered change.'' *Pension Benefit Guaranty Corp.* v. *LTV Corp.,* 496 U.S. 633, 650 (1990) (quoting *United States* v. *Wise,* 370 U.S. 405, 411 (1962)) (internal quotation marks omitted). In this instance, there is no contemporaneous legislative record to explain why language relating to measuring GHG emissions with respect to performance of the NHS was not included in BIL. Moreover, BIL was passed long after the PM3 rulemaking was proposed and finalized. If anything, the fact that Congress was aware of FHWA's prior action to promulgate a GHG performance measure and did not use the opportunity in BIL to amend existing statutory language on performance measures or the definition of performance on the NHS more likely indicates that Congress intended to leave such determinations to Agency expertise to be handled via regulatory authority. *See id.* Therefore, FHWA rejects the commenters' interpretation of congressional intent to restrict FHWA's authority to establish measures to assess performance of the NHS.

Comment: Commenters disagreed with FHWA's approach to supporting resilience through this measure. Commenters assert that both the NHPP under 23 U.S.C. 119 and BIL are focused on the physical condition of the highway system, and FHWA must focus on addressing physical issues with the roads, rather than CO_2 emissions. Commenters assert that, likewise, resilience deals with impacts on the transportation system, rather than impacts from emissions from the transportation system. Commenters also contend that CO_2 regulation is the purview of the EPA, not FHWA.

Response: The FHWA disagrees with the commenters' limited view of 23 U.S.C. 119's substantial focus on resilience and their characterization of FHWA's action to establish the GHG measure. As discussed in section III above, the NHPP is not solely focused on the physical performance of highways. For example, the requirements for State asset management plans include strategies supporting the progress toward the achievement of all national goals identified in 23 U.S.C. 150(b), including the goal to enhance the performance of the transportation system while protecting and enhancing the natural environment at 23 U.S.C. 150(b)(6). *See* 23 U.S.C. 119(e)(2). In addition, the BIL amended the requirements for asset management plans' lifecycle cost and risk management analyses so that they now must specifically take into consideration extreme weather and resilience. *See* 23 U.S.C. 119(e)(4)(D). In explicitly stating that both the purpose of the NHPP under 23 U.S.C. 119 is to increase the resiliency of the NHS and that environmental sustainability is an express national goal of the Federal-aid highway program under 23 U.S.C. 150(b), Congress clearly spoke to the importance of addressing environmental impacts related to the transportation system. Assessing environmental performance will support State and MPO efforts to increase the resiliency of the NHS to mitigate the cost of damages from sea level rise, extreme weather events, flooding, wildfires, or other natural disasters. By addressing the performance of the transportation system related to the largest source of U.S. CO_2 emissions, FHWA is implementing Congress's express direction regarding NHPP goals. Measuring environmental performance though the GHG performance measure will assist States to consider CO_2 emissions from transportation in the performance management framework and help frame responses to the growing climate crisis. Reducing GHG emissions that are causing increases in temperature, sea level, extreme weather events, flooding, wildfires, and other natural disasters should then decrease the severity and impact of those conditions in the future. The FHWA has applied its expertise related to the transportation system and found that mitigating the cost of damage from natural disasters also requires helping State DOTs and MPOs address the cause of those disasters. However, and as discussed above, FHWA is not regulating CO_2 emissions or otherwise mandating specific reductions.

Comment: One commenter asserted that FHWA's action is a broad attempt to regulate GHGs, and Congress must speak more clearly before FHWA may assert it has authority to mandate that all of the States and Puerto Rico decrease on-road CO_2 emissions in furtherance of the Administration's emissions goals.

Response: The FHWA is not mandating that States or MPOs decrease emissions or compelling States to undertake projects that reduce GHGs. Consistent with the rest of the TPM program, FHWA is setting forth a program to measure performance on the Interstate and non-Interstate NHS, as directed by Congress.

Comment: One commenter stated that FHWA should develop an Environmental Impact Statement (EIS) for this action because of the rule's wide-ranging potential impacts.

Response: The FHWA disagrees that an EIS is appropriate for this rulemaking. The FHWA has analyzed this rule pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 *et seq.*) and has determined that it is categorically excluded under 23 CFR 771.117(c)(20), which applies to the promulgation of rules, regulations, and directives. As discussed further in Section VIII of this preamble, FHWA does not anticipate any adverse environmental impacts from this rule, the purpose of which is to inform decisionmaking about the transportation sector's contribution to GHG emissions, and thereby contribute to environmental sustainability. Therefore, a categorical exclusion is appropriate for this rulemaking and no further NEPA approvals are required.

Comments on the Appropriateness of the Proposed Measure

Comment: A large number of commenters questioned the appropriateness of the proposed measure to assess GHG emissions. A small number of these commenters asserted the proposed measure is not appropriate for rural States since rural residents need to drive further to access essential goods and services and alternative transportation modes are limited. In addition, several other commenters asserted the proposed measure does not account for exogenous factors beyond the control of State DOTs and MPOs, including population growth, economic growth, goods movement, and State and local policies, among others. Relatedly, many commenters recommended using a per-capita measure in addition to or instead of a measure of total emissions. A smaller number of commenters recommended using a measure of VMT to demonstrate the impact of transportation decisions on changes in travel behavior. Some commenters stated that the measure places an unequal burden on rural States and States with growing populations.

Other commenters addressed technical considerations underlying the suitability of the proposed measure. A couple of commenters indicated the measure does not account for fluctuations to NHS mileage resulting from roadway reclassifications, and one commenter asserted the measure does not account for regional variations in vehicle fleet efficiency or roadway speeds. Several commenters recommended the proposed measure consider lifecycle processes, such as electricity used by electric vehicles and embodied carbon associated with vehicle manufacture and transportation infrastructure. One commenter recommended that the measure account for excess fuel consumption associated with poor pavement condition.

Response: The FHWA has retained the GHG performance measure proposed in the NPRM, the percent change in tailpipe CO_2 emissions on the NHS compared to the reference year, because of its simplicity, ease of calculation, and reliance on data States already report to FHWA. The FHWA acknowledges commenters' observations that the GHG footprint of on-road transportation extends beyond tailpipe CO_2 emissions and includes lifecycle processes supporting to generation of electricity used by EVs, the production of transportation fuels, the manufacture of vehicles, and the construction and maintenance of transportation infrastructure. However, FHWA believes that addressing these factors in a GHG measure would lead to more complicated and potentially less reliable calculations.

In addition, FHWA believes that the measure sufficiently accounts for several of the factors cited by commenters, such as the effect of roadway speed, changes vehicle fleet efficiency, and the effect of pavement condition on fuel efficiency, all of which are represented through State-reported fuel sales that are used to calculate the measure. The FHWA also believes that a GHG measure is preferable to a VMT-only measure, which would serve an indirect proxy for GHG emissions that would not account for the benefits of highway operations and pavement strategies implemented by State DOTs, electrification of the vehicle fleet, or other improvements in vehicle efficiency. The GHG measure FHWA is establishing also supports tracking of progress toward GHG reduction goals. This would not be the case with a measure that normalizes the effect of population or economic growth or excludes truck CO_2 emissions. The FHWA notes that regulation does not prevent State DOTs and MPOs from using additional performance measures at the local level.

The FHWA rejects the concept that this measure places an unequal burden on rural States and States with rapidly growing populations, as States with various conditions can implement this measure to help evaluate performance. The FHWA also reiterates that this rulemaking does not set any specific targets or require any GHG reductions. The commenters' assertions about disadvantaging rural areas falsely assume that this measure mandates GHG reductions and penalizes States and MPOs that fail to achieve reductions. Neither the proposal, nor the final rule, do any such thing. Therefore, FHWA disagrees with the commenters' assertions about unequal burden on rural States and States with rapidly growing populations.

Comments on Transportation Agencies' Influence on GHG Emissions

Comment: Several commenters addressed State DOTs' and MPOs' ability to reduce GHG emissions year over year through planning and programming of transportation projects. Several commenters asserted State DOTs and MPOs have limited ability to materially reduce GHG emissions. These commenters noted that performance against the GHG measure is affected by many different factors outside the control of State DOTs and MPOs, including a State government's policies, population and economic growth, and fuel prices, among others. They also assert that transportation planning and programming is a multiyear process and State DOTs and MPOs cannot have a meaningful impact on GHG emission reductions year over year.

In contrast, a large number of commenters asserted that transportation agency decisions influence GHG emissions, and that a GHG measure is important for evaluating the impact of these decisions. Many commenters asserted that establishing a nationwide, uniform performance measure would ensure consistency in tracking progress and help State DOTs, MPOs, and FHWA to identify the most effective programs, strategies, and projects for carbon reduction. The commenters also asserted that the proposed performance measure would inform State DOT and MPO efforts to carry out performance-based planning and project selection, consistent with statutory requirements. Several commenters asserted that the decisions that State DOTs make in terms of designing infrastructure and constructing the built environment have a profound influence on travel behavior. A large number of comment campaign letters also asserted that a GHG measure is important for understanding the long-term impact of transportation investments on GHG emissions and to better connect transportation decisions with climate goals.

Response: Upon review of the comments, FHWA has retained the measure as proposed. The FHWA agrees with commenters asserting that a GHG measure is useful for evaluating the impact of transportation investments and other policies on GHG emissions. The FHWA also agrees that transportation investments have a meaningful impact on travel behavior, and that transportation agencies' policies and programs involving vehicle electrification, highway operations, and roadway maintenance practices provide further opportunities to reduce GHG emissions in absence of changes to travel behavior. The BIL provides more than $27 billion in Federal funding to help State DOTs and MPOs achieve their GHG reduction targets. This total includes $6.4 billion in formula funding to State DOTs and local governments through the CRP to support a range of projects designed to reduce on-road CO_2 emissions; $5 billion to State DOTs through the National Electric Vehicle Infrastructure Formula Program to build out a national electric vehicle charging network; $2.5 billion in competitive funding to State DOTs and local governments to deploy electric vehicle

and alternative fuel infrastructure, $7.2 billion for the Transportation Alternatives Set-Aside that State DOTs and local governments can use to carry out pedestrian and bicycle infrastructure projects, and more than $5 billion to ensure the nation's transit systems are tackling the climate crisis.[16] In addition, transportation agencies have for decades been able to use Federal-aid Highway Program funds to support projects that reduce GHG emissions, including transit improvements, congestion reduction and traffic flow improvements, freight and intermodal initiatives, idle reduction technologies, travel demand management, carsharing, carpooling and vanpooling, and bike and pedestrian facilities. Given the range of options available to transportation agencies to reduce GHG emissions and the significant financial resources provided by BIL, FHWA rejects the premise that transportation agencies have limited capacity to influence GHG emissions.

The FHWA also believes that it is important for the measure to address total tailpipe CO_2 emissions on the NHS rather than normalizing this value by population or other factors, since atmospheric CO_2 concentrations are ultimately influenced by the total quantity of CO_2 emissions produced. The FHWA believes a measure addressing total emissions supports a whole-of-government approach to addressing climate change by implementing a consistent measure of CO_2 emissions on the NHS at the National, State, and metropolitan levels. The FHWA is requiring State DOTs and MPOs to establish declining GHG emissions targets. Contrary to the commenters' assertions FHWA is not requiring States to set specific declining target levels or achieve actual reductions in GHG emissions. State DOTs and MPOs have flexibility to set targets that are appropriate for their communities and that work for their respective climate change and other policy priorities, as long as the targets are declining.

Comments on Incentives and Disincentives

Comment: A large number of commenters addressed the creation of incentives or disincentives to strengthen the proposed GHG measure. The vast majority of these comments stated that the proposed rule would be strengthened by including clear and specific incentives for those States and regions that meet their targets, such as providing extra points in competitive grant programs, favorable local match requirements, or expediated project/application review processes. Other commenters recommended restricting use of Federal transportation funds to projects that reduce GHG emissions in States and regions that did not meet their targets. A couple of commenters opposed creation of incentives or disincentives.

Response: Under 23 U.S.C. 145, the Federal-aid highway program is a federally assisted, State-administered program; FHWA does not determine which eligible projects, as selected by States, shall be financed. The FHWA cannot broadly limit the use of transportation funds in the manner recommended by commenters, and FHWA does not have the authority to restrict transportation funding for States that fail to meet their targets. However, BIL includes new programs that will help States and MPOs fund projects that reduce GHG emissions, which in turn, could assist them in meeting the targets that they set. This topic is further discussed in Section III this preamble. States and MPOs can additionally leverage their own programs to reduce GHG emissions by accounting for expected GHG impacts in the analysis and selection of transportation projects.

Comments on Penalties

Comment: Several commenters addressed the possibility of penalties being associated with the proposed measure. A few of these commenters sought clarification on whether FHWA intends to apply a penalty (including penalties associated with failure to comply with Federal requirements under 23 CFR 1.36). Other commenters requested the final rule include a section specifying that no penalties would be applied for not meeting a target. Other commenters asserted that FHWA is in fact providing a penalty for failing to reduce GHGs based on the Agency's authority under 23 CFR 1.36.

Response: There are no specific penalties for failing to achieve GHG targets. Rather, consistent with existing NHPP performance measures, if significant progress is not made for the target established for the GHG measure in 23 CFR 490.507(b), the State DOT must document the actions it will take to achieve that target no later than in its next biennial report, but is encouraged to do so sooner. Significant progress toward achieving NHPP performance targets is further described in 23 CFR 490.109. The FHWA did not propose specific penalties for failure to achieve performance targets, and is not finalizing any such penalty. Failure to achieve significant progress for this measure, as defined in 23 CFR 490.109, will also not trigger any penalties. State DOTs and MPOs that set a declining target but fail to achieve their targets can satisfy regulatory requirements by documenting the actions they will take to achieve that target in their next biennial report. The FHWA does not set or approve the State DOT's or MPO's targets.

Comments on Exemptions

Comment: Several commenters recommended various entities be exempt from the proposed measure for various reasons. The majority of these commenters asserted that rural States have limited options to reduce transportation GHG emissions through transit and other strategies that reduce VMT and should accordingly be exempted from the measure. A few commenters recommended that States and MPOs in attainment with the National Ambient Air Quality Standards be exempted from the GHG measure. One commenter asserted that the GHG measure does not recognize that rural States produce fewer GHG emissions than urban areas.

Response: The FHWA considered the comments suggesting certain entities be exempt from the GHG measure and declines to do so. Greenhouse gas emissions are produced on all NHS facilities. Once released, CO_2 and other GHGs take many years to leave the atmosphere, resulting in increasing global atmospheric concentrations of CO_2 emissions regardless of where they are produced. Urban and rural areas both contribute to increased carbon pollution in the atmosphere, and FHWA believes this rule will provide both with the tools to reduce carbon pollution. This is different from criteria pollutants, which last no more than weeks in the atmosphere and only impact local or regional air quality.

The FHWA also rejects commenters' suggestion that rural States have limited options to reduce transportation GHG emissions. If these States determine that transit and other measures to reduce VMT are not effective means of influencing GHG emissions, they have a wide range of alternative strategies and funding programs available. This includes both formula funding and discretionary grants to deploy electric vehicle charging infrastructure and thereby increase EV adoption, funding to improve roadway operations, and asset management practices to maintain

[16] *See* Biden-Harris Administration Takes Step Forward to Combat Climate Change, Announces Proposed Transportation Greenhouse Gas Emission Reduction Framework, *available at https://highways.dot.gov/newsroom/biden-harris-administration-takes-step-forward-combat-climate-change-announces-proposed.*

roads and reduce excess fuel consumption from poor road condition surface. The FHWA reiterates that the final rule does not require rural States, or any State, set targets at a specific level or to reduce GHG emissions. The final rule also does not impose any penalties on a State for failing to meet its GHG targets. Therefore, there is no justification to exempt rural States, and doing so would run counter to the purpose of this rule, which is to provide consistent and timely information about on-road mobile source emissions on the NHS to support better informed planning choices to reduce GHG emissions or inform tradeoffs among competing policy choices.

Comments on Benefits of a GHG Measure

Comment: A large number of commenters addressed potential benefits from the proposed GHG measure. Several commenters, including State DOTs, that have independently measured and reported GHG emissions asserted that a GHG performance measure can inform planning and decision making, including project prioritization and statewide transportation planning processes. A few of these commenters additionally asserted that implementation of the proposed GHG measure as part of TPM would complement existing GHG reduction efforts. Additional benefits identified by commenters included: empowering State and local leaders to better align their transportation decisions with climate goals, enhancing transparency and accountability of investment decisions, supporting a consistent and coordinated approach to reducing GHG emissions across all levels of government, and supporting national GHG emission reduction goals in accordance with E.O. 13990 and E.O. 14008.

By contrast, several commenters questioned the benefits of the proposed measure. Several commenters asserted that DOTs and MPOs have limited influence over GHG emissions. One commenter asserted that the proposed measure would not help agencies identify projects to reduce GHG emissions and a couple of commenters asserted that the measure would not impact transportation decisions. Another commenter stated this is because the proposed rule does not propose a method for requiring continually decreasing GHG emissions and does not penalize noncompliance.

Response: The FHWA is establishing a GHG emissions performance measure in response to an increasingly urgent climate crisis and to improve the transportation sector's GHG performance, which has lagged behind other major U.S. sectors. The EPA estimates of GHG emissions date back to 1990, and over that time the transportation sector has gone from being the third largest to the largest source of U.S. GHG emissions. The FHWA agrees with commenters that establishing a GHG performance measure is a critical step in improving transportation system performance and supporting national GHG reduction goals. A key premise underlying the GHG measure is that measuring and reporting complete, consistent, and timely information on CO_2 emissions from on-road mobile sources will provide opportunities for all levels of government and the public to make more informed decisions that consider transportation's contribution to climate change and opportunities to reduce GHG emissions. The FHWA believes that by establishing a uniform GHG measure, it is more likely that GHG emissions will be consistently and collaboratively considered by State DOTs and MPOs through transportation planning and performance management. The FHWA also agrees with the comments enumerating the benefits of establishing the GHG measure.

The FHWA disagrees that State DOTs and MPOs have limited influence over GHG emissions. As noted earlier, BIL provides more than $27 billion in Federal funding to help State DOTs and MPOs achieve their GHG reduction targets, and States have additional ability to influence GHG emissions through highway operations and roadway maintenance. The FHWA also disagrees with commenters asserting that a GHG measure would not inform planning and investment decisions. As noted in comments from agencies that have implemented their own GHG measures, performance-based approaches that include GHG emissions have been successfully used to guide planning and investment decisions.

Comments on Burden Posed by a GHG Measure

Comment: Several commenters identified concerns about the impact of the proposed rule on State DOTs and MPOs. Several commenters asserted that the proposed rule would duplicate established and effective programs such as fuel economy standards established under the Corporate Average Fuel Economy (CAFE) Program, and transportation CO_2 estimates published by EPA and the Department of Energy (DOE). Other commenters asserted the implementation of calculating and tracking GHG emissions would be overly burdensome, and that the costs of complying with declining targets would be significant for some States. A few commenters additionally asserted that the proposed GHG measure would not be sufficient for making program- and project-level investment decisions.

Response: FHWA disagrees that the measure established under this rule would place undue burden on States and MPOs. The FHWA also disagrees that the GHG measure would duplicate other Federal programs addressing transportation GHG emissions. A key purpose of the GHG measure is to provide an information source to help State DOTs, MPOs and other agencies set targets, monitor trends, and evaluate the impact of transportation investments and other strategies to reduce on-road GHG emissions. This is a different function from the CAFE program, which regulates GHG emissions rates for new vehicles and is not intended to account for factors such as changes in travel demand, congestion, and other factors affecting total on-road GHG emissions. While Federal agencies such as EPA and DOE publish estimates of total transportation CO_2 emissions, these data are not disaggregated to reflect on-road activity, and also lag the publication of FHWA fuel use data by up to a year. Since FHWA's GHG measure specifically addresses CO_2 on-road activity and utilizes FHWA's data for the estimated fuel volumes distributed shortly after its publication, it will serve as a comprehensive and timely information source to support transportation decision making and to track progress toward national goals.

Several State DOTs that have independently implemented their own on-road tailpipe CO_2 measure observed that all State DOTs already compile the necessary data as part of existing reporting obligations. These commenters asserted that the labor hour assumptions from the RIA are reasonable, that neither the estimation of the measure nor target setting would result in significant burdens for State DOT staff.

Lastly, FHWA disagrees that the cost of complying with declining targets will be burdensome to transportation agencies. The BIL provides over $27 billion in Federal funding to help State DOTs and MPOs achieve the declining GHG targets that they will set under this rule. The rule does not impose compliance costs associated with achieving declining targets since the rule does not require that emissions actually decrease or establish any penalties in the event that declining targets are not achieved.

§ 490.101 Definitions

Comments on the Measure's Relationship to National GHG Goals

Comment: A large number of commenters addressed the proposed performance measure's relationship to the national GHG goals. Several commenters asserted that the proposed performance measure would support the national GHG goals and expressed support for this connection. A smaller number of commenters asserted that the proposed performance measure would not support the national goals, as meeting them through the targets is unattainable/unrealistic, would require actions beyond State DOT/MPO authority, and would not match the timeline needed to see improvements from BIL-funded projects.

In addition, several of these commenters asked for clarifications related to the Administration's national goals for reducing GHG emissions. One commenter asked whether the declining targets must demonstrate a 50–52 percent reduction in on-road CO_2 emissions relative to 2005 levels by 2030 and net-zero on-road CO_2 emissions by 2050, or whether the targets must only aid in meeting the Administration's goals. One commenter requested additional guidance on how to set targets consistent with the national GHG goals for 2030 and 2050, and another requested guidance on how to translate the proposed GHG targets, which would be expressed relative to 2021 levels, to the Administration's goals, which are expressed relative to 2005 levels. Another commenter requested clarification on the meaning of net-zero, and asked whether FHWA will provide mechanisms to offset remaining emissions to achieve net-zero by 2050.

Response: Upon considering public comments, FHWA recognizes that the reference to net-zero targets and national GHG goals in the NPRM may have caused confusion, and FHWA has removed the definition of net-zero from 23 CFR 490.101 and the requirement in 23 CFR 490.105(e)(10) that targets for the GHG measure ''demonstrate reductions toward net-zero targets.'' In the final rule, FHWA is not requiring State DOTs and MPOs to set any specific declining targets or achieve national GHG goals. Declining targets are not required to align with the Administration's goal for the U.S. to reduce CO_2 emissions 50–52 percent below 2005 levels by 2030 and achieve net-zero emissions economywide by 2050, in accordance with national policy established under E.O.s 13990 and 14008. Rather, FHWA believes these national goals can provide a useful roadmap for State DOTs and MPOs as they consider how their targets fit into a longer timeframe of emission reductions.

§ 490.105 Establishment of Performance Targets

Comments on Establishing Declining Targets

Comment: A large number of commenters addressed the requirement to establish declining targets. The majority of these commenters were opposed to this requirement. Most of these commenters asserted that a declining target is inconsistent with 23 U.S.C. 150, which provides States with discretion in setting performance targets. Commenters asserted that States should set data-driven targets based on their own circumstances and analysis, which is not possible when declining targets are required. Commenters also asserted that a requirement for declining targets would reflect FHWA's influencing the selection of projects, with States facing pressure to select projects to support declining targets without commensurate funding through BIL to implement this type of change.

One commenter noted this would be the only measure to which MPOs would be expected to aid States in documenting declining targets, and requested that FHWA provide MPOs a 5-year grace period before requiring the declining targets to be established.

In contrast, several commenters supported the requirement to establish declining targets. These commenters asserted that such a requirement would require States to set targets that will result in improvement, as opposed to other performance measures, and support urgent progress on reducing GHG emissions from transportation. These commenters also asserted that the declining target requirement would not impinge on States' authority to set their own targets.

A few commenters recommended that FHWA require State DOTs and MPOs to provide their underlying assumptions and rationale for vehicle emissions rates and VMT, as well as to clarify in the final rule that targets should be based not only on projections for improvement in vehicle efficiency, but also on projections for reductions in emissions because of VMT-reducing investments, system efficiency enhancements, and/or other strategies.

Response: After considering these comments, FHWA has retained the requirement for State DOTs and MPOs to set declining targets as proposed in the NPRM and as further discussed in this final rule. State DOTs and MPOs that have NHS mileage within their State geographic boundaries and metropolitan planning area boundaries, respectively, are required under the rule to establish declining targets for reducing CO_2 emissions generated by on-road mobile sources. Given the urgency of responding to the climate crisis, FHWA believes it is inappropriate for State DOTs and MPOs to delay establishing targets. The FHWA also believes States and MPOs have the tools necessary to meet these timelines. State DOTs will establish targets no later than February 1, 2024, and MPOs are required to establish targets no later than 180 days after the State DOT establishes their targets. *See* 23 CFR 490.105(e)(1)(ii) and 490.105(f)(1).

The requirement for State DOTs and MPOs to establish declining targets for tailpipe CO_2 emissions on the NHS is vital given the urgency of the climate crisis. Declining targets will help State DOTs and MPOs plan toward reductions in GHG emissions and make Federal infrastructure investment decisions that reduce climate pollution, a principle set forth in E.O. 14008 (86 FR 7626). As discussed in the NPRM, FHWA is not prescribing what declining targets would look like in each State or MPO. State DOTs and MPOs have the flexibility to set targets that work for their respective policies and priorities, so long as the targets are declining. Under the rule, State DOTs and MPOs have discretion in setting an appropriate declining target as informed by complete, consistent, and timely State and local information on GHG emissions from on-road mobile source emissions. The rule provides State DOTs and MPOs with the tools to consider GHG emissions in making transportation decisions and imposes no penalties on States and MPOs that do not meet their targets; therefore, FHWA rejects the characterization that State DOTs and MPOs are being pressured or otherwise required to select any specific project based on this measure.

The FHWA disagrees with the assertion that States and MPOs cannot set data-driven targets based on their own circumstances and analyses when the targets must be declining. States and MPOs will use the appropriate data to set declining targets, as informed by their policies and priorities. State DOTs and MPOs will use the data to evaluate current performance and predict future performance when establishing declining targets.

In addition, FHWA has removed the proposed requirement for declining targets to demonstrate reductions toward net-zero targets. For additional

information on FHWA's decision not to include net-zero in the final rule, see the discussion under Comments on the Measure's Relationship to National GHG goals, in the Section-by-Section Discussion of § 490.101.

Comments on Alternative Target Setting Frequencies

Comment: A large number of commenters provided feedback related to a question raised in the NPRM about 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. Many commenters favored adding long-term targets. Commenters in favor of the requirement noted that long-term targets can function as policy goals to allow for more forward-looking evaluation of emissions trajectories. The other commenters supporting this change asserted that long-term targets better align with FHWA planning requirements (Long Range Transportation Plan (LRTP), Metropolitan Transportation Plan (MTP), State Transportation Improvement Program (STIP), Transportation Improvement Program (TIP)), and would create greater visibility and accountability.

In contrast, a small number of commenters opposed adding long-term targets. A few of these commenters noted that they support establishing long-term targets as a best practice, but not as a requirement. Others responded that long-term targets would be too burdensome to develop and would lead to speculative results that will not add value to the target setting process.

Response: The FHWA considered the comments citing the benefits of establishing long-term targets but declines to do so at this time to remain consistent with the existing TPM framework used for the other NHPP measures. Providing consistency with other measures minimizes the complexity of the TPM requirements. It also allows the measures with biennial targets to be considered in relation to each other, which can help illustrate how these measure areas are part of a single transportation system. State DOTs and MPOs can voluntarily establish longer-term targets in the manner that best aligns with their individual policies and plans.

Comments on MPO Joint Targets

Comment: Several commenters expressed concern about the proposed requirement for joint UZA targets. Almost all of these commenters otherwise supported the proposed measure but recommended removing the joint UZA target from the final rule. They identified a variety of concerns, particularly that a joint UZA target would be duplicative of the requirement for metropolitan planning area targets, thereby adding administrative burden for both MPOs and State DOTs. They also asserted that a joint UZA target would be overly complex, especially for planning agencies that are part of multiple UZAs or for those that share borders with a planning agency that serves a different population, such as rural and urban. A few commenters suggested alternatives to the joint UZA target: removing the target based on MPO boundaries and only requiring targets based on UZA; only requiring targets on either MPO boundaries or those based on UZAs; or limiting the targets based on MPO boundaries and on UZA boundaries only to MPOs and UZAs of a certain size, regardless of if there is a joint target or only metropolitan planning area targets.

Response: The FHWA has considered these comments and decided to retain the requirement for joint UZA targets. The FHWA disagrees with comments suggesting a joint UZA target is duplicative of the requirement for metropolitan planning area targets. The FHWA believes the requirement to establish a joint UZA target would encourage collaboration across MPO boundaries through coordinated systems and region-based approaches to reducing GHG emissions. The FHWA believes this collaboration is useful regardless of the MPO or UZA size. Therefore, FHWA has retained the requirement for MPOs to collectively establish a single joint 4-year target for each UZA that contains NHS mileage and that is overlapped by the boundaries of two or more metropolitan planning areas. As provided in 23 CFR 490.105(f)(10), joint targets are also required to be declining targets for reducing CO_2 emissions from on-road mobile sources, and these targets are established in addition to each MPO's individual target for their metropolitan planning area. The targets established are required to be a quantifiable target, which means a value must be used.

To support implementation of this final rule, FHWA is publishing in the docket applicability tables with the MPOs required to establish joint targets in accordance with 23 CFR 490.105(d)(4) and 490.105(f)(10). As with all other MPO targets, and consistent with 23 CFR 490.105(f)(1), joint targets are to be established no later than 180 days after the MPOs' respective State DOT(s) establish their targets. For additional information on the timeline for establishing joint targets, see the discussion under Comments on MPO Target Setting Frequency in this section.

Comments on MPO Target Setting Frequency

Comment: A small number of commenters provided feedback on the frequency of MPO targets. A couple of these commenters recommended that the final rule only include 4-year targets for MPOs. Another requested that the final rule add 2-year targets for MPOs to increase coordination with States on the same schedule. In addition, one commented that the final rule should leave out both the 2- and 4-year targets, and instead adopt 8- and 20-year targets.

Response: Upon consideration of the comments, FHWA has retained the requirement for MPOs to establish 4-year targets as previously established in 23 CFR 490.105(f). The FHWA believes the benefits associated with requiring MPOs to establish additional 2-year targets for the GHG measure would not exceed the additional burden to MPOs. The FHWA believes that introducing 8- and 20-year targets that would only apply to the MPOs and would only apply to a single measure would add confusion and complexity that would not be offset by meaningful benefits.

The final rule makes no changes to the MPO target establishment schedule, and MPOs will continue to report their baseline performance and progress toward their targets in their system performance report. *See* 23 CFR 490.107(c)(2). An MPO will establish targets for this measure, including any required joint targets, no later than 180 days after their respective State DOT(s) establishes their 4-year target for the measure. *See* 23 CFR 490.105(f)(1). The MPOs will report their established GHG targets, including any joint targets, to the State DOT in a manner that is documented and mutually agreed upon by both parties. *See* 23 CFR 490.107(c)(1).

Comments on Technical Assistance

Comment: A large number of commenters requested technical assistance from FHWA to assist in the implementation of the proposed performance measure. Examples cited by these commenters included tools and best practices for modeling the emissions impacts of various types of projects; strategies/pathways/roadmaps to reduce tailpipe CO_2 emissions (especially those with other social and economic impacts, including for disadvantaged communities); factors to consider in setting targets; and recommended targets to meet national GHG reduction goals.

Response: The FHWA believes the existing technical assistance, technical tools, and guidance available through FHWA's TPM and Energy and Emissions Websites, as well as resources provided by the National Highway Institute (NHI), AASHTO, AAMPO, and other publicly available sources provide the information necessary for State DOTs and MPOs to establish targets for the GHG measure. In addition to these existing resources, FHWA recently launched an Every Day Counts (EDC) innovation to help transportation agencies quantify GHG emissions and set targets for reducing GHG emissions through transportation planning. As this measure is implemented, FHWA will continue to consider how best to support State DOTs and MPOs in implementing all the TPM requirements in 23 CFR part 490 and will provide technical assistance on an ongoing basis.

Comments on Benchmarks

Comment: A few commenters suggested that FHWA provide intermediate benchmarks for States to use to ensure they are on track to meet the 2030 national GHG reduction goal.

Response: As noted earlier, while FHWA encourages State DOTs and MPOs to consider the Administration's GHG emissions reduction and net-zero goals when establishing targets, FHWA has removed the proposed requirement for State DOTs to align their declining targets with the Administration's GHG reduction goals. State DOTs and MPOs have the flexibility to set targets that work for their respective policies and priorities, so long as the targets are declining. For example, a State DOT might set targets that would result in steady, incremental progress toward net-zero emissions, or that achieve aggressive early GHG emissions reductions, or be more gradual at first and become more aggressive later. Therefore, FHWA declines to provide intermediate benchmarks at this time. However, State DOTs may voluntarily establish longer-term targets to serve as intermediate benchmarks to help them align their short-term emission reduction targets with their long-term GHG reduction goals.

§ 490.107 Reporting on Performance Targets

Comments on Reporting Start Date

Comment: Many commenters provided feedback on the reporting start date of October 1, 2022. All these commenters oppose this date, which they indicated would precede the NPRM public comment period, which closed on October 13, 2022. One commenter recommended that the rule be revised to either (1) not require States to set two-year targets for the 2022–2025 time period, and have States set their four-year targets for the 2022–2025 time period as part of the October 1, 2024 mid-performance period progress report; or (2) delay implementation altogether until the 2026–2029 performance period. Other commenters recommended a reporting start date in 2023, with the expectation that they would have six months to one year from the final rule for target setting/coordination before their first reporting. Other commenters recommended October 1, 2024 or October 1, 2028, indicating that these dates would correspond with other performance measures. A few commenters suggested a phased approach, such as reporting reference year data and their four-year target in the October 1, 2024 Mid Performance Period Progress Report, and then continuing with two- and four-year targets in the next performance period.

Response: Upon consideration of comments, FHWA determined that State DOTs and MPOs will establish or adjust targets every two years beginning in 2024. Targets will first be established for this measure by State DOTs and reported to FHWA in a State Initial GHG Report, no later than February 1, 2024. *See* 490.105(e)(1)(ii) and 490.107(d). The information provided by State DOTs in the 2024 State Initial GHG Report will be considered the 2024 Mid Performance Period Progress Report. *See* 490.107(b)(2)(i). State DOT reporting will follow an October 1st cycle beginning in 2026 to align with other measure reporting requirements. Recognizing the urgency of addressing the climate crisis, FHWA is establishing an initial date that is as early as practicable and will reflect the best available data. The FHWA is also establishing a February 1, 2024 reporting date for the first GHG targets to increase the opportunities for the targets to be used to help guide overall Federal investments available through the many programs available in BIL that can reduce CO_2 emissions. The February 1, 2024 reporting date is supportive of a 2022 GHG measure reference year since the 2022 VMT data are expected to be finalized by November 30, 2023.

The FHWA made changes throughout the regulation in response to the February 1, 2024 target establishment and reporting date, and they are summarized here. Consistent with all other NHPP measures, the GHG measure will have a 4-year performance period that will begin January 1, 2022. *See* 23 CFR 490.105(e)(4)(i) and 490.105(e)(4)(i)(C). The mid-point of the performance period is 2024, and the end of the performance period is 2026. The FHWA acknowledges that this date is in advance of this final rule's effective date. However, the start of the performance period merely serves as the benchmark that begins the TPM schedule. This measure does not generate any requirements for State DOTs or MPOs in advance of the effective date. The first GHG targets will be due on February 1, 2024, after the effective date of this rulemaking. The FHWA believes it is appropriate to begin the performance period on January 1, 2022 to align with the TPM program and to facilitate a mid-point of the performance period in 2024, and to align with TPM's existing 4-year performance period.

Since initial targets will be established so close to the mid-point, FHWA determined that 2-year targets would not be required. *See* 23 CFR 490.105(10)(i)(A) and 490.105(e)(4)(iii). Section 490.105(e)(10)(i)(B) requires that 4-year targets for this measure be established, and section 490.105(e)(1)(ii) requires they be established no later than February 1, 2024. Section 490.107(d) was added to create the State Initial GHG Report to receive the State DOT's initial 4-year GHG target.

The State Initial GHG Report requirements are similar to the Baseline Performance Period Report. In the State Initial GHG Report, State DOTs will provide the 4-year target, the basis for the target, the baseline data, which is the reference year for this performance period only, the relationship with other performance expectations, the data points used to calculate the GHG metric, described in 23 CFR 490.511(c), and the value calculated. The data used to calculate the metric for the reference year for the Initial GHG Report is specified in section 490.107(d)(2). Information on the GHG measure will be submitted as part of the biennial reports starting with the 2026 Full Performance Period Progress Report. *See* 23 CFR 490.107(b)(1), (b)(2), and (b)(3).

For additional information on how the initial target establishment requirements associated with February 1, 2024 will impact the significant progress determination done after the 2024 Mid Performance Period Progress Report, see the discussion under Comments on Significant Progress Timing, in the Section-by-Section Discussion of section 490.109.

Comments on MPO Reporting Frequency and Process

Comment: Many commenters responded to the MPO reporting requirements and many proposed revisions to the requirements. Many of these commenters noted that the final rule should require MPOs to report every two years on progress towards the performance measure, asserting that MPOs have a significant impact on transportation investment decisions in metropolitan planning areas, and therefore, should be as transparent as States in this regard. Similarly, another commenter suggested that the final rule could encourage but not require MPO reporting every two years given the additional burden of biennial reporting.

A couple of commenters requested that the final rule not require additional reporting by MPOs outside of the system performance report so as not to increase the reporting and tracking burden on MPOs and State DOTs.

Response: The FHWA considered the comments and determined the existing reporting requirements for MPOs in 23 CFR 490.107(c), which FHWA has successfully implemented for other performance measures, are appropriate for reporting on the GHG measure. The MPOs are required to report on performance within their metropolitan transportation plan (MTP), which are developed every 4 or 5 years. *See* 23 CFR 450.324(d). Biennial reporting by MPOs would necessitate an additional report outside of the MTP. At this time, FHWA does not believe that adding a new process for reporting on performance specifically for the GHG measure would provide benefits that would exceed the increased burden from additional reporting requirements. Therefore, FHWA has not made any changes in the final rule based on the comments. The FHWA has retained the requirement for MPOs to report progress toward their GHG target in their system performance report in the metropolitan plan.

For related information on the MPO target establishment timeline, see the discussion under Comments on MPO Target Setting Frequency in the Section-By-Section Discussion for section 490.105.

For additional information related to MPO reporting, see the discussion under Comments on MPO Report Content in this section.

Comments on MPO Report Content

Comment: One commenter noted that there does not appear to be a requirement for the MPO to report the value of the measure (percent reduction in tailpipe CO_2 emissions on the NHS) for their MPA or any required joint UZA targets (for those UZAs that overlap multiple MPOs). In addition, a commenter asked for clarification that reporting of the MPO metric calculation method is not required when an MPO supports the State targets. Another commenter noted that if an MPO chooses to support the State targets, reporting the MPO region total appears unnecessary. Commenters noted that for all the other performance measures (*e.g.,* safety measures bridge and pavement condition measures, and system performance and reliability measures), there is no requirement for MPOs to calculate and report metric or measure values to the State DOT(s).

Response: The FHWA has not made any changes in the final rule based on these comments. The FHWA believes that the requirement for MPOs to report the metrics used to calculate the measure and the metric calculation method is justified because MPOs can use a range of different approaches to calculate the metric, even if they choose to adopt State targets. For this measure, MPOs are required to report all targets they are required to establish, including any joint targets, to the State DOT in a manner that is documented and mutually agreed upon by both parties. *See* 23 CFR 490.107(c)(1). In the system performance report, MPOs will report baseline performance for this measure and progress toward the achievement of their targets. They will also report the calculation of annual tailpipe CO_2 emissions for the NHS for the period between the reference year and the first system performance report that includes the GHG measure information. Subsequent reports will cover the period between the current report and the last report. In addition, the MPO will report a description of their metric calculation method(s).

The FHWA has removed the proposed requirement for MPOs to report tailpipe CO_2 emissions on all roads. The reason for removing this requirement is described in response to the comments on MPO metric reporting, in the discussion for section 490.511.

As a new requirement of the rule, in the system performance report, FHWA is requiring MPOs using metric calculation methods not specified in section 490.511(d) to include information demonstrating the method(s) has valid and useful results for measuring transportation related CO_2. The reason for this requirement is provided in the discussion under Comments on Mutual Agreement of Metric Calculation Method by State DOTs and MPOs, in the Section-by-Section Discussion for section 490.511.

Consistent with 23 CFR 450.226 and 23 CFR 450.340, the MPO's MTP and TIP must meet the Performance-Based Planning and Programming (PBPP) requirements of the planning rule for this performance measure by no later than 2 years after the effective date of this rule.

Comments on Biennial Reporting Cycle

Comment: A few commenters provided general feedback on the State DOT biennial reporting cycle and recommended that the final rule not require two-year reporting for State DOTs.

Response: The FHWA has not made any changes in the final rule based on the comments. Section 150(e) of Title 23, U.S.C., requires State DOTs to report on performance to FHWA on a biennial basis. The FHWA considered the comments and determined the existing biennial reporting cycle established in 23 CFR 490.107(b), which FHWA has successfully implemented for other performance measures, will support State DOTs as they implement the new GHG measure within the context of the overall TPM program. This two-year reporting for State DOTs is consistent with other performance measures, which minimizes the incremental burden since State DOTs do not need to develop an additional reporting process and cycle for this one measure. Two-year reporting is also useful in helping State DOTs progress toward a longer-term goal and can reflect short-term actions such as operational improvements. Such short-term actions are typically outside the control of MPOs, which consequently have 4-year reporting requirements.

Comments on Alternative Progress Reporting Requirements

Comment: A couple of commenters suggested additions to the reporting requirements. One requested a provision for qualitative reporting to describe progress on the measure, to be able to report trends and overall actions and strategies that contribute to lower sales of fossil fuel used for on-road vehicles. Another requested requiring State DOTs and MPOs to identify planned actions to reduce emissions and actions that have been implemented to reduce emissions.

Response: The FHWA has not made any changes in the final rule based on the comments. The reporting requirements in 23 CFR 490.107 represent the minimum requirements for State DOTs and MPOs under the TPM regulations. The requirements in the final rule do not prevent State DOTs

and MPOs from providing more detailed qualitative reporting on progress and planned actions at the State and local level.

Comments on Publicizing GHG Reporting Information

Comment: A large number of commenters provided recommendations intended to increase the transparency and accessibility of reporting on performance. Some commenters recommended that FHWA publish a regular report on State DOT and MPO progress, with a couple of these commenters suggesting that such a report should be issued within three months of FHWA receiving the data and be made available in an interactive format that allows viewers to see both detailed and summary data. Commenters noted that having the data publicly available would also help stakeholders to hold State DOTs and MPOs accountable for progress toward their GHG targets.

Response: The FHWA has not made any changes in the final rule based on the comments. As part of FHWA's commitment to transparency, FHWA regularly publishes the State DOT's biennial reports and FHWA's significant progress determinations on its website as part of the publicly available TPM Dashboards, and the GHG measure will be included in the TPM Dashboards. The State performance dashboards and reports are available at *https://www.fhwa.dot.gov/tpm/reporting/state/*.

State DOTs and MPOs are required to report on progress as outlined in this final rule and described in 23 CFR 490.107. External reporting by the U.S. DOT on funds spent in specific areas is outside the scope of this rulemaking.

§ 490.109 Assessing Significant Progress Toward Achieving the Performance Targets for the National Highway Performance Program and the National Highway Freight Program

Comments on Consequences of Not Achieving Significant Progress

Comment: A small number of commenters addressed the requirement that State DOTs document the actions they will take should they fail to demonstrate significant progress toward their targets. Some of the commenters asserted such a requirement would not influence future target achievement. Some of these commenters recommended the final rule include requirements for State DOTs to provide more detailed information on projects or programs to reduce emissions. Such information would identify future actions to reduce emissions, and include estimated emissions reductions, timelines for implementation and funding sources. One commenter recommended the requirement be revised to require a State DOT to document actions that have been taken in support of targets and identify barriers preventing target achievement. One commenter asked for clarification on whether the documented actions would be binding for MPOs.

Response: The FHWA has not made any changes in the final rule based on the comments. The FHWA does not intend to use the significant progress determination process to be punitive or to encourage State DOTs to establish easy-to-achieve targets. Establishing targets and assessing progress is intended to encourage State DOTs and MPOs to establish data-supported targets that consider anticipated resources and potential uncertainties and to provide data-supported explanations of performance changes. If a State DOT does not make significant progress, FHWA expects the State DOT to provide data-supported explanations for not achieving significant progress, and their plan to achieve said progress in the future.

The FHWA determined that creating additional requirements related to the consequences of not achieving significant progress toward achieving GHG performance targets would create potential burdens that outweigh the potential benefits of such efforts. The documentation requirements in 23 CFR 490.109(f)(1)(v) represents the minimum information State DOTs are federally required to provide. State DOTs can provide additional information in their biennial reports if they feel it supports their discussion of target achievement, or significant progress.

Information provided by the State DOT in response to the requirement in 23 CFR 490.109(f)(1)(v), does not, on its own, require that an MPO within that State select a specific project.

Comments on Significant Progress Criteria

Comment: A small number of commenters recommended that significant progress be defined more narrowly. Commenters suggested the significant progress determination be changed to require performance better than the level that would be achieved through reductions in vehicle emission rates alone, define a minimum percentage of a target that must be reached, use a trend based on multiple performance periods, or use some combination of such factors.

Response: The FHWA considered these comments and declines to apply a narrower definition of significant progress. The existing criteria at 23 CFR 490.109(e)(2) for determining significant progress are well understood and have been applied successfully for the other NHPP and NHFP measures identified in 23 CFR 490.105(c)(1)–(6). Maintaining consistency with the existing significant progress determination criteria will ensure consistency with the other measures and simplify the process. Accordingly, FHWA will determine that a State DOT has made significant progress toward the achievement of each 2-year or 4-year applicable GHG target if (1) the actual performance level is better than the baseline performance, or (2) the actual performance level is equal to or better than the established target, as defined in 23 CFR 490.109(e)(2).

Comments on Significant Progress Timing

Comment: One commenter recommended that FHWA not require a significant progress determination for the first performance period since transportation emissions in initial years would reflect planning and investment decisions made prior to the final rule.

Response: In response to this and other comments and in line with 4-year targets being reported February 1, 2024, FHWA will not assess significant progress toward the achievement of 2-year targets for the GHG measure following the 2024 Mid Performance Period Progress Report. State DOT planning and investment decisions follow a cyclical process and should be informed by State DOT progress toward achieving its GHG targets. As a result, FHWA believes it to be beneficial to begin significant progress determinations for the GHG measure as early as is reasonable. The FHWA will first assess significant progress toward the achievement of targets for the GHG measure after the 2026 Full Performance Period Progress Report (due October 1, 2026).

In response to the initial target establishment requirements related to February 1, 2024, when conducting the significant progress determination after the 2026 Full Performance Period Progress Report, the performance for the reference year shall be used as the baseline performance, as described in 23 CFR 490.105(e)(10)(i)(C).

For additional information on the target establishment requirements associated with February 1, 2024, see the discussion under Comments on Reporting Start Date, in the Section-by-Section Discussion of section 490.107.

§ 490.503 Applicability

Comments on Roadway Applicability

Comment: A large number of commenters recommended that State DOTs and MPOs be required to set targets and track GHG emissions from travel on all public roads and not just the NHS. These comments asserted that the NHS represents only about 5 percent of total U.S. roadways, and just over 50 percent of vehicle miles traveled. They also asserted that setting targets and tracking emissions from travel on all public roads would provide a more comprehensive understanding of transportation emissions and allow for more comprehensive solutions.

Response: The FHWA is finalizing as proposed that this measure will assess performance on the NHS. The FHWA acknowledges that the NHS only represents a limited set of U.S. roadways, and a measure for all public roads would capture more emissions from the transportation sector. However, as detailed in Section III of this preamble, FHWA is promulgating this rulemaking under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V), which requires that the Secretary establish measures for States to use to assess the performance of the Interstate System and the non-Interstate NHS. The statute does not provide authority to measure performance on public roads other than the Interstate and non-Interstate NHS. Thus, the GHG measure under 23 CFR 490.105(c)(5), and associated requirements, must be based on performance on the Interstate System and non-Interstate NHS. However, State DOTs and MPOs can choose to implement other measures to support their programs, including measures that apply to all roads, in a manner that best aligns with their individual policies and plans.

§ 490.505 Definitions

Comments on Reference Year

Comment: Many commenters, including those both supporting and opposed to the proposed measure, provided feedback on the use of calendar year (CY) 2021 as the reference year, with all asserting that it would not be appropriate because of the lingering effects of the COVID–19 pandemic on travel in 2021. Commenters noted that using CY 2021 would set the baseline artificially low as VMT and fuels sales continue to rebound and would make it difficult for States to meet declining targets. Commenters provided one or more of the following suggestions as an alternative to using CY 2021 as the reference year: 2022 or a year further in the future; 2019 as a pre-pandemic year; 2005 as a reference to the national GHG targets; or the 5-year average as the baseline.

Response: The FHWA agrees with the commenters' observation that the COVID–19 pandemic reduced travel demand, motor fuel consumption, and CO_2 emissions in 2021 as compared to pre-pandemic levels, and that using 2021 as a reference year would establish a lower-than-normal basis for evaluating future performance. In response to these concerns, FHWA is establishing 2022 as the reference year for the GHG measure. In 2022, travel activity is estimated to have nearly rebounded to pre-pandemic levels, with FHWA's December 2022 Traffic Volume Trends report showing cumulative mileage of 3.17 trillion miles in 2022, compared with 3.27 trillion miles in 2019.[17] 2022 is also the most recent year for which finalized VMT estimates will be available to use in calculating the State DOTs' GHG metric and measure.

Comments on Definition of GHG Emissions

Comment: Several commenters requested clarification on the definition of GHG emissions provided in the NPRM. These commenters asserted that definition proposed at 23 CFR 490.505 goes beyond tailpipe CO_2 emissions to include methane, nitrous oxides, and hydrofluorocarbons. Commenters asserted that this broader definition could open the door to further regulation without a rulemaking.

Response: The definition of GHG included in the NPRM is a common, scientific definition of GHG emissions, which include CO_2 in addition to other gases such as methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs). According to EPA data, CO_2 accounts for approximately 97 percent of on-road GHG emissions when weighting the 100-year global warming potential of CO_2 and other greenhouse gases.[18] The FHWA concluded that because approximately 97 percent of on-road GHG emissions are from CO_2, including non-CO_2 gases in the measure would not yield significant benefits. Any changes to the GHG measure, including any expansion to the applicability of this measure beyond tailpipe CO_2 emissions, would follow notice and comment rulemaking.

§ 490.509 Data Requirements

Comments on CO_2 Emissions Factor

Comment: Several commenters provided feedback on the proposal for FHWA to provide a standard CO_2 emissions factor for each fuel type. A few of the commenters said FHWA should establish CO_2 emissions factors, with one recommending that FHWA provide optional supplemental fuel blend information and State-specific carbon intensity values based on Low Carbon Fuel Standards reporting. Several commenters requested that FHWA consider accommodating alternative emissions factors for fuel blends when States and MPOs provide credible alternatives. A few commenters requested additional clarity on CO_2 emissions factors, including what they will look like, how they will change over time, how they will be accessed, whether they will vary based on location, and for some specific examples. One commenter stated there is a need to incorporate the biogenic nature of CO_2 from bioethanol into the emissions factor calculation, with one commenter expressing general concerns about the inputs to EPA's Motor Vehicle Emissions Simulator (MOVES) Model.

Response: As proposed in the NPRM, FHWA will publish uniform CO_2 emissions factors for each fuel type to be used by all States in calculating the State DOT's metric for the GHG measure. The FHWA believes that the requirement for States to use a uniform factor, for each fuel type will ensure consistency and comparability of States' estimates of tailpipe CO_2 emissions.

The FHWA recognizes that some States have implemented or are considering the implementation of low carbon fuels programs to reduce the overall carbon intensity of transportation fuels. However, since these programs often target reductions in the GHG emissions from well-to-pump processes, FHWA believes that including emission factors for alternative fuel blends as part of a tailpipe-only measure would be overly complex. The FHWA recognizes that CO_2 emissions estimates for the transportation sector as reported in the EPA's Inventory of U.S. GHG Emissions and Sinks do not include CO_2 emissions associated with biofuels, such as the ethanol component of E10 and other gasoline blends, since it is assumed that

[17] *See* Office of Highway Policy Information, Federal Highway Administration, Traffic Volume Trends December 2022, *available at https://www.fhwa.dot.gov/policyinformation/travel_monitoring/22dectvt/*; Traffic Volume Trends December 2019, *available at https://www.fhwa.dot.gov/policyinformation/travel_monitoring/19dectvt/*.

[18] See EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2021, table 2–13, *available at https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021*. EPA's estimates weight CO_2 and other greenhouse gases on their 100-year global warming potentials, as specified in the Intergovernmental Panel on Climate Change Fifth Assessment Report.

the combustion of the biogenic component of these fuels is recycled as biofuel crops and forests regenerate. The FHWA will consider EPA's accounting practice for addressing biofuel CO_2 emissions as it develops the standard CO_2 emissions factors to support this final rule. The FHWA will publish these factors on its website by August 15th of each biennial reporting year.

Comments on Data Availability Date

Comment: A small number of commenters requested that FHWA provide data to calculate the system performance earlier than the annual date of August 15, with a few specifying that this should be no later than May 1 of each year or, if no joint UZA target is required, then no later than July 1.

One commenter indicated that the prior year's data in Table VM–3—Annual Vehicle Miles and Table MF–21—Motor-Fuel Use has been published in mid-late October in the past, which would conflict with an October 1 deadline for report submissions.

Response: The FHWA appreciates commenters' interest in having data available as early as possible to support State biennial reporting on October 1 of each even year. While estimates of annual motor fuel volumes distributed are not expected to be finalized by FHWA until August 15th, States and MPOs can develop preliminary estimates and forecasts of GHG emissions using the values in FHWA's *Monthly Motor Fuel Reported by States* publication, available on the website of FHWA's Office of Highway Policy Information, and the State-reported fuel sale information.

In response to the comments requesting data earlier than proposed and FHWA's reexamination of when the VMT data will be available, FHWA revised 23 CFR 490.509(h) as well as 23 CFR 490.109(d)(1)(vi) and (d)(1)(vii) to ensure that State DOTs are able to use their most accurate VMT data to estimate the NHS share of total on-road tailpipe CO_2 emissions when reporting actual performance and discussing progress. These changes were made in response to a comment noting that HPMS VMT data may not be finalized by August 15, as proposed in the NPRM.

The final rule allows State DOTs to use their best available VMT data that represents the prior calendar year when reporting performance and their GHG measure and metric information in the biennial reports. *See* 23 CFR 490.509(h). Related changes were made to the State DOT metric reporting requirements the biennial reports. *See* 490.107(b)(1)(ii)(H), (b)(2)(ii)(J) and (b)(3)(ii)(I). Because the VMT data used by the State DOT when preparing the biennial report may not be known to FHWA, State DOTs are required to provide the values they use to calculate the reported metric, and a description of the data source(s) used for the VMT information they report. Section 490.511(f)(2) was revised to be consistent with the metric reporting requirements in 23 CFR 490.107(b)(1)(ii)(H), (b)(2)(ii)(J), and (b)(3)(ii)(I).

The change to 23 CFR 490.509(h) necessitated changes to the data FHWA will use in the significant progress determination. In 23 CFR 490.109(d)(1)(vi) and (d)(1)(vii) FHWA has specified that for the significant progress determination, baseline performance will be based on data from HPMS as of November 30th of the baseline report year, and the reference year will be based on HPMS data as of November 30, 2023. The FHWA also added section 490.109(e)(4)(vii) to clarify that the data used must be accepted by FHWA by the dates specified in section 490.109(d)(1).

Comments on Accessibility of Fuel Sales Data

Comment: A small number of commenters expressed concern at MPOs' inability to access the Fuels & FASH dataset and requested more guidance on how the data could be accessed. One commenter suggested using publicly available State data instead. Another requested clarification on how a State will calculate the aggregate fuel consumption by fuel type.

Response: States are responsible for submitting preliminary estimated totals of monthly fuel volumes distributed for gasoline and ''special fuel'' (which primarily consists of diesel) which are due to FHWA 90 days following the end of a given month. These estimates are made publicly available for each State as part of FHWA's Monthly Motor Fuel Report, accessible on the Office of Highway Policy Information website. Final estimated fuel for a given year are adjusted to account for: (1) updated monthly fuel volumes distributed for gasoline and ''special fuel'' provided by the States, and (2) non-highway use of fuels. These estimates will be available by August 15 of each reporting year (*i.e.,* the following year).

Comments on Non-Highway Fuel Use

Comment: A couple of commenters asserted a portion of fuel sales are consumed off the roadway network, which is a circumstance that is likely more prevalent in rural areas. These commenters asserted that off-highway use of fuels would not be accounted for in fuel use data provided by FHWA.

Response: The FHWA uses a modeling process to estimate the portion of gasoline that is distributed and used for non-highway purposes. These data are then used to adjust the gasoline volume data submitted by the States to identify the volumes that are used specifically for on-highway purposes. In addition, FHWA instructs all States not to report non-highway use of special fuels, including red dyed diesel and kerosene that is untaxed and intended for non-highway applications.

Comments on GHG Emissions Analysis Techniques

Comment: A commenter asserted that the effectiveness of the proposed rule would be limited by current traffic modeling practices. The commenter asserted that the final rule would benefit from improved data collection and analysis techniques, a more standardized approach to documenting projects within the STIP/TIP and ensuring a requirement that emissions from induced demand be included in modeling.

Response: The FHWA believes the data and methods specified in the NPRM are appropriate to evaluate performance related to the GHG measure. State CO_2 estimates are calculated by multiplying gallons of fuel taxed by each State by the CO_2 emissions for each fuel type. The FHWA's Fuels & FASH database-will serve as the source of fuel use data since it is a national, established, and validated source of fuel use information as reported by States. The FHWA believes that Fuels & FASH provides advantages for estimating fuel consumption and CO_2 emissions compared to model-based approaches, which by necessity are built on simplified mathematical representations of transportation networks, travel choices, vehicle fuel efficiency, and other factors. Fuels sales data implicitly accounts for travel demand and fuel consumption resulting from transportation policies and investments, including behavioral changes following highway construction (sometimes referred to as ''induced demand''). The FHWA recognizes that fuel sales may not precisely align with the amount of fuel combustion and CO_2 emissions within the boundaries of a State, particularly since drivers may cross State lines to purchase fuel. However, FHWA believes the data and methods for the State DOT metric calculation achieve an appropriate balance between simplicity and accuracy and will

provide a useful way to monitor trends over time.

The FHWA recognizes that MPOs lack a data source comparable to Fuels & FASH and therefore must estimate CO_2 emissions using an approach different from the States. The FHWA believes that it is appropriate to leave the data and metric calculation methods to the discretion of MPOs, and that it would be unreasonable to specify data collection standards or modeling practices, particularly since some MPOs do not employ technical staff or support travel and emissions models. However, FHWA has updated the final rule to require MPOs that choose a metric calculation approach not enumerated in section 490.511(d) to demonstrate the method has valid and useful results.

Finally, State DOTs and MPOs may employ travel models, emissions models, and other analytics to support transportation planning, programming, and the development of GHG reduction targets. In so doing, they can consider the degree to which their models are sensitive to the travel and emissions impacts of GHG reduction strategies and other decisions, such as future highway capacity. However, FHWA believes it is not appropriate to specify the models or other practices that States and MPOs use for these purposes as part of the final rule.

For additional information related to the CO_2 factor, see the discussion under Comments on CO_2 Emissions Factor, in this section.

§ 490.511 Calculation of National Highway System Performance Metrics

Comments on State DOT GHG Metric Calculation Method

Comment: Several commenters provided input on the calculation of the proposed GHG performance measure. A few commenters expressed support for using existing national data sets for fuel sales and VMT data, while a few comments offered proposed revisions. Alternatives suggested included allowing States to propose alternative or additional data sets or methodologies and requiring States to use one of the methods offered for MPOs in the proposed rule (*i.e.,* MOVES or FHWA's Energy and Emissions Reduction Policy Analysis Tool (EERPAT)).

Response: The FHWA has retained the State DOT metric calculation method proposed in the NPRM. This approach is based on fuel use data that is already collected by States and reported to FHWA, ensuring comparability between State estimates. As noted in response to the previous comment, FHWA believes this approach provides a more accurate estimate of total fuel use and CO_2 emissions than model-based approaches. The FHWA recognizes that this approach includes some simplifying assumptions, particularly by assuming a similar rate of GHG emissions on NHS and non-NHS facilities per VMT. While it is expected that emissions rates would differ somewhat between NHS- and non-NHS facilities, FHWA believes that this simplifying assumption is justified since the difference between emissions rates on NHS- and non-NHS facilities would be largely constant from year-to-year and similar across States, providing a consistent way to monitor performance.

For additional information on how the MPO's metric calculation method is selected and documented, see the discussion under Comments on Mutual Agreement on MPO Metric Calculation Method by State DOTs and MPOs, which is part of this section.

Comments on MPO GHG Metric Calculation Method

Comment: Several commenters addressed MPO metric calculation methodology and reporting. Approximately half of these commenters supported preserving MPOs' flexibility in calculating the GHG metric. In contrast, a couple of commenters supported requiring MPOs to use the MOVES model to calculate GHG emissions, while one asserted that FHWA should provide the data needed for MPOs to calculate a metric for the GHG measure. In addition, one commenter questioned the requirement for MPOs to calculate and report tailpipe CO_2 emissions on all roads, noting the MPO may choose a methodology that allows for calculating the GHG metric for NHS roads directly.

Response: Upon consideration of comments, FHWA is preserving MPOs' flexibility to use a range of different approaches in calculating the metric for the GHG measure. The FHWA recognizes that technical capabilities vary across MPOs and that some MPOs may not support a travel demand model or be required to use EPA's MOVES model. The FHWA also appreciates the observation that some MPOs may choose to calculate tailpipe CO_2 emissions on the NHS facilities directly. This is inherently different from State DOTs, which are required to calculate CO_2 emissions for all roads before estimating the proportion of emissions associated with the NHS. Accordingly, in the final rule, FHWA has removed the requirement for MPOs to report tailpipe CO_2 emissions for all roads.

Comments on Mutual Agreement on MPO Metric Calculation Method by State DOTs and MPOs

Comment: A small number of commenters addressed the requirement for the MPO metric calculation method to be mutually agreed upon by both the State DOT and the MPO. A few commenters opposed the requirement for the MPO to obtain concurrence on the metric calculation method. Similarly, one commenter recommended that an MPO be allowed to use, without the need to obtain additional approvals, any regional data, models, and methodologies that is already used to measure GHG for purposes of air quality conformity modeling or other GHG performance measures. One commenter recommended the metric calculation method be covered in the ''written provisions'' section of the system performance report.

Response: The FHWA agrees with commenters that the requirement for MPOs and States to agree on the MPO's metric calculation method creates burden for both groups. In response to the comments, FHWA is not requiring the MPO's metric calculation method to be mutually agreed upon by the State DOT and MPO, but MPOs are encouraged to coordinate with the State DOT on the data used to the maximum extent practicable.

The FHWA has instead added a requirement to section 490.107(c)(2)(ii) that if the metric calculation method used by the MPO is not specified in section 490.511(d), the MPO must demonstrate the method's validity and usefulness in measuring transportation-related CO_2 emissions in the system performance report. The FHWA believes that this change will be sufficient to ensure accountability in the methods MPOs use to calculate the GHG metric, absent the requirement for mutual agreement on the method with State DOTs. Consistent with FHWA's collaboration and coordination requirements in 23 CFR part 450, FHWA encourages MPOs and the State DOTs to work together in identifying methods, tools, and data the MPO's can use to calculate the MPO's metric for the GHG measure.

For additional information related to reporting of the MPO's metric, see the discussion under Comments on MPO Report Content, in the Section-by-Section Discussion for section 490.107.

Comments on the RIA

Comments on the Estimated Cost of the Regulation

Comment: Many commenters discussed cost estimates from the RIA. Many commenters asserted that the RIA underestimated direct implementation costs of the measure and provided examples of costs that they believe were underestimated. Examples cited include the time and level of expertise needed to establish targets, conduct biennial reporting, conduct stakeholder engagement, develop and maintain models, and achieve coordination between DOTs, MPOs, and State agencies. Several commenters also asserted that achieving national GHG reduction goals would require significant changes to transportation investments that would carry significant monetary costs and would require significant time to implement. A few commenters also asserted that achieving GHG reductions through strategies to reduce on-road travel activity would create further social and economic costs including increased congestion and travel times. Another commenter asserted that reducing on-road GHG emissions would reduce the consumption of traditionally taxed fuels and require the establishment of a different highway finance revenue model that is not based on the consumption of fossil fuels.

In contrast, several commenters asserted that the burdens of the proposed performance measure would be negligible. These commenters noted that States and MPOs have already established processes and partnerships under the TPM framework and that staff efforts to quantify and report GHG emissions on the NHS would not be expected to create significant cost burden and are in line with existing performance measures.

Other commenters noted that work performed in support of the GHG measure would not support other aspects State DOTs' and MPOs' missions in ways that would mitigate net costs of the proposed rule. One State DOT also asked for clarification on how the total costs of compliance in time and cost is calculated.

Response: The FHWA has reexamined the RIA considering public comments and any updated information, and FHWA has determined that the RIA cost estimates should be primarily unchanged from the RIA in support of the NPRM, with a small reduction in estimated burden based on the elimination of the NPRM requirement for States and MPOs to estimate CO_2 emissions for all roads in addition to the NHS. The FHWA recognizes commenters' observations that many State DOTs and MPOs will need to develop capacity to address GHG emissions through interagency coordination, stakeholder engagement, and the consideration of strategies to support GHG reduction targets. The FHWA believes that these examples of costs were addressed through the NPRM RIA labor hour estimates for section 490.105, which assume that the level of effort for setting targets in the first reporting period will be approximately twice that of subsequent reporting periods. The FHWA has included in the RIA a break-even analysis of the CO_2 reductions from the rule that would be necessary to equal its costs. This analysis determined that the required reductions would represent a very small proportion of total transportation CO_2 emissions.

In addition, FHWA reiterates State DOTs and MPOs will not experience costs from achieving GHG reduction targets since FHWA is not requiring specific declining target values be established, nor is it mandating penalties for failing to meet the targets established.

The FHWA recognizes that changes in fuel use may impact highway funding. However, as this rulemaking does not require any reductions in fuel use, this issue is outside of the scope of this rulemaking, nor does FHWA have any authority to change the statutory funding scheme established by Congress.

Comments on the Use of the Social Cost of Carbon

Comment: Several commenters raised concerns about the use of the social cost of carbon dioxide (SC–CO_2) to conduct a ''break-even'' analysis of CO_2 reductions required for the proposed measure to equal its costs. These commenters asserted that use of the Interagency Working Group (IWG) on Social Cost of Greenhouse Gases [19] ''interim'' social costs of GHGs overstate damages from GHG emissions. In contrast, several commenters noted the social cost of carbon likely significantly underestimates the actual cost of climate damages caused by GHG emissions because important categories of climate damages cannot be quantified.

Response: As discussed further in the RIA for the final rule, the IWG on Social Cost of Greenhouse Gases published interim estimated for the SC–CO_2 per ton of carbon emissions for each year from 2020 to 2050. As noted by the IWG's technical support document prepared under E.O. 13990, the SC–CO_2 framework in principle can capture all climate change impacts, including (but not limited to) changes in net agricultural productivity, human health effects, property damage from increased flood risk natural disasters, disruption of energy systems, risk of conflict, environmental migration, and the value of ecosystem services. The SC–CO_2 estimates used in the break-even analysis for this rule were developed over many years, using transparent process, peer-reviewed methodologies, the best science available at the time of that process, and with input from the public. However, many important categories of climate damages cannot currently be fully quantified and monetized, and so the SC–CO_2 values very likely underestimate the climate damages caused by GHG pollution. The IWG's technical support document further notes that the SC–CO_2 as estimated should reflect the societal value of reducing CO_2 emissions by one metric ton, and that the SC–CO_2 is the theoretically appropriate value to use in conducting economic analyses of policies that affect CO_2 emissions.[20] The DOT is an IWG member, and FHWA has reviewed the technical support document and has determined that the recommended values are appropriate for use in the break-even analysis in the RIA.

VIII. Rulemaking Analyses and Notices

A. Executive Order 12866 (Regulatory Planning and Review), Executive Order 13563 (Improving Regulation and Regulatory Review), and DOT Regulatory Policies and Procedures

The Office of Management and Budget (OMB) has determined that this rulemaking is a significant regulatory action within the meaning of E.O. 12866, as amended by E.O. 14094 (''Modernizing Regulatory Review''), because it raises legal or policy issues for which centralized review would meaningfully further the President's

[19] Interagency Working Group on Social Cost of Greenhouse Gases, U.S. Government. ''Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990'' (February 2021), *available at https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf.*

[20] Interagency Working Group on Social Cost of Greenhouse Gases, U.S. Government. ''Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990'' (February 2021), *available at https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf.*

priorities or the principles set forth E.O. 12866. The rule will not have an annual effect on the economy of $200 million or more. The rule will not adversely affect in a material way the economy, any sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, territorial, or tribal governments or communities. In addition, the changes would not interfere with any action taken or planned by another agency and would not materially alter the budgetary impact of any entitlements, grants, user fees, or loan programs. As described above, FHWA estimates that total costs associated with this rule, between 2023 and 2032, will be $10.8 million, discounted at 7 percent, and $12.7 million discounted at 3 percent (these figures are estimated in 2020 dollars). On an annual basis, the total costs would be $1,535,045 discounted at 7 percent and $1,494,406 discounted at 3 percent. The FHWA is unable to quantify the benefits of the rulemaking; consequently, FHWA describes the expected benefits qualitatively in the preamble and the RIA. These benefits include potentially significant reductions in GHG emissions resulting from decisions and actions based on greater consideration of GHG emissions in transportation planning, public awareness of GHG emissions trends, and better information on the impact of transportation decisions on GHG emissions. While many of the benefits in the proposed rule are difficult to quantify, FHWA believes that the benefits justify the costs. As discussed in greater detail in the RIA, FHWA estimates that benefits of this rule would exceed its costs with a reduction of less than 0.01 percent of the average annual amount of CO_2 emissions from U.S. transportation sources in 2019, based on a range of discount rates used to estimate the social cost of CO_2 and the 7 and 3 percent discount rates used to estimate the total costs of the final rule. The full RIA is available in the docket.

B. Regulatory Flexibility Act

In compliance with the Regulatory Flexibility Act (Pub. L. 96–354, 5 U.S.C. 601–612), FHWA has evaluated the effects of this rule on small entities and has determined that it is not anticipated to have a significant economic impact on a substantial number of small entities. The rule will affect two types of entities: State governments and MPOs. State governments are not included in the definition of small entity set forth in 5 U.S.C. 601. Metropolitan planning organizations are considered governmental jurisdictions, and to qualify as a small entity they would need to serve fewer than 50,000 people. *See* 5 U.S.C. 601(5). Metropolitan planning organizations are designated to serve UZAs with populations of 50,000 or more. *See* 23 U.S.C. 134(d)(1). Therefore, FHWA certifies that the rule will not have a significant economic impact on a substantial number of small entities.

C. Unfunded Mandates Reform Act of 1995

This rule would not impose unfunded mandates as defined by the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4, 109 Stat. 48). The Unfunded Mandates Reform Act of 1995 (section 202(a)) requires us to prepare a written statement, which includes estimates of anticipated impacts, before proposing ''any rule that includes any Federal mandate that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100,000,000 or more (adjusted annually for inflation) in any one year.'' The current threshold after adjustment for inflation is $177 million, using the most current (2022) Implicit Price Deflator for the Gross Domestic Product. This rule will not result in the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector, of $177 million or more in any one year (2 U.S.C. 1532). In addition, the definition of ''Federal Mandate'' in the Unfunded Mandates Reform Act excludes financial assistance of the type in which State, local, or Tribal governments have authority to adjust their participation in the program in accordance with changes made in the program by the Federal Government. The Federal-aid highway program permits this type of flexibility.

D. Executive Order 13132 (Federalism Assessment)

This rule has been analyzed in accordance with the principles and criteria contained in E.O. 13132, and FHWA has determined that this rule will not have sufficient federalism implications to warrant the preparation of a federalism assessment. The FHWA also has determined that this rule will not preempt any State law or State regulation or affect the States' ability to discharge traditional State governmental functions.

E. Paperwork Reduction Act of 1995

Under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501, *et seq.*), Federal agencies must obtain approval from OMB for each collection of information they conduct, sponsor, or require through regulations. The FHWA has determined that this rule contains collection of information requirements for the purposes of the PRA. This rule introduces a GHG performance measure that will be implemented as part of the overarching TPM regulations in 23 CFR part 490, which includes State DOT reporting on performance. The collection of State DOT reports in support of 23 CFR 490.107 is covered by OMB Control No. 2125–0656.

The FHWA has analyzed this rule under the PRA and has determined the following:

Respondents: 52 State DOTs.

Frequency: Single State Initial GHG Report, and ongoing biennial reporting.

Estimated Average Burden per Response: Approximately 88 hours to complete and submit the required report, or 44 hours annually.

Estimated Total Annual Burden Hours: Approximately 2,288 hours annually.

In addition, MPO coordination and reporting activities are covered by OMB Control No. 2132–0529, Metropolitan and Statewide and Nonmetropolitan Transportation Planning.

F. National Environmental Policy Act

The FHWA has analyzed this rule pursuant to the NEPA and has determined that it is categorically excluded under 23 CFR 771.117(c)(20), which applies to the promulgation of rules, regulations, and directives. Categorically excluded actions meet the criteria for categorical exclusions under the Council on Environmental Quality regulations and under 23 CFR 771.117(a) and normally do not require any further NEPA approvals by FHWA. This rule will establish in FHWA regulations a performance measure for on-road CO_2 emissions on the NHS for use by States and MPOs in measuring transportation performance. The FHWA does not anticipate any adverse environmental impacts from this rule, the purpose of which is to inform decisionmaking about the transportation sector's contribution to GHG emissions, and thereby contribute to environmental sustainability; moreover, no unusual circumstances are present under 23 CFR 771.117(b).

G. Executive Order 13175 (Tribal Consultation)

The FHWA has analyzed this rule in accordance with the principles and criteria contained in E.O. 13175, ''Consultation and Coordination with Indian Tribal Governments.'' The rule will implement statutory requirements under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V) to establish measures for States to assess the performance of the Interstate and

non-Interstate NHS, which FHWA interprets to include environmental performance. This measure establishes requirements only for States and MPOs that receive Title 23 Federal-aid highway funds and have NHS mileage within their jurisdictions; it would not have direct effects on one or more Indian Tribes, would not impose substantial direct compliance costs on Indian Tribal governments, and would not preempt Tribal laws. Accordingly, the funding and consultation requirements of E.O. 13175 do not apply and a Tribal summary impact statement is not required.

As noted above, FHWA anticipates the benefits from this rulemaking include potentially significant reductions in GHG emissions resulting from decisions and actions based on greater consideration of GHG emissions in transportation planning by States and MPOs, public awareness of GHG emissions trends, and better information on the impact of transportation decisions on GHG emissions. Although this rulemaking does not apply to Tribes, FHWA expects that Tribes would benefit from potential reductions in GHG emissions that result from State and MPO implementation of this rulemaking.

H. Executive Order 12898 (Environmental Justice)

The E.O. 12898 requires that each Federal Agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minorities and low-income populations. The FHWA has determined that this rule does not raise any environmental justice issues.

I. Regulation Identifier Number

A RIN is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN contained in the heading of this document can be used to cross reference this action with the Unified Agenda.

List of Subjects in 23 CFR Part 490

Bridges, Highway safety, Highways and roads, Reporting and recordkeeping requirements.

Issued under authority delegated in 49 CFR 1.81 and 1.85.

Shailen P. Bhatt,

Administrator, Federal Highway Administration.

In consideration of the foregoing, FHWA amends Title 23, Code of Federal Regulations by revising part 490, to read as follows:

PART 490—NATIONAL PERFORMANCE MANAGEMENT MEASURES

■ 1. The authority citation for part 490 continues to read as follows:

Authority: 23 U.S.C. 134, 135, 148(i), and 150; 49 CFR 1.85.

■ 2. Amend § 490.101 by adding in alphabetical order the definition of ''Fuels and Financial Analysis System—Highways (Fuels & FASH)'' to read as follows:

§ 490.101 Definitions.

* * * * *

Fuels and Financial Analysis System—Highways (Fuels & FASH) as used in this part means FHWA's system of record for motor fuel, highway program funding, licensed drivers, and registered vehicles data.

* * * * *

■ 3. Amend § 490.105 by:
■ a. Adding paragraph (c)(5);
■ b. Revising paragraph (d) introductory text, and adding paragraphs (d)(1)(v) and (d)(4);
■ c. Adding paragraphs (e)(1)(i), (e)(1)(ii), and (e)(4)(i)(C), revising paragraph (e)(4)(iii), and adding paragraph (e)(10); and
■ d. Revising paragraphs (f)(1)(i) and (f)(3), and adding paragraph (f)(10).

The additions and revisions read as follows:

§ 490.105 Establishment of performance targets.

* * * * *

(c) * * *

(5) 490.507(b) for greenhouse gas (GHG) emissions on the NHS;

* * * * *

(d) *Target scope.* Targets established by State DOTs and MPOs shall, regardless of ownership, represent the transportation network or geographic area, including bridges that cross State borders, that are applicable to the measures as specified in paragraphs (d)(1), (2), and (4) of this section.

(1) * * *

(v) 490.503(a)(2) for the GHG measure specified in § 490.507(b);

* * * * *

(4) MPOs shall establish a joint target for the GHG measure specified in § 490.507(b), for each urbanized area that meets the criteria specified in paragraph (f)(10) of this section. The joint target shall represent the performance of the transportation network specified in § 490.503(a)(2).

(e) * * *

(1) *Schedule.* State DOTs shall establish targets not later than the dates provided in paragraphs (e)(1)(i) and (e)(1)(ii) of this section, and for each performance period thereafter, in a manner that allows for the time needed to meet the requirements specified in this section and so that the final targets are submitted to FHWA by the due date provided in § 490.107(b).

(i) State DOTs shall establish initial targets not later than May 20, 2018, except as provided in paragraph (e)(1)(ii) of this section.

(ii) State DOTs shall establish initial targets for the GHG measure identified in § 490.507(b) not later than February 1, 2024.

* * * * *

(4) * * *

(i) * * *

(C) For the GHG measure in § 490.105(c)(5), the performance period will begin on January 1, 2022 and will extend for a duration of 4-years. Subsequent performance periods will begin as described in paragraph (4)(i)(A) of this section.

* * * * *

(iii) Except as provided in paragraphs (e)(7) and (e)(8)(v), and (e)(10)(i) of this section, State DOTs shall establish 2-year targets that reflect the anticipated condition/performance level at the midpoint of each performance period for the measures in paragraphs (c)(1) through (7) of this section, and the anticipated cumulative emissions reduction to be reported for the first 2 years of a performance period by applicable criteria pollutant and precursor for the measure in paragraph (c)(8) of this section.

* * * * *

(10) *Targets for the GHG measure.* Targets established for the GHG measure in paragraph (c)(5) of this section shall be declining targets for reducing tailpipe CO_2 emissions on the NHS.

(i) The following requirements apply only to the targets established for the State Initial GHG Report, described in § 490.107(d), and 2026 Full Performance Period Progress Report, described in § 490.107(b)(3), for the measure in § 490.507(b):

(A) State DOTs are exempt from the required 2-year target described in paragraph (e)(4)(iii) of this section.

(B) State DOTs shall establish a 4-year target, required under paragraph

(e)(4)(iv) of this section, and report this target in their 2024 State Initial GHG Report, required under § 490.107(d).

(C) The performance for the reference year shall be used as the baseline performance.

(f) * * *

(1) * * *

(i) The MPOs shall establish 4-year targets, described in paragraph (e)(4)(iv) of this section, for all applicable measures, described in paragraphs (c) and (d) of this section. For the GHG measure described in (c)(5) of this section, the targets established shall be declining targets for reducing tailpipe CO_2 emissions on the NHS.

* * * * *

(3) *Target establishment options.* For each performance measure identified in paragraph (c) of this section, except the CMAQ Traffic Congestion measures in paragraph (f)(5) of this section, MPOs meeting the criteria under paragraph (f)(6)(iii) of this section for Total Emissions Reduction measure, the MPOs shall establish targets for the metropolitan planning area by either:

(i) Agreeing to plan and program projects so that they contribute toward the accomplishment of the relevant State DOT target for that performance measure; or

(ii) Committing to a quantifiable target for that performance measure for their metropolitan planning area.

* * * * *

(10) *Joint Targets for the GHG Measure.* Where an urbanized area contains mainline highways on the NHS, and any portion of that urbanized area is overlapped by the metropolitan planning area boundaries of two or more MPOs, those MPOs shall collectively establish a single joint 4-year target for that urbanized area, described in paragraph (e)(4)(iv) of this section. The target established shall be a declining target for reducing tailpipe CO_2 emissions on the NHS. This joint target is in addition to the targets for the metropolitan planning area required in paragraph (f)(1)(i) of this section.

(i) The NHS designations and urbanized area data shall be from the data contained in HPMS 1 year before the State DOT Baseline Performance Period Report is due to FHWA.

(ii) Only one target shall be established for the entirety of each applicable urbanized area regardless of roadway ownership. In accordance with paragraph (f)(9) of this section, each MPO shall report the same joint target for the urbanized area.

(iii) The target established for each urbanized area shall represent a quantifiable target for that urbanized area.

■ 4. Amend § 490.107 by
■ a. Revising paragraphs (a)(1) and (b)(1)(i), and adding paragraph (b)(1)(ii)(H);
■ b. Revising paragraph (b)(2)(i) and adding paragraph (b)(2)(ii)(J);
■ c. Revising paragraph (b)(3)(i) and adding paragraph (b)(3)(ii)(I);
■ d. Revising paragraph (c)(2); and
■ e. Adding paragraph (d).

The additions and revisions read as follows:

§ 490.107 Reporting on performance targets.

(a) * * *

(1) All State DOTs and MPOs shall report in accordance with the schedule and content requirements under paragraphs (b), (c), and (d) of this section, respectively.

* * * * *

(b) * * *

(1) * * *

(i) *Schedule.* State DOTs shall submit a Baseline Performance Period Report to FHWA by October 1st of the first year in a performance period. State DOTs shall submit their first Baseline Performance Period Report to FHWA by October 1, 2018, and subsequent Baseline Performance Period Reports to FHWA by October 1st every 4 years thereafter, except for the GHG measure specified in § 490.105(c)(5). For the Baseline Performance Period Report, State DOTs shall submit information related to the GHG measure in the report due to FHWA by October 1, 2026, and every 4 years thereafter.

(ii) * * *

(H) GHG metric and metric information for the GHG measure. The metric and the individual values used to calculate the GHG metric, as described in § 490.511(c), for the calendar year preceding the reporting year, and a description of the data source(s) used for the VMT information.

* * * * *

(2) * * *

(i) *Schedule.* State DOTs shall submit a Mid Performance Period Progress Report to FHWA by October 1st of the third year in a performance period. State DOTs shall submit their first Mid Performance Period Progress Report to FHWA by October 1, 2020, and subsequent Mid Performance Period Progress Reports to FHWA by October 1st every 4 years thereafter, except for the GHG measure specified in § 490.105(c)(5). For the Mid Performance Period Progress Report, the State DOTs shall submit information related to the GHG measure in the report due to FHWA by October 1, 2028, and every 4 years thereafter.

(ii) * * *

(J) GHG metric and metric information for the GHG measure. The metric and the individual values used to calculate the GHG metric, as described in § 490.511(c), for the calendar year preceding the reporting year, and a description of the data source(s) used for the VMT information.

* * * * *

(b) * * *

(3) * * *

(i) *Schedule.* State DOTs shall submit a progress report on the full performance period to FHWA by October 1st of the first year following the reference performance period. State DOTs shall submit their first Full Performance Period Progress Report to FHWA by October 1, 2022, and subsequent Full Performance Period Progress Reports to FHWA by October 1st every 4 years thereafter, except for the GHG measure specified in § 490.105(c)(5). For the Full Performance Period Progress Report, State DOTs shall submit information related to the GHG measure in the report due to FHWA by October 1, 2026, and every 4 years thereafter.

(ii) * * *

(I) *GHG metric and metric information for the GHG measure.* The metric and the individual values used to calculate the GHG metric, as described in § 490.511(c), for the calendar year preceding the reporting year, and a description of the data source(s) used for the VMT information.

(c) * * *

(2) The MPOs shall report baseline condition/performance and progress toward the achievement of their targets in the system performance report in the metropolitan transportation plan in accordance with part 450 of this chapter. For the GHG measure in § 490.105(c)(5), the MPOs shall also report:

(i) The calculation of annual tailpipe CO_2 emissions for the NHS, and may include all public roads, described in § 490.511(f), for the period between the current and previous system performance report, and the reference year.

(ii) A description of the metric calculation method(s) used, as described in § 490.511(d). When the method(s) used are not specified in § 490.511(d), the MPO must include information demonstrating the method(s) has valid and useful results for measuring transportation related CO_2.

* * * * *

(d) *State Initial GHG Report.* For the GHG measure in § 490.105(c)(5), State DOTs shall submit an Initial GHG Report by February 1, 2024.

(1) The State Initial GHG Report shall include:

(i) *Targets.* The 4-year target for the performance period, as required in § 490.105(e), and a discussion, to the maximum extent practicable, of the basis for the established target;

(ii) *Baseline performance.* Performance derived from the data collected for the reference year, for the 4-year target required under paragraph (d)(1) of this section;

(iii) *Relationship with other performance expectations.* A discussion, to the maximum extent practicable, on how the established target in paragraph (d)(1) of this section support expectations documented in longer range plans, such as the State asset management plan required by 23 U.S.C. 119(e) and the long-range statewide transportation plan provided in part 450 of this chapter; and

(iv) *GHG metric and metric information for the GHG measure.* The metric and the individual values used to calculate the GHG metric, as described in § 490.511(c), for the reference year.

(2) For the State Initial GHG Report, the State DOT shall use the following data to calculate the GHG metric, described in § 490.511(c), for the reference year.

(i) Data published by FHWA for the CO_2 factors for each on-road fuel type associated with the reference year.

(ii) The fuel consumed data shall meet the requirements in § 490.509(g) for the reference year.

(iii) The VMT data shall meet the requirements of § 490.509(h) for the reference year.

■ 5. Amend § 490.109 by adding paragraph (d)(1)(v), revising paragraph (d)(1)(vi), and adding paragraphs (d)(1)(vii) and (viii), (e)(4)(vi) and (vii), (e)(6), and (f)(1)(v) to read as follows:

§ 490.109 Assessing significant progress toward achieving the performance targets for the National Highway Performance Program and the National Highway Freight Program.

* * * * *

(d) * * *

(1) * * *

(v) Data contained within Fuels & FASH on August 15th of the year in which the significant progress determination is made that represents performance from the prior year for targets established for the GHG measure in § 490.105(c)(5), and data from Fuels & FASH that represents performance for the reference year.

(vi) Baseline condition/performance data contained in Fuels & FASH, HPMS, and NBI of the year in which the Baseline Period Performance Report is due to FHWA that represents baseline conditions/performances for the performance period for the measures in §§ 490.105(c)(1) through (5). For the GHG measure, specified in § 490.105(c)(5), the baseline performance data from HPMS shall be the data contained within HPMS on November 30th of the year the Baseline Period Performance Report is due to FHWA.

(vii) Data contained within the HPMS on November 30th of the year in which the significant progress determination is made that represents performance from the prior year for targets established for the GHG measure specified in § 490.105(c)(5), and HPMS data as of November 30, 2023 that represents performance for the reference year.

(viii) The CO_2 factor specified in § 490.509(f) for the baseline performance, prior year, and reference year for targets established for the GHG measure specified in § 490.105(c)(5).

* * * * *

(e) * * *

(4) * * *

(vi) A State DOT's reported data are not accepted in the Fuels & FASH, by the data extraction date specified in paragraph (d)(1) of this section for the GHG measure in § 490.105(c)(5).

(vii) A State DOT's reported data are not accepted in the HPMS by the data extraction date specified in paragraph (d)(1) of this section for the GHG measure in § 490.105(c)(5).

* * * * *

(6) *Phase-in of new requirements for the GHG Measure.* The following requirements shall only apply to the GHG targets, described in § 490.513(d), and the significant progress determination conducted immediately after the submittal of the 2024 Mid Performance Period Progress Report, described in § 490.107(b)(2):

(i) Consistent with § 490.105(e)(10)(i), State DOTs are not required to establish a 2-year target, and, consistent with 490.107(b)(2), State DOTs will not submit information related to the GHG measure in the 2024 Mid Performance Period Progress Report.

(ii) At the midpoint of the performance period, FHWA shall not make a determination of significant progress toward the achievement of 2-year targets for the GHG measure; and

(iii) The FHWA will classify the assessment of progress toward the achievement of targets in paragraph (e)(6)(ii) of this section as ''progress not determined'' and they will be excluded from the requirement under paragraph (e)(2) of this section.

(f) * * *

(1) * * *

(v) If significant progress is not made for the target established for the GHG measure in § 490.105(c)(5), then the State DOT shall document the actions it will take to achieve the GHG performance target.

* * * * *

Subpart E—National Performance Management Measures To Assess Performance of the National Highway System

■ 6. Amend § 490.503 by adding paragraph (a)(2) to read as follows:

§ 490.503 Applicability.

(a) * * *

(2) The Greenhouse Gas (GHG) measure in § 490.507(b) is applicable to all mainline highways on the Interstate and non-Interstate NHS.

* * * * *

■ 7. Amend § 490.505 by adding in alphabetical order definitions of ''Greenhouse gas'', and ''Reference year'' to read as follows:

§ 490.505 Definitions.

* * * * *

Greenhouse gas (GHG) is any gas that absorbs infrared radiation (traps heat) in the atmosphere. Approximately 97 percent of on-road GHG emissions are carbon dioxide (CO_2) from burning fossil fuel. Other transportation GHGs are methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs).

* * * * *

Reference year is calendar year 2022 for the purpose of the GHG measure.

* * * * *

■ 8. Amend § 490.507 by revising the introductory text and adding paragraph (b) to read as follows:

§ 490.507 National performance management measures for system performance.

There are three performance measures to assess the performance of the Interstate System and the performance of the non-Interstate NHS for the purpose of carrying out the National Highway Performance Program (referred to collectively as the NHS Performance measures).

* * * * *

(b) One measure is used to assess GHG emissions, which is the percent change in tailpipe CO_2 emissions on the NHS compared to the reference year (referred to as the GHG measure).

■ 9. Amend § 490.509 by adding paragraphs (f) through (h) to read as follows:

§ 490.509 Data requirements.

* * * * *

(f) The FHWA will post on the FHWA website, no later than August 15th of each reporting year, the CO_2 factors for each on-road fuel type that will be used to calculate the GHG metric for the GHG measure in § 490.105(c)(5).

(g) Fuel sales information needed to calculate the fuel consumed for the GHG measure in § 490.507(b) shall:

(1) Represent the total number of gallons of fuel consumed by fuel type; and

(2) Be based on fuels sales data for the prior calendar year, and reported to Fuels & FASH.

(h) Annual vehicle miles traveled (VMT) needed to calculate the GHG measure in § 490.507(b) shall come from the best available data that represents the prior calendar year and is consistent, to the maximum extent practicable, with data submitted to HPMS. The VMT data needed to calculate the GHG metric in § 490.511(c) for the reference year, shall be the HPMS data as of November 30, 2023.

■ 10. Amend § 490.511 by adding paragraphs (a)(2), (c), (d), and (f) to read as follows:

§ 490.511 Calculation of National Highway System performance metrics.

(a) * * *

(2) Annual Total Tailpipe CO_2 Emissions on the NHS for the GHG measure in § 490.507(b) (referred to as the GHG metric).

* * * * *

(c) Tailpipe CO_2 emissions on the NHS for a given year shall be computed in million metric tons (mmt) and rounded to the nearest hundredth as follows:

Equation 1 to paragraph (c)

$$(\text{Tailpipe } CO_2 \text{Emissions on NHS})_{CY} = \left(\sum_{t=1}^{T} (\text{Fuel Consumed})_t \times (CO_2 \text{Factor})_t\right) \times \left(\frac{\text{NHS VMT}}{\text{Total VMT}}\right)$$

Where:

$(\text{Tailpipe } CO_2 \text{ Emissions on NHS})_{CY}$ = Total tailpipe CO_2 emissions on the NHS in a calendar year (expressed in mmt, and rounded to the nearest hundredth);

T = the total number of on-road fuel types;

t = an on-road fuel type;

$(\text{Fuel Consumed})_t$ = the quantity of total annual fuel consumed for on-road fuel type ''*t*'' (to the nearest thousand gallons);

$(CO_2 \text{ Factor})_t$ = is the amount of CO_2 released per unit of fuel consumed for on-road fuel type ''*t*'';

NHS VMT = annual total vehicle-miles traveled on NHS (to the nearest one million vehicle-miles); and

Total VMT = annual total vehicle-miles traveled on all public roads (to the nearest one million vehicle-miles).

(d) For the GHG measure specified in § 490.507(b), MPOs are granted additional flexibility in how they calculate the GHG metric, described in § 490.511(a)(2). MPOs may use the MPO share of the State's VMT as a proxy for the MPO share of CO_2 emissions in the State, VMT estimates along with MOVES [1] emissions factors, FHWA's Energy and Emissions Reduction Policy Analysis Tool (EERPAT) model, or other method the MPO can demonstrate has valid and useful results for CO_2 measurement.

* * * * *

(f) Tailpipe CO_2 emissions generated by on-road sources travelling on the NHS (the GHG metric), and generated by on-road sources travelling on all roadways (the step in the calculation prior to computing the GHG metric) shall be calculated as specified in paragraph (c) of this section. The calculations shall be reported in the State Biennial Performance Reports, as required in § 490.107, and shall address the following time periods.

(1) The reference year, as required in § 490.107(b)(1)(ii)(H); and

(2) The calendar year preceding the reporting year, as required in § 490.107(b)(1)(ii)(H), (b)(2)(ii)(J) and (b)(3)(ii)(I).

[1] MOVES (Motor Vehicle Emission Simulator) is EPA's emission modeling system that estimates emissions for mobile sources at the national, county, and project level for criteria air pollutants, GHGs, and air toxics. See *https://www.epa.gov/moves.* The EMFAC model is used in California for emissions analysis.

■ 11. Amend § 490.513 by adding paragraph (d) to read as follows:

§ 490.513 Calculation of National Highway System performance measures.

* * * * *

(d) The GHG measure specified in § 490.507(b) shall be computed to the nearest tenth of a percent as follows:

Equation 3 to paragraph (d)

$$\frac{(\text{Tailpipe } CO_2 \text{Emissions on NHS})_{CY} - (\text{Tailpipe } CO_2 \text{Emissions on NHS})_{\text{reference year}}}{(\text{Tailpipe } CO_2 \text{Emissions on NHS})_{\text{reference year}}} \times 100$$

Where:

$(\text{Tailpipe } CO_2 \text{ Emissions on NHS})_{CY}$ = total tailpipe CO_2 emissions on the NHS in a calendar year (expressed in million metric tons (mmt), and rounded to the nearest hundredth); and

$(\text{Tailpipe } CO_2 \text{ Emissions on NHS})_{\text{reference year}}$ = total tailpipe CO_2 emissions on the NHS in calendar year 2022 (expressed in million metric tons (mmt), and rounded to the nearest hundredth).

■ 12. Add § 490.515 to read as follows:

§ 490.515 Severability.

The provisions of §§ 490.105(c)(5), 105(d), 105(d)(1)(v), 105(d)(4), 105(e)(1)(i), 105(e)(1)(ii), 105(e)(4)(i)(C), 105(e)(4)(iii), 105(e)(10), 105(f)(1)(i), 105(f)(3), 105(f)(10), 107(a)(1), 107(b)(1)(i), 107(b)(1)(ii)(H), 107(b)(2)(i), 107(b)(2)(ii)(J), 107(b)(3)(i), 107(b)(3)(ii)(I), 107(c)(2), 107(d), 109(d)(1)(v), 109(d)(1)(vi), 109(d)(1)(vii), 109(d)(1)(viii), 109(e)(4)(vi), 109(e)(4)(vii), 109(e)(6), 109(f)(1)(v), 503(a)(2), 505, 507(b), 509(f), 509(g), 509(h), 511(a)(2), 511(c), 511(d) 511(f), and 513(d) are separate and severable from one another and from the other provisions of this part. If any provision is stayed or determined to be invalid, the remaining provisions shall continue in effect.

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Presidential Documents

Executive Order 13990 of January 20, 2021

Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. *Policy.* Our Nation has an abiding commitment to empower our workers and communities; promote and protect our public health and the environment; and conserve our national treasures and monuments, places that secure our national memory. Where the Federal Government has failed to meet that commitment in the past, it must advance environmental justice. In carrying out this charge, the Federal Government must be guided by the best science and be protected by processes that ensure the integrity of Federal decision-making. It is, therefore, the policy of my Administration to listen to the science; to improve public health and protect our environment; to ensure access to clean air and water; to limit exposure to dangerous chemicals and pesticides; to hold polluters accountable, including those who disproportionately harm communities of color and low-income communities; to reduce greenhouse gas emissions; to bolster resilience to the impacts of climate change; to restore and expand our national treasures and monuments; and to prioritize both environmental justice and the creation of the well-paying union jobs necessary to deliver on these goals.

To that end, this order directs all executive departments and agencies (agencies) to immediately review and, as appropriate and consistent with applicable law, take action to address the promulgation of Federal regulations and other actions during the last 4 years that conflict with these important national objectives, and to immediately commence work to confront the climate crisis.

Sec. 2. *Immediate Review of Agency Actions Taken Between January 20, 2017, and January 20, 2021.* (a) The heads of all agencies shall immediately review all existing regulations, orders, guidance documents, policies, and any other similar agency actions (agency actions) promulgated, issued, or adopted between January 20, 2017, and January 20, 2021, that are or may be inconsistent with, or present obstacles to, the policy set forth in section 1 of this order. For any such actions identified by the agencies, the heads of agencies shall, as appropriate and consistent with applicable law, consider suspending, revising, or rescinding the agency actions. In addition, for the agency actions in the 4 categories set forth in subsections (i) through (iv) of this section, the head of the relevant agency, as appropriate and consistent with applicable law, shall consider publishing for notice and comment a proposed rule suspending, revising, or rescinding the agency action within the time frame specified.

(i) Reducing Methane Emissions in the Oil and Gas Sector: ''Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Reconsideration,'' 85 FR 57398 (September 15, 2020), by September 2021.

(ii) Establishing Ambitious, Job-Creating Fuel Economy Standards: ''The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program,'' 84 FR 51310 (September 27, 2019), by April 2021; and ''The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks,'' 85 FR 24174 (April 30,

2020), by July 2021. In considering whether to propose suspending, revising, or rescinding the latter rule, the agency should consider the views of representatives from labor unions, States, and industry.

(iii) Job-Creating Appliance- and Building-Efficiency Standards: ''Energy Conservation Program for Appliance Standards: Procedures for Use in New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Commercial/Industrial Equipment,'' 85 FR 8626 (February 14, 2020), with major revisions proposed by March 2021 and any remaining revisions proposed by June 2021; ''Energy Conservation Program for Appliance Standards: Procedures for Evaluating Statutory Factors for Use in New or Revised Energy Conservation Standards,'' 85 FR 50937 (August 19, 2020), with major revisions proposed by March 2021 and any remaining revisions proposed by June 2021; ''Final Determination Regarding Energy Efficiency Improvements in the 2018 International Energy Conservation Code (IECC),'' 84 FR 67435 (December 10, 2019), by May 2021; ''Final Determination Regarding Energy Efficiency Improvements in ANSI/ASHRAE/IES Standard 90.1–2016: Energy Standard for Buildings, Except Low-Rise Residential Buildings,'' 83 FR 8463 (February 27, 2018), by May 2021.

(iv) Protecting Our Air from Harmful Pollution: ''National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Reconsideration of Supplemental Finding and Residual Risk and Technology Review,'' 85 FR 31286 (May 22, 2020), by August 2021; ''Increasing Consistency and Transparency in Considering Benefits and Costs in the Clean Air Act Rulemaking Process,'' 85 FR 84130 (December 23, 2020), as soon as possible; ''Strengthening Transparency in Pivotal Science Underlying Significant Regulatory Actions and Influential Scientific Information,'' 86 FR 469 (January 6, 2021), as soon as possible.

(b) Within 30 days of the date of this order, heads of agencies shall submit to the Director of the Office of Management and Budget (OMB) a preliminary list of any actions being considered pursuant to section (2)(a) of this order that would be completed by December 31, 2021, and that would be subject to OMB review. Within 90 days of the date of this order, heads of agencies shall submit to the Director of OMB an updated list of any actions being considered pursuant to section (2)(a) of this order that would be completed by December 31, 2025, and that would be subject to OMB review. At the time of submission to the Director of OMB, heads of agencies shall also send each list to the National Climate Advisor. In addition, and at the same time, heads of agencies shall send to the National Climate Advisor a list of additional actions being considered pursuant to section (2)(a) of this order that would not be subject to OMB review.

(c) Heads of agencies shall, as appropriate and consistent with applicable law, consider whether to take any additional agency actions to fully enforce the policy set forth in section 1 of this order. With respect to the Administrator of the Environmental Protection Agency, the following specific actions should be considered:

(i) proposing new regulations to establish comprehensive standards of performance and emission guidelines for methane and volatile organic compound emissions from existing operations in the oil and gas sector, including the exploration and production, transmission, processing, and storage segments, by September 2021; and

(ii) proposing a Federal Implementation Plan in accordance with the Environmental Protection Agency's ''Findings of Failure To Submit State Implementation Plan Revisions in Response to the 2016 Oil and Natural Gas Industry Control Techniques Guidelines for the 2008 Ozone National Ambient Air Quality Standards (NAAQS) and for States in the Ozone Transport Region,'' 85 FR 72963 (November 16, 2020), for California, Connecticut, New York, Pennsylvania, and Texas by January 2022.

(d) The Attorney General may, as appropriate and consistent with applicable law, provide notice of this order and any actions taken pursuant to section 2(a) of this order to any court with jurisdiction over pending litigation related to those agency actions identified pursuant to section (2)(a) of this order, and may, in his discretion, request that the court stay or otherwise dispose of litigation, or seek other appropriate relief consistent with this order, until the completion of the processes described in this order.

(e) In carrying out the actions directed in this section, heads of agencies shall seek input from the public and stakeholders, including State local, Tribal, and territorial officials, scientists, labor unions, environmental advocates, and environmental justice organizations.

Sec. 3. *Restoring National Monuments.* (a) The Secretary of the Interior, as appropriate and consistent with applicable law, including the Antiquities Act, 54 U.S.C. 320301 *et seq.,* shall, in consultation with the Attorney General, the Secretaries of Agriculture and Commerce, the Chair of the Council on Environmental Quality, and Tribal governments, conduct a review of the monument boundaries and conditions that were established by Proclamation 9681 of December 4, 2017 (Modifying the Bears Ears National Monument); Proclamation 9682 of December 4, 2017 (Modifying the Grand Staircase-Escalante National Monument); and Proclamation 10049 of June 5, 2020 (Modifying the Northeast Canyons and Seamounts Marine National Monument), to determine whether restoration of the monument boundaries and conditions that existed as of January 20, 2017, would be appropriate.

(b) Within 60 days of the date of this order, the Secretary of the Interior shall submit a report to the President summarizing the findings of the review conducted pursuant to subsection (a), which shall include recommendations for such Presidential actions or other actions consistent with law as the Secretary may consider appropriate to carry out the policy set forth in section 1 of this order.

(c) The Attorney General may, as appropriate and consistent with applicable law, provide notice of this order to any court with jurisdiction over pending litigation related to the Grand Staircase-Escalante, Bears Ears, and Northeast Canyons and Seamounts Marine National Monuments, and may, in his discretion, request that the court stay the litigation or otherwise delay further litigation, or seek other appropriate relief consistent with this order, pending the completion of the actions described in subsection (a) of this section.

Sec. 4. *Arctic Refuge.* (a) In light of the alleged legal deficiencies underlying the program, including the inadequacy of the environmental review required by the National Environmental Policy Act, the Secretary of the Interior shall, as appropriate and consistent with applicable law, place a temporary moratorium on all activities of the Federal Government relating to the implementation of the Coastal Plain Oil and Gas Leasing Program, as established by the Record of Decision signed August 17, 2020, in the Arctic National Wildlife Refuge. The Secretary shall review the program and, as appropriate and consistent with applicable law, conduct a new, comprehensive analysis of the potential environmental impacts of the oil and gas program.

(b) In Executive Order 13754 of December 9, 2016 (Northern Bering Sea Climate Resilience), and in the Presidential Memorandum of December 20, 2016 (Withdrawal of Certain Portions of the United States Arctic Outer Continental Shelf From Mineral Leasing), President Obama withdrew areas in Arctic waters and the Bering Sea from oil and gas drilling and established the Northern Bering Sea Climate Resilience Area. Subsequently, the order was revoked and the memorandum was amended in Executive Order 13795 of April 28, 2017 (Implementing an America-First Offshore Energy Strategy). Pursuant to section 12(a) of the Outer Continental Shelf Lands Act, 43 U.S.C. 1341(a), Executive Order 13754 and the Presidential Memorandum of December 20, 2016, are hereby reinstated in their original form, thereby restoring the original withdrawal of certain offshore areas in Arctic waters and the Bering Sea from oil and gas drilling.

(c) The Attorney General may, as appropriate and consistent with applicable law, provide notice of this order to any court with jurisdiction over pending litigation related to the Coastal Plain Oil and Gas Leasing Program in the Arctic National Wildlife Refuge and other related programs, and may, in his discretion, request that the court stay the litigation or otherwise delay further litigation, or seek other appropriate relief consistent with this order, pending the completion of the actions described in subsection (a) of this section.

Sec. 5. *Accounting for the Benefits of Reducing Climate Pollution.* (a) It is essential that agencies capture the full costs of greenhouse gas emissions as accurately as possible, including by taking global damages into account. Doing so facilitates sound decision-making, recognizes the breadth of climate impacts, and supports the international leadership of the United States on climate issues. The ''social cost of carbon'' (SCC), ''social cost of nitrous oxide'' (SCN), and ''social cost of methane'' (SCM) are estimates of the monetized damages associated with incremental increases in greenhouse gas emissions. They are intended to include changes in net agricultural productivity, human health, property damage from increased flood risk, and the value of ecosystem services. An accurate social cost is essential for agencies to accurately determine the social benefits of reducing greenhouse gas emissions when conducting cost-benefit analyses of regulatory and other actions.

(b) There is hereby established an Interagency Working Group on the Social Cost of Greenhouse Gases (the ''Working Group''). The Chair of the Council of Economic Advisers, Director of OMB, and Director of the Office of Science and Technology Policy shall serve as Co-Chairs of the Working Group.

(i) Membership. The Working Group shall also include the following other officers, or their designees: the Secretary of the Treasury; the Secretary of the Interior; the Secretary of Agriculture; the Secretary of Commerce; the Secretary of Health and Human Services; the Secretary of Transportation; the Secretary of Energy; the Chair of the Council on Environmental Quality; the Administrator of the Environmental Protection Agency; the Assistant to the President and National Climate Advisor; and the Assistant to the President for Economic Policy and Director of the National Economic Council.

(ii) Mission and Work. The Working Group shall, as appropriate and consistent with applicable law:

(A) publish an interim SCC, SCN, and SCM within 30 days of the date of this order, which agencies shall use when monetizing the value of changes in greenhouse gas emissions resulting from regulations and other relevant agency actions until final values are published;

(B) publish a final SCC, SCN, and SCM by no later than January 2022;

(C) provide recommendations to the President, by no later than September 1, 2021, regarding areas of decision-making, budgeting, and procurement by the Federal Government where the SCC, SCN, and SCM should be applied;

(D) provide recommendations, by no later than June 1, 2022, regarding a process for reviewing, and, as appropriate, updating, the SCC, SCN, and SCM to ensure that these costs are based on the best available economics and science; and

(E) provide recommendations, to be published with the final SCC, SCN, and SCM under subparagraph (A) if feasible, and in any event by no later than June 1, 2022, to revise methodologies for calculating the SCC, SCN, and SCM, to the extent that current methodologies do not adequately take account of climate risk, environmental justice, and intergenerational equity.

(iii) Methodology. In carrying out its activities, the Working Group shall consider the recommendations of the National Academies of Science, Engineering, and Medicine as reported in Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide (2017) and other pertinent scientific literature; solicit public comment; engage with the public and stakeholders; seek the advice of ethics experts; and ensure that the SCC, SCN, and SCM reflect the interests of future generations in avoiding threats posed by climate change.

Sec. 6. *Revoking the March 2019 Permit for the Keystone XL Pipeline.* (a) On March 29, 2019, the President granted to TransCanada Keystone Pipeline, L.P. a Presidential permit (the ''Permit'') to construct, connect, operate, and maintain pipeline facilities at the international border of the United States and Canada (the ''Keystone XL pipeline''), subject to express conditions and potential revocation in the President's sole discretion. The Permit is hereby revoked in accordance with Article 1(1) of the Permit.

(b) In 2015, following an exhaustive review, the Department of State and the President determined that approving the proposed Keystone XL pipeline would not serve the U.S. national interest. That analysis, in addition to concluding that the significance of the proposed pipeline for our energy security and economy is limited, stressed that the United States must prioritize the development of a clean energy economy, which will in turn create good jobs. The analysis further concluded that approval of the proposed pipeline would undermine U.S. climate leadership by undercutting the credibility and influence of the United States in urging other countries to take ambitious climate action.

(c) Climate change has had a growing effect on the U.S. economy, with climate-related costs increasing over the last 4 years. Extreme weather events and other climate-related effects have harmed the health, safety, and security of the American people and have increased the urgency for combatting climate change and accelerating the transition toward a clean energy economy. The world must be put on a sustainable climate pathway to protect Americans and the domestic economy from harmful climate impacts, and to create well-paying union jobs as part of the climate solution.

(d) The Keystone XL pipeline disserves the U.S. national interest. The United States and the world face a climate crisis. That crisis must be met with action on a scale and at a speed commensurate with the need to avoid setting the world on a dangerous, potentially catastrophic, climate trajectory. At home, we will combat the crisis with an ambitious plan to build back better, designed to both reduce harmful emissions and create good clean-energy jobs. Our domestic efforts must go hand in hand with U.S. diplomatic engagement. Because most greenhouse gas emissions originate beyond our borders, such engagement is more necessary and urgent than ever. The United States must be in a position to exercise vigorous climate leadership in order to achieve a significant increase in global climate action and put the world on a sustainable climate pathway. Leaving the Keystone XL pipeline permit in place would not be consistent with my Administration's economic and climate imperatives.

Sec. 7. *Other Revocations.* (a) Executive Order 13766 of January 24, 2017 (Expediting Environmental Reviews and Approvals For High Priority Infrastructure Projects), Executive Order 13778 of February 28, 2017 (Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the ''Waters of the United States'' Rule), Executive Order 13783 of March 28, 2017 (Promoting Energy Independence and Economic Growth), Executive Order 13792 of April 26, 2017 (Review of Designations Under the Antiquities Act), Executive Order 13795 of April 28, 2017 (Implementing an America-First Offshore Energy Strategy), Executive Order 13868 of April 10, 2019 (Promoting Energy Infrastructure and Economic Growth), and Executive Order 13927 of June 4, 2020 (Accelerating the Nation's Economic Recovery from the COVID–19 Emergency by Expediting Infrastructure Investments and Other Activities), are hereby revoked. Executive Order 13834 of May 17, 2018

(Efficient Federal Operations), is hereby revoked except for sections 6, 7, and 11.

(b) Executive Order 13807 of August 15, 2017 (Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects), is hereby revoked. The Director of OMB and the Chair of the Council on Environmental Quality shall jointly consider whether to recommend that a replacement order be issued.

(c) Executive Order 13920 of May 1, 2020 (Securing the United States Bulk-Power System), is hereby suspended for 90 days. The Secretary of Energy and the Director of OMB shall jointly consider whether to recommend that a replacement order be issued.

(d) The Presidential Memorandum of April 12, 2018 (Promoting Domestic Manufacturing and Job Creation Policies and Procedures Relating to Implementation of Air Quality Standards), the Presidential Memorandum of October 19, 2018 (Promoting the Reliable Supply and Delivery of Water in the West), and the Presidential Memorandum of February 19, 2020 (Developing and Delivering More Water Supplies in California), are hereby revoked.

(e) The Council on Environmental Quality shall rescind its draft guidance entitled, ''Draft National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions,'' 84 FR 30097 (June 26, 2019). The Council, as appropriate and consistent with applicable law, shall review, revise, and update its final guidance entitled, ''Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews,'' 81 FR 51866 (August 5, 2016).

(f) The Director of OMB and the heads of agencies shall promptly take steps to rescind any orders, rules, regulations, guidelines, or policies, or portions thereof, including, if necessary, by proposing such rescissions through notice-and-comment rulemaking, implementing or enforcing the Executive Orders, Presidential Memoranda, and draft guidance identified in this section, as appropriate and consistent with applicable law.

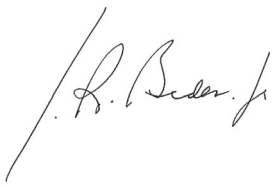
Sec. 8. *General Provisions.* (a) Nothing in this order shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department or agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented in a manner consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.



THE WHITE HOUSE,
January 20, 2021.

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Presidential Documents

Executive Order 14008 of January 27, 2021

Tackling the Climate Crisis at Home and Abroad

The United States and the world face a profound climate crisis. We have a narrow moment to pursue action at home and abroad in order to avoid the most catastrophic impacts of that crisis and to seize the opportunity that tackling climate change presents. Domestic action must go hand in hand with United States international leadership, aimed at significantly enhancing global action. Together, we must listen to science and meet the moment.

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

PART I—PUTTING THE CLIMATE CRISIS AT THE CENTER OF UNITED STATES FOREIGN POLICY AND NATIONAL SECURITY

Section 101. *Policy*. United States international engagement to address climate change—which has become a climate crisis—is more necessary and urgent than ever. The scientific community has made clear that the scale and speed of necessary action is greater than previously believed. There is little time left to avoid setting the world on a dangerous, potentially catastrophic, climate trajectory. Responding to the climate crisis will require both significant short-term global reductions in greenhouse gas emissions and net-zero global emissions by mid-century or before.

It is the policy of my Administration that climate considerations shall be an essential element of United States foreign policy and national security. The United States will work with other countries and partners, both bilaterally and multilaterally, to put the world on a sustainable climate pathway. The United States will also move quickly to build resilience, both at home and abroad, against the impacts of climate change that are already manifest and will continue to intensify according to current trajectories.

Sec. 102. *Purpose*. This order builds on and reaffirms actions my Administration has already taken to place the climate crisis at the forefront of this Nation's foreign policy and national security planning, including submitting the United States instrument of acceptance to rejoin the Paris Agreement. In implementing—and building upon—the Paris Agreement's three overarching objectives (a safe global temperature, increased climate resilience, and financial flows aligned with a pathway toward low greenhouse gas emissions and climate-resilient development), the United States will exercise its leadership to promote a significant increase in global climate ambition to meet the climate challenge. In this regard:

(a) I will host an early Leaders' Climate Summit aimed at raising climate ambition and making a positive contribution to the 26th United Nations Climate Change Conference of the Parties (COP26) and beyond.

(b) The United States will reconvene the Major Economies Forum on Energy and Climate, beginning with the Leaders' Climate Summit. In cooperation with the members of that Forum, as well as with other partners as appropriate, the United States will pursue green recovery efforts, initiatives to advance the clean energy transition, sectoral decarbonization, and alignment of financial flows with the objectives of the Paris Agreement, including with respect to coal financing, nature-based solutions, and solutions to other climate-related challenges.

(c) I have created a new Presidentially appointed position, the Special Presidential Envoy for Climate, to elevate the issue of climate change and underscore the commitment my Administration will make toward addressing it.

(d) Recognizing that climate change affects a wide range of subjects, it will be a United States priority to press for enhanced climate ambition and integration of climate considerations across a wide range of international fora, including the Group of Seven (G7), the Group of Twenty (G20), and fora that address clean energy, aviation, shipping, the Arctic, the ocean, sustainable development, migration, and other relevant topics. The Special Presidential Envoy for Climate and others, as appropriate, are encouraged to promote innovative approaches, including international multi-stakeholder initiatives. In addition, my Administration will work in partnership with States, localities, Tribes, territories, and other United States stakeholders to advance United States climate diplomacy.

(e) The United States will immediately begin the process of developing its nationally determined contribution under the Paris Agreement. The process will include analysis and input from relevant executive departments and agencies (agencies), as well as appropriate outreach to domestic stakeholders. The United States will aim to submit its nationally determined contribution in advance of the Leaders' Climate Summit.

(f) The United States will also immediately begin to develop a climate finance plan, making strategic use of multilateral and bilateral channels and institutions, to assist developing countries in implementing ambitious emissions reduction measures, protecting critical ecosystems, building resilience against the impacts of climate change, and promoting the flow of capital toward climate-aligned investments and away from high-carbon investments. The Secretary of State and the Secretary of the Treasury, in coordination with the Special Presidential Envoy for Climate, shall lead a process to develop this plan, with the participation of the Administrator of the United States Agency for International Development (USAID), the Chief Executive Officer of the United States International Development Finance Corporation (DFC), the Chief Executive Officer of the Millennium Challenge Corporation, the Director of the United States Trade and Development Agency, the Director of the Office of Management and Budget, and the head of any other agency providing foreign assistance and development financing, as appropriate. The Secretary of State and the Secretary of the Treasury shall submit the plan to the President, through the Assistant to the President for National Security Affairs and the Assistant to the President for Economic Policy, within 90 days of the date of this order.

(g) The Secretary of the Treasury shall:

(i) ensure that the United States is present and engaged in relevant international fora and institutions that are working on the management of climate-related financial risks;

(ii) develop a strategy for how the voice and vote of the United States can be used in international financial institutions, including the World Bank Group and the International Monetary Fund, to promote financing programs, economic stimulus packages, and debt relief initiatives that are aligned with and support the goals of the Paris Agreement; and

(iii) develop, in collaboration with the Secretary of State, the Administrator of USAID, and the Chief Executive Officer of the DFC, a plan for promoting the protection of the Amazon rainforest and other critical ecosystems that serve as global carbon sinks, including through market-based mechanisms.

(h) The Secretary of State, the Secretary of the Treasury, and the Secretary of Energy shall work together and with the Export-Import Bank of the United States, the Chief Executive Officer of the DFC, and the heads of other agencies and partners, as appropriate, to identify steps through which the United States can promote ending international financing of carbon-

intensive fossil fuel-based energy while simultaneously advancing sustainable development and a green recovery, in consultation with the Assistant to the President for National Security Affairs.

(i) The Secretary of Energy, in cooperation with the Secretary of State and the heads of other agencies, as appropriate, shall identify steps through which the United States can intensify international collaborations to drive innovation and deployment of clean energy technologies, which are critical for climate protection.

(j) The Secretary of State shall prepare, within 60 days of the date of this order, a transmittal package seeking the Senate's advice and consent to ratification of the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, regarding the phasedown of the production and consumption of hydrofluorocarbons.

Sec. 103. *Prioritizing Climate in Foreign Policy and National Security*. To ensure that climate change considerations are central to United States foreign policy and national security:

(a) Agencies that engage in extensive international work shall develop, in coordination with the Special Presidential Envoy for Climate, and submit to the President, through the Assistant to the President for National Security Affairs, within 90 days of the date of this order, strategies and implementation plans for integrating climate considerations into their international work, as appropriate and consistent with applicable law. These strategies and plans should include an assessment of:

(i) climate impacts relevant to broad agency strategies in particular countries or regions;

(ii) climate impacts on their agency-managed infrastructure abroad (e.g., embassies, military installations), without prejudice to existing requirements regarding assessment of such infrastructure;

(iii) how the agency intends to manage such impacts or incorporate risk mitigation into its installation master plans; and

(iv) how the agency's international work, including partner engagement, can contribute to addressing the climate crisis.

(b) The Director of National Intelligence shall prepare, within 120 days of the date of this order, a National Intelligence Estimate on the national and economic security impacts of climate change.

(c) The Secretary of Defense, in coordination with the Secretary of Commerce, through the Administrator of the National Oceanic and Atmospheric Administration, the Chair of the Council on Environmental Quality, the Administrator of the Environmental Protection Agency, the Director of National Intelligence, the Director of the Office of Science and Technology Policy, the Administrator of the National Aeronautics and Space Administration, and the heads of other agencies as appropriate, shall develop and submit to the President, within 120 days of the date of this order, an analysis of the security implications of climate change (Climate Risk Analysis) that can be incorporated into modeling, simulation, war-gaming, and other analyses.

(d) The Secretary of Defense and the Chairman of the Joint Chiefs of Staff shall consider the security implications of climate change, including any relevant information from the Climate Risk Analysis described in subsection (c) of this section, in developing the National Defense Strategy, Defense Planning Guidance, Chairman's Risk Assessment, and other relevant strategy, planning, and programming documents and processes. Starting in January 2022, the Secretary of Defense and the Chairman of the Joint Chiefs of Staff shall provide an annual update, through the National Security Council, on the progress made in incorporating the security implications of climate change into these documents and processes.

(e) The Secretary of Homeland Security shall consider the implications of climate change in the Arctic, along our Nation's borders, and to National

Critical Functions, including any relevant information from the Climate Risk Analysis described in subsection (c) of this section, in developing relevant strategy, planning, and programming documents and processes. Starting in January 2022, the Secretary of Homeland Security shall provide an annual update, through the National Security Council, on the progress made in incorporating the homeland security implications of climate change into these documents and processes.

Sec. 104. *Reinstatement*. The Presidential Memorandum of September 21, 2016 (Climate Change and National Security), is hereby reinstated.

PART II—TAKING A GOVERNMENT-WIDE APPROACH TO THE CLIMATE CRISIS

Sec. 201. *Policy*. Even as our Nation emerges from profound public health and economic crises borne of a pandemic, we face a climate crisis that threatens our people and communities, public health and economy, and, starkly, our ability to live on planet Earth. Despite the peril that is already evident, there is promise in the solutions—opportunities to create well-paying union jobs to build a modern and sustainable infrastructure, deliver an equitable, clean energy future, and put the United States on a path to achieve net-zero emissions, economy-wide, by no later than 2050.

We must listen to science—and act. We must strengthen our clean air and water protections. We must hold polluters accountable for their actions. We must deliver environmental justice in communities all across America. The Federal Government must drive assessment, disclosure, and mitigation of climate pollution and climate-related risks in every sector of our economy, marshaling the creativity, courage, and capital necessary to make our Nation resilient in the face of this threat. Together, we must combat the climate crisis with bold, progressive action that combines the full capacity of the Federal Government with efforts from every corner of our Nation, every level of government, and every sector of our economy.

It is the policy of my Administration to organize and deploy the full capacity of its agencies to combat the climate crisis to implement a Government-wide approach that reduces climate pollution in every sector of the economy; increases resilience to the impacts of climate change; protects public health; conserves our lands, waters, and biodiversity; delivers environmental justice; and spurs well-paying union jobs and economic growth, especially through innovation, commercialization, and deployment of clean energy technologies and infrastructure. Successfully meeting these challenges will require the Federal Government to pursue such a coordinated approach from planning to implementation, coupled with substantive engagement by stakeholders, including State, local, and Tribal governments.

Sec. 202. *White House Office of Domestic Climate Policy*. There is hereby established the White House Office of Domestic Climate Policy (Climate Policy Office) within the Executive Office of the President, which shall coordinate the policy-making process with respect to domestic climate-policy issues; coordinate domestic climate-policy advice to the President; ensure that domestic climate-policy decisions and programs are consistent with the President's stated goals and that those goals are being effectively pursued; and monitor implementation of the President's domestic climate-policy agenda. The Climate Policy Office shall have a staff headed by the Assistant to the President and National Climate Advisor (National Climate Advisor) and shall include the Deputy Assistant to the President and Deputy National Climate Advisor. The Climate Policy Office shall have such staff and other assistance as may be necessary to carry out the provisions of this order, subject to the availability of appropriations, and may work with established or ad hoc committees or interagency groups. All agencies shall cooperate with the Climate Policy Office and provide such information, support, and assistance to the Climate Policy Office as it may request, as appropriate and consistent with applicable law.

Sec. 203. *National Climate Task Force*. There is hereby established a National Climate Task Force (Task Force). The Task Force shall be chaired by the National Climate Advisor.

(a) Membership. The Task Force shall consist of the following additional members:

(i) the Secretary of the Treasury;

(ii) the Secretary of Defense;

(iii) the Attorney General;

(iv) the Secretary of the Interior;

(v) the Secretary of Agriculture;

(vi) the Secretary of Commerce;

(vii) the Secretary of Labor;

(viii) the Secretary of Health and Human Services;

(ix) the Secretary of Housing and Urban Development;

(x) the Secretary of Transportation;

(xi) the Secretary of Energy;

(xii) the Secretary of Homeland Security;

(xiii) the Administrator of General Services;

(xiv) the Chair of the Council on Environmental Quality;

(xv) the Administrator of the Environmental Protection Agency;

(xvi) the Director of the Office of Management and Budget;

(xvii) the Director of the Office of Science and Technology Policy;

(xviii) the Assistant to the President for Domestic Policy;

(xix) the Assistant to the President for National Security Affairs;

(xx) the Assistant to the President for Homeland Security and Counterterrorism; and

(xxi) the Assistant to the President for Economic Policy.

(b) Mission and Work. The Task Force shall facilitate the organization and deployment of a Government-wide approach to combat the climate crisis. This Task Force shall facilitate planning and implementation of key Federal actions to reduce climate pollution; increase resilience to the impacts of climate change; protect public health; conserve our lands, waters, oceans, and biodiversity; deliver environmental justice; and spur well-paying union jobs and economic growth. As necessary and appropriate, members of the Task Force will engage on these matters with State, local, Tribal, and territorial governments; workers and communities; and leaders across the various sectors of our economy.

(c) Prioritizing Actions. To the extent permitted by law, Task Force members shall prioritize action on climate change in their policy-making and budget processes, in their contracting and procurement, and in their engagement with State, local, Tribal, and territorial governments; workers and communities; and leaders across all the sectors of our economy.

USE OF THE FEDERAL GOVERNMENT'S BUYING POWER AND REAL PROPERTY AND ASSET MANAGEMENT

Sec. 204. *Policy*. It is the policy of my Administration to lead the Nation's effort to combat the climate crisis by example—specifically, by aligning the management of Federal procurement and real property, public lands and waters, and financial programs to support robust climate action. By providing an immediate, clear, and stable source of product demand, increased transparency and data, and robust standards for the market, my Administration will help to catalyze private sector investment into, and

accelerate the advancement of America's industrial capacity to supply, domestic clean energy, buildings, vehicles, and other necessary products and materials.

Sec. 205. *Federal Clean Electricity and Vehicle Procurement Strategy*. (a) The Chair of the Council on Environmental Quality, the Administrator of General Services, and the Director of the Office and Management and Budget, in coordination with the Secretary of Commerce, the Secretary of Labor, the Secretary of Energy, and the heads of other relevant agencies, shall assist the National Climate Advisor, through the Task Force established in section 203 of this order, in developing a comprehensive plan to create good jobs and stimulate clean energy industries by revitalizing the Federal Government's sustainability efforts.

(b) The plan shall aim to use, as appropriate and consistent with applicable law, all available procurement authorities to achieve or facilitate:

(i) a carbon pollution-free electricity sector no later than 2035; and

(ii) clean and zero-emission vehicles for Federal, State, local, and Tribal government fleets, including vehicles of the United States Postal Service.

(c) If necessary, the plan shall recommend any additional legislation needed to accomplish these objectives.

(d) The plan shall also aim to ensure that the United States retains the union jobs integral to and involved in running and maintaining clean and zero-emission fleets, while spurring the creation of union jobs in the manufacture of those new vehicles. The plan shall be submitted to the Task Force within 90 days of the date of this order.

Sec. 206. *Procurement Standards*. Consistent with the Executive Order of January 25, 2021, entitled, ''Ensuring the Future Is Made in All of America by All of America's Workers,'' agencies shall adhere to the requirements of the Made in America Laws in making clean energy, energy efficiency, and clean energy procurement decisions. Agencies shall, consistent with applicable law, apply and enforce the Davis-Bacon Act and prevailing wage and benefit requirements. The Secretary of Labor shall take steps to update prevailing wage requirements. The Chair of the Council on Environmental Quality shall consider additional administrative steps and guidance to assist the Federal Acquisition Regulatory Council in developing regulatory amendments to promote increased contractor attention on reduced carbon emission and Federal sustainability.

Sec. 207. *Renewable Energy on Public Lands and in Offshore Waters*. The Secretary of the Interior shall review siting and permitting processes on public lands and in offshore waters to identify to the Task Force steps that can be taken, consistent with applicable law, to increase renewable energy production on those lands and in those waters, with the goal of doubling offshore wind by 2030 while ensuring robust protection for our lands, waters, and biodiversity and creating good jobs. In conducting this review, the Secretary of the Interior shall consult, as appropriate, with the heads of relevant agencies, including the Secretary of Defense, the Secretary of Agriculture, the Secretary of Commerce, through the Administrator of the National Oceanic and Atmospheric Administration, the Secretary of Energy, the Chair of the Council on Environmental Quality, State and Tribal authorities, project developers, and other interested parties. The Secretary of the Interior shall engage with Tribal authorities regarding the development and management of renewable and conventional energy resources on Tribal lands.

Sec. 208. *Oil and Natural Gas Development on Public Lands and in Offshore Waters*. To the extent consistent with applicable law, the Secretary of the Interior shall pause new oil and natural gas leases on public lands or in offshore waters pending completion of a comprehensive review and reconsideration of Federal oil and gas permitting and leasing practices in light of the Secretary of the Interior's broad stewardship responsibilities over the public lands and in offshore waters, including potential climate and

other impacts associated with oil and gas activities on public lands or in offshore waters. The Secretary of the Interior shall complete that review in consultation with the Secretary of Agriculture, the Secretary of Commerce, through the National Oceanic and Atmospheric Administration, and the Secretary of Energy. In conducting this analysis, and to the extent consistent with applicable law, the Secretary of the Interior shall consider whether to adjust royalties associated with coal, oil, and gas resources extracted from public lands and offshore waters, or take other appropriate action, to account for corresponding climate costs.

Sec. 209. *Fossil Fuel Subsidies*. The heads of agencies shall identify for the Director of the Office of Management and Budget and the National Climate Advisor any fossil fuel subsidies provided by their respective agencies, and then take steps to ensure that, to the extent consistent with applicable law, Federal funding is not directly subsidizing fossil fuels. The Director of the Office of Management and Budget shall seek, in coordination with the heads of agencies and the National Climate Advisor, to eliminate fossil fuel subsidies from the budget request for Fiscal Year 2022 and thereafter.

Sec. 210. *Clean Energy in Financial Management*. The heads of agencies shall identify opportunities for Federal funding to spur innovation, commercialization, and deployment of clean energy technologies and infrastructure for the Director of the Office of Management and Budget and the National Climate Advisor, and then take steps to ensure that, to the extent consistent with applicable law, Federal funding is used to spur innovation, commercialization, and deployment of clean energy technologies and infrastructure. The Director of the Office of Management and Budget, in coordination with agency heads and the National Climate Advisor, shall seek to prioritize such investments in the President's budget request for Fiscal Year 2022 and thereafter.

Sec. 211. *Climate Action Plans and Data and Information Products to Improve Adaptation and Increase Resilience*. (a) The head of each agency shall submit a draft action plan to the Task Force and the Federal Chief Sustainability Officer within 120 days of the date of this order that describes steps the agency can take with regard to its facilities and operations to bolster adaptation and increase resilience to the impacts of climate change. Action plans should, among other things, describe the agency's climate vulnerabilities and describe the agency's plan to use the power of procurement to increase the energy and water efficiency of United States Government installations, buildings, and facilities and ensure they are climate-ready. Agencies shall consider the feasibility of using the purchasing power of the Federal Government to drive innovation, and shall seek to increase the Federal Government's resilience against supply chain disruptions. Such disruptions put the Nation's manufacturing sector at risk, as well as consumer access to critical goods and services. Agencies shall make their action plans public, and post them on the agency website, to the extent consistent with applicable law.

(b) Within 30 days of an agency's submission of an action plan, the Federal Chief Sustainability Officer, in coordination with the Director of the Office of Management and Budget, shall review the plan to assess its consistency with the policy set forth in section 204 of this order and the priorities issued by the Office of Management and Budget.

(c) After submitting an initial action plan, the head of each agency shall submit to the Task Force and Federal Chief Sustainability Officer progress reports annually on the status of implementation efforts. Agencies shall make progress reports public and post them on the agency website, to the extent consistent with applicable law. The heads of agencies shall assign their respective agency Chief Sustainability Officer the authority to perform duties relating to implementation of this order within the agency, to the extent consistent with applicable law.

(d) To assist agencies and State, local, Tribal, and territorial governments, communities, and businesses in preparing for and adapting to the impacts of climate change, the Secretary of Commerce, through the Administrator

of the National Oceanic and Atmospheric Administration, the Secretary of Homeland Security, through the Administrator of the Federal Emergency Management Agency, and the Director of the Office of Science and Technology Policy, in coordination with the heads of other agencies, as appropriate, shall provide to the Task Force a report on ways to expand and improve climate forecast capabilities and information products for the public. In addition, the Secretary of the Interior and the Deputy Director for Management of the Office of Management and Budget, in their capacities as the Chair and Vice-Chair of the Federal Geographic Data Committee, shall assess and provide to the Task Force a report on the potential development of a consolidated Federal geographic mapping service that can facilitate public access to climate-related information that will assist Federal, State, local, and Tribal governments in climate planning and resilience activities.

EMPOWERING WORKERS THROUGH REBUILDING OUR INFRASTRUCTURE FOR A SUSTAINABLE ECONOMY

Sec. 212. *Policy*. This Nation needs millions of construction, manufacturing, engineering, and skilled-trades workers to build a new American infrastructure and clean energy economy. These jobs will create opportunities for young people and for older workers shifting to new professions, and for people from all backgrounds and communities. Such jobs will bring opportunity to communities too often left behind—places that have suffered as a result of economic shifts and places that have suffered the most from persistent pollution, including low-income rural and urban communities, communities of color, and Native communities.

Sec. 213. *Sustainable Infrastructure*. (a) The Chair of the Council on Environmental Quality and the Director of the Office of Management and Budget shall take steps, consistent with applicable law, to ensure that Federal infrastructure investment reduces climate pollution, and to require that Federal permitting decisions consider the effects of greenhouse gas emissions and climate change. In addition, they shall review, and report to the National Climate Advisor on, siting and permitting processes, including those in progress under the auspices of the Federal Permitting Improvement Steering Council, and identify steps that can be taken, consistent with applicable law, to accelerate the deployment of clean energy and transmission projects in an environmentally stable manner.

(b) Agency heads conducting infrastructure reviews shall, as appropriate, consult from an early stage with State, local, and Tribal officials involved in permitting or authorizing proposed infrastructure projects to develop efficient timelines for decision-making that are appropriate given the complexities of proposed projects.

EMPOWERING WORKERS BY ADVANCING CONSERVATION, AGRICULTURE, AND REFORESTATION

Sec. 214. *Policy*. It is the policy of my Administration to put a new generation of Americans to work conserving our public lands and waters. The Federal Government must protect America's natural treasures, increase reforestation, improve access to recreation, and increase resilience to wildfires and storms, while creating well-paying union jobs for more Americans, including more opportunities for women and people of color in occupations where they are underrepresented. America's farmers, ranchers, and forest landowners have an important role to play in combating the climate crisis and reducing greenhouse gas emissions, by sequestering carbon in soils, grasses, trees, and other vegetation and sourcing sustainable bioproducts and fuels. Coastal communities have an essential role to play in mitigating climate change and strengthening resilience by protecting and restoring coastal ecosystems, such as wetlands, seagrasses, coral and oyster reefs, and mangrove and kelp forests, to protect vulnerable coastlines, sequester carbon, and support biodiversity and fisheries.

Sec. 215. *Civilian Climate Corps*. In furtherance of the policy set forth in section 214 of this order, the Secretary of the Interior, in collaboration with the Secretary of Agriculture and the heads of other relevant agencies,

shall submit a strategy to the Task Force within 90 days of the date of this order for creating a Civilian Climate Corps Initiative, within existing appropriations, to mobilize the next generation of conservation and resilience workers and maximize the creation of accessible training opportunities and good jobs. The initiative shall aim to conserve and restore public lands and waters, bolster community resilience, increase reforestation, increase carbon sequestration in the agricultural sector, protect biodiversity, improve access to recreation, and address the changing climate.

Sec. 216. *Conserving Our Nation's Lands and Waters*. (a) The Secretary of the Interior, in consultation with the Secretary of Agriculture, the Secretary of Commerce, the Chair of the Council on Environmental Quality, and the heads of other relevant agencies, shall submit a report to the Task Force within 90 days of the date of this order recommending steps that the United States should take, working with State, local, Tribal, and territorial governments, agricultural and forest landowners, fishermen, and other key stakeholders, to achieve the goal of conserving at least 30 percent of our lands and waters by 2030.

(i) The Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, through the Administrator of the National Oceanic and Atmospheric Administration, and the Chair of the Council on Environmental Quality shall, as appropriate, solicit input from State, local, Tribal, and territorial officials, agricultural and forest landowners, fishermen, and other key stakeholders in identifying strategies that will encourage broad participation in the goal of conserving 30 percent of our lands and waters by 2030.

(ii) The report shall propose guidelines for determining whether lands and waters qualify for conservation, and it also shall establish mechanisms to measure progress toward the 30-percent goal. The Secretary of the Interior shall subsequently submit annual reports to the Task Force to monitor progress.

(b) The Secretary of Agriculture shall:

(i) initiate efforts in the first 60 days from the date of this order to collect input from Tribes, farmers, ranchers, forest owners, conservation groups, firefighters, and other stakeholders on how to best use Department of Agriculture programs, funding and financing capacities, and other authorities, and how to encourage the voluntary adoption of climate-smart agricultural and forestry practices that decrease wildfire risk fueled by climate change and result in additional, measurable, and verifiable carbon reductions and sequestration and that source sustainable bioproducts and fuels; and

(ii) submit to the Task Force within 90 days of the date of this order a report making recommendations for an agricultural and forestry climate strategy.

(c) The Secretary of Commerce, through the Administrator of the National Oceanic and Atmospheric Administration, shall initiate efforts in the first 60 days from the date of this order to collect input from fishermen, regional ocean councils, fishery management councils, scientists, and other stakeholders on how to make fisheries and protected resources more resilient to climate change, including changes in management and conservation measures, and improvements in science, monitoring, and cooperative research.

EMPOWERING WORKERS THROUGH REVITALIZING ENERGY COMMUNITIES

Sec. 217. *Policy*. It is the policy of my Administration to improve air and water quality and to create well-paying union jobs and more opportunities for women and people of color in hard-hit communities, including rural communities, while reducing methane emissions, oil and brine leaks, and other environmental harms from tens of thousands of former mining and well sites. Mining and power plant workers drove the industrial revolution and the economic growth that followed, and have been essential to the growth of the United States. As the Nation shifts to a clean energy economy,

Federal leadership is essential to foster economic revitalization of and investment in these communities, ensure the creation of good jobs that provide a choice to join a union, and secure the benefits that have been earned by workers.

Such work should include projects that reduce emissions of toxic substances and greenhouse gases from existing and abandoned infrastructure and that prevent environmental damage that harms communities and poses a risk to public health and safety. Plugging leaks in oil and gas wells and reclaiming abandoned mine land can create well-paying union jobs in coal, oil, and gas communities while restoring natural assets, revitalizing recreation economies, and curbing methane emissions. In addition, such work should include efforts to turn properties idled in these communities, such as brownfields, into new hubs for the growth of our economy. Federal agencies should therefore coordinate investments and other efforts to assist coal, oil and gas, and power plant communities, and achieve substantial reductions of methane emissions from the oil and gas sector as quickly as possible.

Sec. 218. *Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization*. There is hereby established an Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization (Interagency Working Group). The National Climate Advisor and the Assistant to the President for Economic Policy shall serve as Co-Chairs of the Interagency Working Group.

(a) Membership. The Interagency Working Group shall consist of the following additional members:

(i) the Secretary of the Treasury;

(ii) the Secretary of the Interior;

(iii) the Secretary of Agriculture;

(iv) the Secretary of Commerce;

(v) the Secretary of Labor;

(vi) the Secretary of Health and Human Services;

(vii) the Secretary of Transportation;

(viii) the Secretary of Energy;

(ix) the Secretary of Education;

(x) the Administrator of the Environmental Protection Agency;

(xi) the Director of the Office of Management and Budget;

(xii) the Assistant to the President for Domestic Policy and Director of the Domestic Policy Council; and

(xiii) the Federal Co-Chair of the Appalachian Regional Commission.

(b) Mission and Work.

(i) The Interagency Working Group shall coordinate the identification and delivery of Federal resources to revitalize the economies of coal, oil and gas, and power plant communities; develop strategies to implement the policy set forth in section 217 of this order and for economic and social recovery; assess opportunities to ensure benefits and protections for coal and power plant workers; and submit reports to the National Climate Advisor and the Assistant to the President for Economic Policy on a regular basis on the progress of the revitalization effort.

(ii) As part of this effort, within 60 days of the date of this order, the Interagency Working Group shall submit a report to the President describing all mechanisms, consistent with applicable law, to prioritize grantmaking, Federal loan programs, technical assistance, financing, procurement, or other existing programs to support and revitalize the economies of coal and power plant communities, and providing recommendations for action consistent with the goals of the Interagency Working Group.

(c) Consultation. Consistent with the objectives set out in this order and in accordance with applicable law, the Interagency Working Group shall seek the views of State, local, and Tribal officials; unions; environmental justice organizations; community groups; and other persons it identifies who may have perspectives on the mission of the Interagency Working Group.

(d) Administration. The Interagency Working Group shall be housed within the Department of Energy. The Chairs shall convene regular meetings of the Interagency Working Group, determine its agenda, and direct its work. The Secretary of Energy, in consultation with the Chairs, shall designate an Executive Director of the Interagency Working Group, who shall coordinate the work of the Interagency Working Group and head any staff assigned to the Interagency Working Group.

(e) Officers. To facilitate the work of the Interagency Working Group, the head of each agency listed in subsection (a) of this section shall assign a designated official within the agency the authority to represent the agency on the Interagency Working Group and perform such other duties relating to the implementation of this order within the agency as the head of the agency deems appropriate.

SECURING ENVIRONMENTAL JUSTICE AND SPURRING ECONOMIC OPPORTUNITY

Sec. 219. *Policy*. To secure an equitable economic future, the United States must ensure that environmental and economic justice are key considerations in how we govern. That means investing and building a clean energy economy that creates well-paying union jobs, turning disadvantaged communities—historically marginalized and overburdened—into healthy, thriving communities, and undertaking robust actions to mitigate climate change while preparing for the impacts of climate change across rural, urban, and Tribal areas. Agencies shall make achieving environmental justice part of their missions by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts. It is therefore the policy of my Administration to secure environmental justice and spur economic opportunity for disadvantaged communities that have been historically marginalized and overburdened by pollution and underinvestment in housing, transportation, water and wastewater infrastructure, and health care.

Sec. 220. *White House Environmental Justice Interagency Council*. (a) Section 1–102 of Executive Order 12898 of February 11, 1994 (Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations), is hereby amended to read as follows:

''(a) There is hereby created within the Executive Office of the President a White House Environmental Justice Interagency Council (Interagency Council). The Chair of the Council on Environmental Quality shall serve as Chair of the Interagency Council.

''(b) Membership. The Interagency Council shall consist of the following additional members:

(i) the Secretary of Defense;

(ii) the Attorney General;

(iii) the Secretary of the Interior;

(iv) the Secretary of Agriculture;

(v) the Secretary of Commerce;

(vi) the Secretary of Labor;

(vii) the Secretary of Health and Human Services;

(viii) the Secretary of Housing and Urban Development;

(ix) the Secretary of Transportation;

(x) the Secretary of Energy;

(xi) the Chair of the Council of Economic Advisers;

(xii) the Administrator of the Environmental Protection Agency;

(xiii) the Director of the Office of Management and Budget;

(xiv) the Executive Director of the Federal Permitting Improvement Steering Council;

(xv) the Director of the Office of Science and Technology Policy;

(xvi) the National Climate Advisor;

(xvii) the Assistant to the President for Domestic Policy; and

(xviii) the Assistant to the President for Economic Policy.

''(c) At the direction of the Chair, the Interagency Council may establish subgroups consisting exclusively of Interagency Council members or their designees under this section, as appropriate.

''(d) Mission and Work. The Interagency Council shall develop a strategy to address current and historic environmental injustice by consulting with the White House Environmental Justice Advisory Council and with local environmental justice leaders. The Interagency Council shall also develop clear performance metrics to ensure accountability, and publish an annual public performance scorecard on its implementation.

''(e) Administration. The Office of Administration within the Executive Office of the President shall provide funding and administrative support for the Interagency Council, to the extent permitted by law and within existing appropriations. To the extent permitted by law, including the Economy Act (31 U.S.C. 1535), and subject to the availability of appropriations, the Department of Labor, the Department of Transportation, and the Environmental Protection Agency shall provide administrative support as necessary.

''(f) Meetings and Staff. The Chair shall convene regular meetings of the Council, determine its agenda, and direct its work. The Chair shall designate an Executive Director of the Council, who shall coordinate the work of the Interagency Council and head any staff assigned to the Council.

''(g) Officers. To facilitate the work of the Interagency Council, the head of each agency listed in subsection (b) shall assign a designated official within the agency to be an Environmental Justice Officer, with the authority to represent the agency on the Interagency Council and perform such other duties relating to the implementation of this order within the agency as the head of the agency deems appropriate.''

(b) The Interagency Council shall, within 120 days of the date of this order, submit to the President, through the National Climate Advisor, a set of recommendations for further updating Executive Order 12898.

Sec. 221. *White House Environmental Justice Advisory Council*. There is hereby established, within the Environmental Protection Agency, the White House Environmental Justice Advisory Council (Advisory Council), which shall advise the Interagency Council and the Chair of the Council on Environmental Quality.

(a) Membership. Members shall be appointed by the President, shall be drawn from across the political spectrum, and may include those with knowledge about or experience in environmental justice, climate change, disaster preparedness, racial inequity, or any other area determined by the President to be of value to the Advisory Council.

(b) Mission and Work. The Advisory Council shall be solely advisory. It shall provide recommendations to the White House Environmental Justice Interagency Council established in section 220 of this order on how to increase the Federal Government's efforts to address current and historic environmental injustice, including recommendations for updating Executive Order 12898.

(c) Administration. The Environmental Protection Agency shall provide funding and administrative support for the Advisory Council to the extent permitted by law and within existing appropriations. Members of the Advisory Council shall serve without either compensation or reimbursement of expenses.

(d) Federal Advisory Committee Act. Insofar as the Federal Advisory Committee Act, as amended (5 U.S.C. App.), may apply to the Advisory Council, any functions of the President under the Act, except for those in section 6 of the Act, shall be performed by the Administrator of the Environmental Protection Agency in accordance with the guidelines that have been issued by the Administrator of General Services.

Sec. 222. *Agency Responsibilities*. In furtherance of the policy set forth in section 219:

(a) The Chair of the Council on Environmental Quality shall, within 6 months of the date of this order, create a geospatial Climate and Economic Justice Screening Tool and shall annually publish interactive maps highlighting disadvantaged communities.

(b) The Administrator of the Environmental Protection Agency shall, within existing appropriations and consistent with applicable law:

(i) strengthen enforcement of environmental violations with disproportionate impact on underserved communities through the Office of Enforcement and Compliance Assurance; and

(ii) create a community notification program to monitor and provide real-time data to the public on current environmental pollution, including emissions, criteria pollutants, and toxins, in frontline and fenceline communities—places with the most significant exposure to such pollution.

(c) The Attorney General shall, within existing appropriations and consistent with applicable law:

(i) consider renaming the Environment and Natural Resources Division the Environmental Justice and Natural Resources Division;

(ii) direct that division to coordinate with the Administrator of the Environmental Protection Agency, through the Office of Enforcement and Compliance Assurance, as well as with other client agencies as appropriate, to develop a comprehensive environmental justice enforcement strategy, which shall seek to provide timely remedies for systemic environmental violations and contaminations, and injury to natural resources; and

(iii) ensure comprehensive attention to environmental justice throughout the Department of Justice, including by considering creating an Office of Environmental Justice within the Department to coordinate environmental justice activities among Department of Justice components and United States Attorneys' Offices nationwide.

(d) The Secretary of Health and Human Services shall, consistent with applicable law and within existing appropriations:

(i) establish an Office of Climate Change and Health Equity to address the impact of climate change on the health of the American people; and

(ii) establish an Interagency Working Group to Decrease Risk of Climate Change to Children, the Elderly, People with Disabilities, and the Vulnerable as well as a biennial Health Care System Readiness Advisory Council, both of which shall report their progress and findings regularly to the Task Force.

(e) The Director of the Office of Science and Technology Policy shall, in consultation with the National Climate Advisor, within existing appropriations, and within 100 days of the date of this order, publish a report identifying the climate strategies and technologies that will result in the most air and water quality improvements, which shall be made public to the maximum extent possible and published on the Office's website.

Sec. 223. *Justice40 Initiative*. (a) Within 120 days of the date of this order, the Chair of the Council on Environmental Quality, the Director of the

Office of Management and Budget, and the National Climate Advisor, in consultation with the Advisory Council, shall jointly publish recommendations on how certain Federal investments might be made toward a goal that 40 percent of the overall benefits flow to disadvantaged communities. The recommendations shall focus on investments in the areas of clean energy and energy efficiency; clean transit; affordable and sustainable housing; training and workforce development; the remediation and reduction of legacy pollution; and the development of critical clean water infrastructure. The recommendations shall reflect existing authorities the agencies may possess for achieving the 40-percent goal as well as recommendations on any legislation needed to achieve the 40-percent goal.

(b) In developing the recommendations, the Chair of the Council on Environmental Quality, the Director of the Office of Management and Budget, and the National Climate Advisor shall consult with affected disadvantaged communities.

(c) Within 60 days of the recommendations described in subsection (a) of this section, agency heads shall identify applicable program investment funds based on the recommendations and consider interim investment guidance to relevant program staff, as appropriate and consistent with applicable law.

(d) By February 2022, the Director of the Office of Management and Budget, in coordination with the Chair of the Council on Environmental Quality, the Administrator of the United States Digital Service, and other relevant agency heads, shall, to the extent consistent with applicable law, publish on a public website an annual Environmental Justice Scorecard detailing agency environmental justice performance measures.

PART III—GENERAL PROVISIONS

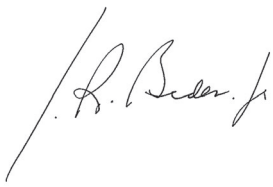
Sec. 301. *General Provisions*. (a) Nothing in this order shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department or agency or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget, relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.



THE WHITE HOUSE,
January 27, 2021.

[FR Doc. 2021–02177
Filed 1–29–21; 8:45 am]
Billing code 3295–F1–P

§ 490.411 Establishment of minimum level for condition for bridges.

(a) State DOTs will maintain bridges so that the percentage of the deck area of bridges classified as Structurally Deficient does not exceed 10.0 percent. This minimum condition level is applicable to bridges carrying the NHS, which includes on- and off-ramps connected to the NHS within a State, and bridges carrying the NHS that cross a State border.

(b) For the purposes of carrying out this section and § 490.413, a bridge will be classified as Structurally Deficient when one of its NBI Items, 58—Deck, 59—Superstructure, 60—Substructure, or 62—Culverts, is 4 or less, or when one of its NBI Items, 67—Structural Evaluation or 71—Waterway Adequacy, is 2 or less. Beginning with calendar year 2018 and thereafter, a bridge will be classified as Structurally Deficient when one of its NBI Items, 58—Deck, 59—Superstructure, 60—Substructure, or 62—Culverts, is 4 or less.

(c) For all bridges carrying the NHS, which includes on- and off-ramps connected to the NHS and bridges carrying the NHS that cross a State border, FHWA shall calculate a ratio of the total deck area of all bridges classified as Structurally Deficient to the total deck area of all applicable bridges for each State. The percentage of deck area of bridges classified as Structurally Deficient shall be computed by FHWA to the one tenth of a percent as follows:

$$100 \times \frac{\sum_{SD=1}^{\text{Structurally Deficient}} [\text{Length} \times \text{Width}]_{\text{Bridge SD}}}{\sum_{s=1}^{\text{TOTAL}} [\text{Length} \times \text{Width}]_{\text{Bridge s}}}$$

Where:

Structurally Deficient = total number of the applicable bridges, where their classification is Structurally Deficient per this section and § 490.413;

SD = a bridge classified as Structurally Deficient per this section and § 490.413;

Length = corresponding value of NBI Item 49—Structure Length for every applicable bridge;

Width = corresponding value of NBI Item 52—Deck Width

Beginning with calendar year 2018 and thereafter, Width = corresponding value of NBI Item 52—Deck Width or value of Item 32 Approach Roadway Width for culverts where the roadway is on a fill [*i.e.,* traffic does not directly run on the top slab (or wearing surface) of the culvert] and the headwalls do not affect the flow of traffic for every applicable bridge.

s = an applicable bridge per this section and § 490.413; and

TOTAL = total number of the applicable bridges specified in this section and § 490.413.

(d) The FHWA will annually determine the percentage of the deck area of NHS bridges classified as Structurally Deficient for each State DOT and identify State DOTs that do not meet the minimum level of condition for NHS bridges based on data cleared in the NBI as of June 15 of each year. The FHWA will notify State DOTs of their compliance with 23 U.S.C. 119(f)(2) prior to October 1 of the year in which the determination was made.

(e) For the purposes of carrying out this section, State DOTs will annually submit their most current NBI data on highway bridges to FHWA no later than March 15 of each year.

(f) The NBI Items included in this section are found in the Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges, which is incorporated by reference (see § 490.111).

§ 490.413 Penalties for not maintaining bridge condition.

(a) If FHWA determines for the 3-year period preceding the date of the determination, that more than 10.0 percent of the total deck area of bridges in the State on the NHS is located on bridges that have been classified as Structurally Deficient, the following requirements will apply.

(1) During the fiscal year following the determination, the State DOT shall obligate and set aside in an amount equal to 50 percent of funds apportioned to such State for fiscal year 2009 to carry out 23 U.S.C. 144 (as in effect the day before enactment of MAP–21) from amounts apportioned to a State for a fiscal year under 23 U.S.C. 104(b)(1) only for eligible projects on bridges on the NHS.

(2) The set-aside and obligation requirement for bridges on the NHS in a State in paragraph (a) of this section for a fiscal year shall remain in effect for each subsequent fiscal year until such time as less than 10 percent of the total deck area of bridges in the State on the NHS is located on bridges that have been classified as Structurally Deficient as determined by FHWA.

(b) The FHWA will make the first determination by October 1, 2016, and each fiscal year thereafter.

[FR Doc. 2017–00550 Filed 1–12–17; 4:15 pm]

BILLING CODE 4910–22–P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

23 CFR Part 490

[Docket No. FHWA–2013–0054]

RIN 2125–AF54

National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program

AGENCY: Federal Highway Administration (FHWA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: This final rule is the third and last in a series of three related rulemakings that together establishes a set of performance measures for State departments of transportation (State DOT) and Metropolitan Planning Organizations (MPO) to use as required by the Moving Ahead for Progress in the 21st Century Act (MAP–21) and the Fixing America's Surface Transportation (FAST) Act. The measures in this third final rule will be used by State DOTs and MPOs to assess the performance of the Interstate and non-Interstate National Highway System (NHS) for the purpose of carrying out the National Highway Performance Program (NHPP); to assess freight movement on the Interstate System; and to assess traffic congestion and on-road mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. This third performance measure final rule also includes a discussion that summarizes all three of the national performance management measures

rules and the comprehensive regulatory impact analysis (RIA) to include all three final rules.

DATES: This final rule is February 17, 2017.

FOR FURTHER INFORMATION CONTACT: For technical information: Francine Shaw Whitson, Office of Infrastructure, (202) 366–8028; for legal information: Alla Shaw, Office of Chief Counsel, (202) 366–0740, Federal Highway Administration, 1200 New Jersey Avenue SE., Washington, DC 20590. Office hours are from 8 a.m. to 4:30 p.m. ET, Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Electronic Access and Filing

The notice of proposed rulemaking (NPRM) was published at 81 FR 23806 on April 22, 2016. A copy of the NPRM, all comments received, and all background material may be viewed online at *http://www.regulations.gov*. Electronic retrieval help and guidelines are available on the Web site. It is available 24 hours each day, 365 days each year. An electronic copy of this document may also be downloaded from the Office of the Federal Register's Web site at *http://www.ofr.gov* and the Government Publishing Office's Web site at *http://www.gpo.gov*.

Table of Contents for Supplementary Information

I. Executive Summary

A. Purpose of the Regulatory Action

The MAP–21 (Pub. L. 112–141) transforms the Federal-aid highway program by establishing new requirements for performance management to ensure the most efficient investment of Federal transportation funds. Performance management increases the accountability and transparency of the Federal-aid highway program and provides a framework to

support improved investment decisionmaking through a focus on performance outcomes for key national transportation goals.

As part of performance management, recipients of Federal-aid highway funds will make transportation investments to achieve performance targets that make progress toward the following national goals:

- Safety—To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- Infrastructure condition—To maintain the highway infrastructure asset system in a state of good repair.
- Congestion reduction—To achieve a significant reduction in congestion on the NHS.
- System reliability—To improve the efficiency of the surface transportation system.
- Freight movement and economic vitality—To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- Environmental sustainability—To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- Reduced project delivery delays—To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

The purpose of this final rule is to implement MAP–21 and FAST Act (PL 114–94) performance management requirements. Prior to MAP–21, there were no explicit requirements for State DOTs to demonstrate how their transportation program supported national performance outcomes. State DOTs were not required to measure condition or performance, establish targets, assess progress toward targets, or report on condition or performance in a nationally consistent manner that FHWA could use to assess the entire system. Without States reporting on the above factors, it is difficult for FHWA to examine the effectiveness of the Federal-aid highway program as a means to address surface transportation performance at a national level.

This final rule is one of several rulemakings to implement MAP–21's new performance management framework. The collective rulemakings will establish the regulations needed to more effectively evaluate and report on surface transportation performance across the Nation. This final rule will:

- Provide for greater consistency in the reporting of condition and performance;
- Establish specific national performance measures to be used to assess performance of the NHS, freight movement on the Interstate and CMAQ traffic congestion and on-road mobile source emissions;
- Require the establishment of targets that can be aggregated at the national level;
- Improve transparency by requiring consistent reporting on progress through a public reporting system;
- Require State DOTs to make significant progress toward meeting their targets; and
- Establish requirements for State DOTs that have not met or made significant progress toward achieving their NHPP and NHFP targets.

State DOTs and MPOs will be expected to use the information and data generated as a result of the new regulations to inform their transportation planning and programming decisions. The new performance aspects of the Federal-aid highway program that result from this rule will provide FHWA the ability to better communicate a national performance story and to assess the impacts of Federal funding investments more reliably. The FHWA is in the process of creating a new public Web site to help communicate the national performance story and display State DOT performance reports. The Web site will likely include infographics, tables, charts, and descriptions of the performance data that State DOTs will be reporting to FHWA.

The FHWA is required to establish performance measures to assess performance in 12 areas [1] generalized as follows: (1) Serious injuries per vehicle miles traveled (VMT); (2) fatalities per VMT; (3) number of serious injuries; (4) number of fatalities; (5) pavement condition on the Interstate System; (6) pavement condition on the non-Interstate NHS; (7) bridge condition on the NHS; (8) performance of the Interstate System; (9) performance of the non-Interstate NHS; (10) freight movement on the Interstate System; (11) traffic congestion; and (12) on-road mobile source emissions. This rulemaking is the third of three that establish performance measures for State DOTs and MPOs to use to carry out Federal-aid highway programs and to assess performance in each of these 12 areas. This final rule establishes national performance measures for the NHPP, freight movement, and the CMAQ program (numbers 8 through 12 in the above list). See Table 1 for a summary of all measures.

The final measures in this rule have been adjusted in response to comments, and those changes are summarized in Section I.B of the Executive Summary. Details about data requirements and calculation methodologies for each measure can be found in Section VI.

Three measures are established for assessing the performance of the NHS under the NHPP. Two measures assess reliability: (1) Percent of Person-Miles Traveled on the Interstate System That Are Reliable (the Interstate Travel Time Reliability measure); and (2) Percent of Person-Miles Traveled on the Non-Interstate NHS That Are Reliable (the Non-Interstate NHS Travel Time Reliability measure). Together they are the Travel Time Reliability measures. Both of these measures assess Level of Travel Time Reliability (LOTTR), defined as the ratio of the 80th percentile travel time to a ''normal'' travel time (50th percentile). Data are derived from the travel time data set using either the National Performance Management Research Data Set (NPMRDS) or equivalent. A third measure, Percent Change in Tailpipe CO_2 Emissions on the NHS from the Calendar Year 2017, assesses environmental performance. This measure is calculated using data on fuel use and VMT.

The performance measure to assess freight movement on the Interstate is Percentage of the Interstate System Mileage providing for Reliable Truck Travel Times, or Truck Travel Time Reliability (TTTR) Index (the Freight Reliability measure). The measure also uses the Travel Time Data Set of NPRMDS, but unlike the LOTTR which uses a threshold to determine reliability, TTTR Index is expressed as an average for the entire applicable area.

Three measures are established under the CMAQ program (the CMAQ measures) including two measures for traffic congestion: (1) Annual Hours of Peak-Hour Excessive Delay Per Capita (the PHED measure); and (2) Percent of Non-SOV Travel where SOV stands for single-occupancy vehicle. Data for these two measures are derived from the travel time data set of NPMRDS. The second measure is a new measure developed to recognize the role of lower-emissions modes in meeting air quality goals. State DOTs and MPOs have three options for providing data for this measure.

The third measure under the CMAQ program is Total Emissions Reduction.

[1] These areas are listed within 23 U.S.C. 150(c), which requires the Secretary to establish measures to assess performance or condition.

This measure uses data from the CMAQ Public Access System to calculate total emission reductions for applicable criteria pollutants or precursors. A summary of all the national performance management measures rulemakings are listed in Table 1 below.

TABLE 1—SUMMARY OF RULEMAKINGS TO IMPLEMENT THE NATIONAL PERFORMANCE MANAGEMENT MEASURE RULES

Rulemaking	23 CFR part 490 section	Final performance measures	Measure applicability
Safety PM Final Rule.	490.207(a)(1)	Number of fatalities	All public roads.
	490.207(a)(2)	Rate of fatalities	All public roads.
	490.207(a)(3)	Number of serious injuries	All public roads.
	490.207(a)(4)	Rate of serious injuries	All public roads.
	490.207(a)(5)	Number of non-motorized fatalities and non-motorized serious injuries.	All public roads.
Infrastructure PM Final Rule	490.307(a)(1)	Percentage of pavements of the Interstate System in Good condition.	The Interstate System.
	490.307(a)(2)	Percentage of pavements of the Interstate System in in Poor condition.	The Interstate System.
	490.307(a)(3)	Percentage of pavements of the non-Interstate NHS in Good condition.	The non-Interstate NHS.
	490.307(a)(4)	Percentage of pavements of the non-Interstate NHS in Poor condition.	The non-Interstate NHS.
	490.407(c)(1)	Percentage of NHS bridges classified as in Good condition	NHS.
	490.407(c)(2)	Percentage of NHS bridges classified as in Poor condition	NHS.
System Performance PM Final Rule.	490.507(a)(1)	Percent of the Person-Miles Traveled on the Interstate That Are Reliable.	The Interstate System.
	490.507(a)(2)	Percent of the Person-Miles Traveled on the Non-Interstate NHS That Are Reliable.	The non-Interstate NHS.
	490.507(b)	Percent Change in Tailpipe CO_2 Emissions on the NHS Compared to the Calendar Year 2017 Level.	NHS.
	490.607	Truck Travel Time Reliability (TTTR) Index	The Interstate System.
	490.707(a)	Annual Hours of Peak Hour Excessive Delay Per Capita	The NHS in urbanized areas with a population over 1 million for the first performance period and in urbanized areas with a population over 200,000 for the second and all other performance periods that are also in nonattainment or maintenance areas for ozone (O_3), carbon monoxide (CO), or particulate matter (PM_{10} and $PM_{2.5}$).
	490.707(b)	Percent of Non-SOV Travel.	
	490.807	Total Emissions Reduction	All projects financed with funds from the 23 U.S.C. 149 CMAQ program apportioned to State DOTs in areas designated as nonattainment or maintenance for ozone (O_3), carbon monoxide (CO), or particulate matter (PM_{10} and $PM_{2.5}$).

In addition, this final rule establishes the process for State DOTs and MPOs to establish and report targets and the process that FHWA will use to assess the progress State DOTs have made in achieving targets. State DOTs will be required to establish performance targets and assess performance in the above mentioned 12 areas established by MAP–21, and FHWA will assess [2] their progress toward meeting targets in 10 of these areas [3] in accordance with MAP–21 and the FAST Act. State DOTs that fail to meet or make significant progress toward targets in a biennial performance reporting period will be required to document the actions they will undertake to achieve their targets in their next biennial performance report. Failure to make progress in the safety metrics requires additional actions as outlined in the published Safety final rule.

The FHWA received extensive and substantive comments on the NPRM. The FHWA made significant alterations to the measures in response to these comments, and a summary of major issues raised can be found at the beginning of Section V, with detailed responses following. The FHWA also recognizes that data collection and analytic capacity are not yet developed

[2] 23 U.S.C. 148(i) and 23 U.S.C. 119(e)(7).

[3] Serious injuries per vehicle VMT; fatalities per VMT; number of serious injuries; number of fatalities; pavement condition on the Interstate System; pavement condition on the non-Interstate NHS; bridge condition on the NHS; performance of the Interstate System; performance of the non-Interstate NHS under MAP–21; and freight movement on the Interstate System under the FAST Act.

enough to respond effectively to many commenters' suggestions, particularly in measuring multimodal performance. Therefore, FHWA is working to develop more sophisticated performance metrics and may issue an updated rulemaking on performance measures related to person throughput and multi-modal performance in the future, following completion of ongoing research regarding multimodal system performance measures in Fall 2018.

Lastly, FHWA recognizes that implementation of the performance management requirements in this final rule will evolve with time for a variety of reasons such as: The introduction of new technologies that allow for the collection of more nationally consistent and/or reliable performance data; shifts in national priorities for the focus of a goal area; new federal requirements; or the emergence of improved approaches to measure condition/performance in supporting investment decisions and national goals. The FHWA is committed to performing a retrospective review of this rule after the first performance period, to assess the effectiveness of the requirements to identify any necessary changes to better support investment decisions through performance-based planning and programming and to ensure the most efficient investment of Federal transportation funds. In implementation of this rule, FHWA realizes that there are multiple ways that State DOTs and MPOs can make decisions to achieve more efficient and cost effective investments; as part of a retrospective review, FHWA will also utilize implementation surveys to identify how agencies complying with the rule are developing their programs and selecting their projects to achieve targets.

B. Summary of the Major Changes Made to the Regulatory Action in Question

This final rule retains the majority of the major provisions of the NPRM, but it makes the following significant changes.

- Removing the proposed NHFP measure for percentage of the Interstate congested.
- Merging the proposed peak-hour travel time measure under NHPP with the proposed excessive delay measure under CMAQ Traffic Congestion into one measure under CMAQ, the PHED measure. This new measure focuses on excessive delay experienced during peak hours in applicable urbanized areas.
- Introducing two new measures in response to extensive public comments:
  - Under NHPP System Performance—a new measure to assess system performance, specifically the percent change in CO_2 emissions from the reference year 2017, generated by on-road mobile sources on the NHS (the GHG measure). All State DOTs and MPOs that have NHS mileage in their State geographic boundaries and metropolitan planning areas, respectively, will be required to establish targets and report on progress. The FHWA will assess every 2 years to determine if a State DOT has made significant progress toward achieving their targets.
  - Under CMAQ Traffic Congestion—a new measure to assess modal share, specifically the Percent of Non-SOV Travel measure. State DOTs and MPOs are provided the opportunity to use localized surveys or measurements to report on this measure and will be encouraged to report to FHWA any data not currently available in national sources (*e.g.,* bike counts).
- Changing the weighting of the travel time measures from system miles to person-miles traveled, focusing on bus, auto, and truck occupancy levels, and providing opportunities for State DOTs and MPOs to capture more specific local occupancy levels for particular corridors or areas.
- These changes result in one fewer measure than proposed in the NPRM, for a total of 7 measures. Now, four of these are derived from vehicle travel times, three of which reflect all people traveling on the system, a change requested by many commenters.
- Phasing in expanded applicability of the CMAQ Traffic Congestion measures beginning with urbanized areas with a population over 1 million in the first performance period and expanding to urbanized areas with a population over 200,000 beginning in the second performance period. These measures are to carry out the CMAQ program; therefore, the areas will be limited to urbanized areas that contain any part of nonattainment or maintenance areas for one or more pollutants listed in 23 U.S.C. 149 (ozone, carbon monoxide, or particulate matter).
- Taking steps to simplify and otherwise respond to suggestions regarding the data processing and calculation of the measures.

TABLE 2—SUMMARY OF FINAL MEASURES IN THE THIRD PERFORMANCE MEASURE FINAL RULE

Measure groups (program area)	Performance measures	Measure/target applicability	Metric data source & collection frequency	Metric
NHPP	Percent of Person-Miles Traveled on the Interstate That Are Reliable.	Mainline of the Interstate System within a State or each metropolitan planning area.	All traffic/vehicles data in NPMRDS or Equivalent—every 15-minutes.	Level of Travel Time Reliability (LOTTR).
	Percent of Person-Miles Traveled on the Non-Interstate NHS That Are Reliable.	Mainline of the non-Interstate NHS within a State or each metropolitan planning area.	All traffic/vehicles data in NPMRDS or Equivalent—every 15-minutes.	Level of Travel Time Reliability (LOTTR).
	Percent Change in CO_2 Emissions on the NHS Compared to the Calendar Year 2017 Level.	NHS within a State or each metropolitan planning area.	Annual state total fuel sales data from Highway Statistics and VMT estimates on NHS and all public roads from HPMS.	Annual Total Tailpipe CO_2 Emissions on the NHS.
Freight movement on the Interstate System measure (NHFP).	Truck Travel Time Reliability (TTTR) Index.	Mainline of the Interstate System within a State or each metropolitan planning area.	Truck data in NPMRDS or equivalent data set—every 15—minutes.	TTTR Index.

TABLE 2—SUMMARY OF FINAL MEASURES IN THE THIRD PERFORMANCE MEASURE FINAL RULE—Continued

Measure groups (program area)	Performance measures	Measure/target applicability	Metric data source & collection frequency	Metric
CMAQ	Annual Hours of Peak-Hour Excessive Delay Per Capita.	Mainline of NHS in urbanized areas with a population over 1M/200k in nonattainment or maintenance for any of the criteria pollutants under the CMAQ program.	All traffic/vehicles data in NPMRDS or equivalent data set—every 15 minutes (bus, car and truck volumes in HPMS; occupancy factors published by FHWA.	Total Peak-Hour Excessive Delay person-hours.
	Percent of N SOV Travel.	Urbanized areas with a population over 1M/200k in nonattainment or maintenance for any of the criteria pollutants under the CMAQ program.	ACS, local survey, or local counts (includes bike/pedestrian counts).	n/a.
	Total Emission Reductions.	All nonattainment and maintenance areas for CMAQ criteria pollutants.	CMAQ Public Access System	n/a.

The FHWA updated these and other elements in this final rule based on the review and analysis of comments received. For additional detail on all the changes FHWA made in the final rule, please refer to Sections V and VI of this document. The FHWA has also prepared a comment response document available on the docket for this rulemaking. The following summarizes the regulatory impact analysis for the final rule. Section references below refer to sections of the regulatory text for title 23 of the Code of Federal Regulations (23 CFR).

This final rule adds to subpart A, general information applicable to part 490, to include requirements for target establishment, reporting on progress, and how determinations would be made on whether State DOTs have made significant progress toward NHPP targets. Subpart A also includes definitions and clarifies terminology associated with target establishment, reporting, and making significant progress. Section 490.105 describes the process State DOTs and MPOs must use to establish targets. State DOTs will establish their first statewide targets 1 year after the effective date of this rule. The MPOs have up to 180 days after State DOTs establish their targets to establish their own targets. The FHWA has placed a timeline on the docket that illustrates how this transition could be implemented.

C. Costs and Benefits

The FHWA estimated the incremental costs associated with the new requirements that represent a change to current practices of USDOT, State DOTs, and MPOs.[4] The FHWA derived the costs of the new requirements by assessing the additional capital needed and the expected increase in the level of labor effort for FHWA, State DOTs, and MPOs to standardize and update data collection and reporting systems, and establish and report targets.

The FHWA sought opinions from subject matter experts (SMEs) on NHS performance, freight movement, and traffic congestion and emissions to estimate impacts of the final rule. Cost estimates were developed based on information received from SMEs.

To estimate costs, FHWA multiplied the level of effort, expressed in labor hours, with a corresponding loaded wage rate that varied by the type of laborer needed to perform the activity.[5] Where necessary, capital costs were also included. Many of these measures rely on the use and availability of NPMRDS data provided by FHWA for use by State DOTs and MPOs. Because there is uncertainty regarding the ongoing funding of NPMRDS by FHWA, FHWA estimated the cost of the final rule under two scenarios. First, assuming that FHWA provides State DOTs and MPOs with the required data from NPMRDS, the 10-year undiscounted incremental costs to comply with this rule are $144.0 million (Scenario 1). Alternatively, under ''worst case'' conditions where State DOTs will be required to independently acquire the necessary data, the 10-year undiscounted incremental costs to comply with this rule are $205.5 million (Scenario 2). The total 10-year undiscounted cost is approximately 43 percent higher under Scenario 2 than under Scenario 1.

The final rule's 10-year undiscounted cost ($144.0 million in Scenario 1 and $205.5 million in Scenario 2, both in 2014 dollars) decreased relative to the proposed rule ($165.3 million in Scenario 1 and $224.5 million in Scenario 2, both in 2014 dollars). The FHWA made several changes that affected the cost estimate. These changes include updating costs to 2014 dollars from 2012 dollars and labor costs to reflect current Bureau of Labor Statistics (BLS) data. In addition, FHWA revised the final rule Regulatory Impact Analysis (RIA), found in the docket of this final rulemaking, to reflect: (1) The elimination of three of the proposed performance measures (removing the proposed NHFP measure for percent of the Interstate congested and merging two proposed peak-hour travel time measures under NHPP with the proposed excessive delay measure under CMAQ Traffic Congestion into one measure under CMAQ); (2) the elimination of one of the proposed performance metrics (for the Total Emissions Reductions measure); (3) the elimination of costs for the Initial Performance Report, which State DOTs have already submitted to FHWA; (4) the addition of two new performance measures (Percent of Non-SOV Travel measure and the GHG measure; and (5) the adjustment of level of effort and number of affected entities consistent with the new requirements under the final rule and updated population estimates.

The FHWA expects that the rule will result in significant benefits, although they are not easily quantifiable. Specifically, the rule will allow for more informed decisionmaking at a Federal, State, and regional level for NHS performance-, freight movement-, or congestion and emissions-related projects, programs, and policy choices. The rule will also yield greater accountability because MAP–21 mandated reporting increases visibility

[4] See Tables 3 and 4 in Section VII, Rulemaking Analysis and Notices.

[5] Bureau of Labor Statistics Employee Cost Index, 2014.

and transparency. The data reported to FHWA by State DOTs will be available to the public and will be used to communicate a national performance story.

The FHWA performed break-even analyses as the primary approach to quantify benefits. The FHWA identified four variables (or outcomes) for which to estimate break-even thresholds: (1) Number of passenger travel hours, (2) tons of transportation-related carbon dioxide emissions, (3) number of truck travel hours, and (4) kilograms of on-road mobile source emissions, comprising volatile organic compounds, nitrogen oxide, particulate matter, and carbon monoxide. The FHWA selected these variables because it is reasonable to assume that the performance measures will influence each of these variables relative to current baseline levels.

FHWA assumes that there will be no overall change in the total amount of expenditure on highway projects by State DOTs and MPOs. Instead, FHWA assumes that States and MPOs will choose a different mix of projects or delay some projects, relative to what they would have done without the rule, in order to fund projects that help to meet performance goals. There will be some costs to delaying or foregoing some projects, but their will be benefits from projects that are prioritized to meet performance goals. To perform a breakeven analysis, FHWA considered both these benefits and costs and considered how large of a net gain in benefits would be needed to offset the costs of the rule.

After identifying these variables, FHWA combined the final rule costs associated with the performance measures that will influence each variable. The FHWA expects that implementation of four of the rule's performance measures (the Travel Time Reliability measures, the PHED measure and the Percent of Non-SOV Travel measure) will influence passenger travel hours. The FHWA expects that implementation of the GHG measure will influence tons of carbon dioxide emissions. The FHWA expects that implementation of the Freight Reliability measure will influence number of truck travel hours. The FHWA expects that implementation of the performance measure for Total Emissions Reduction will influence kilograms of on-road mobile source emissions.

Two variables (number of passenger travel hours and number of truck travel hours) are associated with performance measures whose costs differ under two scenarios feasible under the final rule; in Scenario 1, FHWA provides travel time data to State DOTs, and in Scenario 2, State DOTs acquire the necessary data independently. To account for this, FHWA performed the break-even analyses twice for these two variables (*i.e.,* once using Scenario 1 costs, and a second time using Scenario 2 costs). The costs associated with the remaining two variables (tons of carbon dioxide emissions and kilograms of on-road mobile source emissions) do not change under Scenarios 1 and 2; therefore, only one break-even threshold is calculated for each analysis. In all, FHWA presents six break-even thresholds: (1) Number of passenger travel hours under Scenario 1, (2) number of passenger travel hours under Scenario 2, (3) tons of carbon dioxide emissions, (4) number of truck travel hours under Scenario 1, (5) number of truck travel hours under Scenario 2, and (6) kilograms of on-road mobile source emissions.

The results show that the rule must result in the reduction of approximately 3.7 million hours of passenger car travel under Scenario 1 and 5.6 million hours under Scenario 2, 312,000 tons of carbon dioxide emissions, 980,000 hours of freight travel under Scenario 1 and 1.6 million hours under Scenario 2, and 29 million kilograms of total on-road mobile source emissions over 10 years: To generate enough benefits to outweigh the cost of the rule. The FHWA believes that the benefits of this rule will surpass this threshold. Therefore, the benefits of the rule are anticipated to outweigh the costs.

Relative to the proposed rule, the total number of hours of passenger travel time needed to be saved over the period of analysis increased for the break-even analysis covering the Travel Time Reliability measures and the CMAQ Traffic Congestion measures. The undiscounted cost of these performance measures in the final rule decreased from $88.4 million over 11 years (in 2012 dollars) in the proposed rule to $86.1 million over 10 years (in 2014 dollars) in the final rule under Scenario 1. Under Scenario 2, costs increased from $123.9 million over 11 years (in 2012 dollars) in the proposed rule to $132.2 million over 10 years (in 2014 dollars) in the final rule. The Percent of Non-SOV Travel measure was added to the final rule, but the additional costs of this requirement were outweighed by the cost reductions associated with the removal of the peak-hour travel time reliability performance measures. For the final rule, FHWA added a break-even threshold for the GHG measure because it was not a part of the proposed rule. The undiscounted cost for Scenario 2 increased because a greater share of the travel time dataset costs under § 490.103 in Scenario 2 was attributable to these Travel Time Reliability measures and the CMAQ Traffic Congestion measures. Specifically, the share of data requirements costs is driven by the proportion of performance measures in each break-even analysis, which for these performance measures increased from 60 percent in the proposed rule to 75 percent in the final rule. In addition, moving from an 11-year period of analysis to a 10-year period of analysis affected the break-even point. The average annual number of hours of travel that need to be reduced increased from approximately 350,000 in the proposed rule under Scenario 1 to 370,000 in the final rule, and from approximately 500,000 in the proposed rule under Scenario 2 to 560,000 in the final rule.

The threshold for the NHFP performance measure break-even analysis significantly decreased in the final rule. This change was largely due to the elimination of the proposed Average Truck Speed performance measure. The undiscounted cost of freight performance provisions in the final rule is $25.8 million (in 2014 dollars) under Scenario 1 and $41.1 million (in 2014 dollars) under Scenario 2, compared to $46.9 million (in 2012 dollars) under Scenario 1 and $70.6 million (in 2012 dollars) under Scenario 2 in the proposed rule. Average annual number of hours of travel that need to be reduced decreased from 168,044 in the proposed rule to 98,224 in the final rule under Scenario 1, and from 252,896 hours in the proposed rule to 156,874 hours in the final rule under Scenario 2.

Regarding the break-even analysis for Total Emissions Reduction, units were changed from tons to kilograms based on revised rule language. The undiscounted costs of total emissions reduction decreased from $30.0 million (in 2012 dollars) in the proposed rule to $18.2 million (in 2014 dollars) in the final rule. The average annual amount of total emissions to be reduced decreased from 4,417 short tons (approximately 4 million kilograms) in the proposed rule to 2.9 million kilograms in the final rule.

Table 2 displays the Office of Management and Budget (OMB) A–4 Accounting Statement as a summary of the cost and benefits calculated for this rule.

TABLE 3—OMB A–4 ACCOUNTING STATEMENT

Category	Estimates			Units			Source/ citation
	Primary	Low	High	Year dollar	Discount rate (%)	Period covered	
Benefits							
Annualized Monetized ($ millions/year).	None None	None None	None None	NA NA	7 3	NA NA	Not Quantified.
Annualized Quantified	None None	None None	None None	NA NA	7 3	NA NA	Not Quantified.
Qualitative	More informed decision-making on congestion-, freight-, and air quality-related project, program, and policy choices; greater accountability due to mandated reporting, increasing visibility and transparency; enhanced focus of the Federal-aid highway program on achieving balanced performance outcomes.						Final Rule RIA.
Costs							
Annualized Monetized ($/year).	Scenario 1: $15,145,514; Scenario 2: $21,801,333.			2014	7	10 Years	Final Rule RIA.
	Scenario 1: $14,717,670; Scenario 2: $21,082,985.			2014	3	10 Years	
Annualized Quantified	None None	None None	None None	2014 2014	7 3	10 Years 10 Years	Final Rule RIA.
Qualitative							
Transfers	None						
From/To	From:			To:			
Effects							
State, Local, and/or Tribal Government.	Scenario 1: $14,768,979 Scenario 2: $21,795,847. Scenario 1: $14,347,569 Scenario 2: $21,077,992.			2014 2014	7 3	10 Years 10 Years	Final Rule RIA.
Small Business	Not expected to have a significant impact on a substantial number of small entities			NA	NA	NA	Final Rule RIA.

II. Acronyms and Abbreviations

Acronym or abbreviation	Term
AADT	Annual Average Daily Traffic.
AADTT	Annual Average Daily Truck Traffic.
AASHTO	American Association of State Highway and Transportation Officials.
ACS	American Community Survey.
CAA	Clean Air Act.
CFR	Code of Federal Regulations.
CMAQ	Congestion Mitigation and Air Quality Improvement Program.
CO	Carbon monoxide.
CO_2	Carbon dioxide.
DOT	U.S. Department of Transportation.
EO	Executive Order.
EIA	Energy Information Agency, U.S. Department of Energy.
EPA	U.S. Environmental Protection Agency.
FAST Act	Fixing America's Surface Transportation Act.
FHWA	Federal Highway Administration.
FPM	Freight Performance Measurement.
FR	Federal Register.
GHG	Greenhouse gas.
HPMS	Highway Performance Monitoring System.
HSIP	Highway Safety Improvement Program.
HSP	Highway Safety Plan.
IFR	Interim Final Rule.
LOTTR	Level of Travel Time Reliability.
MAP–21	Moving Ahead for Progress in the 21st Century Act.
MPH	Miles per hour.
MPO	Metropolitan Planning Organizations.
NAAQS	National Ambient Air Quality Standards.
NCHRP	National Cooperation Highway Research Program.
NHFP	National Highway Freight Program.
NHPP	National Highway Performance Program.
NHS	National Highway System.
NHTS	National Household Travel Survey.
NHTSA	National Highway Traffic Safety Administration.
NO_X	Nitrogen oxide.
NPMRDS	National Performance Management Research Data Set.
NPRM	Notice of proposed rulemaking.
O_3	Ozone.
OMB	Office of Management and Budget.
PM	Particulate matter.
PHED	Peak Hour Excessive Delay.
PHTTR	Peak Hour Travel Time Ratio.
PRA	Paperwork Reduction Act of 1995.
PSL	Posted Speed Limit.
RIA	Regulatory Impact Analysis.
RIN	Regulatory Identification Number.
SHSP	Strategic Highway Safety Plan.
SME	Subject matter experts.
SOV	Single Occupancy Vehicle.
State DOTs	State departments of transportation.
TMA	Transportation Management Areas.
TMC	Traffic Message Channel.
TTI	Texas Transportation Institute.
TTTR	Truck Travel Time Reliability.
U.S.C.	United States Code.

Acronym or abbreviation	Term
VMT	Vehicle miles traveled.
VOC	Volatile organic compound.

III. Background

The DOT implemented MAP–21's performance requirements through several rulemakings. As a summary, these rulemaking actions are listed below and should be referenced for a complete picture of performance management implementation. The summary below describes the main provisions in each rulemaking.

On March 15, 2016, FHWA published a final rule (81 FR 13882) covering the safety-related elements of the Federal-aid highway performance measures rulemaking that included the following: (1) The definitions that are applicable to the new 23 CFR part 490; (2) the process to be used by State DOTs and MPOs to establish their safety-related performance targets that reflect the safety measures; (3) a methodology to be used to assess State DOTs' compliance with the target achievement provision specified under 23 U.S.C. 148(i); and (4) the process State DOTs must follow to report on progress toward meeting or making significant progress toward safety-related performance targets. The final rule also included a discussion of the collective rulemaking actions FHWA intends to take to implement MAP–21 and FAST Act performance related provisions. Elsewhere in this issue of the **Federal Register**, FHWA published a second performance measures final rule which includes the following: (1) Final national performance management measures for the condition of NHS pavements and bridges; (2) the process to be used by State DOTs and MPOs to establish their pavement and bridge condition related performance targets that reflect the final measures; (3) the process State DOTs must follow to report on progress toward meeting or making significant progress toward meeting pavement and bridge condition related performance targets; (4) a methodology to be used to assess State DOTs' compliance with the target achievement provision specified under 23 U.S.C. 148(i); and (5) the minimum levels for the condition of pavement on the Interstate System and bridges carrying the NHS, which includes on- and off-ramps connected to the NHS.

The FHWA published the third national performance management measures NPRM on April 22, 2016, 81 FR 23806. In this NPRM, FHWA proposed national measures for the remaining areas under 23 U.S.C. 150(c) that were not discussed under the first and second measure rules. The third rulemaking effort proposed performance measures to assess: (1) The performance of the Interstate System and non-Interstate NHS for the purpose of carrying out the NHPP; (2) freight movement on the Interstate System; and (3) traffic congestion and on-road mobile source emissions for the purpose of carrying out the CMAQ program. In addition, the NPRM proposed State DOT and MPO target establishment requirements for the Federal-aid highway program and performance progress reporting requirements and timing.

When FHWA began implementation of MAP–21, the three related Federal-aid highway performance measure rules were proposed to be published at the same time to allow for a single, common effective date for all three rules. The process to develop and implement all of the Federal-aid highway performance measures required in MAP–21, however, has been lengthy. In light of this, each of the three Federal-aid highway performance measures rules will have individual effective dates. The FHWA expects that even though each rule sets its respective effective date, the compliance schedule for all the rules will be aligned through a common performance period and reporting requirements. A timeline for Biennial Performance Reports is shown in Figure 1 in § 490.105(e)(1).

Although FHWA believes that individual implementation dates will help State DOTs and MPOs transition to performance based planning, FHWA will provide guidance to State DOTs and MPOs on how to carry out the new performance requirements to lessen any potential burden of staggered effective dates.

The FHWA also commits to assist State DOTs and MPOs as they take steps to manage and improve the performance of the highway system by implementing the new rules. As a Federal agency, FHWA is in a unique position to review and share strategies that can improve performance. The FHWA will continue to provide technical assistance, technical tools, and guidance to State DOTs and MPOs to assist them in making performance-based decisions. The FHWA intends to engage at a local and national level to provide resources and assistance to identify opportunities to improve performance and to assist State DOT and MPO compliance with the performance-related regulations. The FHWA technical assistance activities will include conducting national research studies, improving analytical modeling tools, identifying and promoting best practices, training classes and workshops, preparing guidance materials, and developing data quality assurance tools.

IV. Summary of the Notice of Proposed Rulemaking

This NPRM was published on April 22, 2016 (81 FR 23806). The NPRM proposed a set of national measures for State DOTs to use to assess the performance of the Interstate and non-Interstate NHS for the purpose of carrying out the NHPP; to assess freight movement on the Interstate System; and to assess traffic congestion and on-road mobile source emissions for the purpose of carrying out the CMAQ Program.

After consulting with State DOTs, MPOs, and other stakeholders and a review of nationally recognized reports, FHWA proposed eight national performance measures in these areas. To support the new measures, the NPRM proposed to establish standardized data requirements that prescribed State DOTs' travel time and emissions data practices. State DOTs and MPOs would use the National Performance Management Research Data Set (NPMRDS) to calculate the travel time and speed-related metrics, although the NPRM offered flexibility to State DOTs and MPOs to use alternative travel time datasets with FHWA's approval. For Total Emission Reduction measure, the NPRM required State DOTs and affected MPOs to use data included in the existing CMAQ Public Access System.

The NPRM also proposed to establish the processes for State DOTs and MPOs to establish and report progress toward achieving targets, and the process for FHWA to determine whether State DOTs have made significant progress in achieving targets. The FHWA selected the measures, data requirements, and related processes proposed in the NPRM after preliminarily determining that they represented the best choices for achieving consistency among State DOTs and MPOs in compiling accurate system performance, freight movement, traffic congestion, and on-road mobile source emissions performance information, following processes for target setting, and reviewing progress toward targets. The FHWA expected the proposed measures to enhance accountability and support a strong national focus on maintaining and improving the condition and performance of the Nation's highways, while minimizing additional burden on State DOTs and MPOs and maintaining reasonable flexibility for State DOTs and MPOs as they manage risk, differing priorities, and fiscal constraints. Lastly, FHWA anticipated that the proposed

measures could be implemented in the timeframe required under MAP–21, without imposing excessive burden on State DOTs.

System Performance Measures

The four system performance measures proposed in the NPRM were: (1) Percent of the Interstate System Providing for Reliable Travel; (2) Percent of the Interstate System Where Peak Hour Travel Times Meet Expectations; (3) Percent of the Non-Interstate NHS Providing for Reliable Travel; and (4) Percent of the Non-Interstate NHS Where Peak Hour Travel Times Meet Expectations.

System Performance Data Requirements and Metrics

In the NPRM, FHWA proposed calculating the performance measures using two performance metrics: The LOTTR metric and the Peak Hour Travel Time Ratio (PHTTR) metric. Under the proposal, State DOTs and MPOs would be required to calculate these metrics for all applicable roadway segments for the applicable time periods and report them to FHWA annually.

The NPRM also proposed that State DOTs coordinate with MPOs in order to establish and submit reporting segments to be used as the basis for calculating and reporting metrics to the FHWA and for State DOTs and MPOs to calculate the measures to assess Interstate System and non-Interstate NHS performance.

Calculation of System Performance Measures

The FHWA designed the proposed system performance measures to reflect a percentage of the system, by length, operating at a specified level of performance. In the NPRM, FHWA proposed a threshold level that represented reliable travel to highway users of LOTTR of 1.50. This LOTTR level represented the difference between the longer travel times (80th percentile) observed on a roadway segment and those that are normal travel times (50th percentile). For PHTTR, a threshold level of 1.50 represented peak hour travel times that meet expectations of State DOTs, MPOs, and local operating agencies. This PHTTR level represents a condition where observed (or estimated) travel times in large urbanized areas are no more than 50 percent higher than what would be desired for the roadway, as identified by the State DOT and MPO.

Freight Movement on the Interstate System Measures

The two freight movement measures proposed in the NPRM were: (1) Percent of the Interstate System Mileage Providing for Reliable Truck Travel Time and (2) Percent of the Interstate System Mileage Uncongested.

Freight Movement on the Interstate System Data Requirements and Metrics

The FHWA proposed determining performance measures for freight movement using two metrics: TTTR and the Average Truck Speed metrics. For the TTTR metric, FHWA proposed having the State DOTs use the same basic method as discussed for the LOTTR metric to calculate truck travel time reliability. State DOTs also would calculate the Average Truck Speed metric for each reporting segment, which would be derived from truck travel speeds contained in the NPMRDS travel time data set.

Calculation of Freight Movement on the Interstate System Measures

The FHWA designed the proposed freight movement performance measures to reflect a percentage of the system, by length, operating at a specified level of performance. The NPRM proposed establishing the truck travel time reliability threshold at 1.50 to represent the level at which truck travel times become unreliable. This level represents a condition where travel time could be no more than 50 percent longer than what would be expected during normal travel time conditions. For average truck speed, the NPRM proposed that any travel speeds occurring below 50 mph would be representative of congested conditions for freight flow.

Traffic Congestion Measure

The proposed traffic congestion measure was Annual Hours of Excessive Delay Per Capita.

Traffic Congestion Data Requirements and Metric

The NPRM proposed one metric for traffic congestion: Total Excessive Delay (as measured in vehicle-hours) for each applicable reporting segment on the NHS. To develop the metric, the NPRM proposed that State DOTs with large urbanized areas that contain nonattainment or maintenance areas for any of the criteria pollutants under the CMAQ program use a travel time data set like NPMRDS (as is required for the system performance and freight movement performance measures). The NPRM proposed two threshold travel speeds to indicate when operating conditions have deteriorated to the point that excessive travel time delays would occur. Any measured travel speeds below the threshold would represent the operating condition level that would result in excessive delays. These thresholds were 35 mph for Interstates, freeways, or expressways and15 mph for all other NHS roadways.

Using these thresholds and travel time segment lengths, a State DOT would determine the Excessive Delay Threshold Travel Time for each travel time segment to represent the time that it could take for a vehicle to traverse the reporting segment before excessive delay would occur. The excessive delay would be determined by comparing the recorded average travel time to the Excessive Delay Threshold Travel Time for the corresponding segment.

Calculation of Traffic Congestion Measure

The proposed traffic congestion performance measure would be calculated by summing the total excessive delay of all reporting segments in the applicable area and then dividing this total by the population for the applicable area.

On-Road Mobile Source Emissions Measures

The proposed on-road mobile source emissions measure was Total Tons of Emissions Reduced from CMAQ Projects for Applicable Criteria Pollutants and Precursors.

On-Road Mobile Source Emissions Data Requirements and Metric

Under the NPRM, State DOTs and MPOs would calculate the annual emission reductions for projects reported to the CMAQ Public Access System in a Federal fiscal year. The metric would be calculated for each CMAQ-funded project and for each applicable criteria pollutant and precursor. The proposed method would convert the emissions reductions reported in the CMAQ Public Access System from units of kg per day to short tons per year. The emissions reductions would be summed for all projects within the applicable reporting area, by criteria pollutant or precursor, for a Federal fiscal year.

Calculation of On-Road Mobile Source Emissions Measure

Under the NPRM, State DOTs and MPOs would calculate on-road mobile source emissions reductions by summing the annual tons of emissions reduced by CMAQ projects by criteria pollutant, using the 2- and 4-years of available data from the Public Access System.

Potential GHG Performance Measure

The NPRM also sought comment on whether and how to establish a CO_2 emissions measure in the final rule. The NPRM posed questions to the public on how GHG emissions could be estimated and used to inform planning and programming decisions to reduce long term emissions. The NPRM indicated that a potential GHG emissions performance measure would be best measured as the total annual tons of CO_2 from all on-road mobile sources. The FHWA asked for comment on the potential establishment and effectiveness of a GHG measure, and on various considerations in the design of a measure.

Performance Targets

The NPRM described a process to be used by State DOTs and MPOs to establish quantifiable statewide performance targets to be achieved over a 4-year performance period, with the first performance period starting in 2018. In the NPRM, FHWA proposed that a State DOT or MPO could consider a number of factors (*e.g.,* funding availability and local transportation priorities) that could impact the targets they ultimately establish. The FHWA discussed the statutory requirement that State DOTs establish 2- and 4-year targets for the eight national performance measures to assess performance of the Interstate and non-Interstate NHS for the purpose of carrying out the NHPP, freight movement on the Interstate system, traffic congestion, and on-road mobile source emissions within 1 year after the effective date of the rule. The MPOs would establish targets by either supporting the State DOT's statewide target, or defining a target unique to the metropolitan planning area each time the State DOT establishes a target. In accordance with MAP–21, the NPRM proposed providing MPOs with an additional 180-day period to set targets following the date on which the State DOT established their targets.

State DOT and MPO Reporting

The NPRM proposed that State DOTs submit biennial reports to FHWA on the condition and performance of the NHS. The FHWA proposed that State DOTs submit their targets in a baseline report at the beginning of each performance period and report progress in achieving targets at the midpoint and end of the performance period. State DOTs would be allowed to adjust their 4-year target at the midpoint of the performance period. The MPOs would not be required to provide separate reporting to FHWA. However, State DOTs and MPOs would need to agree on a reporting process as part of their Metropolitan Planning Agreements.

Determination of Significant Progress

The NPRM proposed the method for FHWA to determine if State DOTs achieved significant progress toward their target based on an analysis of estimated condition/performance and measured condition/performance of each of the targets. If applicable, State DOTs could have the opportunity to discuss why targets were not achieved or significant progress was not made. If a State DOT failed to achieve significant progress, then the State DOT would be required to document in their next biennial performance report, and encouraged to document sooner, the actions they would undertake to achieve their targets.

V. Response to Comments

This final rule is based on FHWA's review and analysis of comments received. The FHWA received 8889 letters to the docket, including letters from 43 State DOTs and local government agencies, more than 100 associations and advocacy groups, over 7800 individuals and consultants, and various other government agencies as well as 3 letters cosigned by 19 U.S. Senators. Of all the letters to the docket, 95 percent specifically addressed a request for a multimodal performance measures and greenhouse gas performance measure or both. Given the large number of comments received, FHWA has decided to organize the response to comments in the following manner. This section of the preamble provides a response to the most significant issues raised in the comments received, organized by summarizing and responding to comments that raise significant issues applicable to the NPRM and then those that raise issues applicable to specific subparts of the rule. Responses to all other comments (*i.e.,* comments deemed less significant) are located in a separate comment/response document posted in the docket for this rulemaking.

A. Significant Issues Raised in Comments

The following summarizes the most significant issues raised in the comments to the NPRM and describes how FHWA has addressed these issues. More specific detail regarding these issues is provided in the sections that follow (Sections V–B through V–F).

1. Summary of Significant Issues Raised in the Comments

The NPRM Was Too Focused on Vehicle Travel Time—Many commenters expressed concern that 7 of the 8 proposed measures were based on vehicle travel time data.

The Rule Needs to Account for All People—The largest volume of comments received expressed concern that the proposed measures did not appear to reflect the travel experience of all people using the system and, in particular, those that use public transportation, walk, or bike.

The Rule Needs to Account for Multimodal Travel—Many commenters perceived that the proposed measures would encourage highway expansion and would not recognize strategies that provide for greater transportation choices.

The Proposed Rule Was Overly Complex—Many State DOTs and MPOs raised concern with the complexity of the design of the measure calculations and asked for the method to be simplified.

The Coordination Requirements in the NPRM Would be Difficult to Implement—Many State DOTs and MPOs expressed concern with the level of coordination required to agree on data sources, travel time expectations, and targets for urbanized areas.

The Rule Should or Should Not Include a Greenhouse Gas Measure—Comments were received both supporting and objecting to the inclusion of a GHG emissions measure in the final rule. Supporting comments came from thousands of individual citizens, several State DOTs, and hundreds of other organizations, including local governments, non-profits, and businesses. Comments against a GHG measure came from several State DOTs and 27 industry associations.

The NPRM's Proposed Speed Thresholds Were Problematic—Commenters expressed concerns with the use of an absolute speed threshold to determine congested conditions and the use of a single threshold to define reliable conditions.

2. Summary of Major Changes Made in Response to These Comments

The FHWA made a number of changes in the final rule in response to the comments received. These changes include the following:

The FHWA revised the suite of measures to simplify the rule and reduce the burden of compliance. The final rule contains 7 measures. Four of these are derived from vehicle travel

times, compared to 7 in the NPRM, 3 of which reflect all people traveling on the system. More specifically, the final rule does not include one of the proposed measures that focused on freight congestion and merges three additional proposed measures (two under NHPP System Performance and one under CMAQ Traffic Congestion) into one new measure, focused on excessive delay experienced during peak hours that will be under CMAQ Traffic Congestion. In addition, the final rule includes two new measures:

- *Under NHPP System Performance*—The rule includes a new GHG measure to assess system performance, specifically the percent change in CO_2 emissions from 2017, generated by on-road mobile sources on the NHS. State DOTs will be required to estimate CO_2 emissions based on annual fuel sales, EIA published emission conversion factors, and the proportion of statewide VMT that occurs on the NHS. MPOs will be provided options as to how they calculate CO_2 emissions. All State DOTs, and MPOs that have NHS mileage in their metropolitan planning area, will be required to establish targets and report on progress. State DOTs will report annual CO_2 emissions every 2 years to FHWA in their Biennial Performance Report. The FHWA will assess every 2 years if the State DOT has made significant progress towards the achievement of their target.
- *Under CMAQ Traffic Congestion*—The rule includes a new measure to assess modal share percentage, specifically Percent of Non-SOV, Travel, which includes travel avoided by telecommuting. A minimum option for doing so will be use of the American Community Survey ''Journey to Work'' data. States and MPOs will be provided the opportunity to use localized surveys or measurements to report on this measure and will be encouraged to report any data not available in national sources today to FHWA (*e.g.,* bike counts).

The final rule simplifies the process. The FHWA simplifies the required data processing and calculation of the metrics. In general these steps include:

- Use of 15 minute travel time intervals instead of 5 minute intervals;
- Consistent time periods for all travel time-derived measures;
- Recognition of commercial data sets that could be pre-approved by FHWA;
- Removal of the requirement to ''fill'' missing data with travel times at posted speed limits; and
- Use of all vehicle travel times, regardless of speed, to replace missing truck travel times.
- In addition, FHWA is committed to working with State DOTs and MPOs to establish a pooled fund effort to acquire services and tools that will help with the processing and analysis of data.

The final rule modifies measures to address comments regarding the overreliance on vehicle travel times and the need to include multimodal travel. The final rule includes three measures that reflect the number of people traveling on the system, including two measures that have been modified so they are based on person-travel instead of vehicle travel, and a new multi-modal percent of non-SOV travel measure mentioned above. Specifically, the final rule changes the weighting of the Travel Time Reliability measures from system miles to person-miles traveled using overall occupancy factors from national surveys. It also changes the expression of the PHED measure to account for all travelers using the NHS based on volumes and occupancy factors for cars, buses, and trucks. The FHWA will provide occupancy factors based on national surveys and NTD data. State DOTs and MPOs may use more accurate local data if such data are available. The final rule creates the new Percent of non-SOV measure for CMAQ traffic congestion.

Furthermore, FHWA will revisit this issue and consider approaches to more effectively consider multimodal performance in the measures after the completion of ongoing research regarding multimodal system performance measures in fall, 2018.

The final rule addresses concerns with the use of absolute thresholds. The rule changes the proposed excessive delay threshold from 15/35 mph to 20 mph or 60 percent of the posted speed limit, whichever is greater. The rule encourages State DOTs to report the full extent of posted speed limits to the HPMS and requires that these be reported for applicable areas under the CMAQ Traffic Congestion measures. In addition, the rule changes the form of the Freight Reliability measure from one based on the percent of the system providing for reliable travel to an overall average truck reliability index for the Interstate. This change removes the 1.50 threshold in the definition of ''reliable travel'' for trucks and recognizes incremental improvements that could be made to improve reliability.

The final rule addresses comments regarding applicability of the rule. Specifically, the rule revises the applicability of the CMAQ Traffic Congestion measures to begin with urbanized areas (in nonattainment or maintenance) with populations over 1 million in the first performance period (4 years begin in 2018) and then expands the applicability in the second reporting period (beginning in 2022) to urbanized areas (in nonattainment or maintenance) with a population over 200,000. Additionally, the final rule moves the date of measure applicability determination up 1 year earlier. The NPRM proposed that FHWA would determine measure applicability based on the most recent available data on October 1of the first year in the performance period. The final rule changes this to be October 1of the year before the beginning of a performance period. Finally, the final rule changes the use of the most recent decennial census population to determine measure applicability and to normalize the PHED measure to the most recent annual population estimate published by the U.S. Census.

The final rule relaxes some CMAQ Emission Requirements. The rule revises the definition of ''Maintenance Area'' to exclude any areas that have completed their 20 year maintenance plan. It also removes the requirement to develop a ''metric'' (by rolling the metric step into the measure calculation) to simplify the process. In addition, under the final rule, States and MPOs can request their areas to be excluded from the CMAQ performance requirements at the midpoint of the performance period if they reach attainment status (or achieve their 20 year maintenance plan).

B. Subpart A—General Information

1. Implementation Date Alignment and Coordination

The Georgia DOT commented that implementation dates for NPRMs (Asset Management, Pavement and Bridge Performance Measures, etc.) related to the new Statewide and Metro Planning Rule should be aligned to ensure accuracy and consistency. The Florida Metropolitan Planning Organization Advisory Council recommended aligning the various reporting due dates. While each rulemaking may not be finalized at the same time, the commenter requested that FHWA set a future point in time when all reporting of measures will align. The Atlanta Regional Commission (ARC) also recommended aligning the schedule for safety, pavement, bridge, travel time reliability, peak hour travel time, freight movement, traffic congestion, and on-road mobile source emissions target setting and reporting into one consolidated rotation. The New York State Association of Metropolitan Planning Organizations (NYSAMPO), Georgia Association of Metropolitan Planning Organizations, and American

Association of State Highway and Transportation Officials (AASHTO) urged FHWA to use a single effective date for all three performance management rules.

Although FHWA anticipated establishing one common effective date for the three performance management rules, the length of the rulemaking process made that approach impractical. Each rule has its own effective date. This approach allows FHWA, State DOTs, and MPOs to begin implementing some of the performance management requirements before all the rules are issued. In this final rule, FHWA aligned the performance periods (described in § 490.105(e)(4)(i)) and State Biennial Performance Report due dates (described in § 490.107) with the pavement and bridge condition measures for the second performance management rule in effort to consolidate reporting requirements. Throughout the process for all related performance management rulemakings (*e.g.,* National Highway System Asset Management Plan,[6] National Performance Management Measures for Pavement and Bridge Condition rule), FHWA has worked to coordinate the implementation dates for all of the rules for consistency and time alignment.

2. Reporting and Implementation Dates

The Michigan DOT, Macatawa Area Coordinating Council, and Ozarks Transportation Organization recommended designating the first performance period as a pilot period for the system performance measures. The National Association of Regional Councils (NARC) recommended postponing target establishment requirements to the second performance period. The Orange County Transportation Authority, Oregon Metro Council and the Joint Policy Advisory Committee on Transportation, Texas DOT, and TRANSCOM urged that sufficient time needs to be provided in order to effectively and appropriately develop and deploy target setting and implementation processes. The New York City DOT recommended that FHWA should coordinate with MPOs and State DOTs to set a reasonable and achievable implementation timeline. The COMPASS requested postponing target setting until transportation agencies have had a chance to familiarize themselves with the NPMRDS data and to develop current and forecasted reliability and speed measures. The AASHTO and Iowa, Maryland, and New Jersey DOTs recommended that FHWA consider a phased approach which includes a 2-year testing period following the effective date of the final rule to allow State DOTs and MPOs to develop ''non-binding targets'' in order to more fully understand the use of the data and the implications of those targets. The San Francisco County Transportation Authority recommended that FHWA should coordinate with MPOs and State DOTs to set a reasonable and achievable implementation timeline. The DOTs of Idaho, Montana, South Dakota, North Dakota, and Wyoming and AASHTO suggested including ''waiver provisions of part 490, in whole or part, with or without time limits or other conditions, and/or extend deadlines, for good cause shown'' because they said that the new 23 CFR part 490 is a complex and multi-faceted rule so that there will be unanticipated or unusually difficult circumstances in its implementation. The New York State Association of MPOs noted that a separate NPRM on MPO Coordination and Planning Area Reform was issued jointly by FHWA and FTA on June 27 and said that the proposed rule addresses ''MPO geography.'' The New York State Association of MPOs recommended that consideration of the implementation of this rule be suspended until the MPO Coordination and Planning Area Reform rule becomes final.

The FHWA appreciates the comments received regarding the implementation dates and reporting dates for this rule. However, MAP–21 establishes the target establishment dates and reporting dates for this rule. State DOT target establishment ''not later than 1 year of the effective date of this rule'' in § 490.105(e)(1) is based on a statutory requirement under 23 U.S.C. 150(d). The date for reporting progress toward targets of October 1, 2016, is also based on a statutory requirement under 23 U.S.C. 150(e), which requires State reporting ''not later than 4 years after enactment of MAP–21 and biennially thereafter.'' As indicated in the NPRM, FHWA believes the phase-in approach will allow sufficient time for State DOTs and MPOs to become more proficient in managing performance of non-Interstate roadways and congestion on the NHS in applicable urbanized areas as the coverage of the data becomes more complete in the NPMRDS. The FHWA retains in the final rule the phase-in requirement language in § 490.105(e)(7), (e)(8)(vi), and (f)(5)(vi) for the Non-Interstate NHS Travel Time Reliability measure in § 490.507(a)(2) and the PHED measure in § 490.707(a), respectively. This phase-in will only require State DOTs to establish 4-year targets for the first performance period for this rule (reported in the first State Biennial Performance Report) for non-Interstate NHS Travel Time Reliability measure and the PHED measure. Under this final rule, at the midpoint of the first performance period, State DOTs will have the option to adjust the 4-year targets they established at the beginning of the performance period in their Mid-Performance Period Progress Report (due in October 2020). This option will allow State DOTs to consider more complete data in their decisions on the 4-year targets for non-Interstate NHS Travel Time Reliability and the PHED measures in applicable urbanized areas.

The Chicago Metropolitan Agency for Planning commented that the effective date of this regulation should be set 1 year after FHWA provides an NPMRDS data set with sample sizes for each epoch-TMC record. The commenter said that this timeline would allow time for agencies to determine which records have low sample sizes and collect probe data.

The NPMRDS has been available since July 2013, and many State DOTs and MPOs have been using the NPMRDS for over 3 years. The final rule and schedule for baseline reports and target establishment clarify how much time there is to prepare the data. In general, State DOTs and MPOs will have approximately 18 months to process data before the first set of metric data is required to be submitted to FHWA. The FHWA has simplified several of the measures to reduce the calculation burden, thereby reducing the amount of time necessary for State DOTs or MPOs to prepare the data.

The FHWA also acknowledges the comment regarding deferring implementation of this final rule until completion of the MPO Coordination and Planning Area Reform rulemaking. The FHWA plans to issue guidance on dealing with metropolitan planning area change during a performance period. The FHWA believes that the implementation timeline provided in this final rule provides sufficient lead time to accommodate any requirements that may arise out of a final MPO rule. So, the FHWA declines to defer the implementation of this rule.

[6] Final rule on ''Asset Management Plans and Periodic Evaluations of Facilities Repeatedly Requiring Repair and Reconstruction Due to Emergency Events'' (October 2016)—**Federal Register** Vol. 81, No. 205 RIN 2125–AF57, Docket No. FHWA–2013–0052: *https://www.gpo.gov/fdsys/pkg/FR-2016-10-24/pdf/2016-25117.pdf.*

3. Accessibility and Connectivity

The FHWA received many comments [7] urging FHWA to establish an accessibility performance measure. The California Association of Councils of Government (CALCOG) said that Federal databases should be made available to States and MPOs to support the monitoring of accessibility metrics. The Southern California Association of Governments (SCAG) said it currently measures accessibility by taking afternoon or PM peak period travel demand model results for the base and forecast years and identifying the percentage of commute or home-based work trips that are completed within 45 minutes. The Delaware Valley Regional Planning Commission (DVRPC) recommended ''shorter multimodal journey-to-work travel time than average'' and ''number of jobs accessible within a given time budget'' as accessibility measure.

The FHWA recognizes that accessibility and connectivity are important aspects of successful transportation systems that serve all users. In addition to the comments described above, stakeholder comments on these issues during outreach before publication of the NPRM expressed a variety of views, including that the establishment of an accessibility measure might encourage greater consideration of non-auto travel modes like transit, carpooling, walking, and biking. The FHWA agrees that the time-based measures proposed in the NPRM, such as the traffic congestion excessive delay measure, may not capture modal options, modal usage, or better accessibility. As described above, the final rule establishes a modal share measure that will do much to address these concerns. While the final rule does not include a measure dedicated to directly assessing transportation connectivity or accessibility, the rule reflects a necessary balancing of performance management needs across a broad spectrum and implementation burdens on the State DOTs and MPOs.

The FHWA is working on several fronts to address accessibility and connectivity issues outside of this rulemaking. The FHWA, in cooperation with FTA, is actively working with transportation operating agencies and planning organizations on efforts to understand and advance best practices in assessing and managing transportation network connectivity to improve public accessibility to essential services. Through the Department's Ladders of Opportunity initiatives, efforts are currently underway to evaluate how measures can be used to assess accessibility/connectivity.[8] These initiatives will test different approaches to measure performance in this area that will help DOT better understand if and how accessibility and connectivity performance can be measured effectively at a local, State, and national level. The FHWA will use the results of these efforts to determine if a measure to assess accessibility/connectivity can be integrated into the Federal-aid Highway Program's performance management requirements in the future.

4. Definition of Mainline Highway

Illinois DOT supports the definition of mainline highways to exclude ramps, shoulders, turn lanes, etc., but expressed concern that the NPMRDS does not exclude these parts of the transportation system. The commenter said that this will lead to extensive manual work to identify and remove these parts of the transportation system from the data it would have to use to comply with the proposed rule.

Texas DOT commented that ''mainline highway'' includes the primary traveled portion of the roadway and excludes ramps, climbing lanes, shoulders and non-normally traveled pavement surfaces. The commenter said the definition would seem to include managed lanes or high occupancy toll lanes. According to Texas DOT, traffic on these lanes typically travels at a higher rate of speed, which may influence the travel time reliability and percent of the Interstate System mileage that is uncongested. Texas DOT inquired whether FHWA considered these lanes to be part of a ''mainline highway.'' Florida DOT suggested that TMC should have categories for general purpose lane, separated managed lane, separated collector/distributor, and ramp.

The Washington State and New York State DOTs, NARC, and Portland Metro Region MPO commented that managed lanes may be omitted in system performance calculations. They stated that the proposed rule would likely mask benefits from HOV and HOT lanes, toll roads, transit, and other operational enhancements and could discourage investment in these best practices. The Washington State DOT and NARC requested that FHWA either seek a way to differentiate the data with the data provider or account for HOV, HOT, toll roads, and other managed lanes. The AASHTO commented that FHWA should allow State DOTs the flexibility to better address the significant role that managed lanes play in the operation of the transportation system, as many regions in the United States have implemented some aspect of management lanes. The AASHTO recommended that FHWA develop an approach in the final rule that allows, but does not require, State DOTs and MPOs to specifically address managed lanes on their roadway network either through an improved NPMRDS that distinguishes between general purpose and management lanes or through supplementary analysis that takes into account the benefits of the managed lanes. The Los Angeles County Metropolitan Transportation Authority and Southwest Energy Efficiency Project commented that the proposed measure for congestion focuses exclusively on vehicle speed, ignoring the significant role that public transit, high occupancy/managed lanes, and active transportation have in reducing congestion and improving overall performance of the regional transportation system.

The FHWA agrees that ramps should not be included in measure calculations or in the NPMRDS dataset as the travel time derived measures are only applicable to mainline roadways. The next procurement of the NPMRDS will have a requirement to report mainline NHS segments only. If any ramp segments appear in the NPMRDS, State DOTs and MPOs should notify FHWA so these ramp segments can be removed in future NPMRDS deliverables.

The FHWA actively promotes managed lanes as a strategy for managing operations, which can include reducing congestion and increasing person throughput. However, at this time, it is difficult to delineate these lanes in both the segment and probe data. Lane-specific speed data are not available through the NPMRDS unless

[7] American Association On Health and Disability and the Lakeshore Foundation, American Council of Exercise, American Public Transportation Association, BikeWalkLee, California Association of Councils of Government, Chicago Metropolitan Agency for Planning (CMAP), City of San Antonio, Delaware Valley Regional Planning Commission, Los Angeles County Metropolitan Transportation Authority, Mid-Ohio Planning Commission, Mountainland Association of Governments, Utah Department of Transportation, Utah Transit Authority, Wasatch Front Regional Council, Nashville Area Metropolitan Planning Organization, NARC, National Coalition for Promoting Physical Activity, National League of Cities, National Recreation and Park Association, New York Bicycling Coalition, North Front Range Metropolitan Planning Organization, Oregon Metro Council and the Joint Policy Advisory Committee on Transportation, Parks & Trails New York, Regional Transportation Alliance, Southern California Association of Governments, Southwest Energy Efficiency Project (SWEEP), Transportation for America (T4A), Trust for America's Health, Utah Transit Authority, as well as 1,114 citizen letter campaigns sponsored by National Complete Streets Coalition, 150 citizen letter campaigns sponsored by T4A, and 11 citizen letters.

[8] *https://www.transportation.gov/opportunity.*

the managed lane is listed as a separate NHS facility (*i.e.,* different TMC code). In addition, not all probe data are able to accurately differentiate traffic speed by lane on a roadway. The FHWA does not believe it is possible, at this time, to uniformly separate managed lanes given the available data. If State DOTs have appropriate segment-specific data for managed lanes, State DOTs may certainly track these and include this information in any reports. State DOTs or MPOs may use alternative data sources that include separate segments for managed and conventional lanes provided these data meet the requirements for equivalent data in section 490.103. State DOTs and MPOs are welcome to provide information on managed lanes in performance reports.

5. Data Processing and Conflation of Datasets

Alaska, Arkansas, California, Ohio, Pennsylvania, Utah, Vermont, and Washington DOTs, AMPO, Georgia Association of MPOs, and many others asked FHWA to process the NPMRDS and develop a tool to calculate metrics. Many commenters made the same argument that the burden on States and MPOs is too great if they are each to process the NPMRDS themselves, and that this would represent a greatly inefficient duplication of effort. The AMPO and others agreed that processing the database nationally also would help ensure consistency across the country and thus aid in comparisons nationally. These commenters said that this processing should include all imputation needed to make the data set ready for calculations. Several commenters suggested that FHWA develop a Web-based tool for State DOTs and MPOs to process data and calculate the required metrics. Caltrans further suggested that Federal funding be made available for training. However, the New York Metropolitan Transportation Council suggested that States and MPOs should have the option, if they so choose, to do their own calculations of the required performance metrics and measures.

Others, such as Virginia DOT and TRANSCOM, more generally requested technical assistance and support for States and MPOs in undertaking metric and measure calculation. Michigan DOT suggested a case study of what the process and outputs would look like. The Mayors Innovation Project would like to see commercially available tools to relate speed, modal network availability, and location to help assess not only speed but accessibility.

Many comments noted the particular burden of handling the NPMRDS, processing and developing the metrics even if they did not call on FHWA to perform these tasks. Commenters expressed concern about not only the time and resources it would take but also if State DOT and MPO staff would even have the skills to perform these tasks at all. Many commenters were concerned that the NPRM required data from both Traffic Message Channel (TMC) networks (*e.g.,* NPMRDS) and linear referencing systems (*e.g.,* HPMS) and that these two datasets are not conflated. Commenters requested that either FHWA provide conflated datasets or a tool for States to use. The FHWA recognizes and appreciates the effort required to download, store, process, and analyze the data in the NPMRDS in order to calculate the metrics required in the rule (and this is taken into account in the RIA). Some organizations have expressed that they are ready and capable of providing technical services and online applications to process and analyze data. The FHWA believes that the most effective way to address the concerns regarding the challenges with conflating data sets (linking travel time data with other roadway information such as traffic volumes) is by having organizations that have the skills and resources to handle and process large data sets provide these services and tools to State DOTs, MPOs, and FHWA. The FHWA is committed to working with State DOTs and MPOs to set up a pooled fund approach to data processing, analysis, metric/measure calculation and reporting, and potentially additional analysis tools. The economies of scale of all interested parties working together should help alleviate burdens. In addition, the Advanced Transportation and Congestion Management Technologies program offers grants that could be used to support the collective need to provide technologies that could be used by State DOTs and MPOs to better manage system performance. The FHWA is using authorized funds under the new Performance Management Data Support Program (FAST Act Sec. 6028) to fund the acquisition of travel time data and to develop enhancements to the HPMS to support the data requirements of this rule.

The FHWA anticipates that the next NPMRDS contract will include HPMS referencing for each TMC segment. This will simplify the process to conflate the travel time data to roadway information contained within the HPMS. The FHWA is also committed to help State DOTs and MPOs understand how they can most effectively process and analyze the travel time data sets. Technical support is already included in the NPMRDS contract where quarterly webinars are provided and technical assistance is offered on request. The FHWA intends to build on these services to support State DOT and MPO needs for assistance.

6. Population Estimates

The Portland Metropolitan Region MPO recommended regional population be taken from Census-based annual estimates already obtained by MPOs for regional planning purposes from their own staff, reputable academic institutions, or qualified consultancies. The North Jersey Transportation Planning Authority (NJTPA) recommended using the most recent population estimate for the urbanized area. This commenter added that a constant population, as proposed, means that the only changes being measured and reported are the changes in delay; therefore, increases in delay associated with an increased population would not factor into the measure. The T4A also said that America's urban areas are witnessing large population shifts that have the opportunity to be omitted from two 4-year reporting cycles because of the reliance on decennial U.S. Census population estimates. This commenter requested discussion in the final rule for how States and MPOs could use population estimates from 5-year ACS estimates for each year reporting cycle.

The Oregon and Washington State DOTs stated that the proposed language, to keep the population numbers used in the delay measure constant for the duration of the performance period, would give an inaccurate picture of congestion in fast-growing cities as more people use the roadways. The Washington State DOT requested that the delay measure be derived by dividing the total annual excessive delay by an estimated commuter population.

The FHWA agrees with the comments that suggested the use of annual population estimates to determine measure applicability and to calculate the PHED measure. The FHWA believes that the use of annual estimates will provide for a more accurate estimation of population at the time when applicability determinations are made and when annual measures are calculated.

Therefore, the final rule uses the most recent annual population estimate published by the U.S. Census Bureau (in lieu of Decennial Census population estimates) to compute the PHED measure and to determine which State DOTs and MPOs will be implementing

CMAQ traffic congestion measures (both PHED and non-SOV Travel). Please see discussion section for §§ 490.709(g) and 490.105(e)(8)(iii) and (f)(5)(iii) for more details. To maintain consistency throughout all CMAQ measures, the final rule also uses the most recent annual population estimate published by the U.S. Census Bureau to determine which MPOs are required to develop and submit MPO CMAQ Performance Plan (Section 490.107(c)(3)).

7. Replacement of Missing Travel Time Data

Several commenters expressed concern about replacing travel time data missing from the NPMRDS with imputed data. Chicago Metropolitan Agency for Planning stated that imputation should be avoided as it may lead to under- or over-reporting, depending on the level of congestion present, and suggested that if imputation is used, FHWA should apply consistent rules for the replacement of missing values for all measures. Ozarks Transportation Organization, Oregon Metro Council and the Joint Policy Advisory Committee on Transportation, Association of Metropolitan Planning Organizations, and Puget Sound Regional Council argued that imputation, while perhaps unavoidable, would increase inaccuracy in data sets.

Some commenters, including North Jersey Transportation Planning Authority and Florida DOT, expressed general support for replacing missing travel time data with imputed data. Nebraska Department of Roads argued that the proposed restriction on using imputed data is inconsistent with the current use of estimates in the NPMRDS and further recommended that FHWA permit the use of estimates in alternative data sets. The AASHTO suggested that imputed data be smoothed and include information on whether the data were imputed at multiple confidence intervals. The commenter also recommended that in the future FHWA should require the provider(s) of NPMRDS data to follow recognized, industry-accepted methods for imputing incomplete or missing data. The New York State Association of Metropolitan Planning Organizations argued that the use of imputed data should be conditional on vendors providing details about the data (*e.g.,* the methodology used to develop them).

Many commenters expressed support for imputation based on sources other than speed limit data, arguing that the alternatives have tested well in the field and are more accurate, efficient, and sophisticated than speed limit data are, and recommended that FHWA allow States the flexibility to use such data from providers like HERE, INRIX, and TomTom. These commenters included DVRPC, New York State Association of Metropolitan Planning Organizations, AASHTO, and the State DOTs of Texas, Washington State, Oregon, Connecticut, New York, and Pennsylvania. The AMPO suggested that where observed data are unavailable, travel time interpolated between adjoining segments should be used instead of speed limit data. The Kentucky Transportation Cabinet recommended that, depending on the time of day for which data is required, imputation could involve either treating missing data as a maximum travel time or inserting historical data into the data set.

The final rule provides State DOTs the flexibility to select and use an alternative data set to the NPMRDS provided the data are considered ''equivalent'' as defined in section 490.103(e). The FHWA has established these requirements to ensure, through FHWA approvals, that data from different data sources are nationally comparable. The FHWA recognizes the concern with the degree of missing data and outliers in the NPMRDS as it existed when the NPRM was published. The FHWA supports approaches to filling in missing data provided they are based on observed travel during the same timeframe and roadway location, which is typically referred to as path processing. The original contract for the NPMRDS only allowed point-based probes to be included in the dataset (*i.e.,* that determine travel time based on the detection of a vehicle at one point in location). This method often recorded vehicles waiting at signalized intersections or missed them entirely during the detection period (5 minutes). The FHWA is currently updating the NPMRDS to allow for the determination of individual travel times during specified time intervals based on tracking the movement of single vehicles passing through a series of segments. This approach will maintain FHWA's desire to use observed travel times without the challenges associated with single point detection. The FHWA is confident that travel time providers will be able to provide data sets that follow this approach.

To maintain consistency at a national level and to maintain an acceptable level of bias from the actual travel times occurring on the roadway throughout the year, FHWA discourages the use of methods to predict travel times based on historical trends or reference speeds. Consequently, to address concerns regarding the prohibition of the use of imputed travel times, FHWA has revised the final rule in section 490.103(e)(5)(iii) to allow ''observed'' travel times that may be derived from travel times reported over a longer time period of measurement (path processing or equivalent). The final rule will not allow missing data to be filled with data that are imputed from historical data or predicted based on statistical analysis approaches.

8. Segment Lengths

The AASHTO and Illinois DOT expressed concern that the NPMRDS TMC segments are not consistent lengths across months and years. To address this issue, AASHTO recommended that FHWA require the NPMRDS provider to maintain segment definitions existing at the start of the year throughout the year. Because under this scenario, new roads and interchanges would not show up in the NPMRDS until the year following their opening, AASHTO commented that this approach would allow some time for State DOTs to get familiar with how new facilities are being used by the traveling public before they need to set targets and report on their performance. The Illinois DOT commented that the changing TMC segments would result in having to maintain conflation across each month's data in order to be able to analyze the measures and complete the calculations. The commenter asserted that this would impact the measures for a segment over time as it would not be comparing similar segments across the 4-year reporting timeframe.

The AASHTO, Illinois, Minnesota, and Georgia State DOTs, Florida Metropolitan Planning Organization Advisory Council, Hampton Roads Transportation Planning Organization, Ozarks Transportation Organization, and Denver Regional Council of Governments recommended that FHWA allow State DOTs and MPOs flexibility to establish reporting segments that best reflect the needs of an individual State, which may be longer than the proposed limit of 1/2 mile for urban areas and 10 miles for non-urban areas. For example, AASHTO and Florida Metropolitan Planning Organization Advisory Council said that the segments could be based on logical termini, such as intersecting NHS facilities or the start or end of an urbanized area. The AASHTO and Connecticut DOT asserted that the proposed maximum length of reporting segments (1/2 mile in urbanized areas, 10 miles in non-urbanized areas) for a reliability measure are not consistent with prevailing practices in calculating travel time reliability measures (*e.g.,* SHRP 2 Reliability Program).

Specifically, New York State Association of Metropolitan Planning Organizations proposed that FHWA permit urban travel time segments up to 5 miles in length. Requesting to see FHWA's research behind the proposed reporting segment length caps, Oregon and Washington State DOTs recommended that FHWA revise proposed § 490.103(f) so as not to be misinterpreted as allowing longer groups of TMCs (one ''reporting segment'') if one of the TMCs within the group is longer than the threshold.

The Great Lakes Regional Transportation Operations Coalition and University of Wisconsin-Madison Traffic Operations and Safety Laboratory recommended that FHWA remove the option to aggregate segments if using the NPMRDS, arguing that it is unnecessary, would involve extra work, and could invite a sort of gerrymandering where poorly performing TMCs can be bundled with better TMCs so measures meet targets. The Minnesota and New Jersey State DOTs, NJTPA, Metropolitan Council, and Wichita Area Metropolitan Planning Organization requested a clarification on the treatment of segments that cross MPO and/or urbanized area boundaries. The NJTPA said that the proposed rule is unclear as to how reporting segments that cross MPO and/or urbanized area boundaries are to be handled. Moreover, it said that none of the measures that MPOs need to report at the MPO level mention how to handle reporting segments that cross an ''MPO boundary.''

The NJTPA also urged FHWA to revise the rule to allow one set of reporting segments for the freight measures and another set of reporting segments for the remaining measures, reasoning that the standard for locating TMC segment endpoints is not standardized across commercial vendors. According to this commenter, the proposed rule would effectively require that, if a State opts to use an equivalent data set, it would have to use the TMC definitions used by HERE, the vendor that provides the NPMRDS. In order to clarify the default reporting segment in the event that States and MPOs do not agree, AASHTO, Illinois DOT, and Connecticut DOT recommended that FHWA revise the definition of ''reporting segment'' to say that a reporting segment is the segment set forth in the NPMRDS data set provided by FHWA (or an alternative data set used by the State) unless the State and any applicable MPO determine otherwise. New York State Association of Metropolitan Planning Organizations also recommended that the definition of ''reporting segment'' address the process of which agency defines reporting segments within the urbanized area or MPA, proposing that FHWA amend the proposed definition to state ''the State and MPOs *cooperatively* define . . . .'' Oregon and Washington State DOTs requested clarification regarding what type of documentation will be adequate for demonstrating coordination between State DOTs and MPOs for establishing reporting segments.

The FHWA recognizes that changes in segment length can present challenges in metric calculation. Segment length changes in the NPMRDS can occur sometimes due to the provider splitting long segments or new roads/improvements necessitating changes in the segmentation. Although it will be difficult to lock in segment lengths for a full year, FHWA will work with the NPMRDS provider to limit segment changes and document any changes made. Also, the proposed Pooled Fund approach to processing/analysis could help alleviate this issue.

In regard to aggregation, although there remains an option to join travel time segments into Reporting Segments of longer lengths, State DOTs are not required to take this action. The FHWA has retained the option to allow State DOTs to relate Travel Time Segments to their own roadway segmentation and to ensure travel time data are used at a sufficiently detailed level to provide useful metric calculations. In response to several comments asking if segments in urban areas could be longer than 0.5 miles, in this final rule, FHWA has changed the maximum length for reporting segments to one mile in urban areas, unless an individual Travel Time Segment is longer.

The FHWA intends to develop guidance to assist State DOTs and MPOs in the processing of segments to calculate metrics. The final rule does not specify how segments that cross boundaries should contribute to the metric. It is anticipated that data processing guidance will recommend that segments should contribute to the metric only if the entire length of the segment is contained within the applicable area.

9. NHS Coverage in the NPMRDS Data

The Great Lakes Regional Transportation Operations Coalition and University of Wisconsin-Madison Traffic and Safety Laboratory commented that NHS coverage in the NPMRDS changes with each static file change, which would alter the calculations. The commenter recommended that calculations be based on only those TMCs that exist in all static file versions within a year.

The Illinois DOT commented that since NPMRDS TMC segments are not consistent lengths across months and years, it would be difficult to perform proper analysis because States would not be comparing similar segments across the 4-year reporting time frame. Ozarks Transportation Organization provided a similar comment and noted that the NPMRDS would need to be adjusted regularly in order to be used for performance measures and reporting.

The FHWA will work with the NPMRDS contractor to make sure the NHS updates are reflected in the NPMRDS travel time data as soon as is possible. There are inherent delays in providing data on a system that can change, and FHWA has addressed the issues in the rule by making certain requirements consistent throughout a reporting period. Comments received in the second performance measure rulemaking (pavement and bridge conditions) suggested that the impact of measure outcomes due to variations of NHS limits from year to year are not sufficient enough to warrant locking in one definitive NHS limit for a full performance period. This final rule follows the same approach.

10. Travel Times

Several commenters expressed support for travel times of 15 minutes (or longer), being used for the travel time-based measures. The commenters asserted that this would lead to, among other benefits, fewer bins with no data, reduced data storage burden, less effort required for quality control and quality assurance, and greater utility for members of the public interested in the data. Commenters argued that the higher level of granularity available in data from 5-minute bins, which provides more precision but not necessarily greater accuracy, does not confer enough additional benefits to justify the extra burden they would impose. Other commenters stated that due to low traffic volumes there may not be any travel time recorded in many 5-minute segments.

The NARC commented that if FHWA were to follow its recommendation for processing data centrally, FHWA could then obtain the data in 5-minute (or even 1-minute) bins but provide them to States in 15-minute bins. The AASHTO expressed support for the use of 5-minute bins for national-level performance reporting but stated that data with higher temporal resolution (*e.g.,* 1-minute bins) have benefits for other purposes such as research.

Southeast Michigan Council of Governments expressed concern that for data on freight movements, 5-minute bins may not contain enough data points to maintain the anonymity of individual trucks. The Maine DOT commented that 60-minute bins would be better suited to its needs due to the limited and seasonal nature of its congestion and reliability issues as a rural State with low population density.

The FHWA agrees with and appreciates the concerns raised by commenters on the challenges with using 5-minute temporal granularity in the calculation of travel time metrics. Using 15-minute time periods would significantly simplify data analysis in terms of the size of the data set; FHWA estimates that the data set would be reduced by approximately two-thirds. The FHWA received many comments noting the amount of missing data when using 5-minute time intervals. The FHWA conducted an analysis to compare the amount of missing data when using 5-minute time periods to 15-minute time periods and determined that, for the segments analyzed, switching to 15-minute time periods improved data completeness by 25 percent to 30 percent for non-Interstate NHS segments; the resulting NHPP reliability measures differed by no more than 5 percent for Interstate highways. In addition, individual segment level LOTTR values were nearly identical, with an average difference of less than 1 percent for all of the segments evaluated. The assessment showed the greatest difference for the PHED measure, which was likely due to the prevalence of missing data at the 5-minute interval. The FHWA recognizes that larger time intervals reduce the level of specificity and granularity, but believes that the benefits of a more complete data set will allow for more accurate measure calculations. The FHWA does encourage the use of more granular time intervals (1 to 5 minutes) to carry out segment level analysis to better identify strategies to address issues impacting roadway reliability and congestion, but this information is not required to be reported to FHWA.

11. Alternative Data Sets

The AASHTO expressed support for FHWA's intent to make the NPMRDS available to State DOTs and MPOs for use in calculating performance measures and to allow States to use an alternate data set. Several State DOTs questioned FHWA's ability to continue to provide the NPRMDS data free of charge in the future raising concerns with the burden on State DOTs to acquire this data on their own if this were to happen. Commenters also expressed concerns with the costs associated with the development of alternate data sets that would comply with the proposed travel time data requirements.

The NJTPA asked if equivalent travel time data sets can include data from different vendors or sources or both, as long as it satisfies FHWA requirements. For example, the commenter recommended that FHWA consider a ''hybrid'' or ''fused'' data set (such as the TRANSCOM ''Data Fusion Engine'' travel time data set) that includes travel times from various agency sensors (*e.g.,* BlueTOAD sensors, toll transponder readers, Sensys pucks) as well as commercial probe data. Iowa DOT asked if the requirement that data ''be populated with actual measured vehicle times and shall not be populated with travel times derived from imputed methods'' eliminates any specific alternative data sources (*e.g.,* INRIX) from consideration.

Several commenters requested detailed guidance on the approval process for using equivalent data sources in place of, or in conjunction with, the NPRMDS. In particular, the commenters asked what the approval process will look like, who will have the authority to grant the approval, how quickly the approval will be granted after a formal request is made, what information will be required for approval, what happens if FHWA does not approve the data set, and how frequently requests can be made by each State. The commenters also recommended that FHWA include in the final rule a time limit for such requests, stating that approval will be granted if no action is taken once the time limit expires. Rather than requiring State DOTs to get approval for alternate data sets, the Great Lakes Regional Transportation Operations Coalition and the University of Wisconsin-Madison Traffic Operations and Safety Laboratory suggested that it would be more efficient for a central entity (*e.g.,* CATT Lab or TTI) to house and process travel time data, produce the metrics, and provide results to State DOTs and MPOs for use in target setting and reporting.

The Delaware Valley Regional Planning Commission, on behalf of the Partners Using Archived Operations Data, recommended that FHWA streamline the process to approve alternate data sets. Hampton Roads Transportation Planning Organization and the State DOTs of Virginia and Minnesota suggested that FHWA approve specific alternate data sets (such as INRIX and TomTom) rather than requiring each State to request approval for these sources.

The FHWA believes that the use of the NPMRDS data set by all States and MPOs will promote national consistency among all of the measures. However, FHWA is willing to review commercially available travel time data sets to pre-approve those that are determined to be ''equivalent'' to the NPMRDS. The FHWA is not currently aware of any commercial data set that is ''equivalent,'' but requests that if a State DOT or MPO believes that an alternative data set is ''equivalent,'' then that State DOT or MPO should submit a request to FHWA. The FHWA appreciates that State DOTs and MPOs will need to know if a commercially available data set will be considered equivalent to the NPMRDS before financial resources are used to acquire data. Therefore, FHWA will consider alternative data set providers, on request by a State DOT or MPO, before their decision to use the data to meet the requirements of this final rule. If FHWA reviews a request and determines that the alternative data set is not ''equivalent,'' then the State DOT or MPO must use the NPMRDS data set. Finally, FHWA retained the proposed regulation to use a single travel time data set (NPMRDS or equivalent) for all travel time derived metrics in this final rule. The FHWA believes that, as the metrics apply to the same roadway segments with the same traffic, it is important to use the same data set to calculate the metrics.

The FHWA intends to approve requests for alternate data sets in a timely manner such that the requested data set can be used by the State DOT beginning on January 1st of the year following the request. State DOTs should contact FHWA as soon as practical when considering alternate data sets to provide for sufficient time for the State DOT to acquire the data for use. The October 1st deadline is included in the final rule as the latest date the FHWA believes an alternate data set can be approved for use by the next calendar year. For clarification, in response to questioned raised by commenters, the final rule allows for alternate data sets to be combined with the NPMRDS in whole or in part to meet the travel time data requirements of this rule.

12. Corridors

Several commenters expressed a preference for a corridor-based approach to evaluate system performance instead of a segment-based approach and system-wide performance measures. The New York State DOT requested that the final rule to focus on corridors,

particularly in urban areas where congestion is likely to occur, that are defined by States and MPOs in ways that are meaningful for State and regional planning. The Washington and Oregon DOTs use a corridor-based approach that they assert allows the State to manage systems based on important functions and characteristics that will be missed by simply having urban/non-urban measures system-wide.

As part of an internal evaluation of the performance measures, Purdue University compared segment-based results with a corridor-based approach. According to this commenter, the corridor-based results were consistent with the segment-based analysis in that Interstate routes tended to be more reliable, but the routes for which there were numerous individual segments with a number of high LOTTR or PHTTR values did not exhibit these high values in a corridor-based analysis.

Oregon Metro Council and the Joint Policy Advisory Committee on Transportation urged FHWA to develop an integrated multimodal corridor approach to measuring person throughput and congestion that includes HOV lanes, public transit, and biking and walking facilities.

The California Association of Councils of Government (CALCOG) and others commented that freight measures specifically should be focused at the corridor level.

The FHWA recognizes that many State DOTs and MPOs use ''trips'' as the basis for reliability determination and fully supports that approach. However, that approach requires a working knowledge of how the system operates at a corridor level. Determining the length of analysis for these trips is not something that can easily be done in a nationally-consistent way. Instead, FHWA determined that looking at segment level performance was a satisfactory way to provide a consistent approach to measure system performance and traffic congestion in this rule. While State DOTs and MPOs are only required to assess progress on full system performance in this rule, State DOTs and MPOs may use the metrics to assess corridor-specific performance and use corridor-specific information to monitor progress, analyze trends, and establish targets.

13. Weather and Construction Impacts

Several commenters expressed concern that extraordinary events such as non-recurring inclement weather, prolonged construction, large gatherings, and insufficient funding will make target setting difficult and will impede agencies' ability to achieve successful performance. Commenters requested FHWA take these events into account in the final rule.

The AASHTO recommended that FHWA allow State DOTs and MPOs the flexibility to exclude from calculation and targets roadway segments for periods of inclement weather conditions using a consistent approach and data (*e.g.,* National Weather Service reports and data archives).

The Illinois DOT suggested reports should be based on the number of days and/or center-line miles of facilities that are under construction or impacted by weather in order to keep the data set whole. The NARC suggested that there should be an opportunity for MPOs and States to explain targets and results as part of the reporting protocol to address unique circumstances.

The Mid-Ohio Planning Commission suggested including all extraordinary events, as all entities will undertake construction, and this measure would remain consistent with the bridge and pavement rule, which does not change factors for areas with more inclement weather. The Great Lakes Regional Transportation Operations Coalition and the University of Wisconsin-Madison Traffic Operations and Safety Laboratory reasoned that extraordinary events are in the far ''right tail'' of travel time distributions and would not affect the 80th percentile travel time.

The FHWA believes that reliability measures should include travel times during weather- and construction-related events to ensure that the measure reflects the efforts by transportation agencies to maintain and improve roadway operations. The FHWA further believes that the 80th percentile travel time used in the calculation of the NHPP reliability metric will exclude a majority of the longest travel times that occur as a result of extreme congestion events. The variability in travel time resulting from construction operations and other events that impact traffic flow are expected to be included in the measure as operational improvements and management should be able to help alleviate impacts from these events. The FHWA modified the NHFP reliability measure to remove the threshold that would determine if a segment is providing for reliable travel. The FHWA believes that this change will minimize the impact that extreme weather events could have on the metric and measure outcome. The FHWA has also added a provision for all the travel time derived measures that allows removal of travel times from the metric calculations when the roadway is closed.

The FHWA has retained the proposed provisions in section 490.109(e)(5) that consider extenuating circumstances, allowing State DOTs to explain the factors they considered when establishing targets and the circumstances that may have impacted their ability to make progress in achieving those targets. The FHWA believes that these provisions will allow State DOTs to document the impact of extreme weather events on performance expectations and their ability to manage system performance.

14. Holidays

The FHWA received several comments on whether holidays should be excluded from the travel time-based measures and requested that these exclusions be consistent across all travel time-based measures.

The AMPO pointed out that there are issues with consistency in calendar coverage in the proposed rule; holidays were excluded in the PHTTR metric, but not in the LOTTR metric. The commenter expressed concern that these inconsistencies, if not clearly justified, have the potential to add confusion and increase the burden in implementing these measures. A consistent set of time periods would be easier to understand.

Puget Sound Regional Council proposed that a consistent set of weekday time periods that excludes holidays would be easiest to understand.

The AASHTO, echoed by New Jersey, Missouri, Washington DOTs and others, requested days to be grouped similarly (non-holiday weekdays, weekends, and holidays) and for any excluded holidays to be specified in the final rule. They also asked for guidance on how to manage holidays that fall on weekends and are observed on a weekday.

The FHWA agrees with commenters that the burden required to identify and exclude holidays from the metric calculations is not warranted. The FHWA compared measure results with the inclusion and exclusion of holidays in the calculation. The analysis indicates that the inclusion of holidays in the travel time-based measures did not have a statistically significant effect on the annual metric and measure calculations. For this reason, the rule now requires that holidays be included when determining the metric.

15. Annual Reporting of Travel Time Metrics

The Oregon and Washington State DOTs commented that annual reporting of LOTTR and PHTTR metrics is too burdensome.

The FHWA recognizes the burden associated with the calculation of travel time based metrics, particularly in the first years of implementation. However, FHWA believes that through the development of standard processing routines the metrics can be calculated with a reduced burden. The proposed pooled fund effort should help alleviate the burden of annual reporting while providing consistent performance monitoring data for use in all performance management activities.

16. Establishing Performance Targets

The Atlanta Regional Commission and the Florida Metropolitan Planning Advisory Council stated that they appreciate the flexibility provided to State DOTs and MPOs regarding the establishment of improving, constant, or declining targets and they asked that this implementation philosophy be carried forward to the final rule. Several commenters [9] recommended that specific regulatory language be included in the final rule to confirm that State DOTs and MPOs are allowed to establish improving, constant, or declining targets.

The FHWA believes that State DOTs and MPOs have the discretion to establish their targets. The MAP–21 does not provide FHWA the authority to approve or reject State DOT or MPO established targets. The FHWA believes that this rule does not impair the ability of State DOTs and MPOs to establish constant or declining targets. Thus, FHWA believes that specific language describing potential target level scenarios in the regulatory language is unnecessary.

17. Target Establishment Frequency

Several commenters [10] stated that 2-year and 4-year timeframe will not reveal any meaningful progress toward targets or strategies implemented in that those timeframes. Others [11] expressed concerns that ''over-emphasis on short-term over longer term targets may present an unintended obstacle to developing innovative, sustainable, and comprehensive solutions or to undertaking larger projects that can take many years to plan and implement.'' The New York State Association of MPOs stated that the biennial reporting would give a snapshot of performance, but would also not reflect the results of projects that have not been in place long enough for their impact to be measured. This commenter suggested that it may be useful to include in the report a list of projects implemented since the previous reports. The Pennsylvania DOT, COMPASS, and DVRPC recommended a broader time-horizon in the final rule. The AASHTO and several State DOTs [12] recommended providing State DOTs and MPOs the opportunity to voluntarily set long-term targets, not just 2- and 4-year targets, and to do so completely outside of the Federal regulatory framework. The Mid-Ohio Regional Planning Commission (MORPC), CMAP, and Portland Metropolitan Area MPO commented that targets should be established as part of each MPO's Metropolitan Transportation Plan development or update cycle.

As stated in the NPRM, established targets (2-year and 4-year) would need to be considered as interim conditions/performance levels that lead toward the accomplishment of longer-term performance expectations in State DOT long-range statewide transportation plans and NHS asset management plans. In order to avoid confusion, FHWA used the term ''longer-term performance expectations'' in the NPRM to distinguish between longer-term targets and the interim anticipated condition/performance (*i.e.,* 2-year and 4-year targets) toward those longer-term performance expectations. The FHWA recognizes the importance of using a longer time horizon for planning and programming projects that considers and evaluates temporal tradeoffs between feasible improvements for more efficient and effective investment decisions. The FHWA strongly recommends that State DOTs and MPOs consider longer time horizons, which look beyond 4 years (*i.e.,* multiple performance periods), for planning and programming of projects, so identification and selection of those projects is guided by the longer term performance expectations. The purpose of the performance period is to measure and evaluate condition/performance, which should not be assumed to be a ''planning, programming, project delivery, data collection, data reporting'' cycle of individual improvement projects or a program of projects. Thus, the performance period and long-range planning (LRP) cycles look at different time periods and do not have to be aligned to be effective. Therefore, FHWA retains the proposed language in § 490.105(e)(4) and (5) in this final rule.

18. Target Adjustment Schedule

The Washington State and Oregon DOTs, AMPO, and Fairbanks Metro Area Transit System supported the proposed approach for allowing State DOTs to adjust an established 4-year target in the Mid Performance Period Progress Report. On the other hand, New York State Association of MPOs, State DOTs of South Dakota, Connecticut, Utah, and Alaska, and AASHTO recommended the flexibility to be able to adjust targets annually, if critical assumptions underlying performance targets have changed sufficiently to affect target values.

The FHWA believes that MAP–21 gives FHWA the discretion to establish requirements for targets. The FHWA has determined that State DOTs or MPOs may establish any target to satisfy the requirements for the performance management measures. The FHWA believes State DOTs have the authority and flexibility to establish targets for the performance measures. However, FHWA does not believe MAP–21 provides State DOTs and MPOs the authority to adjust or revise targets at any time at their discretion. The FHWA believes that 23 U.S.C. 150 provides FHWA the authority to establish requirements for targets, and that some requirements must be established so that accountability and transparency are instilled in the performance management process. As discussed in the NPRM, the FAST Act amended the number of determinations [13] in MAP–21 from ''two consecutive determinations'' to each determination, that FHWA will make on a State DOT target (determined that State DOT has not made significant progress towards achieving its target) before that State DOT is required to take action.[14] In response to this change, FHWA felt that an approach is necessary to provide State DOTs the same opportunity to make significant progress for 4-year targets as for the 2-year targets. The FHWA believes that 4-year target adjustment through the Mid Performance Period Progress Report will provide that opportunity because the actual time horizon (the duration between the target reporting date and the date which a target is established for) for State DOTs to consider in establishing 2-year targets and adjusting 4-year targets will be the same. For example, the duration between 2-year target reporting (via Baseline Performance Period Report) and the

[9] AASHTO, Alaska, Arkansas, Connecticut, Florida, Idaho, Illinois, Montana, Missouri, North Dakota, South Dakota, Wyoming DOTs, and National Association of Regional Councils.

[10] COMPASS, New York State, Pennsylvania DOT, DVRPC, and New York State Association of MPOs,

[11] AMPO, New Jersey DOT, and NJTPA.

[12] Alaska, Connecticut, and Illinois,

[13] 23 U.S.C. 119(f)(7).

[14] 23 U.S.C. 119(f)(7)—Require to provide a description of the actions the State will undertake to achieve the targets in its biennial performance report.

midpoint of a performance period (*i.e.,* the date which 2-year targets are established for) will be the same as the duration between adjusted 4-year target reporting (via Mid Performance Period Progress Report) and the end of a performance period (*i.e.,* the date which 4-year targets are established for). In response to the comments suggesting annual target adjustment, the State Biennial Performance Reports has the appearance that State DOTs would consider 2-year time horizon for establishing a 2-year target or adjusting a 4-year target, as the biennial reporting frequency may suggest. However, as discussed above, the actual time horizon for establishing 2-year targets and adjusting 4-year targets that State DOTs have to consider is much shorter than 2 years. The FHWA feels that this frequency of adjustment allows a State DOT to address changes they could not have foreseen in the initial establishment of 4-year targets while still maintaining a sufficient level of control in the administrative procedure necessary to carry out these program requirements in an equitable manner. For this reason, FHWA retains the language in section 490.105(e)(6), as proposed in the NPRM.

19. Ownership & Applicability of Measures/Targets

The South Jersey Transportation Planning Organization, Coalition of Great Lakes Regional Transportation Operations, COMPASS, and AMPO stated that State DOTs and the MPOs do not have any direct control over the NHS.

The statutory language in MAP–21 and the FAST Act apply the performance management requirements (23 U.S.C. 150), NHPP (23 U.S.C. 119), and CMAQ (23 U.S.C. 149) to the NHS/Interstate System and not to ''State DOT owned or operated'' Interstate System or ''State DOT owned or operated NHS.'' The MAP–21 does not provide unique definitions to the terms ''State'' or ''MPO'' for purposes of 23 U.S.C. 150, 119, 167, and 149, and thus these terms have the same meaning as defined elsewhere in Title 23 U.S.C. Accordingly, FHWA retains the language in section 490.105(d) which requires State DOTs and MPOs to establish targets for the entire NHS and Interstate System for the entire geographical area within the State or metropolitan planning area, regardless of ownership.

20. Fiscal or Calendar Year Based Performance Periods

The Georgia DOT commented that some reporting requirements are based on the Federal fiscal year and others on a calendar year. The commenter said that this difference would create additional work for State DOTs and suggested one consistent reporting date, or that FHWA provide flexibility to align the Federal fiscal year or calendar year reporting dates. The Portland Metropolitan Area MPO and the Denver Regional Council of Governments commented that Federal fiscal year or calendar year reporting dates for different measures are inconsistent and confusing. On the other hand, State DOTs of Washington State, Connecticut, and Oregon, AASHTO, and Puget Sound Regional Council MPO supported the metric data requirements for CMAQ on-road mobile source emissions measures based on Federal fiscal year and all travel time related measures based on calendar years. The Puget Sound Regional Council added that utilizing the existing reporting framework for CMAQ projects simplifies the process for MPOs.

In the NPRM, FHWA stated that the CMAQ on-road mobile source emissions measure establishment would rely on the existing processes State DOTs use to manage, track, and report projects as part of the CMAQ program. For this reason, FHWA elected to base the performance period for the on-road mobile source emissions measure on the Federal fiscal year to align with Federal fiscal year based reporting of the estimated emission reductions by State DOTs for CMAQ-funded projects through the CMAQ Public Access System. The FHWA believes that this approach provides the simplest and most effective means to implement the MAP–21 performance requirements for on-road mobile source emissions. As for all other measures (including the CMAQ traffic condition measures), calendar year-based data collection and reporting requirements specified in subparts E, F, and G are aligned with Calendar Year-based performance period. For these reasons, FHWA retains the language in section 490.105(e)(4)(i) unchanged. Although the performance period for the on-road mobile source emissions measure is different from all other measures, the reporting dates for condition/performance, targets, progress, etc. required in section 490.107 for the on-road mobile source emissions measure are the same as all other measures in this rule.

21. Boundaries

The Denver Regional Council of Governments commented that the geographic area application for each measure is confusing (urbanized area vs. transportation management area vs. metropolitan planning area) particularly in light of DOT's NPRM on ''MPO Coordination.'' [15] The Connecticut and Arkansas DOTs commented that a greater consistency in boundaries is needed throughout this rule. The Arkansas DOT recommended a simpler, consistent boundary source be adopted in conjunction with State DOTs and MPOs, particularly given the uncertainty surrounding the definition of Metropolitan Planning Area in the context of the Metropolitan Planning Organization Coordination NPRM. The DOTs of Connecticut, Arkansas, and Maryland and AASHTO stated that, ''the urbanized area geography is not well understood and the specific use of it in calculating the congestion metric involves a significant learning curve that will take time to better understand.'' The National Capital Region Planning Commission stated that the urbanized area boundary determination process of the Census Bureau is not well understood and importantly does not appear to be based on transportation and mobility considerations within the urbanized area. The commenter added that the Census urbanized area does not align with jurisdictional boundaries, which in most places is where preliminary transportation project planning and programming decisions are made. Finally, this commenter said that the basic unit used for developing urbanized areas, census blocks, differs from the basic unit used by MPOs, Transportation Analysis Zones.

The NJTPA requested a clarification on the treatment of segments that cross MPO and/or urbanized area boundaries. The commenter said that the proposed rule is unclear as to how reporting segments that cross MPO and/or urbanized area boundaries are to be handled. Moreover, the commenter said that none of the measures that MPOs need to report at the MPO level mention how to handle reporting segments that cross an MPO boundary.

The FHWA clarifies that only the CMAQ traffic congestion measures in subpart G are applied to applicable [16] urbanized areas for State DOTs and MPOs. All measures in other subparts in this rule are applied to State geographic

[15] NPRM on ''Metropolitan Planning Organization Coordination and Planning Area Reform'', 81 FR 41473 (June 27, 2016).

[16] Urbanized areas with a population over one million for the first performance period and over 200,000 for the second and all other performance periods, that are, in all or part, designated as nonattainment or maintenance areas for ozone (O_3), carbon monoxide (CO), or particulate matter (PM_{10} and $PM_{2.5}$) National Ambient Air Quality Standards (NAAQS) discussed in more detail under Section V Subpart G.

boundaries for State DOTs and metropolitan planning area boundaries for MPOs. The FHWA made the exceptions for traffic congestion measures because traffic congestion is more relevant in urbanized areas. Because the State geographic boundaries and the metropolitan planning area boundaries may include both urban and rural areas (and in different proportions), FHWA believes that the varying proportions of rural area (or road network in rural areas) would impact the statewide or metropolitan planning area -wide measures differently across the States and metropolitan planning areas.

As a result, FHWA is applying the CMAQ traffic congestion measures to the areas selected based on uniform and consistent criteria, such as the U.S. Census Bureau in designating urbanized areas. The FHWA understands that urbanized areas may not be the unit of area for transportation project planning and programming decisions for some agencies. However, focusing on traffic congestion in urbanized areas will allow for the opportunity to significantly reduce traffic congestion on the NHS across the nation while reducing the burden for the State DOTs and MPOs to implement the traffic congestion measures in non-urbanized areas. The FHWA disagrees with the comments from DOTs of Connecticut, Arkansas, and Maryland and AASHTO stating that ''the urbanized area geography is not well understood.'' The FHWA believes that State DOTs are well aware of a need for consistency or geographic continuity in urbanized area boundaries for transportation planning purposes through FHWA issued guidance.[17] The FHWA believes that State DOTs' detailed understanding of urbanized areas in planning is exhibited through State DOT reported data to HPMS.[18] For this reason, FHWA retains sections 490.105(d)(2) and 490.703 for the urbanized areas as the scope of traffic congestion measures and their performance targets.

22. Unified Targets

The AMPO commented that coordination across MPO boundaries is an important facet of the MPO planning process, but it is unclear that requiring single values and targets for entire (large) urbanized areas adds value. The commenter added that the proposed unified target for an urbanized area adds significantly to the reporting complexity and may confuse interpretation of results. The AMPO and Kentucky DOT expressed concern that State DOTs and MPOs may be reluctant to adopt targets for areas outside of their control. The Oregon, Washington State, and Delaware DOTs expressed concerns about potential ''time-intensive coordination requirements'' and the complexity of multi-agency coordination associated with establishing a unified urbanized target, a concerned echoed by the Connecticut DOT and the DVRPC. The Chicago Metropolitan Agency for Planning (CMAP) commented that, ''it is an inappropriate enlargement of the Federal role to require the establishment of identical performance targets in separate States . . . nor is the mechanism by which the States would coordinate to establish identical targets explained in the NPRM.'' The commenter added that the regulation would lead to a lowest common denominator approach to target setting. Other commenters agreed that the NPRM did not address how to resolve differences in target setting.

The Mid-America Regional Council suggested that FHWA give this particular issue additional consideration to determine how to best facilitate agreement between parties where such agreement is required and integrate this thinking into the final rule. Several commenters recommended that measure applicability be limited to ''Metropolitan Planning Organization boundaries, or limit the reporting areas and targets to urbanized areas that fall within an MPO and/or a State.''

The FHWA believes that closer coordination among all entities in an urbanized area is necessary because traffic congestion within each entity's geographic boundary urbanized area impacts the performance of the surrounding entities. A single, unified urbanized area target will foster a shared vision among State DOTs and MPOs of expectations for future condition/performance of the entire urbanized area and will ensure a jointly-owned target establishment process. More importantly, because the driving public does not concern itself with State or metropolitan planning area boundaries when it comes to traffic congestion, unified targets are crucial to communicate regarding traffic congestion for the entire urbanized area. The FHWA disagrees with CMAP's comment that this requirement is ''an inappropriate enlargement of the Federal role.'' A single, unified urbanized area target aligns with 23 U.S.C. 134(h)(2)(B)(i)(II) and 23 U.S.C. 135(d)(2)(B)(i)(II), which require State DOTs and MPOs to coordinate in establishing consistent targets, to the maximum extent practicable.

Because of the reasons above, FHWA retains the language proposed in NPRM § 490.105(d)(2), (e)(8)(iii)(B), and (f)(5)(iii)(B). The FHWA recognizes that State DOTs and MPOs will need more time to coordinate in the target establishment process, so FHWA provides a phase-in of this requirement in § 490.105(e)(8)(vi) and (f)(5)(vi), in the final rule, for the PHED measure in section 490.707(a).

23. CMAQ Measure Applicability

The Florida Metropolitan Planning Advisory Council commented that those States in attainment need to remain exempt from traffic congestion measures and targets. The NJTPA commented that the traffic congestion measure applicability determination approach described in § 490.105(e)(8)(i), (e)(8)(ii), (f)(5)(i), and (f)(5)(ii) may cause problems for a State DOT or MPO with a small amount of urbanized area NHS roadways within their boundaries. The commenter recommended that FHWA consider a minimum length of urbanized area NHS roadway for the measure applicability.

The FHWA has emphasized a need for close coordination among all entities in an urbanized area because the traffic congestion within each entity's geographic urbanized area boundary impacts the performance of the surrounding entities in that urbanized area. The absence of any one of the surrounding entities in implementing traffic congestion measures will hinder establishing an effective and meaningful performance target for that urbanized area. For this reason, FHWA retains the language, as proposed in the NPRM, on the criteria for State DOT traffic congestion measure applicability in § 490.105(e)(8)(i) and (ii).

The FHWA concluded that regardless of the NHS miles within an entity's geographic urbanized area boundary, the traffic congestion on those miles of NHS could impact the traffic congestion in the broader area. The FHWA considered a minimum length of NHS within an entity's geographic urbanized area boundary as a threshold in the applicability determination, but concluded that such an approach would be arbitrary. The FHWA thus retains the methodology and approach proposed in the NPRM for the traffic congestion measure applicability determination described in § 490.105(e)(8)(i), (e)(8)(ii), (f)(5)(i), and (f)(5)(ii).

[17] Highway Functional Classification Concepts, Criteria and Procedures (FHWA): *https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/section06.cfm.*

[18] ''Urban Code'' Data Item in HPMS sections data.

Commenters also requested flexibility to revise applicability if nonattainment or maintenance designations change during the 4-year performance period. The Georgia DOT recommended making the determination of which State DOT and MPOs are subject to CMAQ measures 1 year in advance of the State DOT Baseline Performance Period Report to provide some assurance and to avoid unnecessary resource expenditure based on assumptions.

The FHWA agrees with the comment from Georgia DOT that applicability determination should be made earlier. The FHWA revises in the final rule [19] the timing of determining which State DOTs and MPOs are required to implement CMAQ traffic congestion measures in § 490.707(a) and (b) and CMAQ on-road mobile source emissions measure in section 490.807. The applicability determination for all CMAQ measures will be made 1 year before when the State DOT Baseline Performance Period Report.

The FHWA also agrees with the commenters on the flexibility to revise applicability if nonattainment or maintenance designations change during the 4-year performance period. As a result, FHWA has revised the rule to make section 490.809(c) inapplicable if U.S. Environmental Protection Agency changes to the designations become effective 1 year before the State DOT Mid Performance Period Progress Report is due to FHWA. To be consistent with this change, FHWA revised § 490.105(e)(8)(iii)(F), (e)(8)(v), (f)(5)(iii)(F), and (f)(5)(v) for the traffic congestion measures, and § 490.105(e)(9)(v), (e)(9)(viii), and (f)(6)(v) for the on-road mobile source emissions measure.

24. Due Date for Initial Performance Reports

Many commenters explained that they would not have adequate time to complete a comprehensive Initial State Performance Report by the October 2016 deadline and urged FHWA to delay or change the due date.

The FHWA issued guidance [20] on the Initial State Performance Report on August 31, 2016, to provide State DOTs the opportunity to comply with the statutory deadline for the first performance reporting under 23 U.S.C. 150(e). In this guidance, FHWA recognized that State DOTs would not have established targets for the measures in this rule. The FHWA simplified the reporting requirement by only requiring a description of the planned processes for target establishment and coordination with relevant MPOs and other agencies that will occur in the selection of targets. Therefore, FHWA removes the Initial State Performance Report requirement in this final rule.

25. MPO Reporting

The AASHTO and Connecticut DOT requested that individual MPOs submit their plans directly to FHWA, and the Denver Regional Council of Governments suggested that, ''it may be simpler for State DOTS to compile one statewide version . . . with input from the State's MPOs.''

The FHWA maintained that the MPO is responsible for creating the plan and submitting it to the State DOT in a timely manner. The rule does not require more than one State DOT to attach CMAQ Performance Plans for MPOs whose metropolitan planning area crosses a State boundary. The FHWA believes that this minimizes the reporting burden for both State DOTs and MPOs, since a State DOT simply needs to receive the plan from the MPO and attach it to its biennial report; the State DOT is not required to create or modify the plan. Adding a requirement for MPOs to report to FHWA would be more burdensome, as most MPOs do not currently report to FHWA; under the CMAQ program, State DOTs report on projects for MPOs. For these reasons, FHWA retained the requirement in section 490.107(c)(3) for MPOs to submit their CMAQ performance plans to FHWA through the State DOT.

26. Optional Target Reporting

The AASHTO and several State DOTs opposed to the requirement for State DOTs to report optional (additional—urbanized/non-urbanized area) targets to FHWA in FHWA-approved formats. They said that this requirement would force State DOTs to find a way to conduct additional planning without using words such as ''target,'' ''measure,'' or ''performance management'' to avoid FHWA's reporting, recordkeeping, and other regulatory requirements. These commenters urged FHWA to remove the language requiring State DOTs to report boundaries, progress, etc. in section 490.105(e)(3).

The FHWA proposed that targets established pursuant to 23 U.S.C. 150(d)(2) (authorizing State DOTs to establish different performance targets for urbanized and rural areas) be considered ''optional'' or voluntary targets for State DOTs. The proposal would allow State DOTs to establish a target for any combination of urbanized areas and provided that FHWA would not assess the progress achieved for any such additional or optional targets. The FHWA interprets 23 U.S.C. 150(e)(3) to require that State DOTs report the additional targets and their progress in achieving these targets in their Biennial Performance Reports. As a result, FHWA did not modify §§ 490.105(e)(3) and 490.107(b)(1)(ii)(A), (b)(2)(ii)(B), and (b)(3)(ii)(B).

27. Significant Progress Determination

The Oregon DOT suggested adding ''planned transportation corridor improvements'' to the list of extenuating circumstances for not achieving significant progress in section 490.109(e)(5)(i). Several commenters suggested that ''insufficient funding'' be added to the list. The Michigan DOT suggested adding the impact of economy on VMT because they said that transportation agencies have limited ability to influence the VMT changes due to economy on traffic congestion.

The FHWA understands that there are many external factors that could impact the condition/performance and the State DOT's ability to make significant progress, including lack of funding. However, FHWA believes that the frequency of target establishment and State DOTs' ability to adjust 4-year targets at the mid-point of a performance period creates a relatively short forecast window that should allow State DOTs to consider the impacts of funding shortfalls and uncertainty (*e.g.,* lack of funding for investment, cost escalation) in initial targets and any subsequent adjustments. Additionally, State DOTs must consider uncertainties 2 years in advance in the State Biennial Performance Report. As discussed in section 490.105(e)(6), the actual duration that State DOTs have to consider uncertainties is shorter than 2 years.

The FHWA does not intend to use the significant progress determination process to be punitive or to encourage State DOTs to establish easy-to-achieve targets. Establishing targets and assessing progress is intended to encourage State DOTs and MPOs to establish data-supported targets that consider anticipated resources and potential uncertainties and to provide data-supported explanations of condition/performance changes. If a State DOT does not make significant progress because of lack of funding or other reasons, FHWA expects that State

[19] Section 490.105(e)(8)(iii)(D) through (F), (e)(8)(iv), (f)(5)(iii)(D) through (F) and (f)(5)(iv) for traffic congestion measures and § 490.105(e)(9)(v) and (f)(5)(v) for on-road mobile source emissions measure.

[20] FHWA Guidance: Initial State Performance Report: *http://www.fhwa.dot.gov/tpm/guidance/160831.cfm.*

DOT will provide data-supported explanations for not achieving significant progress. Transportation performance management is not just about making significant progress. It is about effectively communicating to Congress and the public how the ''planned transportation corridor improvements,'' how the absence of ''sufficient funding'' and other circumstances are impacting the condition/performance of the transportation network. Moreover, FHWA believes the determination process must be meaningful and bring accountability to the program as MAP–21 and FAST Act intended. For these reasons, FHWA retains the language in section 490.105(e)(5)(i), as proposed in the NPRM.

C. Subpart E—National Performance Management Measures for the NHPP System Performance

1. Establishment of Greenhouse Gas (GHG) Emissions Measure

In the preamble to the NPRM, FHWA sought public comment on whether and how to establish a CO_2 emissions performance measure in the final rule. The FHWA asked a series of questions regarding the design and implementation of a GHG emissions measure and whether one should be established. The FHWA stated that if GHG emissions were to be measured, FHWA believed the best measure would be the total annual tons of CO_2 emissions from all on-road mobile sources. Finally, FHWA cited relevant research, including the FHWA publication, *A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning,* published in December 2013 (available in the docket for this rulemaking).

The FHWA received thousands of comments on whether or not to establish such a measure and how a measure should be designed and implemented. Supporting comments came from 91,695 citizens, 9 State DOTs, 24 MPOs, 19 U.S. Senators, 48 Members of the U.S. House of Representatives, over 100 cities, numerous local officials, over 100 businesses, and over 100 public interest, non-profit and advocacy organizations. Some State DOTs and MPOs already use GHG emissions as a performance measure.

Comments against a GHG emissions performance measure were submitted by 10 State DOTs, 2 MPOs, 5 U.S. Senators, 31 Members of the U.S. House of Representatives, and 27 transportation and infrastructure industry associations. Additionally, nine State DOTs and three industry associations requested that FHWA not establish any performance measures not explicitly stated in legislation.

A number of the commenters in both groups addressed whether FHWA has the legal authority to establish a GHG measure and whether such measure could be established in this rulemaking.

After careful consideration of the comments received, FHWA decided to establish a GHG emissions performance measure in this rule to measure environmental performance in accordance with 23 U.S.C. 150(c)(3). Doing so will incorporate an important environmental aspect of system performance into the set of national performance measures, be responsive to public comments, improve transparency, and support the national transportation goal of environmental sustainability in the Federal-aid Highway Program and the national performance management program established in 23 U.S.C. 150. As highlighted in FHWA's 2013 Conditions and Performance Report [21] and its publication, *A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning,*[22] there are two main types of climate change risk affecting transportation infrastructure: Continued emissions of GHGs, such as CO_2, that adversely affect the atmosphere, leading to climate change effects, and threats to the transportation system posed by climate change impacts (*e.g.,* damaged or flooded facilities).[23] In other words, the transportation system both contributes to climate change and suffers from the impacts of climate change (*e.g.,* flooding, sea level rise). Reducing GHG emissions from the U.S. transportation sector will reduce the sector's impact on climate change, promote environmental sustainability, and help to protect the NHS from damage caused by climate change.[24]

The GHG performance measure established in this rule is the same measure discussed in the NPRM: Total annual tons of CO_2 emissions from all on-road mobile sources. The FHWA designed the measure in a manner that uses existing data sources and minimizes burden on transportation agencies. Because FHWA is establishing the measure under 23 U.S.C. 150(c)(3), it applies to the NHS in all States and metropolitan planning areas. State DOTs will calculate the measure by multiplying motor fuel sales volumes already reported to FHWA by FHWA-supplied emissions factors of CO_2 per gallon of fuel and percentage VMT on the NHS.

A discussion of legal comments received and a synopsis of the comments and responses on questions FHWA posed in the NPRM follow.

Legal Questions

Authority To Establish a GHG Measure

A number of commenters supported FHWA's legal authority to adopt a GHG performance measure in this rulemaking. Commenters pointed to the language in 23 U.S.C. 150(a) as evidence that performance management is not limited to the performance measures listed in 23 U.S.C. 150(c), but rather is intended to focus on achieving the national goals in 23 U.S.C. 150(b). Commenters cited the national goal of environmental sustainability in 23 U.S.C. 150(b)(6) in supporting FHWA's legal authority. That provision states ''[i]t is in the interest of the United States to focus the Federal-aid highway program on the following national goals: * * * (6) Environmental sustainability.—To enhance the performance of the transportation system while protecting and enhancing the natural environment.'' Several commenters stated a GHG performance measure is within the statutory authorization of MAP–21, including the performance measure provision for on-

[21] FHWA 2013 Conditions and Performance Report (PDF Version), ''Advancing Environmental Sustainability'' at 5–6 through 5–7. *https://www.fhwa.dot.gov/policy/2013cpr/pdfs.cfm.*

[22] *A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning,* FHWA (December 2013) at iii–iv. *https://www.fhwa.dot.gov/environment/climate_change/mitigation/publications/ghg_planning/index.cfm.*

[23] Extreme weather and other impacts related to GHG emissions, such as sea level rise, can harm, disrupt, and damage transportation systems, particularly through flooding, resulting in costly disruptions. For discussions of the potential disruptive effects of climate change on the transportation system, *see also Impacts of Climate Change and Variability on Transportation Systems and Infrastructure: The Gulf Coast Phase 2, Task 3.2 Engineering Assessments of Climate Change Impacts and Adaptation Measures* (FHWA and U.S. DOT Climate Change Center) (August 2014) at 273 (available as of September 14, 2016, at *http://www.fhwa.dot.gov/environment/climate_change/adaptation/ongoing_and_current_research/gulf_coast_study/phase2_task3/task_3.2/task2phase3.pdf;* and *Hampton Roads Climate Impact Quantification Initiative, Baseline Assessment of the Transportation Assets and Overview of Economic Analyses Useful in Quantifying Impacts,* U.S. DOT (September 13, 2016) (available as of November 1, 2016 at *http://ntl.bts.gov/lib/60000/60100/60161/Hampton_Roads_Climate_Impact_Initative.pdf.*

[24] See, *e.g.,* discussion in Section III(A) of CEQ's *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* (August 1, 2016). Available as of September 14, 2016, at *https://www.fhwa.dot.gov/map21/guidance/guidecmaq.cfm.*

road mobile source emissions under the CMAQ program (23 U.S.C. 150(c)(5)(B)). The commenters did not view the language as limited to the three pollutants specified in the CMAQ statute (*i.e.,* ozone, PM, and CO).

Some commenters pointed out that establishing a GHG performance measure would be consistent with other MAP–21 rulemakings. In particular, six members of the Senate Committee on Environment and Public Works pointed to the consistency between a GHG performance measure and provisions in FHWA's 23 U.S.C. 119(e) asset management rulemaking relating to current and future environmental conditions, including extreme weather events and climate change.

Commenters supporting FHWA's legal authority for a GHG performance measure also cited a number of provisions in title 23 of the United States Code as authority for the GHG measure. These included 23 U.S.C. 134(a)(1), 23 U.S.C. 134(c)(1), 23 U.S.C.134(h), 23 U.S.C. 135(d)(1), and 23 U.S.C. 101(b)(3)(G).

Some commenters encouraged FHWA to interpret ''air pollution'' in 23 U.S.C. 134(a)(1) in a manner consistent with the definition of ''air pollution'' under the Clean Air Act,[25] which commenters felt would clearly bring GHG within the scope of 23 U.S.C. 134(a)(1) and under FHWA's authority. Commenters pointed to the CMAQ program as evidence of congressional intent to integrate the Clean Air Act into transportation planning. One commenter cited the Supreme Court decision in *Massachusetts* v. *EPA,* 547 U.S. 497, 528–29 (2007), for the principle that a GHG performance measure would not impermissibly conflict with the jurisdiction of other agencies, such as EPA.

One commenter stated that the authorizing language in 23 U.S.C. 150(c)(1) mandates that FHWA promulgate rules establishing performance measures and standards and in adopting that provision, Congress granted FHWA authority to promulgate rules establishing standards for performance management that apply to programs and objectives beyond those programs listed in 23 U.S.C. 150(c)(3)–(6). According to the commenter, the 23 U.S.C. 150(c)(2)(C) language limiting subsection 150(c) performance measures to those described in that subsection does not apply to performance standards adopted pursuant to the authorizing language in subsection 150(c)(1). The commenter concluded that 23 U.S.C. 150(c)(1) and 23 U.S.C. 135(d)(2) together give FHWA authority to establish standards for performance-based decisionmaking related to the national goals and planning objectives, including a GHG-related performance standard.

A number of commenters stated FHWA has no authority to adopt a GHG performance measure because they interpreted language in 23 U.S.C. 150(c)(2)(C) as barring the adoption of any measure not expressly listed in the statute. According to those commenters, the absence of a direct mention of GHG or climate change in the statute forecloses adoption of a GHG performance measure because 23 U.S.C. 150(c)(2)(C) states that in carrying out rulemaking for performance measures and standards, the Secretary shall limit performance measures ''to those described in this subsection.'' One commenter also took the position a GHG performance measure would not be related to any of the measures expressly listed in 23 U.S.C. 150(c). One commenter stated that, because a GHG measure would not be among the types of measures allowed by 23 U.S.C. 150(c), and because there is no ambiguity in the statute, adoption of a GHG measure would violate the separation of powers doctrine in the U.S. Constitution.

Several commenters focused on the possibility of legal authority for promulgating a GHG performance measure stemming from the CMAQ provision in 23 U.S.C. 150(c)(5). Those commenters viewed the term ''on-road mobile source emissions'' in 23 U.S.C. 150(c)(5) as limited in scope to actions that further the purposes of the CMAQ statute, 23 U.S.C. 149. In their view, any performance measure under 23 U.S.C. 150(c)(5) would have to relate to one or more of the three pollutants listed in the CMAQ statute, 23 U.S.C. 149. Those commenters pointed out that none of the three listed pollutants is a GHG. A few pointed to an FHWA response in its recent final rule for metropolitan and statewide planning as being an admission no authority exists for a GHG measure, citing 81 FR 34050, 34077 (May 27, 2016).

Finally, some commenters suggested FHWA should not issue a GHG performance measure because other Federal offices and agencies have authority over such emissions and already are taking action in this area. They pointed to regulations adopted by the National Highway Traffic Safety Administration and EPA, as well as the recent issuance by the President's Council on Environmental Quality (CEQ) of National Environmental Policy Act (NEPA) guidance on addressing GHGs.[26]

In response to the comments on FHWA's legal authority for a GHG performance measure, FHWA first acknowledges the concerns and views expressed by commenters on both sides of the question. Commenters' responses to the NPRM's request for comments on a GHG measure provided important information for FHWA to consider when developing the final rule. After reviewing and fully evaluating all of the comments, FHWA confirmed that it has legal authority to adopt the GHG performance measure contained in this rule. The FHWA disagrees with commenters who stated there is no legal authority under 23 U.S.C. 150 for a GHG performance measure. In 23 U.S.C. 150(c)(3)–(6), the statute defines the general topics of statutory concern to be addressed by performance measures and the related program statutes (*e.g.,* condition of pavements on the Interstate and non-Interstate NHS for the purpose of carrying out 23 U.S.C. 119). While FHWA agrees performance measures adopted under 23 U.S.C. 150 must relate to the measures described in 23 U.S.C. 150(c), the statute gives FHWA the discretion to determine the nature and scope of specific performance measures that will fulfill the statutory mandates in 23 U.S.C. 150(c). Contrary to the interpretation of some commenters, FHWA's response in the final planning rule, stating 23 U.S.C. 150(c)(2)(C) ''precludes FHWA from establishing any national performance measures *outside those areas identified in 23 U.S.C. 150*'' (87 FR 34050, 34077) (emphasis added), conveyed this same point. Accordingly, in the three rulemakings to implement 23 U.S.C. 150, FHWA has adopted performance measures it determined were related to the 23 U.S.C. 150(c)(3)–(6) areas of concern and the cited program statutes. The FHWA has not adopted any performance measure that falls outside of those statutory parameters. The GHG performance measure established in this rule is no exception.

The FHWA is adopting the GHG performance measure under 23 U.S.C. 150(c)(3), which calls for performance measures that the States can use to assess performance of the Interstate and non-Interstate NHS for the purpose of carrying out 23 U.S.C. 119. 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V). Section

[25] 42 U.S.C. 7602(g),

[26] *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Review,* CEQ (August 1, 2016). Available as of September 14, 2016 at *https://www.fhwa.dot.gov/map21/guidance/guidecmaq.cfm.*

150(c)(3) does not impose any limitation on what type of NHS performance may be measured in rules promulgated under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V). Consistent with its long-standing practice, FHWA interprets ''performance'' of the Interstate and non-Interstate NHS in those provisions to include environmental performance. This interpretation is supported by the many title 23 provisions that make the environment an integral part of the Federal-aid Highway Program, such as the national goal of environmental sustainability in 23 U.S.C. 150(b)(6), transportation planning provisions in 23 U.S.C. 134–135, and environmental provisions in 23 U.S.C. 109(c),(g),(h),(i), and (j).[27] The FHWA interpretation also is supported by the many FHWA actions to treat the environment, and specifically sustainability and climate change, as part of system performance. Examples include:

- The FHWA Strategic Plan, which embodies this view in its national system performance strategic goal: ''The Nation's Highway system provides safe, reliable, effective and sustainable mobility for all users.'' [28]
- The FHWA 2013 Conditions and Performance Report, which noted the transportation system is best able to reach peak performance when it can support economic competitiveness by providing adequate capacity and reliability while meeting sustainability goals.[29] For those reasons, FHWA stated, transportation agencies are being held accountable for how well they address these issues along with safety and state of good repair. The Report discussed the need to address climate change as part of promoting sustainability. The report described sustainability as requiring action to address climate change effects both through the reduction of GHG emissions and by ensuring the transportation system can adapt to future conditions caused by climate change.[30]
- FHWA's July 2013 guidance, *Handbook for Estimating Transportation Greenhouse Gases for Integration into the Planning Process.*[31]
- FHWA's December 2013 guidance, *A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning.*[32]
- FHWA Order 5520, *Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Effects* (December 15, 2014),[33] which states climate change and extreme weather events are a significant and increasing risk to the safety, reliability, effectiveness, and sustainability of transportation infrastructure and operations. The Order points to the costly and sometimes recurring damage to infrastructure from such climate change effects as sea level rise, resulting in a need to address potential effects of climate change in order to protect the integrity of the transportation system and to ensure the sound investment of taxpayer dollars.[34]
- The Long Term Bridge Performance Program (enacted under SAFETEA–LU, Pub. L. 109–59, 119 Stat. 1144 (August 10, 2005)). The program defines bridge performance, in part, as a multifaceted issue that involves multiple components and depends on multiple factors, including varying conditions of climate, air quality, and soil properties.[35]
- The FHWA guidance on environmental performance in infrastructure development, construction, and maintenance.[36]

Thus, as described in the NPRM for this rulemaking, FHWA already has taken steps to ''integrate climate analysis into the transportation planning process'' and to ''encourage[ ] transportation agencies to consider GHG emissions as part of their performance-based decisionmaking . . .'' 81 FR at 23830.

Additional statutory support for a GHG measure may be found in 23 U.S.C. 119, which is the program statute referenced in 23 U.S.C. 150(c)(3). Section 119, enacted by MAP–21, sets forth the purposes of the NHPP, eligibilities for NHPP funding, purposes and requirements for State performance management (including asset management, significant progress and reporting requirements for performance measures), Interstate and bridge condition penalty provisions for falling below minimum conditions established by the Secretary, and environmental mitigation. Under the statute, the purposes of the NHPP include ''to provide support for the condition and performance of the [NHS].'' 23 U.S.C. 119(b). The performance management provisions in 23 U.S.C. 119(e) call for a performance-driven asset management plan that would ''support progress toward the achievement of the national goals identified in section 150(b).'' The national goals in 23 U.S.C. 150(b) include environmental sustainability. The environmental sustainability goal is to be achieved by ''enhancing the performance of the transportation system while protecting and enhancing the natural environment.'' 23 U.S.C. 150(b)(6). By incorporating the environmental sustainability goal into 23 U.S.C. 119, the statute affirms environmental sustainability as part of the performance of the NHS addressed by 23 U.S.C. 150(c)(3). Measures for assessing the performance of the NHS for the purpose of carrying out 23 U.S.C. 119 may include measures furthering the environmental sustainability national goal. The GHG performance measure falls within these parameters.[37]

The FHWA agrees with commenters who cited several provisions in title 23 (23 U.S.C. 101(b)(3)(G), 134(a)(1), 134(c)(1), 134(h), 135(d)(1), and 135(d)(2)) in support of FHWA's authority to address GHG emissions in this rulemaking. Those provisions identify interrelationships among, and in some cases call for action related to, environment, energy conservation, infrastructure performance, resiliency, and performance-based decisionmaking:

[27] In addition, a number of statutes outside title 23, such as NEPA (42 U.S.C. 4321 *et seq.*), require consideration of the environment as part of developing and implementing infrastructure projects.

[28] *FHWA Strategic Plan* (2008–2016). The FHWA first adopted the plan in 2008 (available as of September 14, 2016 at *http://www.fhwa.dot.gov/strategicplan.pdf*). *Since then, FHWA has updated the plan periodically, but the strategic goals and objectives have not changed. The FHWA did remove the sections outlining national strategies for achieving the agency's strategic goals. This was done because the national strategies may change from year-to-year. The current version of the FHWA Strategic Plan* (2016) is available at *http://www.fhwa.dot.gov/policy/fhplan.cfm* (as of September 14, 2016).

[29] FHWA 2013 Conditions and Performance Report (PDF Version) at 5–2. Available as of September 14, 2016, at *https://www.fhwa.dot.gov/policy/2013cpr/.*

[30] *Id.* at 5–6 through 5–7.

[31] Available as of September 14, 2016, at *http://www.fhwa.dot.gov/environment/climate_change/mitigation/publications/ghg_handbook/ghghandbook.pdf.*

[32] Available as of September 14, 2016, at *http://www.fhwa.dot.gov/environment/climate_change/mitigation/publications/ghg_planning/ghg_planning.pdf.*

[33] Available as of September 14, 2016, at *http://www.fhwa.dot.gov/legsregs/directives/orders/5520.cfm.*

[34] *See* Section 3 of FHWA Order 5520 (December 15, 2014).

[35] *See* Long-Term Bridge Performance Program Web site (available as of September 14, 2016, at *https://www.fhwa.dot.gov/research/tfhrc/programs/infrastructure/structures/ltbp/about.cfm.*

[36] *See, e.g.,* ''Improving Environmental Performance in Construction and Maintenance, FHWA Successes in Stewardship Newsletter (March 2005, available as of September 14, 2016, at *https://www.environment.fhwa.dot.gov/strmlng/newsletters/mar05nl.asp*); ''Highways in the Coastal Environmental: Assessing Extreme Federal Highway Administration, Hydraulic Engineering'', FHWA Hydraulic Engineering Circular No. l 25-Vol. 2, Publication No. FHWA–NHI–14 (October 2014, available as of September 14, 2016, at *http://www.fhwa.dot.gov/engineering/hydraulics/pubs/nhi14006/nhi14006.pdf*); ''Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects'', FHWA Environmental Review Toolkit (available as of September 14, 2016, at *https://www.environment.fhwa.dot.gov/ecological/eco_5.asp*); Office of Infrastructure Research and Development Web page (available as of September 14, 2016, at *https://www.fhwa.dot.gov/research/tfhrc/offices/infrastructure/*).

[37] Another national goal is congestion reduction (23 U.S.C. 150(b)(3)). In some cases, reduction in GHGs and congestion reduction are linked. For a discussion of the relationship between GHG emissions and congestion, *see Transportation's Role in Reducing U.S. Greenhouse Gas Emissions, Volume 1, Synthesis Report,* USDOT Report to Congress (April 2010) (available as of September 14, 2016), at *http://www.reconnectingamerica.org/assets/Uploads/DOTClimateChangeReport-April2010-Volume1and2.pdf.*

- 23 U.S.C. 101(b)(3)(G) is a transportation policy declaration that ''. . . transportation should play a significant role in promoting economic growth, improving the environment, and sustaining the quality of life . . .''.
- 23 U.S.C. 134(a)(1) is a congressional statement of transportation planning policy that it is in the national interest ''. . . to encourage and promote the safe and efficient management, operation, and development of surface transportation systems . . . while minimizing transportation-related fuel consumption and air pollution through metropolitan and statewide transportation planning processes identified in this chapter . . .''.
- 23 U.S.C. 134(c)(1) requires metropolitan planning organizations to develop long range plans and transportation improvement programs to achieve the objectives in section 134(a)(1) through a performance-driven, outcome-based approach to planning.
- 23 U.S.C. 134(h) defines the scope of the metropolitan planning process. Paragraphs (h)(1)(E) and (I), respectively, require consideration of projects and strategies that will ''. . . protect and enhance the environment, promote energy conservation, improve the quality of life . . .'' and ''. . . improve the resiliency and reliability of the transportation system . . .''.
- 23 U.S.C. 135(d)(1) defines the scope of the statewide planning process. Paragraphs (d)(1)(E) and (I) respectively, require consideration of projects, strategies, and services that will ''. . . protect and enhance the environment, promote energy conservation, improve the quality of life . . .'', and ''. . . improve the resiliency and reliability of the transportation system . . .''.
- 23 U.S.C. 135(d)(2) requires the statewide transportation planning process to ''. . . provide for the establishment and use of a performance-based approach to transportation decisionmaking to support the national goals described in section 150(b) of this title . . .''.

In addition to the provisions listed above, the performance-based planning requirements in 23 U.S.C. 134(h)(2)(A) mirror the statewide provision in 23 U.S.C. 135(d)(2), stating the ''. . . planning process shall provide for the establishment and use of a performance-based approach to transportation decisionmaking to support the national goals described in section 150(b) of this title . . .''.

Read together, these title 23 provisions make it clear that assessing infrastructure performance under 23 U.S.C. 150(c)(3) may properly encompass assessment of environmental performance, including GHG emissions and other climate-related matters. The fact that other Federal agencies have jurisdiction to act on those matters (in this case, climate change and GHGs) does not preclude FHWA from taking actions to help ensure the Federal-aid Highway Program fulfills its statutory objectives in title 23.

With respect to comments regarding FHWA's authority to establish a GHG performance measure pursuant to 23 U.S.C. 150(c)(5) (CMAQ), FHWA agrees such authority exists, but FHWA has chosen to adopt the measure under 23 U.S.C. 150(c)(3) (NHPP) because it is more consistent with FHWA's view that environmental performance is a key indicator of the success of the highway system, and because 23 U.S.C. 150(c)(3) permits the application of the measure to the entire NHS. The FHWA also agrees with commenters that FHWA has authority to establish performance standards pursuant to 23 U.S.C. 150(c)(1) and that the performance standard authority is not subject to the limiting language in 23 U.S.C. 150(c)(2)(C). However, this rulemaking is for performance measures, and FHWA does not believe it would be appropriate to use this rulemaking to establish a GHG emissions performance standard for States and MPOs.

Establishing a GHG Performance Measure in This Rulemaking

Several commenters argued that, should FHWA decide to establish a GHG performance measure, it should do so through a separate rulemaking. They claimed that the NPRM did not provide sufficient detail about the type of measure FHWA might adopt for them to comment on the issue meaningfully. The FHWA disagrees. The NPRM clearly signaled that FHWA was considering a GHG performance measure, pointed out the substantial body of research and guidance that FHWA and others have developed on ways to incorporate GHGs into performance-based transportation planning and programs, requested comment on a series of questions about whether and how to establish a GHG performance measure, and identified a preferred approach if a measure was to be adopted. The FHWA received many substantive comments in response to these questions, including from those who claimed the need for another round of rulemaking. These comments included numerous suggestions on how to structure (and not structure) a GHG measure. The FHWA relied on these comments to refine the measure included in the final rule. The CO_2 performance measure established in this rule is the same as that described in the NPRM and is consistent with elements recommended in several of the comments received. The detail and substance of information and suggestions received in response to the questions FHWA posed clearly show that interested parties were capable of providing, and in fact did provide, informed comments regarding the establishment of a GHG performance measure.

Discussion of Comments Received in Response to NPRM Questions

a. Should FHWA include a measure that measures Greenhouse Gases (GHG)?

The FHWA's decision to establish a GHG measure is responsive to three major categories of comments:

(1) Numerous commenters claimed that the set of performance measures proposed in the NPRM was too narrowly focused on the speed of vehicles moving through the system, to the detriment of other key aspects of system performance such as environmental performance, and the ability of people to reach a variety of destinations conveniently and affordably by multiple modes.[38] The FHWA agrees that as sound policy, the set of national performance measures must cover multiple key aspects of performance, otherwise decisionmaking may not properly take into account important aspects of performance. In response, this final rule includes measures on GHG emissions and modal share and consolidates NPRM measures stakeholders perceived as duplicative.

(2) Multiple commenters noted that a GHG measure would provide decisionmakers with better information about the transportation system's GHG emissions and a means for measuring progress. The State DOTs from California, Colorado, Delaware, Minnesota, Oregon, Pennsylvania, Vermont, Virginia, and Washington submitted a joint letter supporting the creation of a measure specific to GHG emissions from the transportation sector. The National Association for Clean Air Agencies noted that performance measures create transparency and help policy makers to determine how their goals are most likely to be achieved. The FHWA agrees with these comments.

(3) Numerous commenters[39] argued that a GHG measure should be implemented because policies to reduce GHG pollution from transportation are essential to minimize the impacts from climate change, which include sea level rise and increased frequency and

[38] See comments from New York State DOT, Nelson Nygaard, Sierra Club, Utah DOT, Association of Metropolitan Planning Organizations (AMPO), and the National Association of Regional Councils (NARC), as well as citizen letter campaigns sponsored by Transportation for America and Smart Growth America.

[39] See for instance comments from Center for Neighborhood Technology, Natural Resources Defense Council, U.S. Public Interest Research Group.

severity of heat waves and heavy downpours that threaten human health, agriculture, the economy, and transportation.[40] Reports from FHWA and the National Academy of Sciences detail negative impacts of climate change on the NHS.[41]

The FHWA agrees with these comments. Greenhouse gas emissions from the transportation sector recently surpassed those from electricity generation, making transportation the largest source of GHG emissions in the U.S.[42] After decades of rapid increases, U.S. transportation carbon emissions are projected to remain relatively flat in the future, as future increases in freight and passenger travel are counterbalanced by stricter fuel economy standards for light-duty vehicles and new standards for medium- and heavy-duty vehicles.[43] Significantly greater reductions in transportation GHG emissions are needed to meet the near-term target of 26 to 28 percent below 2005 levels by 2025 and long-term trajectories of 80 percent or more by 2050 which would be consistent with the U.S. Midcentury Strategy for Deep Decarbonization and consistent with the long-term goals of the Paris Agreement.[44] Achieving CO_2 reductions of this magnitude will require actions such as reducing the growth in future travel activity and improving system efficiency, which are influenced by the planning activities and investment decisions of State DOTs and MPOs. A GHG measure emerged as a leading candidate for measuring the environmental aspect of the performance of the highway system during FHWA and stakeholder discussions in 2009.[45] Subsequently, FHWA initiated a research project to investigate GHG measures that would align with performance-based planning and programming, as well as how State DOTs and MPOs could go about implementing such a measure. A number of FHWA stakeholders served on the expert panel that provided input into the development of the resulting research report, *A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning.*[46]

The FHWA disagrees with commenters that argued that FHWA should not include a GHG measure because they felt that State DOTs and MPOs have insufficient ability to impact GHG emissions. State DOTs and MPO recipients of Federal transportation funds have control or influence over many strategies that impact transportation GHG emissions. These strategies can be divided into four major groups:[47]

(1) System efficiency. These strategies optimize the operation, use, and maintenance of transportation networks, which in turn reduce GHG emissions per unit of travel. Relevant strategies include speed harmonization, speed limit reduction and enforcement, ramp metering, incident management, traveler information, traffic signal timing optimization, bottleneck relief, anti-idling ordinances, congestion pricing, and the improvement in freight intermodal connections.

(2) Reducing the growth in VMT. These strategies reduce the need to travel, increase vehicle occupancies, and shift travel to more energy efficient options. Relevant strategies include integrated transportation and land use planning in coordination with local governments, public transportation and non-motorized transportation improvements and incentives, car sharing, employer-based strategies (such as telework), parking management and pricing, road pricing, and pay-as-you drive insurance.

(3) Promoting alternative fuel vehicles. State DOTs and MPOs can help plan for the siting and deployment of electric vehicle charging stations, designate and promote alternative fuel corridors, promote workplace charging initiatives, and promote adoption of alternative vehicles within agency and private fleets.

(4) Increasing vehicle fuel efficiency. State DOTs and MPOs can help bring to market higher efficiency vehicles and improve the performance of in-use vehicles. Relevant strategies include scrappage programs for low-mileage vehicles, feebates, heavy-duty vehicle retrofits, truck stop electrification, and eco-driver education and training.

The FHWA disagrees with the American Petroleum Institute, which suggested that FHWA should not include a performance measure on GHG because transportation GHG emissions are regulated by fuel economy standards. Continued growth in VMT is expected to counterbalance improvements in fuel economy, and as such, fuel economy standards alone are insufficient to reach GHG goals.

To allay some of the burden concerns raised by those arguing against a GHG emissions measure, FHWA has chosen a measure that relies on existing data and is straightforward to calculate. Limiting the measure to CO_2 simplifies calculations (since unlike the other GHGs, it is emitted in direct proportion to the amount of fuel burned), while still capturing 95 percent of transportation GHGs.[48] Limiting the measure to on-road emissions rather than full life cycle also simplifies analysis. The overall burden on State DOTs and MPOs is further reduced in the final rule by the elimination of the two NHPP peak hour performance measures and the truck congestion measure.

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[40] United States Government, *National Climate Assessment,* 2014. *http://nca2014.globalchange.gov/.*

[41] U.S. Department of Transportation, *Gulf Coast Study Phases I and II,* 2008 and 2015. *http://www.fhwa.dot.gov/environment/climate_change/adaptation/ongoing_and_current_research/gulf_coast_study/.*

Federal Highway Administration, *Climate Resilience Pilot Program: Outcomes, Lessons Learned, and Recommendations,* 2016. *http://www.fhwa.dot.gov/environment/climate_change/adaptation/resilience_pilots/2013-2015_pilots/final_report/.*

The Transportation Research Board of the National Academy of Sciences, The Potential Impacts of Climate Change on US Transportation, 2008. *http://www.trb.org/Main/Blurbs/156825.aspx.*

Impacts include increases in flooding damaging roadways and disrupting travel, increases in heat waves degrading materials and impacting worker health and productivity, permafrost melt destabilizing roadways, changes in precipitation patterns leading to more landslides, drought conditions causing soil shrinkage and pavement cracking, as well as increased susceptibility to wildfires, causing road closures. Climate change increases the frequency and/or intensity of many extreme weather events that damage or disrupt transportation. Scenarios with lower greenhouse gas emissions in the future show lower negative impacts on the transportation system.

[42] U.S. Department of Energy, Energy Information Agency (EIA), *http://www.eia.gov/totalenergy/data/monthly/.*

[43] U.S. Department of Energy, Energy Information Agency (EIA), *Annual Energy Outlook,* 2016. *http://www.eia.gov/forecasts/aeo/tables_ref.cfm.*

[44] U.S. Government, ''Fact Sheet: U.S. Reports its 2025 Emissions Target to the UNFCCC,'' March 2015. *https://www.whitehouse.gov/the-press-office/2015/03/31/fact-sheet-us-reports-its-2025-emissions-target-unfccc.*

U.S. Government, ''U.S. Mid-Century Strategy for Deep Decarbonization,'' November 4, 2016. *https://www.whitehouse.gov/sites/default/files/docs/mid_century_strategy_report-final.pdf.*

[45] American Association of State Highway and Transportation Officials (AASHTO) Standing Committee on Performance Management (SCOPM), ''Meeting Minutes,'' October 23, 2009. *http://scopm.transportation.org/Documents/Minutesof10.09SCOPMMeeting.doc.*

[46] FHWA, *A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning,* December 2013, Acknowledgements section of report front matter. *http://www.fhwa.dot.gov/environment/climate_change/mitigation/publications/ghg_planning/ghg_planning.pdf.*

[47] U.S. Department of Transportation, *Report to Congress: Transportation's Role in Reducing U.S. Greenhouse Gas Emissions,* 2010.

[48] U.S. Department of Transportation, *Report to Congress: Transportation's Role in Reducing U.S. Greenhouse Gas Emissions,* 2010. The other greenhouse gases from transportation are hydrofluorocarbons (HFCs), methane (CH_4) and nitrous oxide (N_2O).

Should the measure address all on-road mobile sources or focus only on a particular vehicle type?

All of the commenters who responded to this question favored a measure that addressed all on-road mobile sources. The FHWA agrees. This approach allows for a more comprehensive picture of the transportation system's contribution to emissions, from passenger vehicles to freight movement.

b. 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)?

Multiple commenters suggested that the measure examine both total emissions and be normalized by changes in population. Total emissions will need to be reduced to achieve GHG reduction goals; normalizing on a per capita basis acknowledges the fact that many States and regions are experiencing significant population growth. In addition to normalizing by population, the Texas DOT suggested normalizing by gross State product, port activity, State land mass, and consideration of the current built environment. Another commenter noted that a GHG performance measure indexed to gross State product or other economic indicators could rise or fall quickly based on economic trends that are difficult to predict, limiting its value in decisionmaking.

The FHWA decided a total on-road CO_2 measure (limited to travel on the NHS) is the best option. It makes assessment of progress toward performance management targets and national U.S. goals relatively easy. In contrast, CO_2 per capita could be decreasing while total on-road CO_2 is still increasing, failing to provide the total emissions data needed to understand and measure the performance goal of environmental sustainability.

The FHWA notes that State DOTs and MPOs have discretion to use additional performance measures and may wish to normalize CO_2 by total population as an additional useful indicator in their analyses. An FHWA research project identified light-duty vehicle CO_2 emissions per capita as a helpful additional measure to combine with the total on-road emissions measure. The research project report also includes information on data sources and methodologies.[49]

c. 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)?

Some commenters, including most of the MPO and State DOT commenters, recommended that the measure focus solely on tailpipe emissions, noting that tailpipes are the largest source of transportation emissions. These commenters noted that upstream fuel cycle emissions are more difficult to calculate and are largely outside the control of the transportation agency.

Others, including the Center for Neighborhood Technology, Natural Resource Defense Council, the National Association for City Transportation Officials, and the New York City DOT recommended that the performance measure include emissions generated upstream.

Several commenters, including the Sabin Center for Climate Change Law and the CMAP, recommended an intermediate approach to account for the electricity used to power electric vehicles.

After considering these comments and balancing the factors, FHWA decided to limit the measure to on-road CO_2 emissions for reasons of focus and simplicity.

One difficulty with upstream emissions from petroleum extraction and refining is they vary by where and how the fuel is extracted. An option is to use the national average adjustment factor of 27 percent to account for the upstream fuel-cycle emissions.[50] [51] [52] This methodology can be helpful for understanding transportation's overall contribution to GHG emissions, but does not add value as a measure of State or MPO performance. Adjustments based on the national average fail to provide the type of differentiated information needed to capture the outcomes of State and MPO actions. A measure focused on tailpipe emissions simplifies the calculations and provides the type of specific information helpful to States and MPOs as they determine what measures to adopt to influence GHG outcomes.

The FHWA considered the comments supporting a measure that captures upstream emissions from electric cars, but declines to do so at this time because of the complexity it would add to the measure. Upstream emissions from electricity are more difficult to calculate because one must estimate the level of electricity consumed by electric vehicles. These data are not tracked separately and generally are estimated based on electric vehicle registration data. In addition, excluding upstream electricity emissions will preserve the rule's focus on on-road emissions. While FHWA has decided to exclude upstream emissions from the GHG measure in this rule, research indicates electric vehicles typically produce lower lifecycle GHG emissions than the average gasoline-based vehicle, even when using electricity from the highest carbon U.S. electricity grids.[51] thnsp;[52] Transportation agency actions to encourage electric vehicle use (such as deployment of charging infrastructure, preferred use of High Occupancy Vehicle/express lanes for electric vehicles, etc.) will result in reduced overall CO_2 emissions as well as reduced CO_2 emissions in the tailpipe measure.

State DOTs may voluntarily report additional measures of CO_2 performance, in addition to their baseline requirement. These additional measures, or variations, could include metrics for electric vehicle emissions, VMT-based estimates, and/or per capita emissions, among other options to test innovative reporting options. The FHWA's online reporting portal allows the State to attach supplemental information at their discretion.

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

Several commenters, including the Georgia and Minnesota DOTs, Denver Regional Council of Governments, and the San Francisco Municipal Transportation Agency, recommended that the measure be limited to tailpipe emissions. These commenters said that tailpipe emissions make up the majority of transportation emissions and that construction and maintenance emissions are more difficult to calculate. Other commenters recommended that tracking emissions from construction and maintenance of highway projects is desirable, but that emissions from

[49] FHWA, *A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning,* December 2013.

[50] The U.S. EPA published estimates of fuel-cycle greenhouse gas emissions in ''Greenhouse Gas Emissions from the U.S. Transportation Sector, 1990–2003.'' [1] The U.S. EPA calculated a national average adjustment factor of 1.27 (or 27 percent).

[51] Union of Concerned Scientists, *Cleaner Cars from Cradle to Grave,* 2015. *http://www.ucsusa.org/clean-vehicles/electric-vehicles/life-cycle-ev-emissions#.V_Ug2E2V_ct.*

[52] Department of Energy, *Emissions from Hybrid and Plug-in Vehicles, 2016. http://www.afdc.energy.gov/vehicles/electric_emissions.php.*

facility use (*i.e.,* tailpipe emissions) warrant the largest share of attention and analysis.

The FHWA agrees with commenters that the measure should be limited to tailpipe emissions. Accordingly, construction and maintenance emissions are not included in the CO_2 emissions measure because of the complexity and burden it would add to the measure. The level of construction and maintenance emissions varies year to year based on project cycles. This means that grouping them with on-road vehicle emissions in a single performance measure would make it more difficult to analyze trends and ascertain progress. A separate measure for construction and maintenance CO_2 emissions may be helpful, but FHWA is not adopting such additional measure in this rulemaking. The FHWA wishes to limit the performance management burden on State DOTs and MPOs by, in part, limiting the number of performance measures adopted in this rulemaking.

However, FHWA encourages State DOTs and MPOs efforts to track and reduce construction and maintenance CO_2 emissions. One tool for this is FHWA's Infrastructure Carbon Estimator (ICE) [53] tool. These emissions can be included in other CO_2 emissions analyses that agencies may be conducting during the transportation planning process.

e. Should State-level CO_2 emissions be estimated based on gasoline and diesel fuel sales, system use (vehicle miles traveled [VMT]), or other surrogates?

Several commenters, including the DOTs of California, Colorado, Delaware, Virginia, Oregon, Pennsylvania, Vermont, Wisconsin, and Minnesota, recommended that, at least in the short term, the measure should use fuel sales data to calculate CO_2 emissions. They noted that CO_2 is emitted in direct proportion to the amount of fuel burned and that States already report fuel sales data to FHWA. However, commenters noted some disadvantages of using fuel sales data: It is not available at finer geographic scales, such as the metropolitan level, and there are boundary issues with fuel purchased in one State but combusted in another State or region.

Other commenters, including the Georgia DOT, Denver Regional Council of Governments, Southwest Energy Efficiency Project, and the Center for Neighborhood Technology, recommended that the measure should use VMT as the basis for estimating CO_2 emissions. They stated that using VMT data from travel demand models combined with the EPA MOVES [54] model to estimate CO_2 emissions based on travel distances, speeds, and operating conditions provide an accurate picture of on-road CO_2 emissions in a State or region. In addition to calculating current emissions, this type of analysis is also helpful in understanding how State DOT and MPO investment decisions and policies, such as adding proposed new lane miles, can influence future CO_2 emissions by altering inputs to the travel demand model. The commenters acknowledged, however, that many State DOTs and MPOs lack the modeling expertise and quality data needed to use a method that relies on a travel demand model in combination with MOVES.

The FHWA decided that for calculating the CO_2 emissions performance measure, States will use a methodology that relies on fuel sales volumes. This method is simple, accurate, and relies on data that States already report to the agency. Commenters pointed out a fuel-based measure would have minimal implementation costs as compared to a VMT-based measure, which would require transportation agencies to dedicate staff to the effort and incur new ongoing costs.

Fuel-based methods typically rely on estimates of fuel sales and directly convert fuel use estimates into CO_2 emissions estimates based on the carbon content of each fuel. The basic equation for estimating CO_2 emissions using fuel sales is:

Fuel Consumed $\times$ *CO_2 emissions per unit of fuel = CO_2 Emissions*

The CO_2 emissions factor depends on the fuel type (*e.g.,* motor gasoline, diesel).

The VMT-based methods rely on quantifying the amount of vehicle travel and then connecting this information to an estimate of CO_2 emissions using emission factors or an emissions model. The basic equation for estimating emissions using VMT is:

VMT $\times$ *CO_2 per VMT = CO_2 Emissions*

However, to achieve an accurate picture and assess improvements, the process would have to use different emissions factors (typically presented in grams of CO_2 per mile) for different vehicle types, classes within vehicle types, technology/fuels types, speeds, and operating conditions.

For the GHG performance measure, State DOTs must use the fuel sales methodology for calculating State on-road CO_2 on the NHS. However, in addition to the baseline requirement for State DOTs to report on-road CO_2 on the NHS using a fuel sales methodology, State DOTs may voluntarily report CO_2 emissions using alternative methods, such as VMT based methods. State DOTs would attach this as supplemental information in FHWA's online reporting portal.

For metropolitan planning areas, MPOs and State DOTs are granted flexibility in how they calculate the required CO_2 performance measure. The FHWA adopted these different approaches because of: (1) The lack of data available on fuels sales at the metropolitan planning area level and (2) the need to ensure one consistent method for State DOT measures in order to understand national performance trends and to allow for a consistent approach to progress determinations.

Methodologies available for calculating on-road NHS CO_2 emissions for metropolitan planning area include (in order of level of effort):

Fuel-based Methods:

If fuel sales volumes are available at the metropolitan planning area level, MPOs may use the same fuel-based method as outlined for the State DOTs (fuel volumes multiplied by emissions factors). The strengths of this method are that it is simple and consistent with the State method. There are limitations to this method. Fuel sales data are not usually available at the metropolitan planning area level. Also, fuel sales may not match well with actual travel activity in smaller geographic areas, as drivers may purchase fuel in one area and use it in another area. This is much more of a concern at the metropolitan planning area level than the State level since the metropolitan planning area is a smaller geographic unit.

Another option is for MPOs to allocate GHG emissions based on metropolitan planning area share of NHS VMT. This is done by multiplying the statewide NHS on-road CO_2 emissions by the percent of the State's NHS travel that occurs within the MPA. The strengths of this method are that it is simple, providing a rough estimate of the metropolitan planning area share of CO_2 emissions. However, this method does not account for differences between metropolitan areas and between metropolitan and rural areas in vehicle fleets, speeds, and operating

[53] FHWA, *Infrastructure Carbon Estimator, http://www.fhwa.dot.gov/environment/climate_change/mitigation/tools/carbon_estimator/.*

[54] The Motor Vehicle Emissions Simulator (MOVES) is EPA's official model for estimating emissions from cars, trucks and motorcycles. *http://www.epa.gov/otaq/models/moves/index.htm.*)

conditions. It will not accurately capture some types of strategies that the MPO may use to reduce CO_2 emissions, such as traffic smoothing with roundabouts or advanced signal timing.

VMT-based Methods:

The MPOs may use VMT from HPMS and national average emissions factors per mile of travel. The strengths of this method are that it is simple and well-geared toward areas without network travel models. In addition, FHWA will provide emissions look-up tables by types of facilities and speed ranges reflecting national averages. The main limitation is that it does not account for the range of factors that vary in different locations and impact fuel consumption per mile of travel (and consequently CO_2 emissions per mile of travel), such as vehicle fleet composition, and operating conditions.

The MPOs also may use VMT from travel demand models combined with MOVES.[55] The strengths of this method include that MPOs in air quality nonattainment and maintenance areas are already conducting this analysis and can include CO_2 emissions in the MOVES output without additional effort. It provides robust and granular information on emissions. In addition to estimating current emissions, it is also well suited to support target-setting and analyze impacts of different transportation investment strategies on future emissions. However, some travel demand models are not sensitive to some CO_2 emissions reduction strategies such as the implementation of intelligent transportation system (ITS) strategies and operational improvements, the provision of pedestrian and bicycling infrastructure, and mixed use development. For areas not already using MOVES, MPOs will need to assemble local data or rely on default data, (relying on default data reduces accuracy). Areas not already using MOVES will need to become familiar with how to use the tool. Information on MOVES training is available on EPA's MOVES Web page: *https://www.epa.gov/moves/moves-training-sessions.*

A third option is FHWA's Energy and Emissions Reduction Policy Analysis Tool (EERPAT). The EERPAT is an integrated modeling system designed specifically to evaluate strategies for reducing surface transportation GHG emissions. It uses emissions factors from MOVES. There are several strengths to this method. In addition to estimating current emissions, EERPAT is also well suited to target-setting and analyzing impacts of different transportation investment strategies on future emissions. It is sensitive to a number of strategies that are difficult to analyze using travel demand models, such as mixed use development, car sharing and provision of non-motorized infrastructure. The EERPAT can evaluate future changes in land use and is sensitive to external changes in the price of fuel. It can incorporate changes in vehicle technology, including the rebound effect from lower per-mile travel costs. It can be used to assess the overlapping effects of strategies applied in combination. The limitations of this method include the large number of model inputs required, some of which may be difficult to obtain. The EERPAT does not include a detailed representation of the transportation network, and has limited sensitivity to the impact of additional roadway and transit capacity.

The FHWA's *Handbook for Estimating Transportation Greenhouse Gases for Integration into the Planning Process* provides step-by-step instructions on how to use these methods, as well as information on strengths and limitations of each. If MPOs have the technical capacity to use MOVES or EERPAT, FHWA encourages them to do so since they are more accurate.

f. Due to the nature of CO_2 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?

Nearly all commenters agreed that if a GHG measure were established, it should apply nationwide to all State DOTs and MPOs since all GHG emissions have the same impact on climate no matter where they are generated. The Air Pollution Control Division of the Colorado Department of Public Health and Environment recommended measuring performance on a statewide basis, not locally or regionally. The California DOT recommended that the measure apply and be reported by all States and that MPOs be encouraged to participate in target-setting discussions. Similarly, the North Front Range MPO suggested that the role of MPOs be limited to participating with State DOTs in target setting and development of reduction strategies.

A building materials firm, CEMEX, suggested that efforts should focus on the roads with the most traffic and trucks, namely the NHS.

After considering the comments received, FHWA decided that the measure should apply to the NHS in all States and MPOs. The measure is limited to CO_2 emissions on the NHS since the measure is to assess the performance of the NHS, per 23 U.S.C. 150(c)(3)(A)(ii)(IV) and (V). Existing data do not differentiate the exact volumes of fuel burned on the NHS versus the volume of fuels burned on other roads. Therefore, States will use VMT data to calculate the portion of travel that occurs on the NHS versus other roads and use that proportion to estimate the proportion of CO_2 emissions on the NHS.[56] Table VM–3 Federal-Aid Highway Travel (Annual Vehicle-Miles), found in FHWA's *Highway Statistics,* supplies the needed VMT information.[57]

g. Would a performance measure on CO_2 emissions help to improve transparency and to realign incentives such that State DOTs and MPOs are better positioned to meet national climate change goals?

Several commenters noted that a CO_2 performance measure would help transportation agencies examine trends and analyze the effectiveness of strategies in achieving their goals. They also noted that it would create transparency, allowing stakeholders and the public to see what goals are being set, how they are being pursued, and the results the measure produced. The State DOTs of California, Colorado, Delaware, Minnesota, Oregon, Pennsylvania, Virginia, Vermont, and Washington recommended that FHWA work with States to develop a national climate change goal for transportation that aligns with the Paris Climate Change Agreement. These DOTs suggested that States should use a CO_2 performance measure to drive decisions that help to meet or exceed the national goals under that agreement.

The Georgia DOT noted that the performance measure's effect on transparency would depend on the transparency and complexity of the measure itself and the associated reporting requirements. A GHG measure could help align incentives with national climate change goals, but would be an additional factor to

[55] Or EMFAC in California.

[56] The FHWA recognizes that this is not a perfect proxy, as speeds, operating conditions, and vehicle types on the NHS differ from those on other roads and differ between States. However, in balancing the competing goals of simplicity and precision, FHWA believes that this approach provides actionable information that DOTs and MPOs can use in evaluating system performance and making decisions, without significantly increasing workloads.

[57] Available at *https://www.fhwa.dot.gov/policyinformation/statistics.cfm.*

consider in the tradeoff analysis conducted under a performance-based planning and programming approach.

The FHWA agrees with these comments. The CO_2 performance measure adopted in this rule can serve to advance the environmental performance of the NHS as well as to drive decisions that contribute to national GHG reduction goals, such as those described in the President's Climate Action Plan.[58] The simplicity of the GHG performance measure and the reporting requirements will make it easier for States and MPOs to administer the measure and their targets, and to incorporate reduction strategies into their planning process and investment decisions.

The Texas DOT suggested that any GHG emission reduction that State DOTs or MPOs could achieve would be small compared to the overall level of emissions. The FHWA notes that climate change results from the incremental addition of GHG emissions from millions of individual sources, which collectively have a large impact on a global scale. The totality of climate change impacts is not attributable to any single action, but is exacerbated by a series of actions, including actions taken under the Federal-aid Highway Program. Therefore, a statement that emissions from a proposed action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge [59] and is not an appropriate basis for deciding whether or to what extent to consider CO_2 emissions from transportation in the performance management framework.

Publicly-available FHWA reports provide detailed guidance on how State DOTs and MPOs can include GHG emissions measures in performance management and how to estimate emissions levels.[60]

h. The target establishment framework proposed in this rulemaking requires that State DOTs 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_2 emissions measure?

Several commenters, including the California, Minnesota, and Washington DOTs, and the North Front Range MPO, recommended that the measure have 4- and 20-year targets. These commenters suggested that a 2-year target may be too short to demonstrate significant changes to statewide CO_2 emissions. They said that a 4-year, short-term target would align the CO_2 measure with other national system performance measures and the 20-year long-term CO_2 performance target would align with the long-range planning timeline.

Some commenters suggested targets align with other processes, such as the timing cycles for transportation improvement programs (TIPs) (4 years), long range transportation plans (20 years), and air quality conformity analyses.

The FHWA decided that making the CO_2 measure consistent with the other NHPP performance measures would ease and streamline implementation. Even though a 2-year target is a very short timeframe, it can indicate progress toward a longer term goal and can reflect short-term actions such as operational improvements. Consistent with the other performance measures, for the CO_2 measure, State DOTs must establish both 2- and 4-year targets. The MPOs are subject only to a 4-year target-setting requirement for CO_2 emissions and MPOs must either:

- Agree to plan and program projects so that the projects contribute toward the accomplishment of the relevant State DOT target for the performance measure; or
- Commit to a quantifiable 4-year target for the performance measure for their metropolitan planning area.

In making this decision, FHWA does not discount the role of statewide and metropolitan long range transportation plans in performance management. These long range plans (20 years or more) include long-term expectations for the performance measures. The longer-term performance expectations are particularly important for CO_2 emissions as many reduction strategies, such as integrated land use and transportation planning or provision of new public transit systems, take years to implement or show impacts.

The FHWA also notes that the planning regulations relate directly to the performance management regulations. The long range (20-year) transportation plans must include the required performance measures and targets (including for CO_2) and a system performance report that evaluates the condition and performance of the transportation system with respect to the performance targets. The short term (4-year) programming STIPs and TIPs must include a discussion of the anticipated effect of the STIP and TIP toward achieving the performance targets in the long range transportation plans. And for MPOs, the TIP must be designed such that once implemented, it makes progress toward achieving the performance targets in the long range plan.

The relevant regulatory sections are:

- 23 CFR 450.216(f)(1) and (2) and 450.324(f)(3) and (4) require that the long-range statewide transportation plan and the metropolitan transportation plans include a description of the performance measures and performance targets used in assessing the performance of the transportation system and that they also include a system performance report evaluating the condition and performance of the transportation system with respect to the performance targets.
- 23 CFR 450.218(q) and 450.326(d) require that the STIP and TIP shall include, to the maximum extent practicable, a discussion of the anticipated effect of the STIP and the TIP toward achieving the performance targets in the long-range statewide transportation plan and the metropolitan transportation plans. Also, § 450.326(c) requires that the TIP shall be designed such that once implemented, it makes progress toward achieving the performance targets in the metropolitan transportation plan.

State DOTs and MPOs both have substantial flexibility in choosing targets. As with other performance targets for the performance management measures, targets are generally established based both on policy aspirations and on analysis indicating what is believed to be attainable. As such, when establishing their CO_2 emissions targets, State DOT and MPO considerations likely would include these three factors:

(1) Projections of business-as-usual future CO_2 emissions. The U.S. Department of Energy, Energy Information Agency (EIA) provides projections taking into account Federal fuel economy standards and current VMT projections. Some States have revenue forecasting models that project future fuel sales that can be used to project future emissions levels.

(2) Policy goals. Twenty States have State-specific GHG emission reduction targets from statewide climate action

[58] Executive Office of the President, *The President's Climate Action Plan,* June 2013. *https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf.*

[59] Council on Environmental Quality, Final Guidance for Federal Department and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews, 2016. *https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf.*

[60] FHWA, *A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning,* December 2013, Acknowledgements section of report front matter. *http://www.fhwa.dot.gov/environment/climate_change/mitigation/publications/ghg_planning/ghg_planning.pdf.*

FHWA, *Handbook for Estimating Transportation Greenhouse Gases for Integration into the Planning Process,* 2013. *http://www.fhwa.dot.gov/environment/climate_change/mitigation/publications/ghg_handbook/ghghandbook.pdf.*

plans and/or State legislation.[61] The U.S. has committed to reduce GHG emissions 26 to 28 percent below 2005 levels by 2025 and 80 percent or more by 2050.[62]

(3) Analysis of what is attainable. For the purposes of target-setting, analyses of the potential effectiveness of various strategies may vary in level of effort and technical capabilities required. Options for analysis include:

- Using published information on the approximate magnitude of emissions reduction that can be expected from different strategies. The FHWA's *Reference Sourcebook for Reducing GHG Emissions from Transportation Sources*[63] provides ranges of emission reductions as well as costs, barriers to implementation, example projects, and co-benefits.
- Using sketch planning or scenario planning tools.
- Using VMT from travel demand models and MOVES.
- Using EERPAT, FHWA's integrated modeling system designed specifically to evaluate strategies for reducing surface transportation GHG emissions.

Note that while the rule requires State DOTs to use the fuel sales-based method for calculating past year CO_2 for national consistency reasons, they may use any variety of analytical methods for target-establishment. In fact, while fuel-sales methods are simpler and more accurate for calculating past CO_2, VMT-based methods will generally be more helpful in projecting future emissions and analyzing reduction strategies. This is because VMT-based forecasting methods can model changes in transportation demand resulting from various strategies.

i. Should short term targets be a reflection of improvements from a baseline (*e.g.,* percent reduction in CO_2 emissions) or an absolute value?

Many commenters recommended that targets be expressed as a percent change from a certain year. They indicated it may be difficult to grasp the meaning of an absolute number of metric tons of CO_2. In contrast, decisionmakers and the public can more easily interpret a percent change and understand how it relates to existing State, national, and international GHG goals. It is common practice to express GHG goals as a percent reduction. The State DOTs of California, Colorado, Delaware, Minnesota, Oregon, Pennsylvania, Virginia, Vermont, and Washington recommended expressing the targets as percent reduction below a 2005 reference year to be consistent with the U.S. GHG reduction goals established under the Paris Climate Change Agreement. The Atlanta Regional Council suggested that CO_2 targets be expressed as percent reductions below what would be achieved from fuel economy standards alone.

The FHWA decided that the measure will be expressed as a percent change from 2017 NHS on-road CO_2 levels. The FHWA agreed with commenters that a percent change provides more meaning and context to decisionmakers and the public than a certain number of metric tons of CO_2. The FHWA agreed with commenters that a 2005 baseline would be in line with national goals. However, the size of the NHS materially changed after 2005 due to reclassification of roadways under MAP–21. The changes to the NHS, which began in 2012 and have continued in some States, are expected to stabilize by 2017. Using the 2017 reference date avoids the type of significant data adjustment that would be needed if 2005 were used as the reference date. Using 2017 as the reference date for the GHG measure also makes the starting point for the GHG measure more compatible with the first baseline year used in other measures.

j. What data sources and tools are readily available or are needed to track and report CO_2 emissions from on-road sources? What tools are needed to help transportation agencies establish targets for a CO_2 emission measure?

Commenters noted several data sources and tools are readily available:

- Annual fuel sales volumes by State;
- EIA data on CO_2 emissions per gallon of fuel;
- VMT data in HPMS;
- CO_2 emissions per mile of travel based on vehicle type, speed, and operating conditions available in EPA MOVES model[64];
- Fleet composition from vehicle registration records; and
- Argonne National Laboratory's national Vision model and California's Vision model, which allow States to evaluate vehicle technology, fuel, and efficiency scenarios for meeting air quality and climate goals.

Commenters also noted that the following tools and resources would be helpful:

- Tools and procedures to estimate GHG emissions and establish targets that are aligned with existing tools States and MPOs use in the planning process.
- Tools pre-populated with emissions factors.
- Tools to determine CO_2 targets and understand the probable efficacy of potential emission reduction strategies.
- New air quality calculators that incorporate GHG emissions or revised existing calculators that include GHG emissions.
- Tools that would enable agencies to measure tailpipe CO_2 emissions based on system use, including:
  - Enhanced travel demand models for areas not sufficiently covered by existing models and new models that show the synergistic relationship between transportation and land use.
  - Assistance developing MOVES inputs and running MOVES.
  - Estimates of ''business as usual'' emissions in target years.

The FHWA has developed a series of tools and resources to assist State DOTs and MPOs in developing and evaluating effective GHG emissions reduction strategies. More information is available at: *www.fhwa.dot.gov/environment/climate_change/mitigation/*. The FHWA will continue to update tools and provide technical assistance. To minimize workloads, FHWA will provide on its Web site the CO_2 per gallon of fuel for all of the common motor fuels. In addition, FHWA will provide look-up tables with national averages of grams of CO_2 per VMT for different speeds for the national average vehicle fleet.

The FHWA recognizes that the measure of CO_2 emissions chosen here—the percent change in tailpipe CO_2 emissions on the NHS compared to the Calendar Year 2017 level—is imperfect. Data is not available to directly measure this, so we have chosen to measure this indirectly by calculating fuel sales and multiplying the associated CO_2 emissions by the proportion of VMT that takes place on the NHS. This method results in a measure that is only partially affected by projects that reduce emissions on the NHS. For example, if there is a significant downturn in the economy and people choose to drive less, this would result in a reduction in the measure. If people choose to drive the same amount, but shift some of their driving to non-NHS roads, this would also result in a reduction in the measure. If gas prices fall temporarily and people drive more, this would result in an increase in the measure. In addition, the measure does not take account of upstream emissions, so if people shift to EVs, the higher upstream emissions associated with this would not be captured. For these reasons, FHWA will, in the future, re-evaluate this measure and consider whether data are available to more directly measure emissions effects of NHS projects

[61] FHWA, *Handbook for Estimating Transportation Greenhouse Gases for Integration into the Planning Process,* 2013.

[62] U.S. Government, ''Fact Sheet: U.S. Reports its 2025 Emissions Target to the UNFCCC,'' March 2015. *https://www.whitehouse.gov/the-press-office/2015/03/31/fact-sheet-us-reports-its-2025-emissions-target-unfccc.*

[63] Available at *http://www.fhwa.dot.gov/environment/climate_change/mitigation/publications/reference_sourcebook/index.cfm.*

[64] Or EMFAC in California.

undertaken by States or MPOs. If more direct data sources are developed, FHWA may consider revising this measure.

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

Several commenters, including the State DOTs of California, Colorado, Delaware, Minnesota, Oregon, Pennsylvania, Virginia, Vermont, and Washington, suggested that transportation agencies could implement a fuel-based GHG measure in 1 to 2 years and that a VMT-based measure would take 3 to 5 years.

The FHWA has chosen a fuel-based measure that can be implemented within the 1- to 2-year time frame cited by commenters. This is consistent with the timeframes established in this rule (first performance period starts on January 1, 2018, and targets are due in October 2018).

l. The FHWA Requests Data About the Potential Agency Implementation Costs and Public Benefits Associated With Establishing a CO_2 Emissions Measure

Some commenters noted that a fuel-based measure would have minimal implementation costs, but that a VMT-based measure would require transportation agencies to dedicate staff to the effort and incur new ongoing costs. Commenters noted that the benefits of the rule would depend on the ambition of State DOTs and MPOs in setting targets and implementing strategies.

The FHWA appreciates the responses submitted on this question and has considered these comments in preparing the rule. Please see the regulatory impact analysis for detailed information on economic costs.

2. Removal of Peak Hour Travel Time Reliability Measure

Several commenters expressed concern that the proposed measures based on vehicle travel times are redundant and overly burdensome. Some suggested reducing the number of measures that rely on travel time in order to reduce the burden on transportation agencies, arguing that having seven metrics based on travel time data is redundant and provides little additional benefit. There were commenters in favor of removing the LOTTR, PHTTR, TTTR, freight congestion, and Excessive Delay measures, respectively. Several commenters suggested replacing the PHTTR measure with the Excessive Delay measure and vice versa.

The measures proposed in the NPRM represented different aspects, but similar types, of performance. The FHWA based the proposed measures on the availability of existing data and feedback from stakeholder sessions early in the rulemaking process. After reviewing the comments, FHWA agreed that the number of measures should be reduced to minimize the burden to analyze data and establish targets and to simplify the method to determine metrics and measures. In this final rule, FHWA has reduced the number of measures that rely on travel time from seven to four. The four measures will be used to assess reliability (both for all vehicles and trucks) and delay experienced by all travelers during peak hours.

Commenters were most critical of the PHTTR measure. Many questioned the usefulness of this measure and raised concerns about the many aspects of the measure. Commenters also discussed the similarities between the PHTTR and Excessive Delay measures, which many felt created an unnecessary complication and added burden. In response to these comments, FHWA consolidated the proposed NHPP PHTTR measures and the CMAQ Excessive Delay measure into one measure under the CMAQ program: Peak Hour Excessive Delay (PHED). Discussion of these changes to the Excessive Delay measure can be found in the Response to Comments Section for subpart G. The rule now weights all but one of the four travel time derived measures (*i.e.,* truck reliability) to reflect the impact of performance on all travelers. Reducing the number of travel time derived measures will still allow for the assessment of reliability and congestion at the State, urbanized area, and national levels.

3. NHPP Reliability

a. Reliability—Use of Traffic Volumes Versus People Traveling

Many commenters supported using volume data to weight the LOTTR measure. The NACTO suggested modifying the LOTTR to include transit movement weighted by ridership. The Oregon Metro Council and the Joint Policy Advisory Committee on Transportation suggested including hourly volumes (the same used for the proposed CMAQ Traffic Congestion delay measure) in the calculation for LOTTR. The NJTPA also suggested volumes for LOTTR modifications and proposed using occupancy estimates to weight by person volumes, not just vehicle volumes. Many commenters felt that the proposed measures were too focused on vehicle delay and wrongly ignore person throughput. The Washington State House of Representatives commented that congestion should be measured on reliability, or whether or not a trip takes the same amount of time from day to day, rather than delay. Focusing on driver delays creates a one dimensional vision of congestion and ignores alternative modes of transportation that people use to travel through a corridor, and reliability would be a better measure to ensure that people can count on a consistent commute day to day, no matter what mode of transportation they use.

Commenters also stated that the NPRM required traffic volumes to be used in the calculation of the CMAQ Excessive Delay measure, but not the NHPP Reliability Measure. The NJTPA states the incorporation of person and goods volumes in the reliability and delay metrics would improve their perspective. The FHWA agrees with these comments and believes that the NHPP Reliability measures would be improved by weighting the metrics with volumes. This change will put a greater emphasis on roadway segments where reliability deficiencies are impacting the greatest number of people using the system. The final rule requires the measure to be weighted by annual traffic volumes, which puts the focus on the most heavily travelled roads.

In the NPRM, FHWA was concerned about the absence of data regarding actual traffic volumes for the level of roadway coverage and granularity needed (entire NHS and 5-minute temporal granularity). The FHWA believed including volume would require actual volume counts every 5 minutes for every NHS road segment, data which do not currently exist. In the final rule, FHWA has decided to use annual average daily traffic (AADT) to weight segments in the calculation of the measure, rather than use them in the metric calculation, the approach rejected in the NPRM. The FHWA maintained that the CMAQ Excessive Delay measure (new Peak Hour Excessive Delay), which applies to fewer entities, apply hourly traffic volumes for each segment.

To account for the movement of people rather than just vehicles in these measures, the measure will also be weighted by area wide/statewide occupancy factors. The FHWA will develop occupancy factors for both metropolitan and statewide areas based on national survey results, such as NHTS. Using both traffic volume and occupancy factors as weights in the calculation of the reliability measure

will allow the measure to reflect the percentage of all people experiencing reliable conditions. The measure will be more sensitive to congestion in areas where there are more person-miles traveled, which FHWA believes is an appropriate way to measure reliability for investment decisionmaking. In addition, in recognition of the evolving ability to accurately measure person throughput and the impact of multimodal travel, FHWA plans to revisit the measures related to reliability and congestion after Fall 2018 when FHWA's multimodal research study is expected to be completed.

b. Applicability of the Non-Interstate NHS NHPP Reliability Measure

The FHWA received several comments regarding the applicability of the NHPP non-Interstate NHS reliability measure, including restricting the measure to urbanized areas or to areas with populations of at least 1 million. These commenters argued that narrower applicability would reduce the cost and burden of data analysis on smaller, rural States.

The Oregon Metro Council and the Joint Policy Advisory Committee on Transportation commented that FHWA should apply the travel time reliability measures to the entire NHS.

The FHWA acknowledges that rural roadways may only have limited reliability issues, but such problems can and do occur as a result of weather events, special events, tourist attractions, etc. The FHWA believes it is important to understand when and where reliability problems on both urban and rural segments of the non-Interstate NHS occur. The FHWA analyzed the burden on State DOTs and MPOs with rural and urban NHS networks and found that the level of change needed to justify the cost of compliance is achievable. The FHWA is committed to provide technical assistance and support to State DOTs. In addition, FHWA is interested in working with State DOTs and MPOs to lead a pooled fund effort to acquire resources to provide services and tools to minimize the resource demands to process and analyze data.

c. Excluding Weekends From LOTTR Calculations

Several commenters questioned the inclusion or exclusion of weekends in the LOTTR measure, arguing that exclusion of certain days should be consistent across all travel time-based measures. The Delaware DOT commented that in resort areas, Fridays should be considered weekends and should not be included in LOTTR calculations.

The FHWA evaluated the impact of including weekends in the calculation of the reliability metric, finding that for Interstate roadways, the maximum LOTTR value typically occurred during the weekday or was similar during both weekdays and weekends. However, for non-Interstate NHS roadways, including weekend travel times resulted in reliability measures that were 5 percent to 7 percent worse than measures derived solely from weekday travel times. These data indicate that weekend travel impacts reliability for a sufficient portion of the system to warrant the inclusion of weekends in the metric calculation. System performance should be assessed during times of most use of the NHS system, which in many cases includes the weekend daytime periods. In many urban areas and areas with special events, there can be reliability issues even on the weekends. Including weekends will allow DOTs and MPOs to more fully monitor segments with reliability issues and monitor how they change year-to-year.

d. Time Periods for LOTTR Calculation

The FHWA received eight comments on the use of shorter time periods for the LOTTR calculation (*e.g.,* individual hours rather than 6 a.m. to 10 a.m.). The AASHTO and others noted that the time period proposed in the NPRM highlights inconsistency in travel times within the time period bins rather than from day to day. This methodology could lead to segments reported as unreliable according to the LOTTR measure, while they may be considered reliable when using trip based reliability. The NYSAMPO noted that the longer peak periods mask the occurrence of reliability problems. The New Jersey DOT and NJTPA stated that the large time periods for analysis would be appropriate if people could shift their commute times within the period, but since most people cannot, the time periods are too long. The Southeast Michigan Council of Governments requested flexibility to report the highest values for each individual hour within the peak periods rather than a ratio accounting for all 4 hours. The Oregon Metro Council proposed a formula-based method to determine each agency's time periods to avoid mixing peak and off-peak travel time observations in the denominators of key metrics, which would obscure cross-regional comparison.

The FHWA recognizes that there are many approaches to measuring reliability and related congestion measures. The FHWA carried out a number of analysis runs using travel time data for a mix of States and urbanized areas to evaluate the impact of reducing the number of time periods below the four that were proposed and shortening the duration of time periods to eliminate the ''tails'' where traffic tends to build up and reduce. The results from these runs showed that a sufficient number of roadway segments exhibited unreliable travel times during the midday and weekend time periods. In addition, FHWA found that shortening the time periods (to reduce ''tails'') resulted in similar outcomes as compared to the proposed time periods (less than 1 percent difference). The FHWA retained the four proposed time periods (AM peak, midday, PM peak, and weekend) and the duration of each time period. In this final rule, the 14 hours are broken down into four time periods: (1) Weekday mornings (6 a.m. to 10 a.m.); (2) weekday afternoons (4 p.m. to 8 p.m.); (3) midday (10 a.m. to 4 p.m.); and (4) weekends (6 a.m. to 8 p.m.). The FHWA believes that evaluating the hours when the system is most frequently in use, defined as 6 a.m. to 8 p.m. daily, is the best approach to assess reliability problems. The FHWA analyzed suggestions from commenters that showed there are reliability problems on certain sections of roadways during all of those time periods (with more occurring during peak periods). The FHWA also assessed if the longer time blocks (4 to 14 hours) proposed in the NPRM measured variability across the time period instead of variability from day-to-day at the time period throughout the year. Commenters were concerned that the variability in travel times at the ''tails'' of the longer time periods would control the reliability metric. The FHWA found no significant difference (results within 1 percent) between using the proposed time blocks to using 1-hour time blocks over the same time period (*i.e.,* comparing one block of 6:00 a.m. to 10:00 a.m. to 4 time blocks each 1 hour in length from 6:00 a.m. to 10:00 a.m.). For this reason, FHWA decided to maintain the time blocks proposed in the NPRM in the final rule.

e. Use of 1.50 Threshold To Determine Reliable Segments

Several commenters expressed a desire to establish different thresholds for urban and rural roadways and based on segment length. These commenters explained that travelers tend to view the reliability of their travel based on a full trip and not the individual short segments that make up the trip. They suggested that the final rule include different thresholds for different TMC

lengths, since they could vary by more than 10 miles in length.

The NJTPA, TRANSCOM, AMPO and others expressed concern about the use of pass/fail threshold noting that incremental improvements in reliability would not be recognized until the LOTTR dropped below 1.50. These commenters argued that the use of a ''sharp'' cutoff threshold could bias investment decisions, encouraging State DOTs and MPOs to focus only on those segments that are close to the 1.50 threshold, even though optimal improvement may be on segments with much higher LOTTR values.

The FHWA appreciates and acknowledges these comments and considered alternative approaches to the proposed method. The FHWA ultimately elected to retain the approach to utilize a 1.50 threshold to reduce complexity in the calculation method. An alternative approach would have required varying threshold levels for different segments and the inclusion of more graduated levels of reliability, which FHWA felt would unnecessarily complicate the measure calculation and reporting process. The FHWA encourages State DOTs to discuss how investment strategies have resulted in incremental improvements to the reliability of the system in their Biennial Performance Report. In addition, FHWA has revised the Truck Reliability measure so that it is a weighted average of all segment level reliability ratios that will reflect all changes in reliability levels.

D. Subpart F—National Performance Management Measures for Freight Movement on the Interstate

1. Removal of Truck Congestion Measure

In the NPRM, FHWA proposed two measures of freight movement on the Interstate under 23 U.S.C. 150(c)(6): Truck Travel Time Reliability (TTTR) and Truck Congestion. Many commenters felt that the 50 mph speed threshold to define congestion for the Percent of the Interstate System Mileage Uncongested proposed in the NPRM is unreasonable and should be eliminated. Suggestions included:

- Making the threshold more flexible for each reporting entity
- Using some other variable such as population density
- Changing to a lower value such as 35 mph
- Changing to a percentage of the posted speed limit
- Making the threshold a function of population density, lanes, or ADT
- Rather than using thresholds, providing credit for incremental improvements.

The FHWA eliminated the performance measure for Percent of the Interstate System Mileage Uncongested; the TTTR Index is the only freight-specific performance measure adopted in this rule. The FHWA recognizes that the use of a single speed threshold as compared to an annual average of speed would not be an effective measure to assess uncongested conditions. Changing the measure to consider the factors expressed through comments would be complicated and overly burdensome to implement.

2. Consistency Between All-Vehicle and Freight Reliability Measures

Many commenters provided suggestions to better align the proposed reliability measure for the NHPP that reflects the travel of all vehicles and the proposed freight reliability measure that reflects the travel of trucks. The suggestions raised by commenters are discussed below and, in general, addressed a desire to: Remove the freight reliability measure, better align time periods with the two reliability measures, reconsider the longest travel time considered in the metric, and reconsider the threshold to define reliable travel time.

Many State DOTs and MPOs commented that all-vehicle and freight reliability measures should be consistent since trucks and cars are travelling on the same roads and improving reliability on a roadway benefits all vehicle types. Commenters noted that the NPRM uses data from the all vehicle travel time dataset to complete missing truck data in NPMRDS. Several State DOTs and MPOs also commented that separate measures created a perception that freight was being prioritized over passenger vehicles. Several commenters suggested that the proposed freight performance measures focus on peak period travel times or peak period congestion, with some suggesting focusing on corridors or bottlenecks and aggregating the data into 15-minute intervals and longer segments. If the intent is to show the off-peak freight flows, then FHWA should provide further guidance or focus the measure only on off-peak periods. If this is not the intent then there should not be two separate reliability measures. In addition, some commenters suggested that the measure evaluate peak seasonal performance rather than annual averages for freight facilities serving agricultural regions. Other commenters suggested that the final rule consider the use of peak periods and adding a fifth time period from 8 p.m.–6 a.m. daily. As with the LOTTR, commenters suggested that the TTTR measure be computed separately for each single hour within the proposed time period and the measure should be the hour with the lowest percent reliable for the time period of interest.

The AASHTO and several State DOTs and MPOs commented that they do not agree with using the 95th percentile travel time for freight. Many questioned the justification for use of the 95th percentile, with some noting that it is too stringent. In response, some commenters, including AASHTO, AMPO, TRANSCOM, and several State DOTs suggested using the 80th percentile to be consistent with the LOTTR measure for all vehicles. The NARC and others suggested allowing State DOTs and MPOs flexibility to set the threshold. Other commenters did not specify the percentile, but requested that the percentile chosen be consistent with the all vehicles measure or that FHWA provide a rationale for why the thresholds are different. The AASHTO, along with Washington, Oregon, and Connecticut DOTs and Nebraska Department of Roads agreed with using the 50th percentile travel time as the normal truck travel time for the reliability measure. The FHWA considered commenters' suggestions, and in particular, FHWA assessed the need for separate:

- Travel times—all vehicles and trucks;
- time periods—6 a.m. to 8 p.m. and 24 hours a day; and
- percentile to represent the longest travel times—80th, 95th, or other percentile.

In addition, FHWA considered the utility of using a 1.50 threshold as an indicator of reliable travel time performance, an issue that was raised for both freight and all vehicle measures.

As a result of this assessment, FHWA concluded that a separate reliability measure is needed to assess freight movement on the Interstate, but revised the measure to address comments about the 1.50 threshold and periods of analysis. A separate freight reliability measure will more accurately reflect the performance of the Interstate system as perceived by shippers and suppliers as the measure considers factors that are unique to this industry such as the use of the system during all hours of the day and the need to consider more extreme impacts to the system in planning for on-time arrivals. The FHWA believes that these changes simplify the calculation and addresses the concerns regarding the higher standard of performance proposed for truck reliability.

In addition to the data requirement changes discussed previously (*i.e.,* the use of 15 minute time periods and longer allowable segment lengths), FHWA simplified the truck reliability calculation by simplifying the method to utilize all-vehicle travel times when truck travel times are missing and using consistent time periods to those used for the all vehicle reliability measure. The FHWA retained the requirement to use truck travel times as the basis for the metric calculation to more accurately depict how freight is moving on the Interstate system as FHWA has consistently found the truck travel times to be slower than all vehicle travel times in the NPMRDS data set. The FHWA revised the truck reliability measure to use 5 time periods, 4 of which are used in the all vehicle reliability measure. These time periods cover 24-hours, broken into AM peak (6 a.m. to 10 a.m.), mid-day (10 a.m. to 4 p.m.), and PM peak (4 p.m. to 8 p.m.) periods for Mondays through Fridays, weekends (6 a.m. to 8 p.m.), and overnights for all days (8 p.m. to 6 a.m.). Aligning the time periods to the all vehicle time periods simplifies the analysis. Including all times recognizes the flow of freight during all hours of the day and also considers freight shippers that attempt to plan routes that optimize travel time and, when possible, attempt to avoid peak hours in major congested areas. The FHWA believes that the 5th time period is needed to consider travel times during overnight hours as shippers and suppliers rely on the system to support on time delivery needs 24-hours a day.

In response to comments, FHWA compared metric and measure results using the 80th percentile and the 95th percentile travel times. This analysis showed minimal differences in the reliability measure for the Interstate System using the 80th and 95th percentiles; however, metric results were considerably different at the roadway segment level. The FHWA believes that the 95th percentile travel time needs to be considered in the freight measure to account for the events that could impact on time delivery as shippers, carriers, and receivers desire on-time/just-in-time delivery of goods and plan their trips by building in enough time to meet delivery requirements. For these reasons, FHWA elected to maintain the 95th percentile in the truck reliability calculation.

The FHWA appreciates the concerns raised by commenters regarding the different standard used for freight and all vehicles measure and agree that, as proposed, this difference would put a priority on the freight metric in decisionmaking. To address this concern, FHWA removed the 1.50 reliability threshold. As in the NPRM State DOTs will still report a reliability ratio (comparison of the 95th and 50th percentile travel times) for individual segments of roadway. However, as a result of the removal of the 1.50 threshold, FHWA will not assess if the roadway segment (as expressed by the reliability ratio) is providing for ''reliable'' travel times. The new measure is designed to use the reliability ratio of each segment, using the worst reliability ratio of all 5 time periods, to calculate an overall average truck reliability of the entire Interstate system. The Interstate system will be represented with one reliability ratio for trucks that will be used by State DOTs and MPOs to establish targets. State DOTs and MPOs will use the roadway segment level reliability ratios, considering the time periods where reliability problems are exhibited, to identify strategies that can be implemented to improve the overall reliability ratio for the Interstate system. The new measure can be used as an indicator of the travel time variability considered by shippers and suppliers. The change also allows for incremental improvements to be recognized in the measure outcome, which was a concern raised by many commenters in the design of the proposed reliability measures.

3. Relationship Between the Freight Measure Provisions and the National Freight Program and State Freight Planning

The California Association of Councils of Government requested that the rulemaking clarify the relationship between the freight measures and the FAST Act rulemaking on Interim National Multimodal Freight Network, particularly with regard to FAST Act freight funding programs, including FASTLANE.

The Connecticut and Texas DOTs noted that the rule does not outline how the proposed critical urban and critical rural freight corridors, required to be developed under FAST Act, will be integrated into the NPMRDS dataset. There is concern that this integration will require substantial effort and resources by State DOTs.

The Nebraska and Texas State DOTs commented that there is no need to establish additional reporting requirements for freight bottlenecks because bottlenecks and performance measures will be addressed in the State's freight plan required in 49 U.S.C. 70202 and thus a separate report seems redundant. The Texas DOT suggested that reporting on multimodal bottlenecks can be done by including a section in a State freight plan.

The FHWA recognizes that the FAST Act made a number of substantive changes in the freight area, including establishing two new funding programs. These new programs did not change the requirement under 23 U.S.C. 150(c) to assess freight movement on the Interstate System. One of the new funding programs is the National Highway Freight Program to improve the efficient movement of freight on the National Highway Freight Network (NHFN). The statute requires FHWA to establish the NHFN, which consists of the following components: The Primary Highway Freight System (PHFS), Critical Rural Freight Corridors (CRFC), Critical Urban Freight Corridors (CUFC), and those portions of the Interstate System that are not part of the PHFS. Therefore, the NHFN includes the entirety of the Interstate system—the same system used to assess freight movement in this rule. Although NHFP funding eligibility is limited to projects on the PHFS, CRFC, and CUFC (which may not include the full Interstate System in a State), FHWA does not believe that this should limit the applicability of the measure in the rule to assess freight movement. Other program funding, such as the National Highway Performance Program, may be used for projects to improve both freight performance on the entire Interstate System.

The NPMRDS includes travel times for the full Interstate System. State DOTs and MPOs will have the data they need in the NPMRDS to meet the freight measure requirements in this rule. There is no requirement for State DOTs and MPOs to supplement the NPRMDS with travel time data to represent roadways on the NHFN that are not on the Interstate System.

The performance management statute requires State DOTs to biennially submit performance reports (*i.e.,* State Biennial Performance Reports in § 490.107) that include freight bottleneck analyses. A good source for these analyses is the State freight plan under 49 U.S.C. 70202, which is required by the FAST Act in order to obligate NHFP funding after December 4, 2017. There can be coordination between the bottleneck reporting for performance measures and freight plans; however, the timing for the State Biennial Performance Reports and 5-year updates to State freight plan is different. In recognition of this similar requirements, FHWA will allow State DOTs to refer to the State freight plan bottleneck analysis in their State Freight

Plan to meet the freight bottleneck reporting requirements of 23 U.S.C. 150(e) if the freight plan has been updated since the previous State Biennial Performance Report.

4. Weighting by Truck Volume

The Virginia and Minnesota DOTs, Oregon Metro Council, Metropolitan Council, and the Joint Policy Advisory Committee on Transportation recommended weighting the reliability measures by applicable vehicle volumes. The Oregon Metro Council and Joint Policy Advisory Committee on Transportation also provided details in their comment on how to weight the reliability measure by volume and recommended FHWA support and fund a better means of obtaining vehicle classification volume data.

The AASHTO and several State DOTs opposed weighting the measures by truck volumes, because it would create additional work to calculate the measure.

The FHWA considered the comments suggesting that the freight reliability measure be weighted by truck volumes. Putting a lesser weight on a segment of the Interstate that is avoided by freight shippers due to poor performance would be contrary to the intent for the performance measure.

The reasoning for weighting, as noted by several commenters, is that it would more strongly emphasize sections of roadway that carry higher truck volumes. The FHWA evaluated the impact of weighting by truck volumes and concluded that for the Interstate System, to which this measure only applies, providing for reliable travel times is equally important across the full system, regardless of the level of use by trucks. If the freight performance measure is applied to a range of roadway functional classifications other than the Interstate System, then weighting the measure for truck volume would be more important in determining which roadways serve as major freight routes.

The FHWA further concluded that some shippers monitor the performance of the roadway system and avoid segments of the Interstate when conditions could impact on time delivery. The FHWA's analysis of Interstate corridors showed that, in some cases, areas with poor reliability tended to have lower truck volumes, indicating that the practice of avoiding segments to achieve on time delivery could impact the effectiveness of the measure if it were weighted by truck volumes.

For these reasons, the freight performance measure will not be weighted by truck volumes.

5. Vehicle Classes

The AASHTO and New York State Association of Metropolitan Planning Organizations recommended that FHWA define freight as combination trucks (FHWA classes 8–13). The AASHTO mentioned that this group of vehicles is representative of most significant freight activity on Interstates. The AASHTO also recommended that the NPMRDS only include the data for those classes. The Connecticut DOT recommended that FHWA define freight as combination trucks (FHWA classes 8–13) and require that NPMRDS dataset only include those classes. The Delaware DOT noted that NPMRDS only includes certain classes of trucks and questioned whether this is accurate.

The FHWA concluded the comments do not require a change to the rule. The data set includes a sample of fleet vehicles. A range of trucks is included, but data are more heavily sampled toward Interstate truck traffic, which would include FHWA vehicle classes 8–13. The FHWA will provide additional guidance on what vehicle classes are included in the NPMRDS dataset.

6. Definition of Freight Bottlenecks

Many commenters noted that the 50 mph speed threshold to define congested conditions for freight movement was not an effective indicator of ''freight bottleneck.'' A freight bottleneck can result from a combination of features, including capacity constraints, highway interchanges, locations with geometric constrains, bridges with clearance or weight limitations, or steep-grades. Also, significant bottlenecks to freight movement are often off the Interstate and the NHS, such as arterial streets, intermodal connectors, and first and last miles to freight origins and destinations. The AASHTO and a number of agencies suggested the term ''freight bottleneck'' be changed to ''truck freight bottleneck'' for clarification since it only applies to truck traffic, and not to other modes such as rail or waterway.

The definition of ''freight bottleneck'' has been changed to ''truck freight bottleneck'' and revised to provide a general description that allows State DOTs to determine where truck freight bottlenecks are occurring based upon individual context. The definition also does not limit the location to the Interstate. Each State DOT will need to define what constitutes bottlenecks based upon the specific context of the State and the local impediments that each State experiences with regard to freight movement.

E. Subpart G—National Performance Measures for CMAQ Program—Traffic Congestion

1. Excessive Delay Measure

a. Applying Peak Hours to Excessive Delay Measure To Create Peak Hour Excessive Delay

The Response to Comments section for subpart E describes FHWA's rationale for consolidating the PHTTR measure and Excessive Delay measure from the NPRM into a new CMAQ Traffic Congestion measure: Peak Hour Excessive Delay (PHED). The PHED measure applies peak hours to the original Excessive Delay measure in order to focus on traffic congestion experienced during peak hours in applicable urbanized areas. Other aspects of the original Excessive Delay measure were also changed in response to comments, as explain in the following sections.

b. Peak Hour Time Periods

Originally, these comments related to the peak hours defined in the PHTTR measure. The FHWA has included this discussion of peak hour comments under the CMAQ Traffic Congestion section because the peak hour designation now applies to the Excessive Delay measure. The AASHTO requested the inclusion of 9:00 to 10:00 a.m. and the Hampton Roads Transportation Planning Organization requested 3:00 to 4:00 p.m. Other commenters requested that FHWA maintain consistency between the hours used in the LOTTR and PHTTR measure.

The FHWA agrees that consistency in the time periods for all travel time measures would simplify the approach to calculate the measures and reduce the amount of data needed for the calculation of all measures. The FHWA also recognizes that different areas experience peak periods at different times of the day. For this reason, FHWA has adjusted and provided flexibility in defining the time periods for the PHED measure to be more consistent with the reliability measures. The FHWA felt that it was important to keep the time periods within 6 a.m. and 8 p.m. to ensure for consistency in the all of the measures at a national level. The adjustments in the final rule added a 4th hour to both the morning and afternoon peak periods. The morning period has been extended to 10 a.m. and to provide flexibility to State DOTs and MPOs, two options have been provided to expand the afternoon period—starting earlier to

begin at 3 p.m. or extending later to end at 8 p.m.

c. Traffic Volume Profiles

In the NPRM, FHWA required State DOTs and MPOs to develop hourly volumes based on actual vehicle counts or AADT. Several commenters were concerned that traffic volume data may not be accurate at the granularity required in the NPRM and suggested FHWA fund better volume data collection if data collected by State DOTs and others are not adequate.

The commenters also requested more information about developing hourly volume profiles from actual vehicle counts or AADT. Some commenters suggested FHWA take AADT information from each State's HPMS submittal and develop traffic volume profiles by time of day and day of the year at a 5-minute bin level [65] for each reporting segment or make traffic volumes available in the NPMRDS data set so State DOTs and MPOs could calculate average daily vehicle hours of delay.

The FHWA has reduced the number of hourly volumes that need to be estimated to just the peak hours (*i.e.,* 8 hours daily), requiring only peak hour factors to be used to estimate volumes. The FHWA will provide guidance on appropriate methodologies for estimating the hourly volumes for use in this measure.

d. Person Throughput Versus Vehicle Throughput

The FHWA received thousands of comments in favor of making the PHTTR more person-focused. The Southwest Energy Efficiency Project, Conservation Colorado, and the National League of Cities suggested using average vehicle occupancy and transit ridership to measure person-hours of excessive delay. The Virginia DOT suggested that the National Transit Database (NTD) could provide data on transit vehicle/bus occupancy, while default values could be used for vehicle occupancy where no data is available. The COMPASS stated that a road mileage-based measure can be counterproductive and encouraged FHWA to measure impacts in terms of people instead. The AASHTO and the Maryland DOT cited both the National Household Travel Survey (NHTS) data as a good representation of actual vehicle occupancy and the Census Transportation Planning Products program that develops robust work-based trip data. With these data sources, the highway delay metric could be normalized by the number of workers commuting by car.

As with the NHPP reliability measures, FHWA agrees with these comments and believes that the PHED measure would be improved if it represents the cumulative delay of all people using the NHS and not just the delay experienced by vehicles. The FHWA believes that this approach will encourage the improvement of corridors that have higher person throughput. For this reason, the PHED metric in the final rule requires the use of average vehicle occupancy (AVO) factors for cars, buses, and trucks and hourly traffic volumes to calculate person-hours of excessive delay. The FHWA recognizes the variations in AVO among and within urbanized areas and the challenges in obtaining segment-level AVOs. Therefore, to support this approach, FHWA will establish AVO factors for State DOTs and MPOs to use for each applicable urbanized area using the National Transit Database for buses and national surveys, such as the American Community Survey, for cars. The FHWA also recognizes that urbanized areas may have more specific AVO data, and the final rule provides flexibility for State DOTs and MPOs to substitute these data.

e. Thresholds

The FHWA received many comments disagreeing with the selection of the 35 mph threshold for freeways and 15 mph threshold for other NHS roadways. Commenters noted that these thresholds do not adequately reflect different circumstances across the country and, in particular, urban areas. Additionally, AASHTO and the Connecticut and Washington DOTs warned that States may have an incentive to focus a project on a reporting segment that is just slightly over the set thresholds instead of the areas that need it the most in order to impact the final number of hours of excessive delay.

Commenters were also concerned that information about the Functional Class of each segment may not be available in HPMS or NPMRDS, and that this could make assigning speed thresholds to different roads challenging. Commenters requested various changes, including using 50 or 60 percent of the posted speed limit (PSL) and leaving the speed threshold to be set by the State DOTs or MPOs.

The FHWA agrees that the use of absolute thresholds may not be appropriate for all areas and that it would be more appropriate to use a threshold based PSL provided this threshold does not exclude speeds that have been demonstrated to generate emissions that adversely impact air quality. The Washington State DOT conducted analysis on the optimal travel speed to maximize throughput for its State highways and determined that the optimal flow speed was roughly 70–85 percent of PSL. Speeds in this range would have optimal spacing between vehicles while speeds less than 70 percent of the posted speed limit are considered congestion. Speeds less than 60 percent of the posted speed limit are considered to be severe congestion by Washington State DOT. Additionally, FHWA found in previous analysis that emissions rates in grams per mile for criteria pollutants are typically higher at lower speeds (*i.e.,* 0–20 mph).[66] The FHWA believes that a 20 mph speed threshold connects traffic congestion to criteria pollutants. At speeds higher than 20 mph, emissions are significantly lower.

As a result, FHWA has revised the excessive delay threshold in the final rule to be 60 percent of PSL, with a minimum limit of 20 mph. The 60 percent of PSL threshold was selected based on comment suggestions, and the limit of 20 mph was selected based on speed levels that have been associated with emission impacts on air quality. This speed threshold applies to all Functional Classes of roadways, removing the need to identify the Functional Class of each segment. The FHWA recognizes that PSLs are not provided in the NPMRDS dataset. The FHWA will make provisions within the HPMS to capture PSL as a field that can be populated for the full extent of the NHS. The FHWA encourages State DOTs to report PSLs for all NHS segments in the HPMS. The FHWA believes it is important for State DOTs and MPOs to collect and report posted speed limit to understand operating expectations of the NHS.

f. Use of Population for Normalization

The AASHTO and several State DOTs expressed concern over the per capita denominator in the Excessive Delay Per Capita measure, stating that it inaccurately assigns excessive delay to all people in all urbanized areas, rather than just the highway drivers who are impacted. The commenters further argued that urbanized areas with high levels of Interstate through traffic will have misleadingly high values because the delay is being experienced by

[65] The FHWA has changed the time bins to 15 minutes for the final rule, but the comments reflected the 5 minute bins proposed in the NPRM.

[66] ICF for FHWA, *Multi-Pollutant Emissions Benefits of Transportation Strategies,* 2006. *https://www.fhwa.dot.gov/environment/air_quality/conformity/research/mpeb.pdf.*

travelers from outside the urbanized area. The commenters suggested that the measure be normalized by commuters using a personal vehicle on the roadway network. Furthermore, the Connecticut and Texas DOTs, and AASHTO commented that the proposed excessive delay measure would produce misleading measure trends when using incomplete data and when no imputation is used. The AASHTO and WSDOT recommended that FHWA divide annual excessive delay by the estimated commuter population rather than overall population to get a more realistic idea of how the people experiencing the delay are affected.

The Atlanta Regional Commission suggested that the congestion measure should be scaled on observed or estimated travel demand (*e.g.,* peak period person throughput, number of peak period trips, peak period VMT). The travel demand also could be gauged in multiple levels: NHS travel demand only, total vehicle travel demand (beyond the NHS), or even total travel demand (*e.g.,* number of peak period trips occurring across all modes). The commenter recommended that HPMS data on annual VMT by functional class could be used. The Delaware DOT urged that FHWA use an estimate of how far people travel to work, while the Delaware Valley Regional Planning Commission recommended that the annual hours of excessive delay per capita should not be based upon total population, but rather should be limited to commuters using a personal vehicle on the NHS roadway network during the time periods it is being measured (*i.e.,* morning and evening peak periods). The Georgia DOT suggested FHWA use Annual Hours of Excessive Delay per thousands or millions.

In response, FHWA compared different methods to normalize the measure in areas that rely heavily on highways and others that provide several modes of transportation. The FHWA found that population was as effective as other methods to normalize the measure and found that, in areas where travelers tend to use non-highway transportation modes, the measure did not unfairly bias the outcome in the area's favor. In addition, population data are readily available in national data sources. For these reasons, FHWA retained the use of population in the final rule to normalize the measure. The FHWA feels that other approaches to normalize the measure would add unnecessary complication to the method. The FHWA plans to revisit this measure after the completion of its multimodal research study in Fall 2018.

g. Census Annual Population Estimates in Lieu of Decennial Values

Several commenters commented on the proposed methodology for the traffic congestion performance measure, which uses the population in the area to develop a ''per capita'' estimate. The Illinois DOT claimed that using the per capita denominator for the Total Excessive Delay per Capita overestimates the users of the NHS System. The North Jersey Transportation Planning Authority recommended using the most recent population estimate for the urbanized area instead of the decennial values. The Texas DOT stated that using the most recent U.S. Decennial Census (*i.e.,* 2010 population numbers that are already 6 years old) for reporting until 2022 or 2023 when the 2020 Census is available will have a negative impact on the urbanized areas of Texas with regard to ''per capita'' metrics.

The T4A requested discussion in the final rule of how State DOTs and MPOs could use population estimates from 5-year ACS estimates for each-year reporting cycles. The commenter also stated the importance of normalizing the excessive delay measure by dividing the calculation by the total population for the State or MPO, allowing all transportation users to be accounted.

The FHWA agrees with the use of annual population estimates as opposed to the decennial census populations to normalize the excessive delay measure. Using annual estimates will more accurately account for population shifts in large urban areas that are not captured through the decennial census. For this reason, FHWA has revised the approach to determining the population in the final rule for both the PHED per capita measure and to determine urbanized areas that are applicable to the CMAQ Traffic Congestion measures (both PHED and non-SOV Travel). As suggested in the comments, FHWA is requiring annual population estimates to be determined using U.S. Census estimates (*i.e.,* most recent ACS 5-year estimate). The most recent annual population estimate as of one year before the Baseline Performance Report is due is to be used to determine urbanized areas that are applicable to the CMAQ Traffic Congestion PHED measure. These areas will remain applicable for the full duration of the performance period, regardless of population changes that may occur within the period (4-year time period). The FHWA feels that keeping the applicable areas for the duration of the performance period is important to simplify the implementation of the requirements. The most recent annual population estimate will be used each time the PHED per capita measure is calculated. The FHWA believes that this approach responds to the concerns regarding population shifts in large areas.

The FHWA does not agree that the populations should be determined for specific times of the day or days of the week as suggested by some commenters due to the complexity of implementing such a method.

h. Outliers in Speed Data

The Oregon and Washington State DOTs commented that since the null and outlier procedure for the excessive delay measure was not the same as the system performance or freight measures, they assumed that for the excessive delay measure, 5minute bins with no recorded travel times as well as those data points over 300 seconds will be excluded. The State DOTs recommended that the procedures for all outlier and null data be consistent in the final rule. The AASHTO expressed concern over the excessive delay calculation, which is compounded by outliers in the dataset. The AASHTO argued that the proposed descriptions of equations can create the opportunity for unstable calculations; that is, that the delay may be grossly overestimated on the interplay of the length of each segment, the evaluation period, and the speeds. This could lead to overestimates of delay during periods of very low speeds or road closures if volume limiting is not used. The AASHTO stated that this instability can be addressed with maximums of delay that relate to the length of reporting period. The AASHTO further stated that the outliers in NPMRDS further compound this issue; however, a gapless or imputed data set would not be immune to the volume problems.

The FHWA evaluated the impact of applying an outlier threshold to the final travel time derived measures and found that the effect of excluding very slow and very fast speeds on the outcome measures did not warrant the burden that would be required to remove outliers. Although the removal of outliers had the greatest effect on the excessive delay measure (as this measure cumulates all excessive travel times), the use of allowable techniques, such as path processing, to smooth out point probe sources will reduce the occurrence of outliers in the data set. For this reason, FHWA removed the requirement to exclude outliers from the travel time data set.

In the NPRM, FHWA limited the travel time for a given segment to 300

seconds, equivalent to 5 minutes. This ensured that excessive delay could not exceed the length of the time period. Since 15 minute bins are now used instead of 5 minute bins, FHWA changed this maximum to 900 seconds. Since there is no outlier removal, all 15 minute bins with travel times will be used and subject to the 900 second limitation. The FHWA encourages State DOTs and MPOs to share their strategies using volume limiting techniques to address concerns when extremely slow speeds exist. The FHWA in the final rule allows removal of any travel time data in the calculation that could have been recorded with the roadway was closed.

2. Decision To Include a Multimodal Measure

Tens of thousands of commenters, through campaigns from T4A, American Heart Association, and others, raised concerns about the vehicle-focused nature of the 8 measures proposed in the NPRM. Many asserted that determining the performance of the NHS and the impact of congestion relies on an understanding of the entire surface transportation system, including all available modes of travel. Commenters explained that considering pedestrians, bicyclists, public transit riders, and other travelers in transportation decisions, provides a fuller picture of system performance, encourages policies that reduce traffic congestion, and helps meet the goal of efficient investment of Federal transportation funds. They asserted that these transportation modes, while often local in implementation and reach, deserve recognition in a national performance measure because they contribute to transportation efficiency and reliability, promote public safety and health, improve the livability and walkability of urban neighborhoods, improve environmental sustainability, and reduce costs for the travelling public. One commenter noted that the vehicle-focused approach in the NPRM disadvantages low-income communities where vehicle ownership rates are often lower compared to suburban and rural areas.

Commenters discussed multimodal benefits generally, but also specifically in the context of traffic congestion. Many argued that non-SOV modes should be explicitly included in a measure to reflect emissions avoided by these modes. Commenters suggested making the NHPP Reliability and CMAQ Excessive Delay measures more multimodal by including buses in average vehicle occupancy. Many commenters expressed support for a new, separate multimodal congestion performance measure. Many commenters provided suggestions for the design of such a multimodal measure, including:

- Non-single occupancy vehicle mode share
- Percent of NHS mileage with a transit alternative to driving
- Ratio of transit passenger miles traveled to vehicle miles travelled
- Shorter multimodal journey-to-work travel time than average
- Number of jobs accessible within a given time budget
- Avoided delay provided by public transportation

Commenters suggested many possible data sources that could be used to calculate a measure, including the American Community Survey (ACS), National Household Travel Survey (NHTS), National Transit Database (NTD), General Transit Feed Specification (GTFS), regional vehicle capacity, and pedestrian and bicycle counts (*e.g.,* from the Travel Monitoring Analysis System (TMAS)). One commenter identified planning tools State DOTs could use to determine the impact of multimodal transportation, including the TDM Effectiveness Evaluation Model (TEEM), TDM Assessment Procedure (TDMAP), Trip Reduction Impacts of Mobility Management Strategies (TRIMMSTM), and Project Evaluation Toolkit (PEToolkit). Commenters suggested FHWA leverage existing datasets and data collection efforts and work with partners such as the Transportation Research Board, the U.S. Census Bureau, and FTA to enhance existing datasets or develop a multimodal dataset.

In the NPRM, FHWA noted the data limitations that constrain creating and requiring a multimodal performance measure and presented specific questions to better understand what could be implemented in this final rule. A number of the measures suggested by commenters still present significant challenges in national data collection and analysis. The FHWA recognizes that robust multi-modal system performance measurement requires additional research and development, and is engaged in a significant research project, Multimodal System Performance Measure Research and Application, to identify more ideal multi-modal system performance measure(s) and the data required to calculate them. However, commenters also provided more information to FHWA to better understand how some State DOTs and MPOs may have other data available to measure modal share more accurately at a local level. The FHWA now believes that nationally consistent data, as well as these more detailed local sources, make it possible to create a basic assessment of multimodal system performance through the measure of the portion of non-SOV travel. A more detailed discussion of the data elements of this measure is available in the next section. The FHWA will revisit the measures related to multimodal travel following the completion of its research study in the Fall of 2018.

After reviewing these comments, FHWA has decided to include a new multimodal measure, the portion of non-SOV travel, as a CMAQ Traffic Congestion measure. The FHWA believes non-vehicular modes play an important role in reducing levels of criteria pollutants in urbanized areas, and because transportation in urbanized areas is inherently multimodal, it is important to account as much as possible for the options that are available to travelers in those urbanized areas. This measure will help carry out the CMAQ program, as the program recognizes investments that increase multimodal solutions and vehicle occupancy levels as strategies to reduce both criteria pollutant emissions and congestion. The measure adopted in this rule is the percent of non-SOV travel. The measure includes modes that are included in the ACS Journey to Work data, which generally includes all modes that are not SOV and include travel avoided by teleworking.

Based on the comments, FHWA provides three options for State DOTs and MPOs to calculate modal share. The first option is use of the American Community Survey Journey to Work mode share data (updated annually to every 3 years depending on size of urbanized area). These data are nationally consistent, but have limitations in creating a comprehensive picture of multimodal travel. The second option is for State DOTs and MPOs to use locally specific surveys, which may be more accurate than the ACS. The third option is for State DOTs and MPOs to use volume counts for each mode to determine the percent non-SOV travel. While use of the second or third options may result in reporting that is not nationally consistent, FHWA believes that any of these data sources (national or local) can be used to create a meaningful non-SOV mode share measure. Including these options also encourages States and MPOs to develop and use the local measurement methods to help build a more accurate national picture of mode use in the United States.

Non-SOV travel may include travel via carpool, van, public transportation, commuter rail, walking, or bicycling, as well as telecommuting.

The applicability of the CMAQ Modal Share measure is the same as for the CMAQ Peak Hour Excessive Delay measure. The FHWA decided to use the same geographic applicability because FHWA views these two CMAQ Traffic Congestion measures as complimentary, yet different, as both yield important information useful to understanding traffic congestion and the methods available to address it.

3. Data for Multimodal Measure

The Oregon and Washington State DOTs suggested that FHWA use the American Community Survey (ACS) for transit or multimodal-related data. Other commenters suggested using ACS data to gain a baseline of regional average vehicle occupancy and then coupling that with technology-based methods to measure AVO and per-person throughput along roadways. The Oregon Metro Council and the Joint Policy Advisory Committee on Transportation suggested adding journey-to-work mode share data from the ACS as a measure under subpart G to complement the annual per-capita VMT measure. The T4A suggested that FHWA should work with the U.S. Census Bureau to improve the ACS so that it reflects trip purpose and multimodal trips, which work could in turn inform improvements to the NHTS.

Some commenters explained that they do not have robust, reliable data for surface modes other than highways, transit, commuter rail, and passenger rail. In Maryland, for example, these data are available only in the urbanized areas affected by the congestion performance measures. The Delaware Valley Regional Planning Commission stated that FHWA should improve the hourly volume estimation as proposed for the excessive delay measure calculation, because accounting for volumes would be very helpful for project prioritization and would also set the stage for bringing in transit passenger volumes and eventually bicyclist and pedestrian volumes. The Florida DOT described its approach for analysis of volumes from continuous traffic count stations. The New York State DOT cited the challenges of developing hourly traffic volume data for use in the proposed performance measures and noted that their State's program is on a 3-year cycle (as required by HPMS) and not the 2-year cycle described in this rulemaking. The FHWA agrees with the many commenters that suggested using the ACS data to measure modal share because the data are readily accessible to all potential users and is nationally consistent. The FHWA adopted this approach because it agrees that some State DOTs and MPOs do have the capability today to count different modes of travel. The FHWA also recognizes the limitations of using a survey-based data set and has provided additional options for State DOTs and MPOs to calculate this measure. State DOTs and MPOs are not required to use mode counts, nor are they required to submit them to FHWA. The FHWA acknowledges the importance of a nationally consistent data to compare urbanized areas, but also recognizes that mode count data is an area of ongoing development and could help spur the development of improved measures in the future. The FHWA also believes that increasing the quality and quantity of non-vehicular mode observations is useful in developing a complete perspective on the entire transportation system. As a result, State DOTs and MPOs have the option of using survey-based or count data to calculate this measure. For State DOTs and MPOs that choose to use count data, FHWA encourages but does not require that these data are voluntarily submitted to FHWA via national sources or databases (such as TMAS, NTD, and/or GTFS–RT).

4. Applicability of the CMAQ Traffic Congestion Measures

In the NRPM, FHWA requested comments on whether the CMAQ Traffic Congestion measure should apply to smaller urbanized areas, including those with populations over 200,000. In response, most commenters—including AASHTO, 9 State DOTs, National Association of Regional Councils (NARC), NYSAMPO, and the Association of General Contractors—supported applying the CMAQ Traffic Congestion measures to urbanized areas in nonattainment or maintenance areas with a population of more than 1 million. Some commenters in support of a population threshold of 1 million argued this is consistent with congressional intent to require only those MPOs serving areas with more than 1 million people to prepare a CMAQ performance plan (see 49 U.S.C. 149(1)). They also argue it would limit the burden of compliance to those areas most likely to experience congestion.

Two commenters supported population thresholds below 1 million. The T4A supported a population threshold of 200,000, noting that 23 U.S.C. 149(l) requires a performance plan for mega-regions with more than 1 million people, but does not supersede 23 U.S.C. 150(c). The commenter added that title 23 makes a distinction between areas above and below a population of 200,000, which could be applied to this measure. The Natural Resources Defense Council stated that the restriction on congestion measurement to areas with a population over 1 million is arbitrary and unwarranted and should be removed.

The NARC and NYSAMPO also expressed concern about the applicability of urbanized area as the appropriate geography. The NYSAMPO further expressed concern about the relationship of this requirement to the separate NPRM on MPO Coordination.

The final rule revised the applicability of the CMAQ Traffic Congestion measures to urbanized areas in nonattainment or maintenance areas with a population of more than one million, before expanding to areas with a population over 200,000 for the second and all subsequent performance periods. First, FHWA believes there is public benefit to expanding over time the applicability of the CMAQ measures to additional cities and will help to contribute to achieving the national goal of congestion reduction. The FHWA believes Congress's special emphasis on MPOs located in transportation management areas, which are urbanized areas with over 200,000 in population, is informative in this regard. Congress determined these areas need to address congestion issues, and, under 23 U.S.C. 134(k) Congress has required these MPOs to address congestion management through a process that provides for effective management and operation of new and existing transportation facilities, including development of congestion management plans. The FHWA expects that expanding the applicability of these measures will lead to better planning and operational decisionmaking, especially with respect to congestion management. Applying these measures to this broader group of urbanized areas will contribute valuable information to the congestion management process under 23 U.S.C. 134(k)(3)(A) and is consistent with the DOT Beyond Traffic initiative to address congestion, including in metropolitan areas.

Expanding the applicability of these measures in subsequent performance periods to urbanized areas of 200,000 people or more will yield a larger pool of potential benefits from evaluations of mode share and reductions in peak hour excessive delay as States MPOs and Cities respond to the CMAQ performance measures. Additionally, sharing best practices among a larger

pool of urbanized areas may lead to innovative strategies to reduce peak hour excessive delay and to estimate or count transportation trips on all modes. As part of the Modal Share measure, State DOTs and MPOs are encouraged to report data not currently available in national sources (*e.g.,* pedestrian or bike counts) to FHWA, and expanding the applicability of these measures will improve the quality and quantity of these data nationwide.

Recognizing that these smaller urbanized areas may need more time to implement this requirement because many may not have the same level of experience or resources to consider these issues as do larger urbanized areas, FHWA decided to provide these smaller urbanized areas more time to implement the measure. The phase-in period will give smaller MPOs time to understand the measure, what is necessary to calculate the measure, and how setting targets will work. The phase-in period will reduce the overall burden for State/MPO coordination with respect to target setting for both of the CMAQ Traffic Congestion measures. The PHED measure has also been simplified to require less coordination and less data (*i.e.,* only requiring data during peak hours) than the proposed excessive delay measure in the NPRM. Although the Modal Share measure is new, one option uses widely available ACS data and is simple to calculate.

The FHWA believes that urbanized areas should be the boundary used to define applicable areas, as these areas are used in practice today to define the minimum planning scope of metropolitan areas. The FHWA acknowledges the comment regarding deferring a decision on the area of applicability of these measures until completion of the NPRM on MPO Coordination and Planning Area Reform. The FHWA declines to defer the decision in this rule. This rule provides sufficient lead time to accommodate any coordination or decisionmaking requirements regarding the applicability of the CMAQ PHED measure that may arise out of a final MPO rule.

F. Subpart H—National Performance Measure for the CMAQ Program—On Road Mobile Source Emissions

1. General Comments

Several commenters expressed support for the proposed on-road mobile source emissions performance measure. Other commenters expressed support for FHWA's overall approach of using emission reductions by pollutant for the performance measure for on-road mobile source emissions. One commenter argued that the nation's transportation system is responsible for roughly 23 percent of the country's emissions and any regulations that require State DOTs to monitor emissions released by automobiles will help reduce emissions drastically, and another recommended that FHWA develop a measure of emissions per person trip for non-freeway NHS roads. Several commenters urged FHWA to incorporate GHG emissions reduction reporting into the on-road mobile source emissions performance measure.

After careful consideration of these comments, FHWA retained the CMAQ on-road mobile source emissions measure, with some modifications as explained in response to specific comments. The FHWA decided after reviewing all the comments regarding a GHG measure to apply it to performance of the NHS in all States and MPOs under NHPP.

2. Concerns About MPO Targets and Reporting

Because the proposed on-road mobile source emissions measure did not include a provision for State DOTs to approve MPO emission reduction targets, the Kentucky Transportation Cabinet expressed concern that the rule would allow an MPO to attempt to force a disproportionate amount of CMAQ funds to be awarded to its area by setting an overly aggressive target and recommended that targets for the on-road mobile source emissions measure should only be required for State DOTs and not MPOs, with a provision for State DOTs to concur with MPO targets. The Oregon DOT suggested that States have flexibility in determining the appropriate target setting entity, whether it is a State DOT or the MPOs.

The FHWA believes that State DOTs and MPOs have the authority to establish their targets at their discretion. Moreover, MAP–21 does not provide FHWA the authority to approve or reject State DOT or MPO established targets. No changes were made in response to these comments.

3. Applicability

Several commenters, including AASHTO and several State DOTs, recommended that FHWA revise the proposed on-road mobile source emissions performance measure so that it only applies to urban areas with populations of over 1 million. The AASHTO expressed concern that smaller urban areas may not have the capacity (resources and staffing) to address the on-road mobile source emissions measure. Further, AASHTO, Connecticut DOT, and Washington DOT commented that limiting the on-road mobile source emissions measure to urban areas with over 1 million populations would be consistent with congressional intent, because the requirement to prepare a CMAQ performance plan is limited by statute to MPOs serving areas of over 1 million in population. The Washington State DOT and Oregon DOT also reasoned that because smaller urban areas do not receive large amounts of CMAQ funding, those MPOs may use multiple years' allocations to fund a single project, which would result in such MPOs having no reportable benefits for certain years and give a false impression that an MPO failed to meet a target. Further, these commenters expressed concern that setting realistic targets may prove challenging for smaller MPOs that have a limited sample size of past projects. The North Central Texas Council of Governments and several State DOTs recommended that reporting areas be consistent between CMAQ congestion and on-road mobile source emissions performance measures in order to make reporting simpler. Specifically, the State DOTs recommended that the on-road mobile source emissions measure be modified so that it would apply to the same areas as the CMAQ congestion measure in the NPRM, only in urbanized areas with a population of over one million in nonattainment or maintenance areas for criteria pollutants under the CMAQ program. The commenters argued that this approach would allow for consistency with Congress's decision to limit the requirement for the preparation of a CMAQ performance plan to areas of over one million in population.

In contrast, Oregon Metro Council and the Joint Policy Advisory Committee on Transportation urged FHWA to apply the on-road mobile source emissions performance measure to all CMAQ program recipients, regardless of size of population.

Several State DOTs and AASHTO argued that tying emissions reduction to expenditures for apportionments for the entire CMAQ program will result in a negative effect on a State's statutorily given right to utilize flexible funding, which would contradict the purpose of the flexibility provision of 23 U.S.C. 149. As a result, they stated that 490.803 should apply only to non-flexible CMAQ funds. The AASHTO, Connecticut DOT, and Montana DOT urged FHWA not to require emissions data reporting as to flexible CMAQ funds, because requiring such reporting could indirectly pressure States to

forego the flexibility provided by Congress. The Mississippi DOT urged FHWA to make concessions for rural areas and reduce or eliminate CMAQ reporting requirements for non-urban areas, and Oregon DOT asked that rural areas be exempt from the on-road mobile source emissions measure as the major contributors to the pollutions in such areas tend to be from road dust and topographical effects.

Since all ozone, carbon monoxide, or particulate matter nonattainment and maintenance areas, regardless of size, are eligible to receive CMAQ funds and all CMAQ funded projects must demonstrate an emissions reduction, FHWA has concluded that the emissions measure should apply to all such areas regardless of population. In contrast to the CMAQ PHED and Modal Share measures, the emissions measure does not raise significant challenges to achieve a fair balance between the benefits of the measure and the burden of applying it. The burden for reporting on this measure is easier than for the CMAQ traffic congestion measures, since the emissions measure data come from an existing database used since 1992. The FHWA has not made any changes in the final rule based on these comments.

Additionally, States with rural areas designated nonattainment or maintenance may obligate CMAQ funds in those areas. Therefore, they should also be subject to this measure. The FHWA has not made any changes in the final rule based on this comment. Finally, FHWA agrees that Congress provided the areas with flexible funds the ability to use those CMAQ dollars on CMAQ or Surface Transportation Block Grant (STBG) eligible projects. The FHWA does not agree, however, that this measure should be limited only to mandatory CMAQ projects. There is enough flexibility in how a State DOT or MPO establishes its target that it can account for any flexible funds it plans to spend on STBG eligible projects at that time. Therefore, FHWA has not made any changes in the final rule based on this comment.

4. Applicability of New Standards

One commenter encouraged FHWA to acknowledge the importance of good air quality in borderline nonattainment areas in the air quality performance measure, and another expressed concern that as the NAAQS become more stringent over time, the workload for State DOTs and MPOs to comply with the performance measure will increase because more nonattainment areas will be designated. Others suggested the rule build in a later deadline for such cases and provide specific authority for a waiver to be granted to affected States and MPOs in terms of deadlines—when an area is newly designated as nonattainment, so that it can have more time in setting targets relevant to the affected area. Alternatively, GDOT recommended that nonattainment and maintenance designation for the baseline performance period be as of October 1, 2017 (one year in advance of first baseline report). The GDOT noted that given significant uncertainty over designation and revocation timeframes experienced over many years, this baseline would provide some assurances and, hopefully, avoid unnecessary resource expenditure based on assumed designations before October 2018.

The FHWA does not agree that special consideration or a waiver is needed for newly designated nonattainment areas. Potential areas have sufficient notice that they may be designated nonattainment. Therefore, States do not need more time to meet the performance measure requirements than afforded the other areas to establish targets. In addition, FHWA has clarified in the final rule that the baseline nonattainment and maintenance area designations should be based on area status as of October 1, 2017.

5. Reporting

Several commenters requested clarity on the timeframe for reporting emissions reductions. Several commenters suggested that emission reduction benefits for CMAQ-funded projects should be reported after the project has been completed and is open for use, rather than the first time CMAQ funding is obligated for the project. Others argued that the proposed on-road mobile source emissions measure reporting timing would be disadvantageous for smaller urban areas, because such MPOs sometimes use multiple years' allocations to fund a single project, which could give the false impression that an MPO failed to meet a target if there were no reportable emissions reductions for certain years. These commenters also asked FHWA to clarify the year to which the first March 1 and July 1 due dates apply.

Some commenters suggested that limiting emissions reductions benefits to a single year would understate the actual benefits realized because the life of the benefits last as long as the project, which can be from 1 year (*e.g.,* operations) to decades (*e.g.,* built facilities, locomotive repower projects). For this reason, they recommended that FHWA add two fields to the CMAQ Public Access System—one for year open to service (or completion year) and one for expected service life, which would allow the benefits for a given project to count beginning in the year open to service and continue to be counted as long as the service life has not been exceeded. They said this approach would avoid the complication that would result from the use of advance construction to initiate projects if the rule relied on the first year of obligation as the emissions reduction benefits trigger. The commenters also suggested that FHWA consider a moving average for emissions reductions to smooth out the uneven implementation of projects, arguing that in some years a target would be exceeded while no benefits may be realized in other years. The Association of Metropolitan Planning Organizations and Fairbanks Metropolitan Area Transport System suggested that it may be better to report benefits on a project specific basis.

The California Association of Councils of Government et al. requested guidance regarding how States and MPOs should reconcile variations in emissions model outputs over time solely due to emissions model updates. Regarding the first performance report, AASHTO and Connecticut DOT asked if the emission reduction assigned at the time the project was entered would be the target value or if the projects need to be recalculated using current emissions modeling, emission factors, etc. to determine whether the target was met.

To keep this measure simple and consistent with the current CMAQ reporting requirements, a project's estimated emissions reductions are only for the first year of full operation. The information is entered in the CMAQ Public Access system only for the first year the project has funds obligated to avoid double counting benefits. The FHWA understands this approach may result in taking credit for a project in a performance period before it becomes operational, but believes the simplicity of this process is appropriate. The March 1 deadline for State DOTs to enter their CMAQ project information in the CMAQ Public Access System is not a new deadline. The CMAQ Program Guidance includes this same date for entering project information for the previous fiscal year. Therefore, this date applies now and will continue to apply with this final rule. The July 1 date is a new deadline for FHWA to ensure all information is in the CMAQ Public Access System. This due date will apply on July 1 after this final rule is effective.

The FHWA clarifies that there is no requirement to recalculate the emissions entered into the CMAQ Public Access

System or to make adjustments to emissions estimates previously entered into the Public Access System when U.S. EPA approves new models. States or MPOs that believe they would not be able to meet a target due to a change in the models can adjust the target at the performance period's mid-point or explain in their final performance report why they were unable to meet their targets due to model-based emissions estimate. The FHWA has not made any changes in the final rule based on these comments.

6. Concerns Related to Quantification of Emissions

Some commenters expressed concerns relating to quantifying emissions for certain projects such as fiber installation and traffic monitoring. Another commenter stated that transit projects may not demonstrate as much emissions reduction as heavy-duty engine replacement projects, even though additional transit service may be necessary to address regional and corridor congestion.

Several commenters asked that FHWA continue to give State DOTs discretion to determine if quantitative CMAQ reporting is required, or expressed support for not being required to quantify emissions benefits in every situation, or argued in favor of States having the ability to update information in the CMAQ database. However, several others commented that they do not want to have to update their emissions because it would not be a good use of resources.

The Oregon DOT and Washington State DOT disagreed with requiring CMAQ projects that fund operations improvements or are aimed at increasing person throughput to show a reduction in emissions, reasoning that latent demand often replaces any capacity made available by operational improvements. The Georgia DOT requested that FHWA provide guidance for establishing targets, because targets could be different by project types and limit/extent, and asked if the single target would reflect the total emission reductions of all projects in the nonattainment area during the 2- and/or 4-year timeframe. Expressing concern that 2- and 4-year targets will be difficult to set based on current information in the CMAQ Public Access System, Oregon DOT recommended that FHWA carry out additional research to determine how to successfully implement the on-road mobile source emissions measure.

Under the CMAQ program, State DOTs and MPOs have the discretion to fund projects where it is not possible or easy to quantify the emissions benefit. However, these projects will not be accounted for in this performance measure since by the nature of the project, it is not possible to quantify the emissions benefit. Further, FHWA appreciates the concerns raised with respect to lifecycle benefits, but in order to keep the CMAQ reporting system simple and easy to use, it does not require the calculation of life cycle emissions benefits.

States and MPOs must use projects in the 4 years prior to the first performance year as a basis for establishing a target for the first performance period. The projects entered into the System during the 2- and 4-year performance period will be taken as is to calculate the measure. If a State or MPO felt they would not be able to meet a target, they could adjust the target at the mid-point of the performance period or explain in their final performance report why they were unable to meet their targets. The FHWA has not made any changes in the final rule based on these comments.

7. Application Beyond CMAQ Projects

The majority of commenters on this topic expressed concern over limiting the on-road mobile source emissions measure to only those projects that receive CMAQ funding. One argued it would be inefficient, another that emissions reductions from all recipients of CMAQ dollars should be assessed, and another that the best opportunity to reduce emissions comes from operations and capital projects. The Nashville Area MPO and T4A recommended that total emissions reductions be measured for areas designated as nonattainment or maintenance for ozone, carbon monoxide, or particulate matter and that targets under this measure should be set to consider all capital and operational opportunities to reduce emissions, not just those that receive CMAQ funding. Another noted that projects tend to have multiple funding sources. Other commenters recommended that the targets under the on-road mobile source emissions performance measure consider all transportation projects and not just CMAQ-funded projects, or that as emission reductions become more easily estimated, the measure could be expanded to all projects. One commenter encouraged FHWA to focus on successful actions States are taking rather than from where funding is coming. Another recommended that emission reductions should be assessed at the State or region scale.

In contrast, AASHTO and others expressed support for the proposal that the on-road mobile source emissions performance measure not apply to States and MPOs that do not contain any portions of a nonattainment area. The Virginia DOT further recommended that FHWA consider a region-wide air quality measure, as CMAQ projects are generally a small subset of transportation projects. The AASHTO, Connecticut DOT, and Montana DOT urged FHWA not to require emissions data reporting as to flexible CMAQ funds, because requiring such reporting could indirectly pressure States to forego the flexibility provided by Congress.

The FHWA does not agree this measure should extend beyond the CMAQ program since the performance measure, as defined in 23 U.S.C. 150(c)(5), is specifically tied to the CMAQ program. The FHWA also does not agree that the measure should apply to all States or regions that receive CMAQ funds or that the emissions benefits included should extend beyond the CMAQ program. As noted in the NPRM, attainment areas are allowed flexibility in spending their CMAQ funds whereby projects are not required to adhere to specific CMAQ eligibility requirements. While there are many projects funded with monies beyond the CMAQ program that result in an emissions benefit, the performance measure, as defined in 23 U.S.C. 150(c)(5), is specifically tied to CMAQ program. The purpose of the CMAQ program is to fund transportation projects or programs that contribute to the attainment or maintenances of the NAAQS in nonattainment or maintenance areas. The FHWA has not made any changes in the final rule based on these comments.

8. Attainment Definition—Removal of Areas Beyond 20-Year Maintenance Plan

Oregon DOT suggested that an area should be considered attainment if it has reached the end of its 20-year maintenance plan.

The FHWA agrees that when an area reaches the end of its 20-year maintenance plan for an applicable pollutant, the CMAQ performance reporting requirement should no longer apply. Changes were made to the definition of ''maintenance area'' in section 490.101 and to the data requirements in section 490.809(c).

9. Modification of Emissions Information at 2-Year Report

The Connecticut DOT recommended that FHWA allow revisions to the applicability of the on-road mobile source emissions performance measure to certain criteria pollutants if the NAAQS designation status changes

during the 4-year performance period, especially at the 2-year midpoint.

The Oregon Metro Council and the Joint Policy Advisory Committee on Transportation expressed concern that the proposed rule was unclear about how to address delay and cancellation of projects funded by CMAQ in the emissions reduction reporting. In particular, this commenter asked about procedures for removing the emissions reductions already accounted for in previous reporting to ensure that emission reduction credit is not taken for a project that continues to get slipped and carried over from one year to the next.

The FHWA agrees that flexibility should be provided to areas if their designations change during the 4-year performance period. The FHWA has revised the language in § 490.809(c) so that nonattainment and maintenance areas will be revised if an area is no longer nonattainment or maintenance, for any pollutants in § 490.803.

10. Concerns About the CMAQ Public Access System Data; Use of Observed Data and Other Alternative Methods

Some commenters expressed concerns with data deficiencies in the CMAQ Public Access System that should be corrected before reliance on its use for the on-road mobile source emissions performance measure. For example, AASHTO and Connecticut DOT commented that the inability to de-obligate an entry was a deficiency in the User Profile and Access Control System (UPACS) that needs to be corrected to meet the requirements of the on-road mobile source emissions performance measure. The AASHTO, Oregon DOT, and Connecticut DOT expressed concern that emissions reductions often are estimated differently by different MPOs and that sometimes even similar projects within an agency have vastly different estimates. The Chicago Metropolitan Agency for Planning warned that it will be difficult to ensure data quality submitted for performance reports because projects in the database have not matched up well with local project descriptions, which is in part a result of the local programmer (often the MPO) submitting data to the State, which then repackages it for submission to the Public Access System. Others commented that because the UPACS/Public Access System is intended to track emissions reductions benefits, it is not well suited to evaluate attainment of targets. One commenter noted that adding health impact information for each pollutant would be useful to decisionmakers. Another recommended that FHWA provide a workbook to input more environmental information into the CMAQ Public Access System (*e.g.,* population density, traffic congestion, extreme weather events). The Pennsylvania DOT recommended that the emission reduction performance measure should be based on cost-effectiveness.

Several commenters sought clarification on various issues related to calculating emissions reductions for purposes of the proposed on-road mobile source emissions performance measure, and various alternative methods or improvements to the UPACS/CMAQ Public Access System were suggested.

The Oregon Metro Council and the Joint Policy Advisory Committee on Transportation expressed concern that the proposed on-road mobile source emissions performance measure does not meet the same standards as other performance measures because it is not based on observed data.

The Oregon DOT and Washington State DOT commented that collecting emissions data on a project-by-project basis through vehicle probing or other means would be cost-prohibitive and take years to collect enough data to use. Others recommended that FHWA create a look-up table that it would update periodically and which lists emission reductions that may be expected for a range of smaller projects. Similarly, Oregon DOT suggested that FHWA consider ways to quantify some projects that nationwide tend to have missing data.

While FHWA is aware that this measure is based on estimated emissions reduction, not measured or observed emissions, the tools to do otherwise are not available, and the time needed to measure the change in emissions from every CMAQ project would be not be practicable. State DOTs and MPOs have been strongly encouraged to quantitatively report their emission benefits for all CMAQ projects since 1992. The first modules of FHWA's tool kit of best practices are already available, and additional modules now under development will be available before the first performance period. No changes were made in response to these comments.

11. Applicability of Measure to All Criteria Pollutants and Precursors

The United States Green Building Council commented that MPOS should be required to measure the criteria air pollution of their plans and subsequently work to reduce criteria pollutant levels. Another suggested that the on-road mobile source emissions performance measure should allow States and MPOs to include emissions reductions from CMAQ projects for all criteria pollutants (and their precursors), regardless of the type of attainment/nonattainment areas in which the project is located. This commenter reasoned that it may be difficult to separate out reductions that only pertain to the specific nonattainment and maintenance areas, particularly for regional or statewide CMAQ projects.

Several commented that no other non-CMAQ pollutants should be added to the on-road mobile source emissions performance measure. Specifically, Oregon DOT recommended that FHWA limit defined pollutants and not include open ended definitions that have the potential to expand performance measure burdens under this rule due to actions by another agency. The Connecticut DOT commented that subpart H performance targets only should be set for criteria pollutants for which a State currently reports emissions reductions.

The FHWA agrees that it is not always easy to determine the emissions benefits for some projects by nonattainment or maintenance area. However, to the extent an area wants to take credit for the emissions reductions for a statewide project, they should use the best tools available to determine which portion of that project benefits their area. This problem is not new to the CMAQ program or even regional emissions analyses under transportation conformity that must account for the emissions of all projects within a nonattainment or maintenance area. Therefore, FHWA has not made any changes in the final rule based on this comment.

12. Use of Standard System Versus Metric System To Measure Emissions

The AASHTO and Connecticut DOT recommended that FHWA change the protocol for the CMAQ Public Access System from the metric system (kg/day) to standard (lbs/day) for consistency to life of the project cost effectiveness. Others recommended that emission reduction benefits be compared in tons per annualized days to allow a fair comparison between projects that may have a varied number of effective days. The Association of Metropolitan Planning Organizations commented that converting the kilograms per day emissions data to tons per year does not provide any new information about the performance of the project or how it compares to other projects. Rather than having the measure be expressed in short tons per year, one commenter suggested that the measure should be

expressed in total number of short tons of pollutant removed over the 2- and 4-year periods. This commenter also recommended that the equation given in section 490.813(b) should be modified to add a parameter for the number of years or the regulation should provide an additional equation for the 4-year calculation.

The FHWA agrees with the concerns raised about the proposed metric and therefore has removed that conversion from the emissions measure calculation in section 490.813(b). This change also results in a change in the units for the emissions measure in section 490.813.

VI. Section-by-Section Discussion of the General Information and National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program

A. Subpart A—General Information

Discussion Section of § 490.101 Definitions

The FHWA made the following changes and additions to the definitions proposed in the NPRM.

American Community Survey (ACS)—A definition was added to describe a data source that is needed to support new required measure components. The ACS is being identified as a source of information to acquire data on travel choices to journey to work in urban areas.

Freight bottlenecks—The definition of ''freight bottleneck'' has been changed to ''truck freight bottleneck'' and revised to provide a general description that allows State DOTs to determine based upon individual context. The definition also does not limit the location to the Interstate. Each State will need to define what constitutes bottlenecks based upon the specific context of the State and the local impediments that each State experiences with regard to freight movement.

Maintenance area—FHWA has amended the definition of maintenance area to exclude areas that reach the end of their 20-year maintenance period for the purposes of part 490.

National Performance Management Research Data Set (NPMRDS)—the definition of the NPMRDS was revised to clarify that only mainline highway portions of the NHS are included in the data set. In addition, the definition was revised to change the interval of travel times from 5 to 15 minutes.

Non-SOV Travel—a definition was added for travel occurring on modes other than driving alone in a motorized vehicle and includes travel that is avoided by telecommuting. This definition was added as the term, ''non-SOV Travel,'' is used within the regulatory text as an indicator of transportation mode choice.

Discussion Section of § 490.103 Data Requirements

The FHWA made the following changes regarding Data Requirements.

Throughout the final rule the timing for determination of measure applicability has been changed from ''at the time when the State Baseline Performance Period Report is due'' to ''one year before the time when the State Baseline Performance Period Report is due.'' In § 490.103(c), State DOTs must use the nonattainment and maintenance boundaries based on the most recent EPA designations at the time that is ''one year before'' the State Baseline Performance Report is due. As discussed in the change to the definition of ''maintenance'' areas, EPA designations of maintenance areas that have reached the end of their 20-year maintenance period will not be applicable to the requirements of subpart H.

The FHWA revised the equivalent data requirements under section 490.103(e)(5)(ii) to clarify that the equivalent data set only is required to include travel time data for the ''mainline highways'' on the NHS. In addition, § 490.103(e)(5)(ii) was revised to include travel times at a maximum of 15 minute intervals. The temporal granularity of the average travel times in the equivalent data was reduced from the proposed 5 minute interval level to 15 minutes.

In section 490.103(e)(5)(iii), for equivalent data sets, travel must be observed and may be derived from travel times over longer time periods (known as path processing or equivalent).

Text was added in § 490.103(f)(1) to clarify that it is acceptable to use the NPMRDS Travel Time Segments as the Reporting Segments by stating that it is optional to create new Reporting Segments.

The FHWA revised § 490.103(f)(2) to increase the maximum length of reporting segments in urban areas from ½ mile to 1 mile (unless an individual Travel Time segment is longer).

In § 490.103(g) of the NPRM, FHWA proposed that the State DOT would submit its reporting segments for the NHS and the desired travel times for applicable [67] reporting segments to HPMS no later than November 1, prior to the beginning of the calendar year in which they will be used for travel time data collection. The FHWA also proposed that these reported reporting segments would be used throughout the performance period. The FHWA felt that a 2-step data reporting (first step is reporting segments and desired travel times and second step is reporting metric data for corresponding reporting segments) along with constant reporting segments throughout the performance period is necessary to ensure consistency between data sets at the time of target establishment and subsequent progress evaluations. Since this final rule removes the proposed Peak Hour Travel Time measures in section 490.507, travel time data sets could change (NPMRDS to/from an equivalent data set) during a performance period, and removing the requirements to maintain constant NHS limits during a performance period in section 490.105(d)(3), FHWA believes the first step of data reporting unnecessary. Accordingly, FHWA removes, in the final rule, the proposed reporting requirement for reporting segments and desired travel times prior to the beginning of the calendar year in which they will be used for travel time data collection in § 490.103(g). The FHWA believes that eliminating this reporting step will reduce the burden on the State DOTs. As a result, FHWA moves the requirement for documentation of the State DOT and applicable MPOs coordination and agreement on the travel time data set in § 490.103(g)(4) in the NPRM to § 490.103(f)(4) in the final rule. The FHWA also moves the requirement for the reporting segments in an equivalent data be referenced by HPMS location referencing standards in § 490.103(g)(5) in the NPRM to § 490.103(e)(5)(i) in the final rule.

Section 490.103(g) has been revised in this final rule. In this section, State DOTs are encouraged to report the Posted Speed Limits for the full extent of the NHS via HPMS as this data is needed for State DOTs to identify the occurrence of excessive delays.

Discussion Section of § 490.105 Establishment of Performance Targets

Section 490.105(d)(3) and (e)(3)(i)—Maintaining Urbanized Area Constant Throughout a Performance Period

In section 490.105(d)(3), FHWA removes the requirement for maintaining urbanized area constant throughout a performance period. The FHWA made this change because the requirements for NHS limits constant

[67] Reporting segments on NHS located within urbanized areas with populations over 1 million for the proposed Peak Hour Travel Time measures.

throughout a performance period was eliminated in the final rule for the second performance management measures. In addition to consistency between NHS limits data and urbanized area data, FHWA believes State DOTs and MPOs will have sufficient time to adopt updated U.S. Census decennial census data in their target establishment/adjustment since the NHS and urbanized area data used for travel time data collection for a calendar year will have a 2-year time lag. For example, 2015 NHS limits and urbanized area data collected is reported in 2016 to HPMS and that data will be used for travel time data collection in 2017. Additionally, HPMS allows 2 years to adopt updated decennial census urbanized area data. So, FHWA believes that there will be adequate time between U.S. Census publications of decennial census urbanized area data and target establishment and adjustment. For these reasons, FHWA revises § 490.105(d)(3) for removing the requirement for maintaining urbanized area constant throughout a performance period for the urbanized area specific targets, as provided in § 490.105(e)(8). For the same reason, the FHWA revises § 490.105(e)(3)(i) so that State DOTs no longer required to ''declare'' the boundaries used to establish each additional target and so that changes in urbanized area will be accounted for the additional targets, as described in § 490.105(e)(3).

Section 490.105(e)(8)(i) and (ii) and (f)(5)(i) and (ii)—Urbanized Area Population Threshold for CMAQ Traffic Congestion Measures

In section 490.703, FHWA revises the urbanized area population threshold for traffic congestion measures, in § 490.707(a) and (b), from 1 million to 200,000. In response to the revision in section 490.703, FHWA revises § 490.105(e)(8)(i), (e)(8)(ii), (f)(5)(i), and (f)(5)(ii). In § 490.105(e)(8)(i) and (f)(5)(i), the 1 million population threshold only applies to the first performance period (*i.e.,* the performance period beginning on January 1, 2018). In § 490.105(e)(8)(ii) and (f)(5)(ii), the 200,000 population threshold applies to the second performance period (*i.e.,* the performance period beginning on January 1, 2022) and all subsequent performance periods thereafter.

Sections 490.105(e)(8)(iii), (f)(5)(iii), and (f)(6)(iii), and 490.107(c)(3)—Population Data Sources for CMAQ Measure Applicability Determination

Total population of an urbanized area in section 490.713(b) in the final rule is revised from the Decennial Census population number to the most recent annual population estimate from the U.S. Census Bureau. Section 490.105(e)(8)(iii)(D) and (f)(5)(iii)(D) have been revised so that the data source for applicability determination and the measure computation are the same.

To maintain consistency with the population data source for determining the applicability of the CMAQ traffic congestion measures, FHWA revises sections 490.105(f)(6)(iii) and 490.107(c)(3) to use the most recent annual population estimates from the U.S. Census Bureau in determining which MPOs are required to submit MPO CMAQ Performance Plan.

Section 490.105(e)(8) & (9) and (f)(5) & (6)—CMAQ Measure Applicability Determination Timing and Methodology

In paragraphs (e)(8)(iii)(D) through (F), (e)(8)(iv), (f)(5)(iii)(D) through (F) and (f)(5)(iv), FHWA revises the timing of determining which State DOTs and MPOs are required to implement traffic congestion measures in § 490.707(a) and (b). The applicability determination for traffic congestion measures will be made 1 year before when the State DOT Baseline Performance Period Report.

In paragraphs (e)(9)(v) and (f)(5)(v), FHWA revises the timing of determining which State DOTs and MPOs are required to implement on-road mobile source emissions measure in § 490.807. The applicability determination for on-road mobile source emissions measure will be made 1 year before when the State DOT Baseline Performance Period Report.

In paragraphs (e)(8)(iii)(F), (e)(8)(v), (f)(5)(iii)(F), and (f)(5)(v) of this section, FHWA revises the requirements for the determination of nonattainment and maintenance areas to revisit the designations one year before the State DOT Mid Performance Period Progress Report is due to FHWA. Any urbanized areas that are determined at this point to be no longer in nonattainment or maintenance for a criteria pollutant included in section 490.703 will not be subject to the traffic congestion measure requirements for the remainder of the performance period.

In paragraphs (e)(9)(v), (e)(9)(viii), and (f)(6)(v) of this section, FHWA revises the requirements for the determination of nonattainment and maintenance areas to revisit the designations one year before the State DOT Mid Performance Period Progress Report is due to FHWA. Any area within State boundary or metropolitan planning area that are determined at this point to be no longer in nonattainment or maintenance for any criteria pollutant included in section 490.803 will not be subject to the on-road mobile source emission measure requirements for the remainder of the performance period.

In paragraphs (e)(8)(vi) and (f)(5)(vi) of this section, FHWA revises the phase-in for the establishment of urbanized area specific targets. The phase-in does not require State DOTs and MPOs to establish a 2-year target for the first performance period to provide time to build capacity and to acquire sufficient to calculate the new PHED measure in § 490.707(a). The phase-in of urbanized area specific targets does not apply to the new non-SOV travel measure in § 490.707(b).

Discussion Section of § 490.107 Reporting on Performance Targets

Section 490.107(a)(4)—Initial State Performance Report

Section 490.107(a)(4) and (5) have been removed in this final rule.

Section 490.107(b)(1)(ii)(E)—NHS Limits for Targets

The NHS limits for targets are removed from section 490.107(b)(1)(ii)(E) and State are not required to include them in the State Baseline Performance Period Report. This requirement was removed as NHS limits will not be held constant for the duration of the performance period in the assessment of progress made by State DOTs to achieve targets. As discussed in the Pavement and Bridge Condition Performance Measure final rule, commenters felt that changes in NHS limits that may occur from year to year can be reasonably considered in the establishment of targets.

Section 490.107(b)(1)(ii)(E), (b)(2)(ii)(D), and (b)(3)(ii)(D)—Reporting Congestion at Truck Freight Bottlenecks

Section 490.107(b)(1)(ii)(E), (b)(2)(ii)(D), and (b)(3)(ii)(D) have been revised to clarify that States must document the location of freight bottlenecks with the State including those identified in the National Strategic Freight Plan. The section also sets forth the conditions under which a State Freight Plan may serve as the basis for identifying truck freight bottlenecks.

Section 490.107(b)(1), (2) and (3)—Reporting Metrics for GHG Measure

As discussed in the discussion section for § 490.511, State DOTs are required to report total annual on-road CO_2 emissions on the NHS and total annual on-road CO_2 emissions, for the measure specified in § 490.507(b), to FHWA as part of the State Biennial Performance Report. Accordingly, FHWA adds

§ 490.107(b)(1)(ii)(H), (b)(2)(ii)(J), and (b)(3)(ii)(I) in the final rule.

Section 490.107(b)(1)—Reporting Data Collection Method for the Percent Non-SOV Travel Measure

As discussed in discussion section for § 490.709, State DOTs are required to report in their Baseline Performance Period Report the data collection method that is used to determine the Percent non-SOV Travel measure, in section 490.707(b), for each applicable urbanized area in the State, as provided in section 490.709(f)(2). Accordingly, FHWA adds § 490.107(b)(1)(ii)(I) in the final rule.

Section 490.107(c)(3)—MPO CMAQ Performance Plan Applicability Determination Timing

In § 490.107(c)(3), FHWA revises the timing of determining which MPOs are required to develop and report CMAQ Performance Plan. The applicability determination for the MPO CMAQ Performance Plan will be made 1 year before when the State DOT Baseline Performance Period Report. Also, FHWA revises § 490.107(c)(3) so that nonattainment and maintenance areas to revisit the designations one year before the State DOT Mid Performance Period Progress Report is due to FHWA. Any area within metropolitan planning area, within an urbanized area with a population greater than 1 million, that are determined at this point to be no longer in nonattainment or maintenance for any criteria pollutant included in section 490.803 will not be subject to the MPO CMAQ Performance Plan for the remainder of that performance period.

B. Subpart E—National Performance Management Measures for the NHPP System Performance

Discussion Section 490.503 Applicability

The FHWA removed the applicability language relating to Peak Hour Travel Time measures because those measures have been removed from the rule. The FHWA added a provision for the GHG measure in § 490.507(b), making it applicable to all mainline highways on the Interstate and non-Interstate NHS.

Discussion Section of § 490.505 Definitions

The following changes were made to the definitions in section 490.505 to address comments received.

A definition has been established to define Greenhouse Gas as any gas that absorbs infrared radiation in the atmosphere. The definition further notes that ninety-five percent of transportation GHG emissions are carbon dioxide (CO_2) from burning fossil fuel. Other transportation GHG emissions are methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs). The definition also establishes the acronym, ''GHG,'' that is used throughout the section to refer to Greenhouse Gas. This definition has been added as a GHG measure is established in this section to assess system performance.

The proposed definitions for Desired Peak Hour Travel Time, Peak Hour Travel Time, The Peak Period, and Peak Hour Travel Time Ratio were all removed from section as the measure of the percentage of the system meeting peak hour travel time expectations has been removed.

Discussion Section of § 490.507 National Performance Management Measures for System Performance

The NHPP Reliability measure has been changed from, ''Percent of the Interstate System providing for Reliable Travel Times,'' to ''Percent of person-miles travelled on the Interstate System that are reliable.'' This same change has been made for the non-Interstate NHS reliability measure. The proposed Peak Hour Travel Time measures were removed in the final rule.

The FHWA added a GHG emissions performance measure in this section. The FHWA established the measure in a manner that utilizes existing data sources and minimizes burden on transportation agencies.

The GHG emissions performance metric is on-road CO_2 emissions from vehicles operating on the NHS. The measure will be expressed as a percent change in CO_2 from a reference year of 2017 levels in order to provide more meaning and context to decisionmakers and the public than a measure using a certain number of metric tons of CO_2.

Discussion Section of § 490.509 Data Requirements

Section 490.509(a) Through (e)—Data Requirement for the Reliability Measures

The FHWA removed the proposed requirement to replace missing travel times with travel time at posted speed limit for the NHPP Reliability measures and all other travel time derived measures in part 490. After further analysis of data and consideration of comments received, it was determined that, in cases where a considerable portion of the data was missing, the addition of the imputed travel times inaccurately skewed the measure results. In addition, FHWA believes that the occurrence of missing data will be reduced due to the greater prevalence of probes in the future, the allowance of path processing techniques to identify travel times, and the decreased temporal granularity of the measurements from 5 minutes to 15 minutes.

In addition, FHWA has added paragraph (e) in this section to allow State DOTs to exclude any travel times that may have been collected while the roadway was closed.

The FHWA added requirements to identify the data sources for both average annual daily traffic (AADT) volumes and average occupancy factors to support the data needs to adjust the NHPP Reliability measures to reflect person-miles of travel on the NHS. The HPMS has been identified as the data source for segment AADT, which is used to represent a full year of traffic volume by multiplying the average daily value by 365. Average occupancy factors will be determined and published by FHWA on its Web site from national surveys focused on household travel. The FHWA anticipates using the National Household Travel Survey (NHTS) to develop these factors for every State and large metropolitan areas. State DOTs, MPOs, and FHWA will be able to use the combination of total annual traffic volume, average occupancy factors, and length of reporting segment to weight the associated impact of reliability performance on all people traveling on the roadway annually.

Section 490.509(f) Through (h)—Data Requirements for the GHG Measure

The data requirements for calculating the CO_2 emissions performance measure are: (1) Emissions factors of CO_2 per gallon of motor fuel, (2) annual motor fuel sales volumes, and (3) vehicle miles of travel on the NHS and on all roads. Data sources for each are readily available.

The FHWA will post the applicable emissions factors annually by August 15 for use in calculating the performance measure for a range of fuels, based on U.S. Energy Information Agency (EIA) data.[68] Examples of emissions factors are listed below for informational purposes:

[68] U.S. Energy Information Agency, and *http://www.eia.gov/tools/faqs/faq.cfm?id=307&t=11.*

Fuel	Pounds CO_2	Kilograms CO_2
E10 (Gasoline with 10% ethanol)	18.95/gallon	8.59/gallon.
Gasoline	19.60/gallon	8.89/gallon.
Diesel	22.40/gallon	10.16/gallon.
Compressed Natural Gas (CNG)	54.60/McF (McF = 1,000 Cubic Feet)	24.76/McF (McF = 1,000 Cubic Feet).

State DOTs already collect information on fuel sales for motor vehicle fuels and report it to FHWA. In order to provide maximum flexibility and promote ease of use, State DOTs may use either of the following sources for annual motor fuel sales information:

1. Annual fuel sales volumes as posted August 15 for the previous year in FHWA's *Highway Statistics* in Table MF–21 ''Motor Fuel Use.'' [69] Fuel sales are provided as a total number of gallons for combined gasoline/gasohol (gasoline ethanol blends such as E10), and special fuels (diesel, biodiesel, natural gas, etc.) combined. According to EIA, 95 percent of current gasoline sales are of E10 (ten percent blend of ethanol with gasoline).[70]

2. The State DOT's fuel sales data the State DOT used to create the summary data included in FHWA's MF–21, if it allows for a great level of detail by fuel type. The FHWA encourages States to track sales at a more granular level and to use the appropriate emissions factor posted by FHWA for each sub-fuel. State DOTs shall make this data available to FHWA, upon request.

Vehicle miles of travel on the NHS and on all roads by State are published in FHWA's *Highway Statistics* in Table VM–3 ''Vehicle Miles of Travel, by Federal-Aid Highways.'' For consistency, the measure uses the most recent published annual data as of August 15 of the year in which the metric is being calculated. For example, State DOTs will access the most recent data on August 15, 2018, to calculate the annual CO_2 emissions on the NHS in 2017.

Discussion Section of § 490.511 Calculation of System Performance Metrics

Section 490.511(b) and (e)—Metric for Reliability Measures

The FHWA changed the basic time period for the travel time reliability measure from 5 minutes to 15 minutes. The FHWA also clarified that reporting segment-level reliability metrics and related data can be reported by either NPMRDS TMC segment(s) or HPMS sections.

The FHWA added information to be reported to HPMS along with the metric-related information, including directional AADT (the AADT in the direction of travel for the reporting segment) and a vehicle occupancy factor if not using the FHWA-supplied factor.

Sections 490.511(c), (d), and (f)—Metric for the GHG Measure

State DOTs are required to calculate annual total tailpipe CO_2 emissions on the NHS as the metric for the GHG measure. To calculate the CO_2 emissions performance metric, State DOTs will use a methodology that relies on fuel sales volumes.

In order to calculate total annual on-road CO_2 emissions, the total volume of each fuel sold is multiplied by the appropriate CO_2 emission factors. The total CO_2 emissions for each fuel type are then summed. The CO_2 emissions measure is specific to the performance of the NHS. Therefore, it is necessary to estimate the portion of on-road CO_2 emissions attributable to the NHS by State.[71] Existing data does not differentiate the exact volumes of fuel burned on the NHS versus the volume of fuels burned on other roads. Therefore, States will use the proportion of the State's VMT that occurs on the NHS as a proxy for the proportion of the State's on-road CO_2 emissions on the NHS.[72] State DOTs calculate on-road CO_2 emissions on the NHS by multiplying on-road CO_2 emissions by the proportion of NHS VMT out of total VMT.

As fuel sales volumes are not generally available at the metropolitan area level, State DOTs and MPOs have flexibility on how they calculate on-road CO_2 emissions for MPOs. Options range from simply using the MPO share of the State's VMT as a proxy for the MPO share of CO_2 emissions, to more detailed analytical methods, such as using travel demand modeling and EPA's MOVES model,[73] or using FHWA's EERPAT model. These methods are discussed in detail under Section V. An MPO also may use another methodology if the methodology is demonstrably valid and useful for CO_2 measurement. The use of a methodology not described in the rule does not require FHWA approval, but is subject to oversight.

State DOTs will report total annual on-road CO_2 emissions on the NHS (the GHG metric) and total annual on-road CO_2 emissions (the step in the calculation prior to computing the GHG metric) to FHWA as part of the State Biennial Performance Report. State DOTs will report the 2017 on-road CO_2 emissions on the NHS in the first Biennial Performance Report. State DOTs will use the 2017 reference value calculated for the first Biennial Performance Report in future Biennial Performance Reports unless FHWA posts on its Web site that there has been a change that warrants recalculation of the 2017 value, in which case the State DOT will provide an updated value in the next Biennial Performance Report. State DOTs will report the GHG metric and total annual CO_2 emissions, every 2 years in their Biennial Performance Report for each of the preceding 2 calendar years. In doing this, the State DOT can either acquire the data needed for both years at once to calculate the metric, or they can calculate the metric each year. In either case, the State DOT will report both years to FHWA at one time in their Biennial Performance Report.

Discussion Section of § 490.513 Calculation of System Performance Measures

Section 490.513(a) has been revised to more clearly identify that State DOTs and MPOs will calculate measures in this section for the purpose of carrying out the system performance related performance requirements of part 490 and that FHWA will calculate measures in this section for the purpose of making significant progress determinations and for reporting on system performance.

[69] Note that the highway use fuel sales data in MF–21 includes only the fuel that is used to power on-road vehicles and does not include the fuel used for road construction or off-road activities such as powering lawn-mowers and construction equipment.

[70] *www.eia.gov/todayinenergy/detail.php?id=26092*.

[71] Travel on the NHS accounts for approximately 55 percent of total U.S. VMT, varying by State.

[72] FHWA recognizes that this is not a perfect proxy, as speeds, operating conditions, and vehicle types on the NHS differ from those on other roads and differ between states. However, in balancing the competing goals of simplicity and precision, FHWA believes that this approach provides actionable information that DOTs and MPOs can use in evaluating system performance and making decisions, without significantly increasing workloads.

[73] Or EMFAC in California.

Section 490.513(a) Through (c)—Calculation of Reliability Measures

Section 490.513 has been revised to change the measure calculation method to add in weighting for person-miles traveled. The NHPP Reliability measure is calculated by summing the product of the total annual traffic volume, the average occupancy factor, and the segment length for each reporting segment that is exhibiting a LOTTR below 1.50 and comparing this, as a percentage, to the total person-miles traveled on the full system. This method has been designed to accommodate unique occupancy factors for each reporting segment if this information is available through data tables provided by FHWA as discussed in section 490.509.

Section 490.513(d)—Calculation of the GHG Measure

Total annual tons of CO_2 emissions from on-road transportation sources on the NHS are expressed as a percent change from 2017, computed to the nearest tenth of a percent. This is in accordance with common practice of expressing GHG emissions goals in terms of a percent change from a certain year.

C. Subpart F—National Performance Management Measures for Freight Movement on the Interstate

Discussion of Section 490.607 National Performance Management Measure To Assess Freight Movement on the Interstate System

The FHWA has eliminated the performance measure for Percent of Interstate System Mileage Uncongested. The final and sole performance measure for freight will be Truck Travel Time Reliability Index, which represents the average reliability index of all reporting segments on the Interstate system.

Discussion of Section 490.609 Data Requirements

Consistent with changes to sections 490.509 and 490.511(b), FHWA has revised the time bin intervals in this section from 5 to 15 minutes. This rule also revises the approach to missing data, adopting a requirement that when truck travel times are not available in the travel time data set (data not reported, or reported as ''0'' or null) for a given 15 minute interval, the missing travel time will be replaced with an observed travel time that represents all traffic on the roadway during the same 15 minute interval (''all vehicles'' in NPMRDS nomenclature). Changes were also made to the method to replace missing truck travel times to remove the requirement to only allow all vehicle travel times to be used as a replacement for truck travel times when this time was less than or equal to the posted speed limit. The FHWA also added a provision allowing State DOTs to exclude time periods when an NHS roadway is closed.

Discussion of Section 490.611 Calculation of Freight Movement Metric

First, as discussed in section 490.607, the Percent of the Interstate System Mileage providing for Reliable Truck Travel Time proposed in the NPRM has been renamed the Truck Travel Time Reliability (TTTR) Index. Second, the TTTR Index has been revised in several ways.

The TTTR Index measure now includes five time period components to better consider the variability in travel times experienced by trucks during all hours of the day and throughout the year. These time periods were selected to be consistent with the time periods used to calculate the LOTTR as proposed in the NPRM and finalized in section 490.511. As discussed in §§ 490.511 and 490.611, FHWA revised the data bins to use 15-minute intervals. The TTTR Index metrics are calculated as the ratio of the 95th percentile travel time divided by the 50th percentile travel time for each segment and each time period.

The reporting of the metric has been revised to require the reporting of the TTTR Index, the 95th percentile travel time, and the 50th percentile travel time for each of the five time periods for each reporting segment.

Discussion of Section 490.613 Calculation of Freight Movement Measure

Section 490.613(a) has been revised to more clearly identify that State DOTs and MPOs will calculate measures in this section for the purpose of carrying out the freight related performance requirements of part 490 and that FHWA will calculate measures in this section for the purpose of making significant progress determinations and for reporting on freight performance.

The method for calculating the freight performance measure has been changed from the proposed Percent of the Interstate System Mileage Providing for Reliable Truck Travel Times to a TTTR Index for the five time periods noted in § 490.611. Instead of using a threshold for determining if a section of Interstate is reliable, as proposed in the NPRM, an index is calculated and averaged for the entire Interstate in the State. The average TTTR Index is calculated by multiplying the maximum TTTR Index metric of all 5 time periods for each reporting segment by the length of the reporting segment, then the sum of all segments is divided by the total length of Interstate to generate an average TTTR Index for the entire applicable area. This approach to calculating the measure will differentiate it from the NHPP Travel Time Reliability measure, and remove the expectation to maintain a TTTR below 1.50 to better recognize incremental improvements to system performance.

D. Subpart G—National Performance Measures for CMAQ Program—Traffic Congestion

Discussion Section of § 490.703 Applicability

The FHWA has decided to phase-in this expansion of the applicability of the CMAQ Traffic Congestion measures to medium-sized urbanized areas, recognizing that calculating the Peak Hour Excessive Delay (PHED) measure may be burdensome in the short term for some smaller urbanized areas in light of other new performance measure requirements.

The CMAQ Traffic Congestion measures of PHED and Modal Share focus on addressing traffic congestion that contributes to air pollution in areas classified as in nonattainment or maintenance under the Clean Air Act. The final rule revises §§ 490.703 and 490.105(e)(8)(i), (e)(8)(ii), (f)(5)(i), and (f)(5)(ii) so that the CMAQ Traffic Congestion measures in section 490.707 initially apply to the urbanized area with a population of more than 1 million that contains any part of nonattainment or maintenance areas, before expanding to nonattainment or maintenance areas with a population over 200,000 for the second and all subsequent performance periods.

The FHWA also revised section 490.703 to base the applicability on urbanized area attributes (existence of NHS mileage, population, and attainment status). The proposed section in the NPRM applied the measure to the NHS. This was changed because the new non-SOV travel measure applies beyond the NHS.

Discussion Section of § 490.705 Definitions

The FHWA limits the excessive delay measure to peak hours, which are revised from the peak hours in the Peak Hour Travel Time Reliability measure in the NPRM. The peak periods in the final rule include 9:00 to 10:00 a.m. and to provide flexibility to State DOTs and MPOs to add a fourth hour (either 3:00 to 4:00 p.m. or 7:00 to 8:00 p.m.) for the

afternoon peak period. The FHWA provides flexibility only within the 6:00 a.m. to 8:00 p.m. time period to be consistent with the dataset used in the reliability measure under section 490.103.

FHWA revises the speed threshold in the final rule to be 60 percent of the posted speed limit with a minimum of 20 mph.

Discussion Section of § 490.707 National Performance Management Measures for Traffic Congestion

In the NPRM, FHWA proposed excessive delay per capita as the measure of traffic congestion under CMAQ. This measure has been revised as described in section 490.705 to reflect the total peak hour excessive delay experienced by all travelers, normalized by the total population in the applicable area. In this final rule, the revised measure is peak hour excessive delay per capita.

The FHWA revised section 490.707 in the final rule to include a new measure under the CMAQ program that reflects the percentage of non-single occupancy vehicle trips taken by travelers within an urbanized area. This measure will help State DOTs and MPOs better understand the impact of lower-emission travel methods on their congestion profile and area air quality.

Discussion Section of § 490.709 Data Requirements

Discussion Section 490.709(a) Through (e)—Data Requirements for the Annual Hours of Peak Hour Excessive Delay Per Capita Measure

The FHWA retained the data requirements to determine hourly traffic volumes proposed in the NPRM and added a new allowance in section 490.709(c)(5) for travel times that represent periods when the roadway is closed.

The FHWA added § 409.709(d) and (e) in the final rule to establish the data needed to estimate the impact of travel time delay on all travelers. The method is used to group roadway traffic on the NHS into three types of vehicles, including: Trucks, buses, and cars and then estimates the total number people traveling by applying occupancy factors for these vehicles, respectively.

Section 490.709(d) has been established to specify the allowable methods to determine the volume of buses, trucks, and cars as a percentage of daily traffic using each roadway segment. Two methods are specified that provide State DOTs the option of determining the percentage of the three vehicle groups based on annual traffic volume counts collected by continuous count stations or by using the average annual counts provided in the HPMS for each segment. State DOTs are required to distribute the traffic volumes to different directions of roadway when using the HPMS data to estimate volumes.

Section 490.709(e) has been established to specify the allowable methods to determine vehicle occupancy factors for buses, trucks, and cars. State DOTs have the option to use occupancy factors provided by FHWA and/or develop occupancy factors that are more specific than those provided by FHWA. The latter will be useful when specific strategies are used to increase person throughput (*e.g.,* construction of high occupancy lanes, dedicated bus lanes, ride sharing). The FHWA intends to develop default occupancy factors for each applicable urbanized area using bus ridership data provided in the NTD and car occupancy rates derived from national travel surveys, such as the NHTS and ACS. A default occupancy factor of 1.0 will be used for trucks. The FHWA intends to update these occupancy factors on a routine basis. To supplement the default occupancy factors, State DOTs and MPOs are provided the option to develop occupancy factors for sections of NHS roads where more specific data on vehicle occupancy is available. This option will be useful when specific strategies are used to increase person throughput such as the construction of high occupancy lanes, dedicated bus lanes, and ride sharing.

Discussion Section 490.709(f)—Data Requirements for the Percentage of Non-SOV Travelled Measure

The FHWA revises section 490.709(f) in the final rule to include data requirements for the measure of non-SOV mode share. The FHWA provides State DOTs and MPOs with several data options for calculating this measure. One option is to use Table DP03 of the ACS for the urban area to estimate the total percent of non-SOV commuting to work travel in the urbanized area. A second option is for State DOTs or MPOs to use local surveys to estimate the percentage of non-SOV travel occurring in the urbanized areas. These surveys may focus on either household or work travel and must be conducted within the 2 years before the start of the performance period and be updated on at least a biennial frequency. A third option is for State DOTs and MPOs to estimate the percent of non-SOV travel based on volume measurements of actual use of each transportation mode, including but not limited to cars, bicycles, pedestrian travel, travel avoided by telework, and on-road bus transit. Use or development of the third option is encouraged by FHWA as it will provide the most accurate data for future use. State DOTs and MPOs have flexibility to determine which of these count methodologies to use and are required to report these methodologies to FHWA. State DOTs are also encouraged to report these use counts to currently available national data sources, including the Travel Monitoring Analysis System (TMAS).

The FHWA revises section 490.709(g) that determines which State DOTs and MPOs are required to implement both CMAQ traffic congestion measures in § 490.707(a) and (b). This determination will be based on the most recent annual populations published by the U.S. Census of urbanized areas available 1 year before the State DOT Baseline Performance Period Report is due to FHWA. As a result of this revision, § 490.105(e)(8)(iii)(D) and (f)(5)(iii)(D) are revised in the final rule. As for computing the Annual Hours of Peak Hour Excessive Delay Per Capita in section 490.713(b), FHWA revises section 490.709(g) to state that the most recent annual population reported by the U.S. Census, at the time when the State DOT Biennial Performance Period is due to FHWA.

Discussion Section 490.709(h)—Population and Nonattainment and Maintenance Area Data Requirements for Both Traffic Congestion Measures

The FHWA revises section 490.709(h) in the final rule to be consistent with the revised section 490.807(c), which includes the language that nonattainment and maintenance areas will be revised if changes to the designations made by EPA are effective 1 year before the State DOT Mid Performance Period Progress Report is due to FHWA. As discussed in section 490.101 maintenance areas that have reached the end of their 20-year maintenance period will not be subject to the requirements of this subpart.

Discussion Section of § 490.711 Calculation of Traffic Congestion Metrics

The FHWA revised the metric for the Peak Hour Excessive Delay per capita measure to be a reflection of person hours of delay instead of vehicle hours of delay as proposed in the NPRM. The new metric, Total Peak Hour Excessive Delay (person-hours), is calculated for each reporting segment and reported annually to FHWA. There is no metric required for the Percent non-SOV travel

measure as segment level data is not available for this measure.

The FHWA revises section 490.711(b)(1) for the peak period to include 9:00 to 10:00 a.m. and to provide flexibility to State DOTs and MPOs to add a fourth hour (either 3:00 to 4:00 p.m. or 7:00 to 8:00 p.m.) for the afternoon peak period consistent with the changes made to section 490.705. The FHWA provides flexibility within the 6:00 a.m. to 8:00 p.m. time period to be consistent with the dataset used in the reliability measure under § 490.103.

The FHWA changed the length of the NPMRDS time bins from 5 minutes to 15 minutes. This also changed the maximum travel time segment delay from 300 seconds to 900 seconds. The hourly volume is thus divided by four instead of 12.

The FHWA revised section 490.711(e) to express the PHED in person-hours of delay by incorporating average vehicle occupancy (AVO) into the calculation of the delay metric. To incorporate AVO into the metric, State DOTs will refer to either the AVO information for cars, buses, and trucks provided by FHWA or their own AVO information along with information about the percentage of cars, buses, and trucks as a share of total AADT to calculate a weighted AVO. This weighted AVO will then be multiplied by the vehicle-hours of excessive delay to establish the total person-hours of excessive delay. The FHWA recognizes the variations in AVO among and within urbanized areas and the challenges in obtaining segment-level AVOs. The FHWA will provide AVO for cars, trucks, and on-road bus transit for applicable urbanized areas. The FHWA also recognizes that urbanized areas may have more specific AVO data and thus, provides flexibility for State DOTs and MPOs to substitute these data.

Discussion Section of § 490.713 Calculation of Traffic Congestion Measures

Section 490.713(a) has been revised to more clearly identify that State DOTs and MPOs will calculate measures in this section for the purpose of carrying out the traffic congestion related performance requirements of part 490 and that FHWA will calculate measures in this section for the purpose of reporting on PHED performance.

The method to calculate the Excessive Delay per capita measure proposed in the NPRM has been retained in the final rule for the PHED per capita measure as the changes to limit to peak hours and account for all travelers are contained within the metric calculation discussed in the section 490.711. The measure is calculated by summing the hours of excessive delay experienced by all travelers on all reporting segments by the most recent annual population estimate published by the U.S. Census for the applicable area.

The FHWA revises the final rule to include a measure of non-SOV mode share, providing flexibility for State DOTs and MPOs to choose between three options for calculating this measure. When employing the option using ACS data to calculate the percent non-SOV travel, State DOTs and MPOs calculate the measure by subtracting the estimated percent SOV from 100 percent. When employing the option using data derived from local surveys, State DOTs and MPOs will report the results of their calculations (as a percent of non-SOV travel). When employing the option using data derived from system use measurements to calculate percent non-SOV travel, State DOTs and MPOs will divide the non-SOV volume by total volume, where non-SOV volume includes travel modes other than driving alone in a motorized vehicle, including travel avoided by teleworking.

In addition, in recognition of expected improvements in the ability to accurately measure multimodal travel, FHWA plans to revisit this measure after the completion of FHWA's multimodal research study in Fall 2018.

E. Subpart H—National Performance Measure for the CMAQ Program—On Road Mobile Source Emissions

Discussion Section of § 490.803 Applicability

The performance measure is applicable to all States and MPOs with projects financed with funds from the 23 U.S.C. 149 CMAQ program apportioned to State DOTs for areas designated as nonattainment or maintenance for ozone (O_3), carbon monoxide (CO), or particulate matter (PM).

Discussion Section of § 490.805 Definitions

The proposed definitions of ''donut area'' and ''isolated rural nonattainment and maintenance areas'' were removed because those terms do not appear in the final regulation.

Discussion Section of § 490.809 Data Requirements

Section 490.809(c) was revised to specify that the baseline nonattainment and maintenance area designations should be based on area status one year before the date that the State DOT Baseline Performance Period Report is due to FHWA, which means as of October 1, 2017, for the first State DOT Baseline Performance Period Report. The FHWA also revised the language in section 490.809(c) so that the nonattainment and maintenance areas will be revised if an area is no longer nonattainment or maintenance for any pollutant in section 490.803. This determination will be based on area status 1 year before the State DOT Mid Performance Period Progress Report is due to FHWA.

Discussion Section of § 490.811 Calculation of Emissions Metric

Section 490.811 as proposed in the NPRM was removed in response to comments.

Discussion Section of Former § 490.813 Calculation of Emissions Measure

Section 490.813 in the NPRM has been renumbered as § 490.811 in the final rule, due to the deletion of proposed § 490.811 regarding an emissions metric. The section was also revised due to the removal of the emissions metric as that resulted in a change in the units for the emissions measure in this section.

VII. Rulemaking Analyses and Notices

The FHWA considered all comments received before the close of business on the comment closing date indicated above. The comments are available for examination in the docket FHWA–2013–0054 at *www.regulations.gov*.

A. Rulemaking Analysis and Notices Executive Order 12866 (Regulatory Planning and Review), Executive Order 13563 (Improving Regulation and Regulatory Review), and DOT Regulatory Policies and Procedures

The FHWA has determined that this action is a significant regulatory action within the meaning of Executive Order (E.O.) 12866 and within the meaning of DOT regulatory policies and procedures due to the significant public interest in regulations related to performance management. It is anticipated that the economic impact of this rulemaking will not be economically significant within the meaning of E.O. 12866 as discussed below. This action complies with E.O.s 12866 and 13563 to improve regulation. This action is considered significant because of widespread public interest in the transformation of the Federal-aid highway program to be performance-based, although it is not economically significant within the meaning of E.O. 12866. The FHWA is presenting an RIA (or regulatory impact analysis) in support of the final rule on Assessing Performance of the National Highway

System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program. The RIA evaluates the economic impact, in terms of costs and benefits, on Federal, State, and local governments, as well as private entities regulated under this action, as required by E.O. 12866 and E.O. 13563. However, the RIA did not attempt to directly quantify the changes from the improved decisionmaking. The estimated costs are measured on an incremental basis, relative to current NHS performance, freight movement, and traffic congestion and emissions reporting practices.

The RIA estimated costs and benefits resulting from the final rule in order to inform policymakers and the public of its relative value. The complete RIA may be accessed from the docket (docket number FHWA–2013–0054).

The cornerstone of MAP–21's highway program transformation is the transition to a performance-based program. In accordance with the law, State DOTs will invest resources in projects to achieve performance targets that make progress toward national goal areas. The MAP–21 establishes national performance goals for system reliability, freight movement and economic vitality, and environmental sustainability.

This final rule establishes performance measures to assess the following: System performance on the Interstate System and non-Interstate NHS for the purpose of carrying out the NHPP, freight movement on the Interstate, and traffic congestion and on-road mobile source emissions for the purpose of carrying out the CMAQ program. The three NHPP-related measures are (1) Percent of person-miles traveled on reliable Interstate System roadways, (2) Percent of person-miles traveled on reliable non-Interstate NHS roadways, and (3) Percent Change in Tailpipe CO_2 Emissions on the NHS from the Calendar Year 2017. The performance measure to assess freight movement on the Interstate is Weighted Percent of the Interstate System Mileage providing for Reliable Truck Travel Times. The three measures to assess the CMAQ program includes two measures for traffic congestion: (1) Annual Hours of Peak-Hour Excessive Delay Per Capita and (2) Percent of non-Single Occupancy Vehicle (SOV) Travel—and one measure to assess on-road mobile source emissions—Total Emission Reductions for applicable criteria pollutants or precursors.

Estimated Cost of the Final Rule

To estimate costs, FHWA assessed the level of effort, expressed in labor hours and categories, and the capital needed to comply with each component of the final rule. Level of effort by labor category is monetized with loaded wage rates to estimate total costs.

Because there is some uncertainty regarding the availability of NPMRDS data for use by State DOTs and MPOs, FHWA estimated the cost of the final rule according to two scenarios. Under Scenario 1, FHWA assumes that it will provide State DOTs and MPOs with the required data from NPMRDS. Table 3 displays the total cost of the final rule under Scenario 1 for the 10-year study period (2017–2026). Total costs are estimated to be $144.0 million undiscounted, $106.4 million discounted at 7 percent, and $125.5 million discounted at 3 percent.

TABLE 3—TOTAL COST OF THE FINAL RULE UNDER SCENARIO 1

Cost components	10-year total cost		
	Undiscounted	7%	3%
Section 490.103—Data Requirements	$20,329,609	$15,104,439	$17,776,941
Intake and Process DOT Travel Time Data	15,325,924	11,094,661	13,258,812
NPMRDS Data Acquisition	3,600,000	2,606,093	3,114,444
NPRMDS Data Training	523,963	523,963	523,963
NPMRDS Data Reconciliation	879,722	879,722	879,722
Section 490.105–490.109—Reporting Requirements	90,533,557	67,705,203	79,346,012
Document and Submit Description of Coordination Between State DOTs and MPOs	2,547,274	2,547,274	2,547,274
Establish and Update Performance Targets	36,356,497	27,788,508	32,168,577
Reporting on Performance Targets Progress	35,446,842	25,738,285	30,683,726
Prepare CMAQ Performance Plan	14,887,674	10,810,080	12,887,165
Assess Significant Progress Toward Achieving Performance Targets	1,248,936	782,529	1,016,682
Adjust HPMS to Handle Data in TMC Format and Design Post-Submission Reports	26,182	24,469	25,420
Data Processing (*e.g.,* Data Verification)	20,152	14,058	17,168
Section 490.511—Calculation of Performance Metrics for NHS Performance	5,681,474	4,088,067	4,902,708
Calculate LOTTR	2,711,510	1,938,066	2,333,323
Calculate Annual Total Tailpipe CO_2 Emissions on the NHS	2,969,964	2,150,001	2,569,385
Section 490.513—Calculation of Performance Measures for NHS Performance	3,266,268	2,371,668	2,827,368
Calculate Interstate and Non-Interstate NHS Travel Time Reliability Performance Measures	3,186,603	2,313,822	2,758,408
Calculate Percent Change in Tailpipe CO_2 Emissions on the NHS Compared to the Calendar Year 2017 Level Performance Measure	79,665	57,846	68,960
Section 490.611—Calculation of Freight Movement Metric	1,611,187	1,207,755	1,414,654
Calculate Truck Travel Time Reliability Index Metric	1,611,187	1,207,755	1,414,654
Section 490.613—Calculation of Freight Movement Measure	7,647,847	5,553,174	6,620,179
Calculate Truck Travel Time Reliability Index Performance Measure	7,647,847	5,553,174	6,620,179
Section 490.711—Calculation of Traffic Congestion Metric	6,227,101	4,357,789	5,308,381
Calculate Total Peak Hour Excessive Delay Metric	6,227,101	4,357,789	5,308,381
Section 490.713—Calculation of Traffic Congestion Measures	6,015,878	4,056,117	5,045,792
Calculate Annual Hours of Peak Hour Excessive Delay Performance Measure	5,917,257	3,989,623	4,963,074
Calculate Percent Non-SOV Travel Performance Measure	98,621	66,494	82,718
Section 490.813—Calculation of Emissions Measure	2,660,121	1,931,539	2,302,671
Calculate Total Emissions Reduction Performance Measure	2,660,121	1,931,539	2,302,671
Total Cost of Final Rule	143,973,042	106,375,750	125,544,706

*Totals may not sum due to rounding.

Under Scenario 2, which represents ''worst case'' conditions, State DOTs will choose to independently acquire the necessary data. Table 4 displays the total cost of the final rule under Scenario 2 for the 10-year study period (2017–2026). Total costs over 10 years are estimated to be $205.5 million undiscounted, $153.1 million discounted at 7 percent, and $179.8 million at 3 percent.

TABLE 4—TOTAL COST OF THE FINAL RULE UNDER SCENARIO 2

Cost Components	10-year total cost		
	Undiscounted	7%	3%
Section 490.103—Data Requirements	$81,838,250	$61,852,128	$72,074,370
Acquire Freight and General Traffic Data	51,000,000	38,327,684	44,809,156
Adjust Contract for Freight-only Data	9,000,000	6,763,709	7,907,498
Remove Estimated Data Values from Database	3,405,761	2,559,508	2,992,339
Intake and Process	17,028,804	12,797,542	14,961,693
Data Training	523,963	523,963	523,963
Data Reconciliation	879,722	879,722	879,722
Section 490.105–490.109—Reporting Requirements	90,533,557	67,705,203	79,346,012
Document and Submit Description of Coordination Between State DOTs and MPOs	2,547,274	2,547,274	2,547,274
Establish and Update Performance Targets	36,356,497	27,788,508	32,168,577
Reporting on Performance Targets Progress	35,446,842	25,738,285	30,683,726
Prepare CMAQ Performance Plan	14,887,674	10,810,080	12,887,165
Assess Significant Progress Toward Achieving Performance Targets	1,248,936	782,529	1,016,682
Adjust HPMS to Handle Data in TMC Format and Design Post-Submission Reports	26,182	24,469	25,420
Data Processing (*e.g.,* Data Verification)	20,152	14,058	17,168
Section 490.511—Calculation of Performance Metrics for NHS Performance	5,681,474	4,088,067	4,902,708
Calculate LOTTR	2,711,510	1,938,066	2,333,323
Calculate Annual Total Tailpipe CO_2 Emissions on the NHS	2,969,964	2,150,001	2,569,385
Section 490.513—Calculation of Performance Measures for NHS Performance	3,266,268	2,371,668	2,827,368
Calculate Interstate and Non-Interstate NHS Travel Time Reliability Performance Measures	3,186,603	2,313,822	2,758,408
Calculate Percent Change in Tailpipe CO_2 Emissions on the NHS Compared to the Calendar Year 2017 Level Performance Measure	79,665	57,846	68,960
Section 490.611—Calculation of Freight Movement Metric	1,611,187	1,207,755	1,414,654
Calculate Truck Travel Time Reliability Index Metric	196,486	183,632	190,763
Section 490.613—Calculation of Freight Movement Measure	7,647,847	5,553,174	6,620,179
Calculate Truck Travel Time Reliability Index Performance Measure	7,647,847	5,553,174	6,620,179
Section 490.711—Calculation of Traffic Congestion Metric	6,227,101	4,357,789	5,308,381
Calculate Total Peak Hour Excessive Delay Metric	1,843,947	1,260,566	1,556,458
Section 490.713—Calculation of Traffic Congestion Measures	6,015,878	4,056,117	5,045,792
Calculate Annual Hours of Peak Hour Excessive Delay Per Capita Performance Measure	5,917,257	3,989,623	4,963,074
Calculate Percent of Non-SOV Travel Performance Measure	98,621	66,494	82,718
Section 490.813—Calculation of Emissions Measure	2,660,121	1,931,539	2,302,671
Calculate Total Emissions Reduction Performance Measure	2,660,121	1,931,539	2,302,671
Total Cost of Final Rule	205,481,684	153,123,439	179,842,135

*Totals may not sum due to rounding.

The costs in Tables 3 and 4 assume a portion of the estimated 409 MPOs will establish their own targets, and the rest will adopt State DOT targets. It is assumed that State DOTs and MPOs serving Transportation Management Areas (TMA) [74] will use staff to establish performance targets. Conversely, it is assumed that MPOs not serving a TMA will agree to plan and program projects so that they contribute toward the accomplishment of the relevant State DOT targets. Therefore, they will not incur any incremental costs. There are currently an estimated 201 MPOs serving TMAs.[75] The FHWA made this assumption because larger MPOs may have more resources available to develop performance targets. The FHWA believes that this is a conservative estimate, as larger MPOs may elect not to establish their own targets for a variety of reasons, including resource availability.

The final rule's 10-year undiscounted cost ($144.0 million in Scenario 1 and $205.5 million in Scenario 2, in 2014 dollars) decreased relative to the proposed rule ($165.3 million in Scenario 1 and $224.5 million in Scenario 2, in 2012 dollars). As discussed below, FHWA made a number of changes that affected cost.

General Updates

In the final rule RIA, FHWA updated all costs to 2014 dollars from the 2012 dollars used in the proposed rule RIA. In addition, FHWA updated labor costs to reflect current BLS data. These general updates increased the estimated cost of the final rule relative to the proposed rule.

The FHWA deferred the effective date from 2016 to 2017 and shortened the period of analysis from 11 years in the proposed rule to 10 years in the final rule. All costs that related to activities

[74] A TMA is an urbanized area having a population of over 200,000 or otherwise requested by the Governor and the MPO and officially designated by FHWA or FTA. 23 U.S.C. 134(k).

[75] The FHWA updated the estimated total number of MPOs to 409, which is less than the 420 MPOs used at the time that the NPRM was published. The estimated number of MPOs serving TMAs is now 201, less than the estimate of 210 in the NPRM. At the time the RIA was prepared for the NPRM, FHWA assumed that the 36 new urbanized areas resulting from the 2010 Census would have MPOs designated for them. In reality, some of the newly designated urbanized areas merged with existing MPOs, resulting in the designation of fewer new MPOs than expected.

that were scheduled to begin in 2016 under the NPRM will now begin in 2017, and costs are estimated for 10 years instead of 11 years to be consistent with the other two performance measure rulemaking RIAs. This reduction in the period of analysis led FHWA to remove the cost of the Initial Performance Report, which State DOTs have already submitted to the agency. Therefore, estimated costs of the final rule decreased relative to the proposed rule.

The FHWA also updated the estimated total number of MPOs to 409, which is less than the 420 MPOs used at the time that the NPRM was published. The estimated number of MPOs serving TMAs is now 201, less than the estimate of 210 in the NPRM. The number of non-TMA MPOs is 208, less than the estimate of 210 in the NPRM. At the time the RIA was prepared for the NPRM, FHWA assumed that the 36 new urbanized areas resulting from the 2010 Census would have MPOs designated for them. However, some of these newly designated urbanized areas merged with existing MPOs, resulting in the designation of fewer new MPOs than expected. The FHWA estimates that, on average, only the 201 larger MPOs serving TMAs will establish their own quantifiable performance targets. The FHWA also estimates that the 208 smaller MPOs serving non-TMAs will choose to agree to plan and program projects so that they contribute toward the accomplishment of State DOT NHS performance, freight movement, and traffic congestion and emissions condition-related performance targets. Therefore, only the 201 larger MPOs serving TMAs will incur costs to reprogram and upgrade their software to be able to perform calculations of the performance measures. The reduction in the number of MPOs decreased the estimated costs to comply with the requirements of the final rule relative to the proposed rule.

Other Updates

In the final rule, FHWA eliminated three of the proposed performance measures (one of the proposed freight measures for percent of the Interstate congested and merging two proposed peak-hour travel time measures under NHPP with proposed excessive delay measure under CMAQ Traffic Congestion into one measure under CMAQ). In addition, the final rule does not include one of the proposed performance metrics (On-Road Mobile Source Emissions). At the same time, the final rule created two new performance measures (Percent of Non-SOV Travel and Percent Change in Tailpipe CO_2 Emissions on the NHS Compared to the Calendar Year 2017 Level). Additionally, in the RIA, FHWA adjusted estimates for level of effort and number of affected State DOTs and MPOs to be consistent with the final rule requirements. On balance, these changes reduced the total estimated cost of the final rule relative to the proposed rule.

Break-Even Analysis

Currently, State DOTs differ in the way they evaluate the performance of the NHS, freight movement, traffic congestion, and on-road mobile source emissions. These differences hinder accurate analysis at the national level. The final rulemaking will not only establish uniform performance measures, but also will establish processes that (1) State DOTs and MPOs use to report measures and establish performance targets and (2) FHWA uses to assess progress that State DOTs have made toward achieving targets.

Upon implementation, FHWA expects that the will rule will result in some significant benefits that are not easily monetized, but nonetheless deserve mention in this analysis. Specifically, the final rule will allow for more informed decisionmaking on traffic congestion-, freight-, and air-quality-related project, program, and policy choices. The final rule also will yield greater accountability because the MAP–21-mandated reporting will increase visibility and transparency. In addition the final rule will help focus the Federal-aid highway program on achieving balanced performance outcomes.

The expected benefits discussed above (*i.e.,* more informed decisionmaking, greater accountability, and the focus on making progress toward the national goal for infrastructure condition) will lead to an enhanced performance of the NHS due to reduced traffic congestion, improved freight movement, and reduced emissions. The benefits, while real and substantial, are difficult to forecast and monetize. Therefore, FHWA addresses this issue by using the break-even analysis method suggested by OMB Circular A–4. Break-even analyses calculate the threshold a specific variable must achieve in order for benefits to equal costs while holding every other variable in the analysis constant.

The FHWA identified four variables (or outcomes) for which to estimate break-even thresholds: (1) Number of passenger travel hours, (2) tons of transportation-related carbon dioxide emissions, (3) number of truck travel hours, and (4) kilograms of on-road mobile source emissions, comprising volatile organic compounds, nitrogen oxide, particulate matter, and carbon monoxide. The FHWA selected these variables because it is reasonable to assume that the performance measures will influence each of these variables relative to current baseline levels.

After identifying these variables, FHWA combined the final rule costs associated with the performance measures that will influence each variable. The FHWA expects that implementation of four of the rule's performance measures (Percent of Person-Miles Traveled on the Interstate That Are Reliable, Percent of Person-Miles Traveled on the Non-Interstate NHS That Are Reliable, Annual Hours of Peak Hour Excessive Delay Per Capita, and Percent of Non-SOV Travel) will influence passenger travel hours. The FHWA expects that implementation of the performance measure for Percent Change in Tailpipe CO_2 Emissions on the NHS Compared to the Calendar Year 2017 Level will influence tons of carbon dioxide emissions. The FHWA expects that implementation of the performance measure for Truck Travel Time Reliability Index will influence number of truck travel hours. The FHWA expects that implementation of the performance measure for Total Emissions Reduction will influence kilograms of on-road mobile source emissions.

The FHWA chose to present two of the break-even variables (number of passenger travel hours and tons of carbon dioxide emissions) together because the performance measure expected to improve tons of carbon dioxide emissions, Percent Change in Tailpipe CO_2 Emissions on the NHS Compared to the Calendar Year 2017 Level, is one of three performance measures used to assess the performance of the Interstate System and the non-Interstate NHS for the purpose of carrying out the National Highway Performance Program (NHPP). The other two performance measures under NHPP are Percent of Person-Miles Traveled on the Interstate That Are Reliable and Percent of Person-Miles Traveled on the Non-Interstate NHS That Are Reliable, both of which are expected to influence passenger travel hours. In order to assess NHPP performance measures together, FHWA presents the break-even thresholds for these variables together. The remaining two performance measures included in the break-even analysis for number of passenger travel hours (Annual Hours of Peak Hour Excessive Delay Per Capita and Percent of Non-SOV Travel) assess

the CMAQ program but are expected to influence passenger travel hours.

Two variables (number of passenger travel hours and number of truck travel hours) are associated with performance measures whose costs differ under two scenarios feasible under the final rule; in Scenario 1, FHWA provides travel time data to State DOTs, in Scenario 2, State DOTs acquire the necessary data independently. To account for this, FHWA performed the break-even analyses twice for these two variables (*i.e.,* once using Scenario 1 costs, and a second time using Scenario 2 costs). The costs associated with the remaining two variables (tons of carbon dioxide emissions and kilograms of on-road mobile source emissions) do not change under Scenarios 1 and 2, therefore only one break-even threshold is calculated for each analysis. In all, FHWA presents six break-even thresholds: (1) Number of passenger travel hours under Scenario 1, (2) number of passenger travel hours under Scenario 2, (3) tons of carbon dioxide emissions, (4) number of truck travel hours under Scenario 1, (5) number of truck travel hours under Scenario 2, and (6) kilograms of on-road mobile source emissions.

For the break-even analyses associated with passenger travel hours and tons of carbon dioxide emissions, FHWA summed the costs associated with the following final rule sections:

- Sections 490.103. Seventy-five percent of the total cost of complying with the data requirements;
- Section 490.105. Approximately 71 percent of the cost of establishing performance targets;
- Section 490.107. Approximately 71 percent of the cost of documenting and submitting a description of coordination between State DOTs and MPOs;
- Section 490.107. Approximately 71 percent of the cost of reporting performance targets;
- Section 490.107. Approximately 67 percent of the cost of preparing CMAQ performance plan;
- Section 490.107. Seventy-five percent of the cost of adjusting HPMS and processing data;
- Section 490.109. Cost of assessing significant progress for NHPP measures;
- Section 490.511. The cost of calculating the system performance metrics;
- Section 490.513. The cost of calculating the system performance management measures;
- Section 490.711. Cost of calculating the traffic congestion metric; and
- Section 490.713. Cost of calculating the traffic congestion measure.

Table 5 presents the savings in passenger travel hours and carbon dioxide emissions that the final rule under Scenario 1 would need to save in order to be cost-beneficial (*i.e.,* FHWA provides NPMRDS data to State DOTs). The results represent two break-even points: (1) The passenger car travel time (in hours) that will need to be saved in order to justify the costs, and (2) the amount of carbon dioxide emissions (in tons) that will need to be saved in order to justify the costs. The analysis shows that the final rule will need to result in the reduction of approximately 370,000 hours of passenger car travel time, or 3.7 million hours over 10 years, as well as 31,000 tons of carbon dioxide emissions, or 312,000 tons over 10 years. To provide context, private commuters in 471 urban areas across the United States experience 6.9 billion hours of travel delay per year.[76] The EPA data indicates that the transportation sector emitted approximately 1.74 billion tons of carbon dioxide in 2014.[77] As a result, the reduction represents a less than 0.01 percent decrease in the amount of travel delay per year for major U.S. urban areas and in the average annual amount of carbon dioxide emissions from the transportation sector.

TABLE 5—BREAK-EVEN ANALYSIS OF NHPP AND CMAQ TRAFFIC CONGESTION PERFORMANCE MEASURES UNDER SCENARIO 1

	Undiscounted 10-year costs	Average commuter value of time ($ per hour)	Number of hours of travel that need to be reduced	Average annual number of hours of travel that need to be reduced
	a	b	c = a ÷ b	d = c ÷ 10
Passenger Travel Hours	$86,069,537	$23.42	3,674,733	367,473
	Undiscounted 10-year costs	Average emission ton cost ($ per ton)	Number of emissions tons needed to be reduced	Average annual number of emissions tons needed to be reduced
Carbon dioxide emissions	$13,906,452	$44.53	312,302	31,230

Table 6 presents the results from the break-even analysis under Scenario 2 (*i.e.,* State DOTs independently acquire the necessary data). The results represent two break-even points: (1) The passenger car travel time (in hours) that will need to be saved in order to justify the costs, and (2) the amount of carbon dioxide emissions (in tons) that will need to be saved in order to justify the costs. The analysis shows that the final rule will need to result in the reduction of approximately 560,000 hours annually, or 5.6 million hours over 10 years as well as 31,000 tons of carbon dioxide emissions, or 312,000 tons over 10 years. To provide context, private commuters in 471 urban areas across the United States experience 6.9 billion hours of travel delay per year.[78] The EPA data indicates that the transportation sector emitted approximately 1.74 billion tons of

[76] Texas A&M Transportation Institute, ''2015 Urban Mobility Scorecard,'' 2014, Table 2, p. 25. *http://d2dtl5nnlpfr0r.cloudfront.net/tti.tamu.edu/documents/mobility-scorecard-2015.pdf.*

[77] In 2014, the transportation sector accounted for 1.74 billion tons of carbon dioxide emissions, according to the EPA's Greenhouse Gas Inventory Data Explorer.

[78] Texas A&M Transportation Institute, ''2015 Urban Mobility Scorecard,'' 2014, Table 2, p. 25. *http://d2dtl5nnlpfr0r.cloudfront.net/tti.tamu.edu/documents/mobility-scorecard-2015.pdf.*

carbon dioxide in 2014.[79] As a result, the reduction represents a less than 0.01 percent decrease in the amount of travel delay per year for major U.S. urban areas and in the average annual amount of carbon dioxide emissions from the transportation sector.

TABLE 6—BREAK-EVEN ANALYSIS OF NHPP AND CMAQ TRAFFIC CONGESTION PERFORMANCE MEASURES UNDER SCENARIO 2

	Undiscounted 10-year costs	Average commuter value of time ($ per hour)	Number of hours of travel that need to be reduced	Average annual number of hours of travel that need to be reduced
	a	b	c = a ÷ b	d = c ÷ 10
Passenger travel hours	$132,201,018	$23.42	5,644,314	564,431
	Undiscounted 10-year costs	Average emission ton cost ($ per ton)	Total number of emissions tons that need to be reduced	Average annual number of emissions tons that need to be reduced
Carbon dioxide emissions	$13,906,452	$44.53	312,302	31,230

* Please refer to the Summary Report for details on the methodology used in the analysis.

Relative to the proposed rule, the thresholds for the NHS performance break-even analysis increased in the final rule. Specifically, under Scenario 1, the number of annual hours of reduction in passenger car travel time increased from approximately 350,000 in the proposed rule to approximately 370,000 in the final rule. Under Scenario 2, the number of annual hours of reduction in passenger car travel time increased from approximately 500,000 in the proposed rule to 560,000 in the final rule. The break-even points increased primarily due to the addition of the Percent of Non-SOV Travel performance measure. No break-even point was estimated for carbon dioxide emissions in the proposed rule stage because the relevant performance measure, Percent Change in Tailpipe CO_2 Emissions on the NHS Compared to the Calendar Year 2017 Level, was added to the final rule.

For the break-even analyses associated with improving freight performance, the costs associated with the following final rule sections are summed together to estimate the total cost of provisions aimed at reducing freight congestion:

- Section 490.103. Twenty-five percent of the cost of obtaining data requirements;
- Section 490.105. Approximately 14 percent of the cost of establishing performance targets;
- Section 490.107. Approximately 14 percent of the cost of documenting and submitting a description of coordination between State DOTs and MPOs;
- Section 490.107. Approximately 14 percent of the cost of reporting performance targets;
- Section 490.107. Twenty-five percent of the cost of adjusting HPMS and processing data;
- Section 490.109. Cost of assessing significant progress for NHFP measure;
- Section 490.611. Cost of calculating freight movement metric; and
- Section 490.613. Cost of calculating freight movement measure.

Table 7 presents the results from the freight movement break-even analysis under Scenario 1. The results represent the freight travel time (in hours) that will need to be saved in order to justify the costs. The analysis shows that the final rule will need to result in the reduction of approximately 98,000 hours annually, or 982,000 hours over 10 years. To provide context, truck drivers in 498 urban areas across the United States experience 353 million hours of travel delay per year.[80] This reduction represents a 0.03 percent decrease in the amount of travel delay per year for major U.S. urban areas.

TABLE 7—BREAK-EVEN ANALYSIS OF NHFP PERFORMANCE MEASURE UNDER SCENARIO 1

Undiscounted 10-year costs	Average truck value of time ($ per hour)	Number of hours of travel that need to be reduced	Average annual number of hours of travel that need to be reduced
A	B	c = a ÷ b	d = c ÷ 10
$25,752,858	$26.22	982,239	98,224

[79] In 2014, the transportation sector accounted for 1.74 billion tons of carbon dioxide emissions, according to the EPA's Greenhouse Gas Inventory Data Explorer.

[80] Texas A&M Transportation Institute, ''TTI's 2012 Urban Mobility Report,'' 2011, Table 5, p. 43. *https://assets.documentcloud.org/documents/566377/2012-urban-mobility-report.pdf.*

Table 8 presents the results from the freight movement break-even analysis under Scenario 2 (*i.e.,* State DOTs independently acquire the necessary data). The results represent the freight travel time (in hours) that will need to be saved in order to justify the costs. The analysis shows that the final rule will need to result in the reduction of approximately 157,000 hours annually, or 1.6 million hours over 10 years. To provide context, truck drivers in 498 urban areas across the United States experience 353 million hours of travel delay per year.[81] This reduction represents a 0.04 percent decrease in the amount of travel delay per year for major U.S. urban areas.

TABLE 8—BREAK-EVEN ANALYSIS OF NHFP PERFORMANCE MEASURE UNDER SCENARIO 2

Undiscounted 10-year costs	Average truck value of time ($ per hour)	Number of hours of travel that need to be reduced	Average annual number of hours of travel that need to be reduced
A	B	c = a ÷ b	d = c ÷ 10
$41,130,019	$26.22	1,568,738	156,874

* Please refer to the Summary Report for details on the methodology used in the analysis.

Relative to the proposed rule, the thresholds for the freight performance break-even analysis decreased in the final rule. Specifically, under Scenario 1, the number of annual hours of reduction in freight travel time decreased from approximately 140,000 in the proposed rule to 98,000 in the final rule. Under Scenario 2, the number of annual hours of reduction in freight travel time decreased from 250,000 in the proposed rule to 160,000 in the final rule. The break-even points decreased primarily due to the elimination of the Average Truck Speed performance measure.

For the break-even analysis associated with the performance measure for Total Emissions Reduction, the costs associated with the following final rule sections are summed together to estimate the total cost of provisions aimed at reducing total emissions:

- Section 490.105. Approximately 14 percent of the cost of establishing performance targets;
- Section 490.107. Approximately 14 percent of the cost of documenting and submitting a description of coordination between State DOTs and MPOs;
- Section 490.107. Approximately 14 percent of the cost of reporting performance targets;
- Section 490.107. Approximately 33 percent of the cost of preparing CMAQ performance plan;
- Section 490.811. Cost of calculating emissions metric; and
- Section 490.813. Cost of calculating emissions measure.

Tables 9, 10, and 11 present the results from the total emissions break-even analysis. The costs associated with the Total Emissions Reduction performance measure are identical under Scenario 1 and Scenario 2 because State DOTs would not need data from NPMRDS. Therefore, FHWA presents one set of results. The results represent the amount of emissions (in kilograms) that will need to be reduced in order to justify the costs. To calculate the cost of a kilogram of emissions, the analysis used the following inputs:

TABLE 9—INPUTS FOR CALCULATING COST PER KILOGRAM OF EMISSIONS

Emission	Passenger consumption rate (grams per VMT)	Percentage of "emission kilogram"	Societal cost of emissions ($ per long ton)	Weighted "emission kilogram"
	A	b = a ÷ Σa	C	d = b c
Volatile Organic Compound (VOC)	1.034	9.289	$1.46	$0.14
Nitrogen Oxide (NO_X)	0.693	6.226	5.96	0.37
Particulate Matter ($PM_{2.5}$)	0.0041	0.037	325.88	0.12
Carbon Monoxide (CO)	9.4	84.448	0.00	0.00
Cost of an Emission Kilogram				0.63

Based on this cost per kilogram, the analysis shows that the final rule will need to result in the reduction of approximately 2.9 million kilograms annually, or 29.1 million kilograms over 10 years. To provide context, data from the EPA Office of Air Quality Planning and Standards indicate that highway vehicles emitted 2 billion kilograms of VOCs, 4.1 billion kilograms of NO_X, 0.2 billion kilograms of $PM_{2.5}$, and 20.2 billion kilograms CO in 2014.[82] This reduction represents approximately 0.01 percent of total annual national emissions of these pollutants.

[81] Texas A&M Transportation Institute, "TTI's 2012 Urban Mobility Report," 2011, Table 5, p. 43. *https://assets.documentcloud.org/documents/566377/2012-urban-mobility-report.pdf.*

[82] EPA, "Air Pollutant Emissions Trends Data," Average Annual Emissions. *https://www.epa.gov/air-emissions-inventories/air-pollutant-emissions-trends-data.*

TABLE 10—BREAK-EVEN ANALYSIS OF TOTAL EMISSIONS REDUCTION PERFORMANCE MEASURE USING EMISSION KILOGRAM METRIC

Undiscounted 10-year costs	Average emission kilogram cost ($ per long ton)	Number of emissions kilograms needed to be reduced	Average annual number of emissions kilograms needed to be reduced
a	B	c = a ÷ b	d = c ÷ 10
$18,244,195	$0.63	29,119,356	2,911,936

This amount was split into specific emissions reductions in volatile organic compounds, nitrogen oxide, particulate matter 2.5, and carbon monoxide. Table 11 shows these reductions.

TABLE 11—CALCULATION OF AVERAGE ANNUAL REQUIRED EMISSIONS REDUCTION

Average annual number of emissions kilograms needed to be reduced	
VOC Kilograms	270,498
NO_X Kilograms	181,291
$PM_{2.5}$ Kilograms	1,073
CO Kilograms	2,459,074
Total ''Emission'' Kilograms	2,911,936

Relative to the proposed rule, the thresholds for the total emissions break-even analysis decreased in the final rule. Specifically, the reduction in total emissions decreased from 4,400 emission tons (approximately 4 million kilograms [83]) in the proposed rule to 2.9 million emission kilograms in the final rule. The break-even points decreased primarily due to the elimination of the performance metric for on-road mobile source emissions.

Responses to Public Comments on the NPRM's Regulatory Impact Analysis

A number of State DOTs, MPOs, and other organizations provided comments on the regulatory impact analysis for the NPRM.[84] In terms of benefits, the Association for Commuter Transportation, an advocacy group, expressed support and asserted that the costs of the rule are minimal relative to the planning process used to determine how to spend nearly $50 billion a year.

The Michigan and Montana DOTs and Sarasota/Manatee MPO claimed that the costs of the rule do not justify the benefits. As described in Section 5 of the RIA, FHWA believes that the final rule will result in many benefits (both qualitative and quantitative). Through five break-even analyses, FHWA demonstrates the levels of change needed to justify the costs of the rule. The full analysis is available in the docket of this final rulemaking.

The AMPO asserted that the rule will require MPOs to adjust current operations to accommodate new roles and responsibilities. The final rule for Statewide and Nonmetropolitan Transportation Planning; Metropolitan Transportation Planning (Docket No. FHWA–2013–0037) accounts for activities unique to this planning process, including specific items suggested by this commenter. The FHWA considered the new roles and responsibilities MPOs would face under the final rule, separately from costs related to the planning process so as not to double count effort, and estimated the associated costs in this final rule's RIA. For a detailed description of the analysis, see Section 4 of the RIA found in the docket of this rulemaking.

The Denver Regional Council of Governments and the New York Metropolitan Transportation Council suggested that FHWA underestimated the costs of the rule. Under the final rule, MPOs are not required to provide separate reporting to FHWA, but must agree on a reporting process with State DOTs and report certain requirements to the State. The final rule for Statewide and Nonmetropolitan Transportation Planning; Metropolitan Transportation Planning (Docket No. FHWA–2013–0037) accounts for activities unique to this planning process. The FHWA, however, has estimated the costs for State DOTs and MPOs to prepare and submit reports as well as the costs of all other provisions specific to this final rule. For a detailed analysis, see Section 4 of the RIA.

Two commenters questioned FHWA's estimate of the cost of data requirements. The Oregon Department of Transportation and the Washington State Department of Transportation requested more details from FHWA on the costs of obtaining NPMRDS if FHWA does not provide the data to State DOTs. Due to uncertainty regarding the long-term funding of NPMRDS, FHWA estimated the costs of this rule under two scenarios: One in which NPMRDS data are made available to State DOTs and another in which State DOTs must acquire their own data. Based on interviews with Federal and State DOT SMEs, FHWA confirmed that the data required for calculating performance metrics and measures are readily accessible from the NPMRDS or equivalent data sources. Use of NPMRDS or other data sources would constitute an incremental burden on State DOTs in the form of sharing data, training staff, acquiring and processing data, and other processes. The level of this burden would depend on each individual State DOT's existing level of

[83] Using a conversion rate of 1 U.S. ton = 907.185 kilograms.

[84] Association of Metropolitan Planning Organizations, Denver Regional Council of Governments, Association for Commuter Transportation, Michigan Department of Transportation, Montana Department of Transportation, New York Metropolitan Transportation Council, Oregon Department of Transportation, Sarasota/Manatee Metropolitan Planning Organization, Washington State Department of Transportation.

sophistication in current roadway traffic data analysis. For a detailed analysis, see Section 4 of the RIA.

B. Regulatory Flexibility Act

In compliance with the Regulatory Flexibility Act (Pub. L. 96–354, 5 U.S.C. 601–612), FHWA has evaluated the effects of this action on small entities and has determined that the action would not have a significant economic impact on a substantial number of small entities. The final rule addresses the obligation of Federal funds to State DOTs for Federal-aid highway projects. The rule affects two types of entities: State governments and MPOs. State governments do not meet the definition of a small entity under 5 U.S.C. 601, which have a population of less than 50,000.

The MPOs are considered governmental jurisdictions, and to qualify as a small entity they would need to serve less than 50,000 people. The MPOs serve urbanized areas with populations of 50,000 or more. As discussed in the RIA, the rule is expected to impose costs on MPOs that serve populations exceeding 200,000. Therefore, the MPOs that incur economic impacts under this proposed rule do not meet the definition of a small entity.

I hereby certify that this regulatory action would not have a significant impact on a substantial number of small entities.

C. Unfunded Mandates Reform Act of 1995

The FHWA has determined that this action does not impose unfunded mandates as defined by the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4, March 22, 1995, 109 Stat. 48). This rule does not include a Federal mandate that may result in expenditures of $151 million or more in any 1 year (when adjusted for inflation) in 2012 dollars for either State, local, and tribal governments in the aggregate, or by the private sector. Additionally, the definition of ''Federal mandate'' in the Unfunded Mandates Reform Act excludes financial assistance of the type in which State, local, or tribal governments have authority to adjust their participation in the program in accordance with changes made in the program by the Federal Government. The Federal-aid highway program permits this type of flexibility.

D. Executive Order 13132 (Federalism Assessment)

The FHWA has analyzed this action in accordance with the principles and criteria contained in Executive Order 13132. The FHWA has determined that this action does not have sufficient federalism implications to warrant the preparation of a federalism assessment. The FHWA has also determined that this action does not preempt any State law or State regulation or affect the States' ability to discharge traditional State governmental functions.

E. Executive Order 12372 (Intergovernmental Review)

The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program. Local entities should refer to the Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction, for further information.

F. Paperwork Reduction Act

Under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501, *et seq.*), Federal agencies must obtain approval from the OMB for each collection of information they conduct, sponsor, or require through regulations. The DOT has analyzed this action under the PRA and has determined that this rulemaking contains collection of information requirements for the purposes of the PRA.

This rule provides definitions and outlines processes for performance elements of this final rule. Some burdens in this rule would be realized in other reporting areas as described below. The PRA activities that are already covered by existing OMB Clearances have reference numbers for those clearances as follows: HPMS information collection, OMB No. 2125–0028 with an expiration of May 2019 and CMAQ Program OMB 2125–0614 with an expiration date of August 2018. Any increase in PRA burdens caused by MAP–21 and the FAST Act in these areas will be addressed in PRA approval requests associated with those rulemakings.

This rulemaking requires the submittal of performance reports. The DOT has analyzed this final rule under the PRA and has determined the following:

Respondents: Approximately 262 applicants consisting of State DOTs and MPOs.

Frequency: Biennially.

Estimated Average Burden per Response: Approximately 416 hours to complete and submit the report.

Estimated Total Annual Burden Hours: Approximately 65,312 hours annually.

G. National Environmental Policy Act

The FHWA has analyzed this action for the purpose of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq.*), and has determined that this action would not have any effect on the quality of the environment and meets the criteria for the categorical exclusion at 23 CFR 771.117(c)(20).

H. Executive Order 12630 (Taking of Private Property)

The FHWA has analyzed this action under Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights. The FHWA does not anticipate that this action would affect a taking of private property or otherwise have taking implications under Executive Order 12630.

I. Executive Order 12988 (Civil Justice Reform)

This action meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

J. Executive Order 13045 (Protection of Children)

We have analyzed this rule under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. The FHWA certifies that this action would not cause an environmental risk to health or safety that might disproportionately affect children.

K. Executive Order 13175 (Tribal Consultation)

The FHWA has analyzed this action under Executive Order 13175, dated November 6, 2000, and believes that the action would not have substantial direct effects on one or more Indian tribes; would not impose substantial direct compliance costs on Indian tribal governments; and would not preempt tribal laws. The rulemaking addresses obligations of Federal funds to State DOTs for Federal-aid highway projects and would not impose any direct compliance requirements on Indian tribal governments. Therefore, a tribal summary impact statement is not required.

L. Executive Order 13211 (Energy Effects)

The FHWA has analyzed this action under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. The FHWA has

determined that this is not a significant energy action under that order and is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Therefore, a Statement of Energy Effects is not required.

M. Executive Order 12898 (Environmental Justice)

The E.O. 12898 requires that each Federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minorities and low-income populations. The FHWA has determined that this rule does not raise any environmental justice issues.

N. Privacy Impact Assessment

The FHWA continues to assess the privacy impacts of this rule as required by section 522(a)(5) of the FY 2005 Omnibus Appropriations Act, Public Law 108–447, 118 Stat. 3268 (December 8, 2004) [set out as a note to 5 U.S.C. 552a].

The FHWA has selected the use of the new NPMRDS as the data source to calculate the metrics for the travel time/speed based measures to ensure consistency and coverage at a national level. This private sector data set provides average travel times derived from vehicle/passenger probe data traveling on the NHS. The FHWA recognizes that probe data is an evolving field and we will continue to evaluate the privacy risks associated with its use.

O. Regulation Identifier Number

An RIN is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN number contained in the heading of this document can be used to cross-reference this action with the Unified Agenda.

List of Subjects in 23 CFR Part 490

Bridges, Highway safety, Highways and roads, Incorporation by reference, Reporting and recordkeeping requirements.

Issued in Washington, DC, on January 9, 2017, under authority delegated in 49 CFR 1.85.

Gregory G. Nadeau,

Administrator, Federal Highway Administration.

In consideration of the foregoing, FHWA amends 23 CFR part 490 as follows:

PART 490—NATIONAL PERFORMANCE MANAGEMENT MEASURES

■ 1. The authority citation for part 490 continues to read as follows:

Authority: 23 U.S.C. 134, 135, 148(i), and 150; 49 CFR 1.85.

■ 2. Revise subpart A to read as follows:

Subpart A—General Information

Sec.

§ 490.101 Definitions.

Unless otherwise specified, the following definitions apply to this part:

American Community Survey (ACS) is a national level ongoing survey from the U.S. Census Bureau that includes data on jobs, occupations, educational attainment, transportations patterns, and other topics of the Nation's population.

Attainment area as used in this part is defined in § 450.104 of this chapter, Transportation Planning and Programming Definitions.

Bridge as used in this part is defined in § 650.305 of this chapter, the National Bridge Inspection Standards.

Criteria pollutant is any pollutant for which there is established a NAAQS at 40 CFR part 50. The transportation related criteria pollutants per 40 CFR 93.102(b)(1) are carbon monoxide, nitrogen dioxide, ozone, and particulate matter (PM_{10} and $PM_{2.5}$).

Full extent means continuous collection and evaluation of pavement condition data over the entire length of the roadway.

Highway Performance Monitoring System (HPMS) is a national level highway information system that includes data on the extent, condition, performance, use, and operating characteristics of the Nation's highways.

Mainline highways means the through travel lanes of any highway. Mainline highways specifically exclude ramps, shoulders, turn lanes, crossovers, rest areas, and other pavement surfaces that are not part of the roadway normally traveled by through traffic.

Maintenance area as used in this part is defined in § 450.104 of this chapter, Transportation Planning and Programming Definitions. For the purposes of this part, areas that have reached the end of their 20-year maintenance period [1] are not considered as maintenance areas.

Measure means an expression based on a metric that is used to establish targets and to assess progress toward achieving the established targets (*e.g.,* a measure for flight on-time performance is percent of flights that arrive on time, and a corresponding metric is an arithmetic difference between scheduled and actual arrival time for each flight).

Metric means a quantifiable indicator of performance or condition.

Metropolitan Planning Organization (MPO) as used in this part is defined in § 450.104 of this chapter, Transportation Planning and Programming Definitions.

Metropolitan Planning Area as used in this part is defined in § 450.104 of this chapter, Transportation Planning and Programming Definitions.

National Ambient Air Quality Standards (NAAQS) as used in this part is defined in § 450.104 of this chapter, Transportation Planning and Programming Definitions.

National Bridge Inventory (NBI) is an FHWA database containing bridge information and inspection data for all highway bridges on public roads, on and off Federal-aid highways, including tribally owned and federally owned bridges, that are subject to the National Bridge Inspection Standards (NBIS).

National Performance Management Research Data Set (NPMRDS) means a data set derived from vehicle/passenger probe data (sourced from Global Positioning Station (GPS), navigation units, cell phones) that includes average travel times representative of all traffic on each mainline highway segment of the National Highway System (NHS), and additional travel times representative of freight trucks for those segments that are on the Interstate System. The data set includes records that contain average travel times for every 15 minutes of every day (24 hours) of the year recorded and calculated for every travel time segment where probe data are available. The NPMRDS does not include any imputed travel time data.

Nonattainment area as used in this part is defined in § 450.104 of this chapter, Transportation Planning and Programming Definitions.

[1] The maintenance period in CAA Section 175A (42 U.S.C. 7505a) requires the submittal of two maintenance plans totaling 20 years, unless the applicable implementation plan specifics a longer maintenance period. The end of the maintenance period is 20-years from the effective date of the re-designation to attainment and approval of the first 10-year maintenance plan.

Non-SOV travel is defined as any travel mode other than driving alone in a motorized vehicle (*i.e.,* single occupancy vehicle or SOV travel), including travel avoided by telecommuting.

Non-urbanized area means a single geographic area that comprises all of the areas in the State that are not ''urbanized areas'' under 23 U.S.C. 101(a)(34).

Performance period means a determined time period during which condition/performance is measured and evaluated to: Assess condition/performance with respect to baseline condition/performance; and track progress toward the achievement of the targets that represent the intended condition/performance level at the midpoint and at the end of that time period. The term ''performance period'' applies to all measures in this part, except the measures for the Highway Safety Improvement Program (HSIP) in subpart B of this part. Each performance period covers a 4-year duration beginning on a specified date (provided in § 490.105).

Reporting segment means the length of roadway that the State Department of Transportation (DOT) and MPOs define for metric calculation and reporting and is comprised of one or more travel time segments.

Target means a quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the Federal Highway Administration (FHWA).

Transportation Management Area (TMA) as used in this part is defined in § 450.104 of this chapter, Transportation Planning and Programming Definitions.

Travel time data set means either the NPMRDS or an equivalent data set that is used by State DOTs and MPOs as approved by FHWA, to carry out the requirements in subparts E, F, and G of this part.

Travel time reliability means the consistency or dependability of travel times from day to day or across different times of the day.

Travel time segment means a contiguous stretch of the NHS for which average travel time data are summarized in the travel time data set.

Truck freight bottleneck, as used in this part, is defined as a segment of roadway identified by the State DOT as having constraints that cause a significant impact on freight mobility and reliability. Bottlenecks may include highway sections that do not meet thresholds for freight reliability identified in § 490.613 or other locations identified by the State DOT. Causes may include recurring congestion, causing delays in freight movement, or roadway features that impact truck movements, such as steep grades, substandard vertical or horizontal clearances, weight restrictions, delays at border crossings or terminals, or truck operating restrictions.

§ 490.103 Data requirements.

(a) *In general.* Unless otherwise noted in paragraphs (b) through (g) of this section, the data requirements in this section apply to the measures identified in subparts C through H of this part. Additional data requirements for specific performance management measures are identified in 23 CFR sections—

(1) 490.309 for the condition of pavements on the Interstate System;

(2) 490.309 for the condition of pavements on the non-Interstate NHS;

(3) 490.409 for the condition of bridges on the NHS;

(4) 490.509 for the performance of the Interstate System;

(5) 490.509 for the performance of the non-Interstate NHS;

(6) 490.609 for the freight movement on the Interstate System;

(7) 490.709 for traffic congestion; and

(8) 490.809 for on-road mobile source emissions.

(b) *Urbanized area data.* The State DOTs shall submit urbanized area data, including boundaries of urbanized areas, in accordance with the HPMS Field Manual for the purpose of the additional targets for urbanized and non-urbanized areas in § 490.105(e) and establishing and reporting on targets for the CMAQ Traffic Congestion measures in § 490.707. The boundaries of urbanized areas shall be identified based on the most recent U.S. Decennial Census, unless FHWA approves adjustments to the urbanized area as provided by 23 U.S.C. 101(a)(34) and these adjustments are submitted to HPMS.

(c) *Nonattainment and maintenance areas data.* The State DOTs shall use the nonattainment and maintenance areas boundaries based on the effective date of U.S. Environmental Protection Agency (EPA) designations in 40 CFR part 81.

(d) *National Highway System data.* The State DOTs shall document and submit the extent of the NHS in accordance with the HPMS Field Manual.

(e) *Travel time data set.* Travel time data needed to calculate the measures in subparts E, F, and G of this part will come from the NPMRDS, unless the State DOT requests, and FHWA approves, the use of an equivalent data source(s) that meets the requirements of this section. The State DOT shall establish, in coordination with applicable MPOs, a single travel time data set (*i.e.,* NPMRDS or equivalent data set) that will be used to calculate the annual metrics in subparts E, F, and G of this part. The same data source shall be used for each calendar year. A State DOT and MPO(s) must use the same travel time data set for each reporting segment for the purposes of calculating the metrics and measures. The use of equivalent data source(s) shall comply with the following:

(1) State DOTs and MPOs shall use the same equivalent data source(s) for a calendar year;

(2) The State DOT shall request FHWA approval for the use of such equivalent data source(s) no later than October 1st before the beginning of the calendar year in which the data source would be used to calculate metrics and FHWA must approve the use of that data source prior to a State DOT and MPO(s)'s implementation and use of that data source;

(3) The State DOT shall make the equivalent data source(s) available to FHWA, on request;

(4) The State DOT shall maintain and use a documented data quality plan to routinely check the quality and accuracy of data contained within the equivalent data source(s); and

(5) If approved by FHWA, the equivalent data source(s) shall:

(i) Be used by both the State DOT and all MPOs within the State for all applicable travel time segments and be referenced by HPMS location referencing standards; and

(ii) In combination with or in place of NPMRDS data, include:

(A) Contiguous segments that cover the mainline highways full NHS, as defined in 23 U.S.C. 103, within the State and MPO boundary; and

(B) Average travel times for at least the same number of 15 minute intervals and the same locations that would be available in the NPMRDS;

(iii) Be populated with observed measured vehicle travel times and shall not be populated with travel times derived from imputed (historic travel times or other estimates) methods. Segment travel times may be derived from travel times reported over a longer time period of measurement (path processing or equivalent);

(iv) Include, for each segment at 15 minute intervals throughout the time periods specified in paragraphs (e)(5)(iv)(A) and (B) of this section for each day of the year, the average travel time, recorded to the nearest second,

representative of at least one of the following:

(A) All traffic on each segment of the NHS (24 hours on Interstate; 6 a.m. to 8 p.m. for non-Interstate NHS); or

(B) Freight vehicle traffic on each segment of the Interstate System (24 hours);

(v) Include, for each segment, a recording of the time and date of each 15 minute travel time record;

(vi) Include the location (route, functional class, direction, State), length and begin and end points of each segment; and

(vii) Be available within 60 days of measurement.

(f) *Reporting segments.* State DOTs, in coordination with MPOs, shall define a single set of reporting segments of the Interstate System and non-Interstate NHS for the purpose of calculating the travel time-based measures specified in §§ 490.507, 490.607, and 490.707 in accordance with the following:

(1) Reporting segments shall be comprised of one or more contiguous Travel Time Segments of same travel direction. State DOTs have the option to accept the Travel Time Segments in the NPMRDS as the reporting segments;

(2) Reporting segments shall not exceed 1 mile in length in urbanized areas unless an individual Travel Time Segment is longer and 10 miles in length in non-urbanized areas unless an individual Travel Time Segment is longer;

(3) All reporting segments collectively shall be contiguous and cover the full extent of the directional mainline highways of the Interstate System and non-Interstate NHS required for reporting the measure; and

(4) The State DOT and applicable MPOs shall document, in manner that mutually agreed upon by all relevant parties, the coordination and agreement on the travel time data set and the defined reporting segments.

(g) *Posted speed limit.* State DOTs are encouraged to report the posted speed limits for the full extent of the NHS in their State via HPMS (HPMS Data Item ''Speed_Limit'').

§ 490.105 Establishment of performance targets.

(a) *In general.* State DOTs shall establish performance targets for all measures specified in paragraph (c) of this section for the respective target scope identified in paragraph (d) of this section with the requirements specified in paragraph (e) of this section. The MPOs shall establish performance targets for all measures specified in paragraph (c) of this section for respective target scope identified in paragraph (d) of this section with the requirements specified in paragraph (f) of this section.

(b) *Highway Safety Improvement Program measures.* State DOTs and MPOs shall establish performance targets for the Highway Safety Improvement Program (HSIP) measures in accordance with § 490.209.

(c) *Applicable measures.* State DOTs and MPOs that include, within their respective geographic boundaries, any portion of the applicable transportation network or area shall establish performance targets for the performance measures identified in 23 CFR sections—

(1) 490.307(a)(1) and (2) for the condition of pavements on the Interstate System;

(2) 490.307(a)(3) and (4) for the condition of pavements on the NHS (excluding the Interstate);

(3) 490.407(c)(1) and (2) for the condition of bridges on the NHS;

(4) 490.507(a)(1) and (2) for the NHS Travel Time Reliability;

(5) 490.507(b) for the greenhouse gas (GHG) performance for the NHS;

(6) 490.607 for the freight movement on the Interstate System;

(7) 490.707(a) and (b) for traffic congestion; and

(8) 490.807 for on-road mobile source emissions.

(d) *Target scope.* Targets established by State DOTs and MPOs shall, regardless of ownership, represent the transportation network or geographic area, including bridges that cross State borders, that are applicable to the measures as specified in paragraphs (d)(1) and (2) of this section.

(1) State DOTs and MPOs shall establish statewide and metropolitan planning area wide targets, respectively, that represent the condition/performance of the transportation network or geographic area that are applicable to the measures, as specified in 23 CFR sections—

(i) 490.303 for the condition of pavements on the Interstate System measures specified in § 490.307(a)(1) and (2);

(ii) 490.303 for the condition of pavements on the NHS (excluding the Interstate) measures specified in § 490.307(a)(3) and (4);

(iii) 490.403 for the condition of bridges on the NHS measures specified in § 490.407(c)(1) and (2);

(iv) 490.503(a)(1) for the Travel Time Reliability measures specified in § 490.507(a)(1) and (2);

(v) 490.503(b) for the GHG measure for the NHS specified in § 490.507(b);

(vi) 490.603 for the Freight Reliability measure specified in § 490.607; and

(vii) 490.803 for the Total Emissions Reduction measure identified in § 490.807.

(2) State DOTs and MPOs shall establish a single urbanized area target that represents the performance of the transportation network in each applicable area for the CMAQ Traffic Congestion measures, as specified in § 490.703.

(3) For the purpose of target establishment in this section and reporting targets and progress evaluation in § 490.107, State DOTs shall describe the urbanized area boundaries within the State boundary in the Baseline Performance Period Report required by § 490.107(b)(1).

(e) *Establishment.* State DOTs shall establish targets for each of the performance measures identified in paragraph (c) of this section for respective target scope identified in paragraph (d) of this section as follows:

(1) *Schedule.* State DOTs shall establish targets not later than February 20, 2018, and for each performance period thereafter, in a manner that allows for the time needed to meet the requirements specified in this section and so that the final targets are submitted to FHWA by the due date provided in § 490.107(b).

(2) *Coordination.* State DOTs shall coordinate with relevant MPOs on the selection of targets in accordance with 23 U.S.C. 135(d)(2)(B)(i)(II) to ensure consistency, to the maximum extent practicable.

(3) *Additional targets for urbanized and non-urbanized areas.* In addition to statewide targets, described in paragraph (d)(1) of this section, State DOTs may, as appropriate, for each statewide target establish additional targets for portions of the State.

(i) State DOTs shall describe in the Baseline Performance Period Report required by § 490.107(b)(1) the boundaries used to establish each additional target.

(ii) State DOTs may select any number and combination of urbanized area boundaries and may also select a non-urbanized area boundary for the establishment of additional targets.

(iii) The boundaries used by the State DOT for additional targets shall be contained within the geographic boundary of the State.

(iv) State DOTs shall evaluate separately the progress of each additional target and report that progress as required under § 490.107(b)(2)(ii)(B) and (b)(3)(ii)(B).

(v) Additional targets for urbanized areas and the non-urbanized area are not applicable to the CMAQ Traffic Congestion measures and the Total

Emissions Reduction measure in paragraphs (c)(7) and (8) of this section, respectively.

(4) *Time horizon for targets.* State DOTs shall establish targets for a performance period as follows:

(i) The performance period will begin on:

(A) January 1st of the year in which the Baseline Performance Period Report is due to FHWA and will extend for a duration of 4 years for the measures in paragraphs (c)(1) through (7) of this section; and

(B) October 1st of the year prior to which the Baseline Performance Report is due to FHWA and will extend for a duration of 4 years for the measure in paragraph (c)(8) of this section.

(ii) The midpoint of a performance period will occur 2 years after the beginning of a performance period described in paragraph (e)(4)(i) of this section.

(iii) Except as provided in paragraphs (e)(7) and (e)(8)(v) of this section, State DOTs shall establish 2-year targets that reflect the anticipated condition/performance level at the midpoint of each performance period for the measures in paragraphs (c)(1) through (7) of this section, and the anticipated cumulative emissions reduction to be reported for the first 2 years of a performance period by applicable criteria pollutant and precursor for the measure in paragraph (c)(8) of this section.

(iv) State DOTs shall establish 4-year targets that reflect the anticipated condition/performance level at the end of each performance period for the measures in paragraphs (c)(1) through (7) of this section, and the anticipated cumulative emissions reduction to be reported for the entire performance period by applicable criteria pollutant and precursor for the measure in paragraph (c)(8) of this section.

(5) *Reporting.* State DOTs shall report 2-year targets, 4-year targets, the basis for each established target, progress made toward the achievement of targets, and other requirements to FHWA in accordance with § 490.107. State DOTs shall provide relevant MPO(s) targets to FHWA, upon request, each time the relevant MPOs establish or adjust MPO targets, as described in paragraph (f) of this section.

(6) *Target adjustment.* State DOTs may adjust an established 4-year target in the Mid Performance Period Progress Report, as described in § 490.107(b)(2). State DOTs shall coordinate with relevant MPOs when adjusting their 4-year target(s). Any adjustments made to 4-year targets established for the CMAQ Traffic Congestion measures in paragraph (c)(7) of this section shall be agreed upon and made collectively by all State DOTs and MPOs that include any portion of the NHS in the respective urbanized area applicable to the measures.

(7) *Phase-in of new requirements for Interstate System pavement condition measures and the non-Interstate NHS Travel Time Reliability measures.* The following requirements apply only to the first performance period and to the measures in §§ 490.307(a)(1) and (2) and 490.507(a)(2):

(i) State DOTs shall establish their 4-year targets, required under paragraph (e)(4)(iv) of this section, and report these targets in their Baseline Performance Period Report, required under § 490.107(b)(1);

(ii) State DOTs shall not report 2-year targets, described in paragraph (e)(4)(iii) of this section, and baseline condition/performance in their Baseline Performance Period Report; and

(iii) State DOTs shall use the 2-year condition/performance in their Mid Performance Period Progress Report, described in § 490.107(b)(2)(ii)(A) as the baseline condition/performance. State DOTs may also adjust their 4-year targets, as appropriate.

(8) *Urbanized area specific targets.* The following requirements apply to establishing targets for the CMAQ Traffic Congestion measures in paragraph (c)(7) of this section, as their target scope provided in paragraph (d)(2) of this section:

(i) For the performance period that begins on January 1, 2018, State DOTs, with mainline highways on the NHS that cross any part of an urbanized area with a population more than 1 million within its geographic State boundary and that urbanized area contains any part of a nonattainment or maintenance area for any one of the criteria pollutants, as specified in § 490.703, shall establish targets for the CMAQ Traffic Congestion measures specified in § 490.707(a) and (b).

(ii) Beginning with the performance period that begins on January 1, 2022, and all subsequent performance periods thereafter, State DOTs, with mainline highways on the NHS that cross any part of an urbanized area with a population more than 200,000 within its geographic State boundary and that urbanized area contains any part of a nonattainment or maintenance area for any one of the criteria pollutants, as specified in § 490.703, shall establish targets for the CMAQ Traffic Congestion measures specified in § 490.707(a) and (b).

(iii) If required to establish targets for the CMAQ Traffic Congestion measures, as described in paragraphs (e)(8)(i) and/or (ii) of this section, State DOTs shall comply with the following:

(A) For each urbanized area, only one 2-year target and one 4-year target for the entire urbanized area shall be established regardless of roadway ownership.

(B) For each urbanized area, all State DOTs and MPOs that contain, within their respective boundaries, any portion of the NHS network in that urbanized area shall agree on one 2-year and one 4-year target for that urbanized area. In accordance with paragraphs (e)(5) and (f)(9) of this section, the targets reported by the State DOTs and MPOs for that urbanized area shall be identical.

(C) Except as provided in paragraphs (e)(8)(iii)(F) and (e)(8)(v) of this section, State DOTs shall meet all reporting requirements in § 490.107 for the entire performance period even if there is a change of population, NHS designation, or nonattainment/maintenance area designation during that performance period.

(D) The 1 million and 200,000 population thresholds, in paragraphs (e)(8)(i) and (ii) of this section, shall be determined based on the most recent annual population estimates published by the U.S. Census available 1 year before when the State DOT Baseline Performance Period Report is due to FHWA.

(E) NHS designations and urbanized areas, in paragraphs (e)(8)(i) and (ii) of this section, shall be determined from the data, contained in HPMS, 1 year before when the State DOT Baseline Performance Period Report is due to FHWA.

(F) The designation of nonattainment or maintenance areas, in paragraphs (e)(8)(i) and (ii) of this section, shall be determined based on the effective date of U.S. EPA's designation under the NAAQS in 40 CFR part 81, as of the date 1 year before the State DOT Baseline Performance Period Report is due to FHWA. The nonattainment and maintenance areas shall be revised if, on the date 1 year before the State DOT Mid Performance Period Progress Report in § 490.107(b)(2)(ii) is due to FHWA, the area is no longer in nonattainment or maintenance for a criteria pollutant included in § 490.703.

(iv) If a State DOT does not meet the criteria specified in paragraph (e)(8)(i) or (ii) of this section 1 year before when the State DOT Baseline Performance Period Report is due to FHWA, then that State DOT is not required to establish targets for the CMAQ Traffic Congestion measures for that performance period.

(v) If the urbanized area, in paragraph (e)(8)(i) or (ii) of this section, does not

contain any part of a nonattainment or maintenance area for the applicable criteria pollutants, as specified in § 490.703, 1 year before the State DOT Mid Performance Period Progress Report is due to FHWA, as described in paragraph (e)(8)(iii)(F) of this section, then that State DOT is not required to meet the requirements in § 490.107 for the CMAQ Traffic Congestion measures for that urbanized area for the remainder of that performance period.

(vi) The following requirements apply only the Peak Hour Excessive Delay (PHED) measure in § 490.707(a) to assess CMAQ Traffic Congestion in to the first performance period:

(A) State DOTs shall establish their 4-year targets, required under paragraph (e)(4)(iv) of this section, and report these targets in their Baseline Performance Period Report, required under § 490.107(b)(1).

(B) State DOTs shall not report 2-year targets, described in paragraph (e)(4)(ii) of this section, and baseline condition/performance in their Baseline Performance Period Report.

(C) State DOTs shall use the 2-year condition/performance in their Mid Performance Period Progress Report, described in § 490.107(b)(2)(ii)(A) as the baseline condition/performance. The established baseline condition/performance shall be collectively developed and agreed upon with relevant MPOs.

(D) State DOTs may, as appropriate, adjust their 4-year target(s) in their Mid Performance Period Progress Report, described in § 490.107(b)(2)(ii)(A). Adjusted 4-year target(s) shall be developed and collectively agreed upon with relevant MPO(s), as described in paragraph (e)(6) of this section.

(E) State DOTs shall annually report metrics for all mainline highways on the NHS for all applicable urbanized area(s) throughout the performance period, as required in § 490.711(f).

(9) *Targets for Total Emissions Reduction measure.* The following requirements apply to establishing targets for the measures specified in paragraph (c)(8) of this section:

(i) The State DOTs shall establish statewide targets for the Total Emissions Reduction measure for all nonattainment and maintenance areas for all applicable criteria pollutants and precursors specified in § 490.803.

(ii) For all nonattainment and maintenance areas within the State geographic boundary, the State DOT shall establish separate statewide targets for each of the applicable criteria pollutants and precursors specified in § 490.803.

(iii) The established targets, as specified in paragraph (e)(4) of this section, shall reflect the anticipated cumulative emissions reduction to be reported in the CMAQ Public Access System required in § 490.809(a).

(iv) In addition to the statewide targets in paragraph (e)(9)(i) of this section, State DOTs may, as appropriate, establish additional targets for any number and combination of nonattainment and maintenance areas by applicable criteria pollutant within the geographic boundary of the State. If a State DOT establishes additional targets for nonattainment and maintenance areas, it shall report the targets in the Baseline Performance Period Report required by § 490.107(b)(1). State DOTs shall evaluate separately the progress of each of these additional targets and report that progress as required under § 490.107(b)(2)(ii)(B) and (b)(3)(ii)(B).

(v) The designation of nonattainment or maintenance areas shall be determined based on the effective date of U.S. EPA's designation under the NAAQS in 40 CFR part 81, as of the date 1 year before the State DOT Baseline Performance Period Report is due to FHWA. The nonattainment and maintenance areas shall be revised if, on the date 1 year before the State DOT Mid Performance Period Progress Report in § 490.107(b)(2)(ii) is due to FHWA, the area is no longer in nonattainment or maintenance for a criteria pollutant included in § 490.803.

(vi) Except as provided in paragraphs (e)(9)(vii) and (viii) of this section, the State DOT shall meet all reporting requirements in § 490.107 for the entire performance period even if there is a change of nonattainment or maintenance area during that performance period.

(vii) If a State geographic boundary does not contain any part of nonattainment or maintenance areas for applicable criteria pollutants and precursors, as specified in § 490.803, 1 year before the State DOT Baseline Performance Period Report is due to FHWA, then that State DOT is not required to establish targets for Total Emissions Reduction measures for that performance period.

(viii) If the State geographic boundary, in paragraph (e)(9)(ii) of this section, does not contain any part of the nonattainment or maintenance area for an applicable criteria pollutant or precursor, as specified in § 490.803, 1 year before the State DOT Mid Performance Period Progress Report is due to FHWA as described in paragraph (e)(9)(v) of this section, then that State DOT is not required to meet the requirements in § 490.107 for the Total Emissions Reduction measure for that applicable criteria pollutant or precursor for the remainder of that performance period.

(f) *MPO establishment.* The MPOs shall establish targets for each of the performance measures identified in paragraph (c) of this section for the respective target scope identified in paragraph (d) of this section as follows:

(1) *Schedule.* The MPOs shall establish targets no later than 180 days after the respective State DOT(s) establishes their targets, as provided in paragraph (e)(1) of this section.

(i) The MPOs shall establish 4-year targets, described in paragraph (e)(4)(iv) of this section, for all applicable measures, described in paragraphs (c) and (d) of this section.

(ii) Except as provided in paragraph (f)(5)(vi) of this section, the MPOs shall establish 2-year targets, described in paragraph (e)(4)(iii) of this section for the CMAQ Traffic Congestion and Total Emissions Reduction measures, described in paragraphs (c) and (d) of this section as their applicability criteria described in paragraphs (f)(5)(i) and (ii) and (f)(6)(iii) of this section, respectively.

(iii) If an MPO does not meet the criteria described in paragraph (f)(5)(i), (f)(5)(ii), or (f)(6)(iii) of this section, the MPO is not required to establish 2-year target(s) for the corresponding measure(s).

(2) *Coordination.* The MPOs shall coordinate with relevant State DOT(s) on the selection of targets in accordance with 23 U.S.C. 134(h)(2)(B)(i)(II) to ensure consistency, to the maximum extent practicable.

(3) *Target establishment options.* For each performance measure identified in paragraph (c) of this section, except the CMAQ Traffic Congestion measures in paragraph (f)(5) of this section, and MPOs meeting the criteria under paragraph (f)(6)(iii) of this section for Total Emissions Reduction measure, the MPOs shall establish targets by either:

(i) Agreeing to plan and program projects so that they contribute toward the accomplishment of the relevant State DOT target for that performance measure; or

(ii) Committing to a quantifiable target for that performance measure for their metropolitan planning area.

(4) *MPOs serving a multistate planning area.* Except as provided in the CMAQ Traffic Congestion measures in paragraph (f)(5) of this section, and MPOs meeting the criteria under paragraph (f)(6)(iii) of this section, for Total Emissions Reduction measure, MPOs with planning areas extending

across State boundaries shall follow these requirements for each performance measure identified in paragraph (c) of this section:

(i) For each measure, MPOs may choose different target establishment options, provided in paragraph (f)(3) of this section, for the portion of the planning area within each State.

(ii) If MPOs choose the option to agree to plan and program projects to contribute toward State DOT targets, in accordance with paragraph (f)(3)(i) of this section, for a measure, then they shall plan and program projects in support of State DOT targets for the portion of the planning area within each State.

(5) *Urbanized area specific targets.* The following requirements apply to establishing targets for the CMAQ Traffic Congestion measures in paragraph (c)(7) of this section, as their target scope provided in paragraph (d)(2) of this section:

(i) For the performance period that begins on January 1, 2018, MPOs shall establish targets for the CMAQ Traffic Congestion measures specified in § 490.707(a) and (b) when mainline highways on the NHS within their metropolitan planning area boundary cross any part of an urbanized area with a population more than 1 million, and that portion of their metropolitan planning area boundary also contains any portion of a nonattainment or maintenance area for any one of the criteria pollutants, as specified in § 490.703. If an MPO with mainline highways on the NHS within their metropolitan planning area boundary cross any part of an urbanized area with a population more than 1 million and that urbanized area contains any part of a nonattainment or maintenance area, for any one of the criteria pollutant as specified in § 490.703, outside of its metropolitan planning area boundary, then that MPO should coordinate with relevant State DOT(s) and MPO(s) in the target establishment process for the CMAQ Traffic Congestion measures specified in § 490.707.

(ii) Beginning with the performance period that begins on January 1, 2022, and all subsequent performance periods thereafter, MPOs shall establish targets for the CMAQ Traffic Congestion measures specified in § 490.707(a) and (b) when mainline highways on the NHS within their metropolitan planning area boundary cross any part of an urbanized area with a population more than 200,000, and that portion of their metropolitan planning area boundary also contains any portion of a nonattainment or maintenance area for any one of the criteria pollutants, as specified in § 490.703. If an MPO with mainline highways on the NHS within their metropolitan planning area boundary cross any part of an urbanized area with a population more than 200,000 and that urbanized area contains any part of a nonattainment or maintenance area, for any one of the criteria pollutant as specified in § 490.703, outside of its metropolitan planning area boundary, then that MPO should coordinate with relevant State DOT(s) and MPO(s) in the target establishment process for the CMAQ Traffic Congestion measures specified in § 490.707.

(iii) If required to establish a target for the CMAQ Traffic Congestion measures, as described in paragraphs (f)(5)(i) and/or (ii) of this section, MPOs shall comply with the following:

(A) For each urbanized area, only one 2-year target and one 4-year target for the entire urbanized area shall be established regardless of roadway ownership.

(B) For each urbanized area, all State DOTs and MPOs that contain, within their respective boundaries, any portion of the NHS network in that urbanized area shall agree on one 2-year and one 4-year target for that urbanized area. The targets reported, in accordance with paragraphs (e)(5) and (f)(9) of this section, by the State DOTs and MPOs for that urbanized area shall be identical.

(C) Except as provided in paragraphs (f)(5)(iii)(F) and (f)(5)(v) of this section, MPOs shall meet all reporting requirements in § 490.107(c) for the entire performance period even if there is a change of population, NHS designation, or nonattainment/maintenance area during that performance period.

(D) The 1 million and 200,000 population thresholds, in paragraph (f)(5)(i) and (ii) of this section, shall be determined based on the most recent annual population estimates published by the U.S. Census available 1 year before the State DOT Baseline Performance Period Report is due to FHWA.

(E) NHS designations and urbanized areas, in paragraphs (f)(5)(i) and (ii) of this section, shall be determined from the data, contained in HPMS, 1 year before State DOT Baseline Performance Period Report is due to FHWA.

(F) The designation of nonattainment or maintenance areas, in paragraph (f)(5)(i) and (ii) of this section, shall be determined based on the effective date of U.S. EPA's designation under the NAAQS in 40 CFR part 81, as of the date 1 year before the State DOT Baseline Performance Period Report is due to FHWA. The nonattainment and maintenance areas shall be revised if, on the date 1 year before the State DOT Mid Performance Period Progress Report in § 490.107(b)(2)(ii) is due to FHWA, the area is no longer in nonattainment or maintenance for a criteria pollutant included in § 490.703.

(iv) If an MPO does not meet the criteria specified in paragraph (f)(5)(i) or (ii) of this section at the time that is 1 year before when the State DOT Baseline Performance Period Report is due to FHWA, then that MPO is not required to establish targets for the CMAQ Traffic Congestion measure for that performance period.

(v) If the portion of the metropolitan planning area boundary within the urbanized area, in paragraph (f)(5)(i) or (ii) of this section, does not contain any part of a nonattainment or maintenance area for the applicable criteria pollutants, as specified in § 490.703, at the time that is 1 year before when the State DOT Mid Performance Period Progress Report is due to FHWA, as described in paragraph (f)(5)(iii)(F) of this section, then that MPO is not required to meet the requirements in § 490.107 for the CMAQ Traffic Congestion measures for that urbanized area for the remainder of that performance period.

(vi) The following requirements apply only to the first performance period and the PHED measure to assess traffic congestion in § 490.707(a):

(A) The MPOs shall not report 2-year targets, described in paragraph (f)(5)(iii)(A) of this section;

(B) The MPOs shall use the 2-year condition/performance in the State DOT Mid Performance Period Progress Report, described in § 490.107(b)(2)(ii)(A) as baseline condition/performance. The established baseline condition/performance shall be agreed upon and made collectively with relevant State DOTs; and

(C) The MPOs may, as appropriate, adjust their 4-year target(s). Adjusted 4-year target(s) shall be collectively developed and agreed upon with all relevant State DOT(s), as described in paragraph (f)(8) of this section.

(6) *Targets for the Total Emissions Reduction measure.* The following requirements apply to establishing targets for the measure in paragraph (c)(8) of this section:

(i) The MPO shall establish targets for each of the applicable criteria pollutants and precursors, specified in § 490.803, for which it is in nonattainment or maintenance, within its metropolitan planning area boundary.

(ii) The established targets, as specified in paragraph (e)(4) of this

section, shall reflect the anticipated cumulative emissions reduction to be reported in the CMAQ Public Access System required in § 490.809(a).

(iii) If any part of a designated nonattainment and maintenance area within the metropolitan planning area overlaps the boundary of an urbanized area with a population more than 1 million in population, as of 1 year before the State DOT Baseline Performance Period Report is due to FHWA, then that MPO shall establish both 2-year and 4-year targets for their metropolitan planning area. The population threshold shall be determined based on the most recent annual population estimates published by the U.S. Census available 1 year before the State DOT Baseline Performance Period Report is due to FHWA.

(iv) For the nonattainment and maintenance areas within the metropolitan planning area that do not meet the criteria in paragraph (f)(6)(iii) of this section, MPOs shall establish 4-year targets for their metropolitan planning area, as described in paragraph (f)(3) of this section.

(v) The designation of nonattainment or maintenance areas shall be determined based on the effective date of U.S. EPA's designation under the NAAQS in 40 CFR part 81, as of the date 1 year before the State DOT Baseline Performance Period Report is due to FHWA. The nonattainment and maintenance areas shall be revised if, on the date 1 year before the State DOT Mid Performance Period Progress Report in § 490.107(b)(2)(ii) is due to FHWA, the area is no longer in nonattainment or maintenance for a criteria pollutant included in § 490.803.

(vi) Except as provided in paragraphs (f)(6)(v) and (viii) of this section, MPOs shall meet all reporting requirements in § 490.107(c) for the entire performance period even if there is a change of nonattainment or maintenance area or population during that performance period.

(vii) If a metropolitan planning area boundary does not contain any part of nonattainment or maintenance areas for applicable criteria pollutants 1 year before when the State DOT Baseline Performance Period Report is due to FHWA, then that MPO is not required to establish targets for the Total Emissions Reduction measure for that performance period.

(viii) If the metropolitan planning area boundary, in paragraph (f)(6)(i) of this section, does not contain any part of a nonattainment or maintenance area for the applicable criteria pollutants, as specified in § 490.803, 1 year before the State DOT Mid Performance Period Progress Report is due to FHWA, as described in paragraph (f)(6)(v) of this section, then that MPO is not required to meet the requirements in § 490.107 for the Total Emissions Reduction measure for that applicable criteria pollutant or precursor for the remainder of that performance period.

(7) *MPO response to State DOT target adjustment.* For the established targets in paragraph (f)(3) of this section, if the State DOT adjusts a 4-year target in the State DOT's Mid Performance Period Progress Report and if, for that respective target, the MPO established a target by supporting the State DOT target as allowed under paragraph (f)(3)(i) of this section, then the MPO shall, within 180 days, report to the State DOT whether it will either:

(i) Agree to plan a program of projects so that they contribute to the adjusted State DOT target for that performance measure; or

(ii) Commit to a new quantifiable target for that performance measure for its metropolitan planning area.

(8) *Target adjustment.* If the MPO establishes its target by committing to a quantifiable target, described in paragraph (f)(3)(ii) of this section or establishes target(s) for the Total Emissions Reduction measure required in paragraph (f)(6)(iii) of this section, then the MPOs may adjust its target(s) in a manner that is collectively developed, documented, and mutually agreed upon by the State DOT and MPO. Any adjustments made to 4-year targets, established for CMAQ Traffic Congestion measures in paragraph (f)(5)(i) or (ii) of this section, shall be collectively developed and agreed upon by all State DOTs and MPOs that include any portion of the NHS in the respective urbanized area applicable to the measure.

(9) *Reporting.* The MPOs shall report targets and progress toward the achievement of their targets as specified in § 490.107(c). After the MPOs establish or adjust their targets, the relevant State DOT(s) must be able to provide these targets to FHWA upon request.

§ 490.107 Reporting on performance targets.

(a) *In general.* All State DOTs and MPOs shall report the information specified in this section for the targets required in § 490.105.

(1) All State DOTs and MPOs shall report in accordance with the schedule and content requirements under paragraphs (b) and (c) of this section, respectively.

(2) For the measures identified in § 490.207(a), all State DOTs and MPO shall report on performance in accordance with § 490.213.

(3) State DOTs shall report using an electronic template provided by FHWA.

(b) *State Biennial Performance Report.* State DOTs shall report to FHWA baseline condition/performance at the beginning of a performance period and progress achievement at both the midpoint and end of a performance period. State DOTs shall report at an ongoing 2-year frequency as specified in paragraphs (b)(1) through (3) of this section.

(1) *Baseline Performance Period Report*—(i) *Schedule.* State DOTs shall submit a Baseline Performance Period Report to FHWA by October 1st of the first year in a performance period. State DOTs shall submit their first Baseline Performance Period Report to FHWA by October 1, 2018, and subsequent Baseline Performance Period Reports to FHWA by October 1st every 4 years thereafter.

(ii) *Content.* The State DOT shall report the following information in each Baseline Performance Period Report:

(A) *Targets.* 2-year and 4-year targets for the performance period, as required in § 490.105(e), and a discussion, to the maximum extent practicable, of the basis for each established target;

(B) *Baseline condition/performance.* Baseline condition/performance derived from the latest data collected through the beginning date of the performance period specified in § 490.105(e)(4)(i) for each target, required under paragraph (b)(1)(ii)(A) of this section;

(C) *Relationship with other performance expectations.* A discussion, to the maximum extent practicable, on how the established targets in paragraph (b)(1)(ii)(A) of this section support expectations documented in longer range plans, such as the State asset management plan required by 23 U.S.C. 119(e) and the long-range statewide transportation plan provided in part 450 of this chapter;

(D) *Urbanized area boundaries and population data for targets.* For the purpose of establishing additional targets for urbanized and non-urbanized areas in § 490.105(e)(3) and the urbanized area specific targets in § 490.105(e)(8), State DOTs shall document the boundary extent for all applicable urbanized areas based on information in HPMS;

(E) *Congestion at truck freight bottlenecks.* The State DOT shall document the location of truck freight bottlenecks within the State, including those identified in the National Freight Strategic Plan. If a State has prepared a

State Freight Plan under 49 U.S.C. 70202, within the last 2 years, then the State Freight Plan may serve as the basis for identifying truck freight bottlenecks;

(F) *Nonattainment and maintenance area for targets.* Where applicable, for the purpose of determining target scope in § 490.105(d) and any additional targets under § 490.105(e)(9)(iv), State DOTs shall describe the boundaries of U.S. EPA's designated nonattainment and maintenance areas, as described in §§ 490.103(c) and 490.105(e)(9)(v);

(G) *MPO CMAQ Performance Plan.* Where applicable, State DOTs shall include as an attachment the MPO CMAQ Performance Plan, described in paragraph (c)(3) of this section;

(H) *GHG metrics for the GHG measure.* Total tailpipe CO_2 emissions for the calendar year 2017, as described in § 490.511(f)(1) and total tailpipe CO_2 emissions for the 2 preceding calendar years of the year in which Baseline Performance Period Report is due to FHWA, as described in § 490.511(f)(2) for the GHG measure in § 490.507(b); and

(I) *Data collection method for the Percent of Non-SOV Travel measure.* Where applicable, State DOTs shall report the data collection method that is used to determine the Percent of Non-SOV Travel measure, in § 490.707(b), for each applicable urbanized area in the State, as provided in § 490.709(f)(2).

(2) *Mid Performance Period Progress Report*—(i) *Schedule.* State DOTs shall submit a Mid Performance Period Progress Report to FHWA by October 1st of the third year in a performance period. State DOTs shall submit their first Mid Performance Period Progress Report to FHWA by October 1, 2020, and subsequent Mid Performance Period Progress Reports to FHWA by October 1st every 4 years thereafter.

(ii) *Content.* The State DOT shall report the following information in each Mid Performance Period Progress Report:

(A) *2-year condition/performance.* The actual condition/performance derived from the latest data collected through the midpoint of the performance period, specified in § 490.105(e)(4), for each State DOT reported target required in paragraph (b)(1)(ii)(A) of this section;

(B) *2-year progress in achieving performance targets.* A discussion of the State DOT's progress toward achieving each established 2-year target in paragraph (b)(1)(ii)(A) of this section. The State DOT shall compare the actual 2-year condition/performance in paragraph (b)(2)(ii)(A) of this section, within the boundaries and limits documented in paragraphs (b)(1)(ii)(D) and (E) of this section, with the respective 2-year target and document in the discussion any reasons for differences in the actual and target values;

(C) *Investment strategy discussion.* A discussion on the effectiveness of the investment strategies developed and documented in the State asset management plan for the NHS required under 23 U.S.C. 119(e);

(D) *Congestion at truck freight bottlenecks.* Discussion on progress of the State DOT's efforts in addressing congestion at truck freight bottlenecks within the State, as described in paragraph (b)(1)(ii)(F) of this section, through comprehensive freight improvement efforts of State Freight Plan or MPO freight plans; the Statewide Transportation Improvement Program and Transportation Improvement Program; regional or corridor level efforts; other related planning efforts; and operational and capital activities targeted to improve freight movement on the Interstate System. If a State has prepared a State Freight Plan under 49 U.S.C. 70202 within the previous 2 years, then the State Freight Plan may serve as the basis for addressing congestion at truck freight bottlenecks. If the State Freight Plan has not been updated since the previous State Biennial Performance Report, then an updated analysis of congestion at truck freight bottlenecks must be completed;

(E) *Target adjustment discussion.* When applicable, a State DOT may submit an adjusted 4-year target to replace an established 4-year target in paragraph (b)(1)(ii)(A) of this section. If the State DOT adjusts its target, it shall include a discussion on the basis for the adjustment and how the adjusted target supports expectations documented in longer range plans, such as the State asset management plan and the long-range statewide transportation plan. The State DOT may only adjust a 4-year target at the midpoint and by reporting the change in the Mid Performance Period Progress Report;

(F) *2-year significant progress discussion for the National Highway Performance Program (NHPP) targets and the National Highway Freight Program (NHFP) target.* State DOTs shall discuss the progress they have made toward the achievement of all 2-year targets established for the NHPP measures in § 490.105(c)(1) through (5) and the Freight Reliability measure in § 490.105(c)(6). This discussion should document a summary of prior accomplishments and planned activities that will be conducted during the remainder of the performance period to make significant progress toward that achievement of 4-year targets for applicable measures;

(G) *Extenuating circumstances discussion on 2-year Targets.* When applicable, for 2-year targets for the NHPP or NHFP, a State DOT may include a discussion on the extenuating circumstance(s), described in § 490.109(e)(5), beyond the State DOT's control that prevented the State DOT from making 2-year significant progress toward achieving NHPP or NHFP target(s) in paragraph (b)(2)(ii)(F) of this section;

(H) *Applicable target achievement discussion.* If FHWA determined that a State DOT has not made significant progress toward the achievement of any 4-year NHPP or NHFP targets in the FHWA determination made after the State DOT submits the Full Performance Period Progress Report for the immediate prior performance period, then the State DOT shall include a description of the actions they will undertake to better achieve those targets as required under § 490.109(f). If FHWA determined under § 490.109(e) that the State DOT has made significant progress for immediate prior performance period's 4-year NHPP or NHFP targets, then the State DOT does not need to include this description for those targets;

(I) *MPO CMAQ Performance Plan.* Where applicable, State DOTs shall include as an attachment the MPO CMAQ Performance Plan, described in paragraph (c)(3) of this section; and

(J) *GHG metrics for the GHG measure.* Total tailpipe CO_2 emissions for 2 preceding calendars years of the year in which the Mid Performance Period Progress Report is due to FHWA, as described in § 490.511(f)(2), for the GHG measure in § 490.507(b).

(3) *Full Performance Period Progress Report*—(i) *Schedule.* State DOTs shall submit a progress report on the full performance period to FHWA by October 1st of the first year following the reference performance period. State DOTs shall submit their first Full Performance Period Progress Report to FHWA by October 1, 2022, and subsequent Full Performance Period Progress Reports to FHWA by October 1st every 4 years thereafter.

(ii) *Content.* The State DOT shall report the following information for each Full Performance Period Progress Report:

(A) *4-year condition/performance.* The actual condition/performance derived from the latest data collected through the end of the performance period, specified in § 490.105(e)(4), for

each State DOT reported target required in paragraph (b)(1)(ii)(A) of this section;

(B) *4-year progress in achieving performance targets.* A discussion of the State DOT's progress made toward achieving each established 4-year target in paragraph (b)(1)(ii)(A) or (b)(2)(ii)(E) of this section, when applicable. The State DOT shall compare the actual 4-year condition/performance in paragraph (b)(3)(ii)(A) of this section, within the boundaries and limits documented in paragraphs (b)(1)(ii)(D) and (E) of this section, with the respective 4-year target and document in the discussion any reasons for differences in the actual and target values;

(C) *Investment strategy discussion.* A discussion on the effectiveness of the investment strategies developed and documented in the State asset management plan for the NHS required under 23 U.S.C. 119(e);

(D) *Congestion at truck freight bottlenecks.* Discussion on progress of the State DOT's efforts in addressing congestion at truck freight bottlenecks within the State, as described in paragraphs (b)(1)(ii)(F) and (b)(2)(ii)(D) of this section;

(E) *4-year significant progress evaluation for applicable targets.* State DOTs shall discuss the progress they have made toward the achievement of all 4-year targets established for the NHPP measures in § 490.105(c)(1) through (5) and the Freight Reliability measure in § 490.105(c)(6). This discussion shall include a summary of accomplishments achieved during the performance period to demonstrate whether the State DOT has made significant progress toward achievement of 4-year targets for those measures;

(F) *Extenuating circumstances discussion on applicable targets.* When applicable, a State DOT may include discussion on the extenuating circumstance(s), described in § 490.109(e)(5), beyond the State DOT's control that prevented the State DOT from making a 4-year significant progress toward achieving NHPP or NHFP targets, described in paragraph (b)(3)(ii)(E) of this section;

(G) *Applicable target achievement discussion.* If FHWA determined that a State DOT has not made significant progress toward the achievement of any 2-year NHPP or NHFP targets in the biennial FHWA determination made after the State DOT submits the Mid Performance Period Progress Report for the performance period, then the State DOT shall include a description of the actions they will undertake to better achieve those targets as required under § 490.109(f). If FHWA determined in § 490.109(e) that the State DOT has made significant progress for the 2-year NHPP or NHFP targets for the performance period, then the State DOT does not need to include this description for those targets;

(H) *MPO CMAQ Performance Plan.* Where applicable, State DOTs shall include as an attachment the MPO CMAQ Performance Plan, described in paragraph (c)(3) of this section; and

(I) *GHG metrics for the GHG measure.* Total tailpipe CO_2 emissions for 2 preceding calendars years of the year in which the Full Performance Period Progress Report is due to FHWA, as described in § 490.511(f)(2), for the GHG measure in § 490.507(b).

(c) *MPO Report.* The MPOs shall establish targets in accordance with § 490.105 and report targets and progress toward the achievement of their targets in a manner that is consistent with the following:

(1) The MPOs shall report their established targets to their respective State DOT in a manner that is documented and mutually agreed upon by both parties.

(2) The MPOs shall report baseline condition/performance and progress toward the achievement of their targets in the system performance report in the metropolitan transportation plan in accordance with part 450 of this chapter.

(3) The MPOs serving a TMA and meeting criteria, specified in § 490.105(f)(6)(iii), shall develop a CMAQ performance plan as required by 23 U.S.C. 149(l). The CMAQ performance plan is not required when the MPO meets the criteria specified in § 490.105(f)(6)(vii) or (viii).

(i) The CMAQ performance plan shall be submitted to FHWA by the State DOT, and be updated biennially on the same schedule as the State Biennial Performance Reports.

(ii) For the CMAQ Traffic Congestion and Total Emissions Reduction measures in subparts G and H of this part, the CMAQ performance plan submitted with the State DOT's Baseline Performance Period Report to FHWA shall include:

(A) The 2-year and 4-year targets for the CMAQ Traffic Congestion measures, identical to the relevant State DOT(s) reported target under paragraph (b)(1)(ii)(A) of this section, for each applicable urbanized area;

(B) The 2-year and 4-year targets for the Total Emissions Reduction measure for the performance period;

(C) Baseline condition/performance for each MPO reported CMAQ Traffic Congestion targets, identical to the relevant State DOT(s) reported baseline condition/performance under paragraph (b)(1)(ii)(B) of this section;

(D) Baseline condition/performance derived from the latest estimated cumulative emissions reductions from CMAQ projects for each MPO reported Total Emissions Reduction target; and

(E) A description of projects identified for CMAQ funding and how such projects will contribute to achieving the performance targets for these measures.

(iii) For the CMAQ Traffic Congestion and Total Emissions Reduction measures in subparts G and H of this part, the CMAQ performance plan submitted with the State DOT's Mid Performance Period Progress Report to FHWA shall include:

(A) 2-year condition/performance for the CMAQ Traffic Congestion measures, identical to the relevant State DOT(s) reported condition/performance under paragraph (b)(2)(ii)(A) of this section, for each applicable urbanized area;

(B) 2-year condition/performance derived from the latest estimated cumulative emissions reductions from CMAQ projects for each MPO reported Total Emissions Reduction target;

(C) An assessment of the progress of the projects identified in the CMAQ performance plan submitted with the Baseline Performance Period Report toward achieving the 2-year targets for these measures;

(D) When applicable, an adjusted 4-year target to replace an established 4-year target; and

(E) An update to the description of projects identified for CMAQ funding and how those updates will contribute to achieving the 4-year performance targets for these measures.

(iv) For the CMAQ Traffic Congestion and Total Emissions Reduction measures in subparts G and H of this part, the CMAQ performance plan submitted with the State DOT's Full Performance Period Progress Report to FHWA shall include:

(A) 4-year condition/performance for the CMAQ Traffic Congestion measures, identical to the relevant State DOT(s) reported condition/performance reported under paragraph (b)(3)(ii)(A) of this section, for each applicable urbanized area;

(B) 4-year condition/performance derived from the latest estimated cumulative emissions reductions from CMAQ projects for each MPO reported Total Emissions Reduction target; and

(C) An assessment of the progress of the projects identified in both paragraphs (c)(3)(ii)(C) and (c)(3)(iii)(D) of this section toward achieving the 4-year targets for these measures.

(4) If an MPO elected to establish a quantifiable target, as provided in

§ 490.105(f)(3)(ii), for the GHG measure in § 490.507(b), then that MPO shall report a description of its measure calculation method to its State DOT in a manner that is documented and mutually agreed upon by both the State DOT and the MPO.

§ 490.109 Assessing significant progress toward achieving the performance targets for the National Highway Performance Program and the National Highway Freight Program.

(a) *In general.* The FHWA will assess each of the State DOT targets separately for the NHPP measures specified in § 490.105(c)(1) through (5) and the Freight Reliability measure specified in § 490.105(c)(6) to determine the significant progress made toward the achievement of those targets.

(b) *Frequency.* The FHWA will determine whether a State DOT has or has not made significant progress toward the achievement of applicable targets as described in paragraph (e) of this section at the midpoint and the end of each performance period.

(c) *Schedule.* The FHWA will determine significant progress toward the achievement of a State DOT's NHPP and NHFP targets after the State DOT submits the Mid Performance Period Progress Report for progress toward the achievement of 2-year targets, and again after the State DOT submits the Full Performance Period Progress Report for progress toward the achievement of 4-year targets. The FHWA will notify State DOTs of the outcome of the determination of the State DOT's ability to make significant progress toward the achievement of its NHPP and NHFP targets.

(d) *Source of data/information.* (1) The FHWA will use the following sources of information to assess NHPP target achievement and condition/performance progress:

(i) Data contained within the HPMS on June 15th of the year in which the significant progress determination is made that represents conditions from the prior year for targets established for Interstate System pavement condition measures, as specified in § 490.105(c)(1);

(ii) Data contained within the HPMS on August 15th of the year in which the significant progress determination is made that represents conditions from the prior year for targets established for non-Interstate NHS pavement condition measures, as specified in § 490.105(c)(2);

(iii) The most recently available data contained within the NBI as of June 15th of the year in which the significant progress determination is made for targets established for NHS bridge condition measures, as specified in § 490.105(c)(3);

(iv) Data contained within the HPMS on August 15th of the year in which the significant progress determination is made that represents performance from the prior year for targets established for the Travel Time Reliability measures, as specified in § 490.105(c)(4);

(v) On October 1st of the year in which the significant progress determination is made, the reported total tailpipe CO_2 emissions for the calendar year 2017 in the Baseline Performance Period Report, as described in § 490.107(b)(1)(ii)(I), and the reported total tailpipe CO_2 emissions in the State Biennial Performance Report, as described in § 490.107(b)(2)(ii)(J) or (b)(3)(ii)(I), in the year in which the significant progress determination is made for GHG measure in § 490.105(c)(5); and

(vi) Baseline condition/performance data contained in HPMS and NBI of the year in which the Baseline Period Performance Report is due to FHWA that represents baseline conditions/performances for the performance period for the measures in § 490.105(c)(1) through (4), and the HPMS data reported in the year in which Baseline Period Performance Report is due to FHWA and the total tailpipe CO_2 emissions reported in the Baseline Period Performance Report, as provided in § 490.107(b)(1)(ii)(I), for the GHG measure in § 490.105(c)(5).

(2) The FHWA will use the following sources of information to assess NHFP target achievement and condition/performance progress:

(i) Data contained within the HPMS on August 15th of the year in which the significant progress determination is made that represents performance from the prior year for targets established for the Freight Reliability measure, as specified in § 490.105(c)(6); and

(ii) Baseline condition/performance data contained in HPMS of the year in which the Baseline Period Performance Report is due to FHWA that represents baseline condition/performance for the performance period.

(e) *Significant progress determination for individual NHPP and NHFP targets*—(1) *In general.* The FHWA will biennially assess whether the State DOT has achieved or made significant progress toward each target established by the State DOT for the NHPP measures described in § 490.105(c)(1) through (5) and the Freight Reliability measure described in § 490.105(c)(6). The FHWA will assess the significant progress of each statewide target separately using the condition/performance data/information sources described in paragraph (d) of this section. The FHWA will not assess the progress achieved for any additional targets a State DOT may establish under § 490.105(e)(3).

(2) *Significant progress toward individual NHPP and NHFP targets.* The FHWA will determine that a State DOT has made significant progress toward the achievement of each 2-year or 4-year applicable target if either:

(i) The actual condition/performance level is better than the baseline condition/performance; or

(ii) The actual condition/performance level is equal to or better than the established target.

(3) *Phase-in of new requirements.* The following requirements shall only apply to the first performance period and only to the Interstate System pavement condition targets and non-Interstate NHS Travel Time Reliability targets, described in § 490.105(e)(7):

(i) At the midpoint of the first performance period, FHWA will not make a determination of significant progress toward the achievement of 2-year targets for Interstate System pavement condition measures:

(ii) The FHWA will classify the assessment of progress toward the achievement of targets in paragraph (e)(3)(i) of this section as ''progress not determined'' so that they will be excluded from the requirement under paragraph (e)(2) of this section; and

(iii) The FHWA will not make a determination of significant progress toward the achievement of 2-year targets for the Non-Interstate NHS Travel Time Reliability measure.

(4) *Insufficient data and/or information.* The FHWA will determine that a State DOT has not made significant progress toward the achievement of an individual NHPP or NHFP target if:

(i) A State DOT does not submit a required report, individual target, or other information as specified in § 490.107 for the each of the measures in § 490.105(c)(1) through (6);

(ii) The data contained in HPMS do not meet the requirements under § 490.313(b)(4)(i) by the data extraction date specified in paragraph (d)(1) of this section for the each of the Interstate System pavement condition measures in § 490.105(c)(1);

(iii) The data contained in HPMS do not meet the requirements under § 490.313(b)(4)(i) by the data extraction date specified in paragraph (d)(2) of this section for the each of the non-Interstate NHS pavement condition measures in § 490.105(c)(2);

(iv) A State DOT reported data are not cleared in the NBI by the data extraction date specified in paragraph (d)(3) of this section for the each of the NHS bridge condition measures in § 490.105(c)(3); or

(v) The data were determined insufficient, as described in paragraphs (e)(4)(ii) through (iv) of this section, in the year in which the Baseline Period Performance Report is due to FHWA for the measures in § 490.105(c)(1) through (3).

(5) *Extenuating circumstances.* The FHWA will consider extenuating circumstances documented by the State DOT in the assessment of progress toward the achievement of NHPP and NHFP targets in the relevant State Biennial Performance Report, provided in § 490.107.

(i) The FHWA will classify the assessment of progress toward the achievement of an individual 2-year or 4-year target as ''progress not determined'' if the State DOT has provided an explanation of the extenuating circumstances beyond the control of the State DOT that prevented it from making significant progress toward the achievement of a 2-year or 4-year target and the State DOT has quantified the impacts on the condition/performance that resulted from the circumstances, which are:

(A) Natural or man-made disasters that caused delay in NHPP or NHFP project delivery, extenuating delay in data collection, and/or damage/loss of data system;

(B) Sudden discontinuation of Federal government furnished data due to natural and man-made disasters or sudden discontinuation of Federal government furnished data due to lack of funding; and/or

(C) New law and/or regulation directing State DOTs to change metric and/or measure calculation.

(ii) If the State DOT's explanation, described in paragraph (e)(5)(i) of this section, is accepted by FHWA, FHWA will classify the progress toward achieving the relevant target(s) as ''progress not determined,'' and those targets will be excluded from the requirement in paragraph (e)(2) of this section.

(f) *Performance achievement.* (1) If FHWA determines that a State DOT has not made significant progress toward the achieving of NHPP targets, then the State DOT shall include as part of the next performance target report under 23 U.S.C. 150(e) [the Biennial Performance Report] a description of the actions the State DOT will undertake to achieve the targets related to the measure in which significant progress was not achieved as follows:

(i) If significant progress is not made for either target established for the Interstate System pavement condition measures, § 490.307(a)(1) and (2), then the State DOT shall document the actions it will take to achieve Interstate Pavement condition targets;

(ii) If significant progress is not made for either target established for the Non-Interstate System pavement condition measures, § 490.307(a)(3) and (4), then the State DOT shall document the actions it will take to to achieve Non-Interstate Pavement condition target;

(iii) If significant progress is not made for either target established for the NHS bridge condition measures, § 490.407(c)(1) and (2), then the State DOT shall document the actions it will take to to achieve NHS bridge condition target;

(iv) If significant progress is not made for either target established for the Travel Time Reliability measures, § 490.507(a)(1) and(2), then the State DOT shall document the actions it will take to achieve the NHS travel time targets; and

(v) If significant progress is not made for the target established for the GHG measure described in § 490.507(b), then the State DOT shall document the actions it will take to achieve the target for the GHG measure.

(2) If FHWA determines that a State DOT has not made significant progress toward achieving the target established for the Freight Reliability measure in § 490.607, then the State DOT shall include as part of the next performance target report under 23 U.S.C. 150(e) [the Biennial Performance Report] the following:

(i) An identification of significant freight system trends, needs, and issues within the State.

(ii) A description of the freight policies and strategies that will guide the freight-related transportation investments of the State.

(iii) An inventory of truck freight bottlenecks within the State and a description of the ways in which the State DOT is allocating funding under title 23 U.S.C. to improve those bottlenecks.

(A) The inventory of truck freight bottlenecks shall include the route and milepost location for each identified bottleneck, roadway section inventory data reported in HPMS, Average Annual Daily Traffic (AADT), Average Annual Daily Truck Traffic (AADTT), Travel-time data and measure of delay, such as travel time reliability, or Average Truck Speeds, capacity feature causing the bottleneck or any other constraints applicable to trucks, such as geometric constrains, weight limits or steep grades.

(B) For those facilities that are State-owned or operated, the description of the ways in which the State DOT is improving those bottlenecks shall include an identification of methods to address each bottleneck and improvement efforts planned or programed through the State Freight Plan or MPO freight plans; the Statewide Transportation Improvement Program and Transportation Improvement Program; regional or corridor level efforts; other related planning efforts; and operational and capital activities.

(iv) A description of the actions the State DOT will undertake to achieve the target established for the Freight Reliability measure in § 490.607.

(3) The State DOT should, within 6 months of the significant progress determination, amend its Biennial Performance Report to document the information specified in this paragraph to ensure actions are being taken to achieve targets.

§ 490.111 Incorporation by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, FHWA must publish a notice of change in the **Federal Register** and the material must be available to the public. All approved material is available for inspection at the Federal Highway Administration, Office of Highway Policy Information (202–366–4631) 1200 New Jersey Avenue SE., Washington, DC 20590, *www.fhwa.dot.gov* and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030 or go to *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

(b) The Federal Highway Administration, 1200 New Jersey Avenue SE., Washington, DC 20590, *www.fhwa.dot.gov*.

(1) Highway Performance Monitoring System (HPMS) Field Manual, IBR approved for §§ 490.103, 490.309, 490.311, and 490.319.

(2) Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges, includes: Errata Sheet for Coding Guide 06/2011, Report No. FHWA–PD–96–001, December

1995, IBR approved for §§ 490.409 and 490.411.

(c) The American Association of State Highway and Transportation Officials, 444 North Capitol Street NW., Suite 249, Washington, DC 20001, (202) 624–5800, *www.transportation.org*.

(1) AASHTO Standard M328–14, Standard Specification for Transportation Materials and Methods of Sampling and Testing, Inertial Profiler, 2014, 34th/2014 Edition, IBR approved for § 490.309.

(2) AASHTO Standard R57–14, Standard Specification for Transportation Materials and Methods of Sampling and Testing, Standard Practice for Operating Inertial Profiling Systems, 2014, 34th/2014 Edition, IBR approved for § 490.309.

(3) AASHTO Standard R48–10 (2013), Standard Specification for Transportation Materials and Methods of Sampling and Testing, Standard Practice for Determining Rut Depth in Pavements, 2014, 34th/2014 Edition, IBR approved for § 490.309.

(4) AASHTO Standard R36–13, Standard Specification for Transportation Materials and Methods of Sampling and Testing, Standard Practice for Evaluating Faulting of Concrete Pavements, 2014, 34th/2014 Edition, IBR approved for § 490.309.

(5) AASHTO Standard R43–13, Standard Specification for Transportation Materials and Methods of Sampling and Testing, Standard Practice for Quantifying Roughness of Pavement, 2014, 34th/2014 Edition, IBR approved for § 490.311.

■ 3. Add subpart E to read as follows:

Subpart E—National Performance Management Measures To Assess Performance of the National Highway System

Sec.

§ 490.501 Purpose.

The purpose of this subpart is to implement the requirements of 23 U.S.C. 150(c)(3)(A)(ii)(IV) and (V) to establish performance measures for State Departments of Transportation (State DOTs) and Metropolitan Planning Organizations (MPOs) to use to assess:

(a) Performance of the Interstate System; and

(b) Performance of the non-Interstate National Highway System (NHS).

§ 490.503 Applicability.

(a) The performance measures are applicable to those portions of the mainline highways on the NHS as provided in paragraphs (a)(1) and (2) of this section (and in more detail in § 490.507):

(1) The Travel Time Reliability measures in § 490.507(a) are applicable to all directional mainline highways on the Interstate System and non-Interstate NHS.

(2) The Greenhouse Gas (GHG) measure in § 490.507(b) is applicable to all mainline highways on the Interstate and non-Interstate NHS.

(b) [Reserved]

§ 490.505 Definitions.

All definitions in § 490.101 apply to this subpart. Unless otherwise specified in this subpart, the following definitions apply to this subpart:

Greenhouse gas (GHG) is any gas that absorbs infrared radiation (traps heat) in the atmosphere. Ninety-five percent of transportation GHG emissions are carbon dioxide (CO_2) from burning fossil fuel. Other transportation GHGs are methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs).

Level of Travel Time Reliability is a comparison, expressed as a ratio, of the 80th percentile travel time of a reporting segment to the ''normal'' (50th percentile) travel time of a reporting segment occurring throughout a full calendar year.

Normal Travel Time (or 50th percentile travel time) is the time of travel to traverse the full extent of a reporting segment which is greater than the time for 50 percent of the travel in a calendar year to traverse the same reporting segment.

Travel time cumulative probability distribution means a representation of all the travel times for a road segment during a defined reporting period (such as annually) presented in a percentile ranked order as provided in the travel time data set. The normal (50th percentile) and 80th percentile travel times used to compute the Travel Time Reliability measures may be identified by the travel time cumulative probability distribution.

§ 490.507 National performance management measures for system performance.

There are three performance measures to assess the performance of the Interstate System and the performance of the non-Interstate NHS for the purpose of carrying out the National Highway Performance Program (referred to collectively as the NHS Performance measures).

(a) Two measures are used to assess reliability (referred to collectively as the Travel Time Reliability measures). They are:

(1) Percent of the person-miles traveled on the Interstate that are reliable (referred to as the Interstate Travel Time Reliability measure); and

(2) Percent of person-miles traveled on the non-Interstate NHS that are reliable (referred to as the Non-Interstate Travel Time Reliability measure).

(b) One measure is used to assess GHG emissions, which is the percent change in tailpipe CO_2 emissions on the NHS compared to the calendar year 2017 level (referred to as the GHG measure).

§ 490.509 Data requirements.

(a) Travel time data needed to calculate the Travel Time Reliability measures in § 490.507(a) shall come from the travel time data set, as specified in § 490.103(e).

(1) State DOTs, in coordination with MPOs, shall define reporting segments in accordance with § 490.103(f). Reporting segments must be contiguous so that they cover the full extent of the mainline highways of the NHS in the State.

(2) [Reserved]

(b) State DOTs shall not replace missing travel times when data are not available in the travel time data set (data not reported, or reported as ''0'' or null) as specified in § 490.511(b)(1)(v).

(c) AADT needed to calculate the Travel Time Reliability measures will be used, as reported to HPMS in June of the reporting year, to assign an annual volume to each reporting segment. Annual volume will be calculated as:

Annual Volume = AADT × 365 days

(d) The average occupancy factors for the State and/or metropolitan area (as applicable) needed to calculate Travel Time Reliability measures shall come from the most recently available data tables published by FHWA unless using other allowed data source(s).

(e) If an NHS roadway is closed, the State DOT is not required to include those time periods for those segments of road in the calculations required for the Level of Travel Time Reliability (LOTTR) metric (see § 490.511(a)(1)).

(f) The FHWA will post on the FHWA Web site the tailpipe CO_2 emissions factors State DOTs and MPOs shall use in the calculation.

(g) Fuel sales information needed to calculate the GHG measure in § 490.507(b) shall come from either of the following two sources:

(1) The most recent final annual fuel sales data posted on the Web site by FHWA in Highway Statistics under ''Motor Fuel Use (MF–21)'' as of August 15th of the HPMS reporting year (*https://www.fhwa.dot.gov/policyinformation/statistics.cfm*); or

(2) The State DOT's fuel sales data used to create the summary data included in FHWA's MF–21, if it allows for a greater level of detail by fuel type. State DOTs shall make this data available to FHWA, upon request.

(h) Final annual vehicle miles traveled (VMT) needed to calculate the GHG measure in § 490.507(b) shall come from the most recently available data posted by FHWA in Highway Statistics in Table VM–3, ''Federal-Aid Highway Travel'' as of August 15th of the HPMS reporting year.

§ 490.511 Calculation of National Highway System performance metrics.

(a) Two performance metrics are required for the NHS Performance measures specified in § 490.507. These are:

(1) Level of Travel Time Reliability (LOTTR) for the Travel Time Reliability measures in § 490.507(a) (referred to as the LOTTR metric).

(2) Annual Total Tailpipe CO_2 Emissions on the NHS for the GHG measure in § 490.507(b) (referred to as the GHG metric).

(b) The State DOT shall calculate the LOTTR metrics for each NHS reporting segment in accordance with the following:

(1) Data sets shall be created from the travel time data set to be used to calculate the LOTTR metrics. This data set shall include, for each reporting segment, a ranked list of average travel times for all traffic (''all vehicles'' in NPMRDS nomenclature), to the nearest second, for 15 minute periods of a population that:

(i) Includes travel times occurring between the hours of 6 a.m. and 10 a.m. for every weekday (Monday–Friday) from January 1st through December 31st of the same year;

(ii) Includes travel times occurring between the hours of 10 a.m. and 4 p.m. for every weekday (Monday–Friday) from January 1st through December 31st of the same year;

(iii) Includes travel times occurring between the hours of 4 p.m. and 8 p.m. for every weekday (Monday–Friday) from January 1st through December 31st of the same year; and

(iv) Includes travel times occurring between the hours of 6: a.m. and 8: p.m. for every weekend day (Saturday–Sunday) from January 1st through December 31st of the same year.

(2) The Normal Travel Time (50th percentile) shall be determined from each data set defined under paragraph (b)(1) of this section as the time in which 50 percent of the times in the data set are shorter in duration and 50 percent are longer in duration. The 80th percentile travel time shall be determined for each data set defined under paragraph (b)(1) of this section as the time in which 80 percent of the times in the data set are shorter in duration and 20 percent are longer in duration. Both the Normal and 80th percentile travel times can be determined by plotting the data on a travel time cumulative probability distribution graph or using the percentile functions available in spreadsheet and other analytical tools.

(3) Four LOTTR metrics shall be calculated for each reporting segment; one for each data set defined under paragraph (b)(1) of this section as the 80th percentile travel time divided by the 50th percentile travel time and rounded to the nearest hundredth.

(c) Tailpipe CO_2 emissions on the NHS for a given year are calculated as follows:

$$(\text{Tailpipe } CO_2 \text{Emissions on NHS})_{CY} = \left(\sum_{t=1}^{T} (\text{Fuel Consumed})_t \times (CO_2 \text{Factor})_t\right) \times \left(\frac{\text{NHS VMT}}{\text{Total VMT}}\right)$$

Where:

$(\text{Tailpipe } CO_2 \text{ Emissions on NHS})_{CY}$ = Total tailpipe CO_2 emissions on the NHS in a calendar year (to the nearest thousand tons);

T = the total number of on-road fuel types;

t = an on-road fuel type;

$(\text{Fuel Consumed})_t$ = the quantity of total annual fuel consumed for on-road fuel type ''*t*'' (to the nearest thousand gallons);

$(CO_2 \text{ Factor})_t$ = is the amount of CO_2 released per unit of fuel consumed for on-road fuel type ''*t*'';

NHS VMT = annual total vehicle-miles traveled on NHS (to the nearest one million vehicle-miles); and

Total VMT = annual total vehicle-miles traveled on all public roads (to the nearest one million vehicle-miles).

(d) For the GHG measure listed in § 490.507(b), MPOs are granted additional flexibility in how they calculate the GHG metric. MPOs may use the MPO share of the State's VMT as a proxy for the MPO share of CO_2 emissions, VMT estimates along with MOVES [2] emissions factors, FHWA's Energy and Emissions Reduction Policy Analysis Tool (EERPAT) model, or other method the MPO can demonstrate has valid and useful results for CO_2 measurement.

(e) Starting in 2018 and annually thereafter, State DOTs shall report the LOTTR metrics, defined in paragraph (b) of this section, in accordance with HPMS Field Manual by June 15th of each year for the previous year's measures.

(1) Metrics are reported to HPMS by reporting segment. All reporting segments where the NPMRDS is used shall be referenced by NPMRDS TMC(s) or HPMS section(s). If a State DOT elects to use, in part or in whole, the equivalent data set, all reporting segment shall be referenced by HPMS section(s); and

(2) The LOTTR metric (to the nearest hundredths) for each of the four time periods identified in paragraphs (b)(1)(i) through (iv) of this section: the corresponding 80th percentile travel times (to the nearest second), the corresponding Normal (50th percentile) Travel Times (to the nearest second), and directional AADTs. If a State DOT does not elect to use FHWA supplied occupancy factor, as provided in § 490.507(d), that State DOT shall report vehicle occupancy factor (to the nearest tenth) to HPMS.

(f) Starting in 2018 and biennially thereafter, State DOTs shall report, as required in § 490.107, the GHG metrics, defined in paragraph (c) of this section. Specifically, the following GHG metric shall be reported in the State Biennial Performance Reports, as required in § 490.107:

(1) Total tailpipe CO_2 emissions, as specified in paragraph (c) of this section, generated by on-road sources travelling on the NHS (the GHG metric), and total on-road CO_2 emissions (the step in the calculation prior to

[2] MOVES (Motor Vehicle Emission Simulator) is EPA's emission modeling system that estimates emissions for mobile sources at the national, county, and project level for criteria air pollutants, greenhouse gases, and air toxics. See *https://www.epa.gov/moves.*

computing the GHG metric), in each of the following calendar years:

(i) 2017 (reported in 2018, unless FHWA states on its Web site, noted in § 490.509 (f), that there has been a change sufficient to warrant recalculation of the 2017 value); and

(ii) The 2 years preceding the reporting years.

(2) [Reserved]

§ 490.513 Calculation of National Highway System performance measures.

(a) The NHS Performance measures in § 490.507 shall be calculated in accordance with this section by State DOTs and MPOs to carry out the Interstate System and non-Interstate NHS performance-related requirements of this part, and by FHWA to make the significant progress determinations specified in § 490.109 and to report on system performance.

(b) The Interstate Travel Time Reliability measure specified in § 490.507(a)(1) shall be computed to the nearest tenth of a percent as follows:

$$100 \times \frac{\sum_{i=1}^{R} SL_i \times AV_i \times OF_j}{\sum_{i=1}^{T} SL_i \times AV_i \times OF_j}$$

Where:

R = total number of Interstate System reporting segments that are exhibiting an LOTTR below 1.50 during all of the time periods identified in § 490.511(b)(1)(i) through (iv);

I = Interstate System reporting segment ''i'';

SL_i = length, to the nearest thousandth of a mile, of Interstate System reporting segment ''i'';

AV_i = total annual traffic volume to the nearest single vehicle, of the Interstate System reporting segment ''i'';

J = geographic area in which the reporting segment ''i'' is located where a unique occupancy factor has been determined;

OF_i = occupancy factor for vehicles on the NHS within a specified geographic area within the State/Metropolitan planning area; and

T = total number of Interstate System reporting segments.

(c) The Non-Interstate Travel Time Reliability measure specified in § 490.507(a)(2) shall be computed to the nearest tenth of a percent as follows:

$$100 \times \frac{\sum_{i=1}^{R} SL_i \times AV_i \times OF_j}{\sum_{i=1}^{T} SL_i \times AV_i \times OF_j}$$

Where:

R = total number of non-Interstate NHS reporting segments that are exhibiting an LOTTR below 1.50 during all of the time periods identified in § 490.511(b)(1)(i) through (iv);

i = non-Interstate NHS reporting segment ''i'';

SL_i = length, to the nearest thousandth of a mile, of non-Interstate NHS reporting segment ''i'';

AV_i = total annual traffic volume to the nearest 1 vehicle, of the Interstate System reporting segment ''i'';

j = geographic area in which the reporting segment ''i'' is located where a unique occupancy factor has been determined;

OF_j = occupancy factor for vehicles on the NHS within a specified geographic area within the State/Metropolitan planning area; and

T = total number of non-Interstate NHS reporting segments.

(d) The GHG measure specified in § 490.507(b) shall be computed to the nearest tenth of a percent as follows:

$$\frac{(\text{Tailpipe } CO_2 \text{Emissions on NHS})_{CY} - (\text{Tailpipe } CO_2 \text{Emissions on NHS})_{2017}}{(\text{Tailpipe } CO_2 \text{Emissions on NHS})_{2017}} \times 100$$

Where:

(Tailpipe CO_2 Emissions on NHS) $_{CY}$ = total tailpipe CO_2 emissions on the NHS in a calendar year (to the nearest thousand tons); and

(Tailpipe CO_2 Emissions on NHS) $_{2017}$ = total tailpipe CO_2 emissions on the NHS in the calendar year 2017 (to the nearest thousand tons).

■ 4. Add subpart F to read as follows:

Subpart F—National Performance Management Measures To Assess Freight Movement on the Interstate System

Sec.

§ 490.601 Purpose.

The purpose of this subpart is to implement the requirements of 23 U.S.C. 150(c)(6) to establish performance measures for State Departments of Transportation (State DOTs) and the Metropolitan Planning Organizations (MPOs) to use to assess the national freight movement on the Interstate System.

§ 490.603 Applicability.

The performance measures to assess the national freight movement are applicable to the Interstate System.

§ 490.605 Definitions.

The definitions in § 490.101 apply to this subpart.

§ 490.607 National performance management measures to assess freight movement on the Interstate System.

The performance measure to assess freight movement on the Interstate System is the: Truck Travel Time Reliability (TTTR) Index (referred to as the Freight Reliability measure).

§ 490.609 Data requirements.

(a) Travel time data needed to calculate the Freight Reliability measure in § 490.607 shall come from the travel time data set, as specified in § 490.103(e).

(b) State DOTs, in coordination with MPOs, shall define reporting segments in accordance with § 490.103(f). Reporting segments must be contiguous so that they cover the full extent of the directional mainline highways of the Interstate in the State.

(c) When truck travel times are not available in the travel time data set (data not reported, or reported as ''0'' or null) as specified in § 490.611(a)(1)(ii) for a given 15 minute interval, State DOTs shall replace the missing travel time with an observed travel time that represents all traffic on the roadway during the same 15 minute interval (''all vehicles'' in NPMRDS nomenclature).

(d) If an NHS roadway is closed, the State DOT is not required to include those time periods for those segments of

road in the calculations required for the Freight Reliability metric/measure.

§ 490.611 Calculation of Truck Travel Time Reliability metrics.

(a) The State DOT shall calculate the TTTR Index metric (referred to as the TTTR metric) for each Interstate System reporting segment in accordance with the following:

(1) A truck travel time data set shall be created from the travel time data set to be used to calculate the TTTR metric. This data set shall include, for each reporting segment, a ranked list of average truck travel times, to the nearest second, for 15 minute periods of a 24-hour period for an entire calendar year that:

(i) Includes ''AM Peak'' travel times occurring between the hours of 6 a.m. and 10 a.m. for every weekday (Monday –Friday) from January 1st through December 31st of the same year;

(ii) Includes ''Mid Day'' travel times occurring between the hours of 10 a.m. and 4 p.m. for every weekday (Monday-Friday) from January 1st through December 31st of the same year;

(iii) Includes ''PM Peak'' travel times occurring between the hours of 4 p.m. and 8 p.m. for every weekday (Monday-Friday) from January 1st through December 31st of the same year;

(iv) Includes ''Overnight'' travel times occurring between the hours of 8 p.m. and 6 a.m. for every day (Sunday-Saturday) from January 1st through December 31st of the same year; and

(v) Includes ''Weekend'' travel times occurring between the hours of 6 a.m. and 8 p.m. for every weekend day (Saturday-Sunday) from January 1st through December 31st of the same year.

(2) The Normal Truck Travel Time (50th percentile) shall be determined from each of the truck travel time data sets defined under paragraph (a)(1) of this section as the time in which 50 percent of the times in the data set are shorter in duration and 50 percent are longer in duration. The 95th percentile truck travel time shall be determined from each of the truck travel time data sets defined under paragraph (a)(1) of this section as the time in which 95 percent of the times in the data set are shorter in duration. Both the Normal and 95th percentile truck travel times can be determined by plotting the data on a travel time cumulative probability distribution graph or using the percentile functions available in spreadsheet and other analytical tools.

(3) Five TTTR metrics shall be calculated for each reporting segment; one for each data set defined under paragraph (a)(1) of this section as the 95th percentile travel time divided by the Normal Truck Travel Time and rounded to the nearest hundredth.

(b) Starting in 2018 and annually thereafter, State DOTs shall report the TTTR metrics, as defined in this section, in accordance with the HPMS Field Manual by June 15th of each year for the previous year's Freight Reliability measures.

(1) All metrics shall be reported to HPMS by reporting segments. When the NPMRDS is used metrics shall be referenced by NPMRDS TMC(s) or HPMS section(s). If a State DOT elects to use, in part or in whole, the equivalent data set, all reporting segment shall be referenced by HPMS section(s).

(2) The TTTR metric shall be reported to HPMS for each reporting segment (to the nearest hundredths) for each of the five time periods identified in paragraphs (a)(1)(i) through (v) of this section; the corresponding 95th percentile travel times (to the nearest second) and the corresponding normal (50th percentile) travel times (to the nearest second).

§ 490.613 Calculation of Freight Reliability measure.

(a) The performance for freight movement on the Interstate in § 490.607 (the Freight Reliability measure) shall be calculated in accordance with this section by State DOTs and MPOs to carry out the freight movement on the Interstate System related requirements of this part, and by FHWA to make the significant progress determinations specified in § 490.109 and to report on freight performance of the Interstate System.

(b) The Freight Reliability measure shall be computed to the nearest hundredth as follows:

$$\frac{\sum_{i=1}^{T}(SL_i \times \max TTTR_i)}{\sum_{i=1}^{T}(SL_i)}$$

Where:

i = An Interstate System reporting segment;

maxTTTR$_i$ = The maximum TTTR of the five time periods in paragraphs (a)(1)(i) through (v) of § 490.611, to the nearest hundredth, of Interstate System reporting segment ''i'';

SL$_i$ = Segment length, to the nearest thousandth of a mile, of Interstate System reporting segment ''i''; and

T= A total number of Interstate System reporting segments.

■ 5. Add subpart G to read as follows:

Subpart G—National Performance Management Measure for Assessing the Congestion Mitigation and Air Quality Improvement Program—Traffic Congestion

Sec.

§ 490.701 Purpose.

The purpose of this subpart is to implement the requirements of 23 U.S.C. 150(c)(5)(A) to establish performance measures for State DOTs and the MPOs to use in assessing CMAQ Traffic Congestion for the purpose of carrying out the CMAQ program.

§ 490.703 Applicability.

The CMAQ Traffic Congestion performance measures are applicable to all urbanized areas that include NHS mileage and with a population over 1 million for the first performance period and in urbanized areas with a population over 200,000 for the second and all other performance periods, that are, in all or part, designated as nonattainment or maintenance areas for ozone (O_3), carbon monoxide (CO), or particulate matter (PM_{10} and $PM_{2.5}$) National Ambient Air Quality Standards (NAAQS).

§ 490.705 Definitions.

All definitions in § 490.101 apply to this subpart. Unless otherwise specified, the following definitions apply in this subpart:

Excessive delay means the extra amount of time spent in congested conditions defined by speed thresholds that are lower than a normal delay threshold. For the purposes of this rule, the speed threshold is 20 miles per hour (mph) or 60 percent of the posted speed limit, whichever is greater.

Peak Period is defined as weekdays from 6 a.m. to 10 a.m. and either 3 p.m. to 7 p.m. or 4 p.m. to 8 p.m. State DOTs and MPOs may choose whether to use 3 p.m. to 7 p.m. or 4 p.m. to 8 p.m.

§ 490.707 National performance management measures for traffic congestion.

There are two performance measures to assess traffic congestion for the purpose of carrying out the CMAQ program (referred to collectively as the CMAQ Traffic Congestion measures. They are:

(a) Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita (referred to as the PHED measure); and

(b) Percent of Non-SOV Travel.

§ 490.709 Data requirements.

(a) Travel time data needed to calculate the PHED measure in § 490.707(a) shall come from the travel time data set, as specified in § 490.103(e).

(b) State DOTs, in coordination with MPOs, shall define reporting segments in accordance with § 490.103(f). Reporting segments must be contiguous so that they cover the full extent of the directional mainline highways of the NHS in the urbanized area(s).

(c) State DOTs shall develop hourly traffic volume data for each reporting segment as follows:

(1) State DOTs shall measure or estimate hourly traffic volumes for Peak Periods on each weekday of the reporting year by using either paragraph (c)(1)(i) or (ii) of this section.

(i) State DOTs may use hourly traffic volume counts collected by continuous count stations and apply them to multiple reporting segments; or

(ii) State DOTs may use Annual Average Daily Traffic (AADT) reported to the HPMS to estimate hourly traffic volumes when no hourly volume counts exist. In these cases the AADT data used should be the most recently available, but not more than 2 years older than the reporting period (*e.g.,* if reporting for calendar year 2018, AADT should be from 2016 or 2017) and should be split to represent the appropriate direction of travel of the reporting segment.

(2) State DOTs shall assign hourly traffic volumes to each reporting segment by hour (*e.g.,* between 8 a.m. and 8:59 a.m.).

(3) State DOTs shall report the methodology they use to develop hourly traffic volume estimates to FHWA no later than 60 days before the submittal of the first Baseline Performance Period Report.

(4) If a State DOT elects to change the methodology it reported under paragraph (c)(3) of this section, then the State DOT shall submit the changed methodology no later than 60 days before the submittal of next State Biennial Performance Report required in § 490.107(b).

(5) If an NHS roadway is closed, the State DOT is not required to include those time periods for the segment of road in the calculation required for this metric and measure.

(d) State DOTs shall develop annual vehicle classification data for each reporting segment using data as follows:

(1) State DOTs shall measure or estimate the percentage of cars, buses, and trucks, relative to total AADT for each segment using either paragraph (d)(1)(i) or (ii) of this section.

(i) State DOTs may use annual traffic volume counts collected by continuous count stations to estimate the annual percent share of traffic volumes for cars, buses, and trucks for each segment; or

(ii) State DOTs may use AADT reported to the HPMS to estimate the annual percent share of traffic volumes for cars, buses, and trucks, where:

(A) Buses = value in HPMS Data Item ''AADT_Single_Unit'';

(B) Trucks = value in HPMS Data Item ''AADT_Combination''; and

(C) Cars = subtract values for Buses and Trucks from the value in HPMS Data Item ''AADT''.

(iii) If a State DOT uses the data reported to the HPMS in paragraph (d)(1)(ii) of this section, then the data values should be split to represent the appropriate direction of travel of the reporting segment.

(2) State DOTs shall report the methodology they use to develop annual percent share of traffic volume by vehicle class to FHWA no later than 60 days before the submittal of the first Baseline Performance Period Report.

(3) If a State DOT elects to change the methodology it reported under paragraph (d)(2) of this section, then the State DOT shall submit the changed methodology no later than 60 days before the submittal of next State Biennial Performance Report required in § 490.107(b).

(e) State DOTs shall develop annual average vehicle occupancy (AVO) factors for cars, buses, and trucks in applicable urbanized areas using either method under paragraph (e)(1)(i) or (ii) of this section.

(1) State DOTs shall measure or estimate annual vehicle occupancy factors for cars, buses, and trucks in applicable urbanized areas.

(i) State DOTs shall use estimated annual vehicle occupancy factors for cars, buses, and trucks in urbanized areas provided by FHWA; and/or

(ii) State DOTs may use an alternative estimate of annual vehicle occupancy factors for a specific reporting segment(s) for cars, buses, and trucks in urbanized areas, provided that it is more specific than the data provided by FHWA.

(f) All State DOTs and MPOs contributing to the unified target for the applicable area as specified in § 490.105(d)(2) shall agree to using one of the methods specified in paragraph (f)(1)(i), (ii), or (iii) of this section to identify the data that will be used to determine the Percent of Non-SOV Travel for the applicable urbanized area.

(1) The data to determine the Percent of Non-SOV Travel measure shall be developed using any one of the following methods.

(i) *Method A—American Community Survey.* Populations by predominant travel to commute to work may be identified from Table DP03 of the American Community Survey using the totals by transportation mode listed within the ''Commuting to Work'' subject heading under the ''Estimate'' column of the table. The ''5 Year Estimate'' DP03 table using a geographic filter that represents the applicable ''Urban Area'' shall be used to identify these populations. The Percent of Non-SOV Travel measure shall be developed from the most recent data as of August 15th of the year in which the State Biennial Performance Report is due to FHWA.

(ii) *Method B—local survey.* The Percent of Non-SOV Travel may be estimated from a local survey focused on either work travel or household travel for the area and conducted as recently as 2 years before the beginning of the performance period. The survey method shall estimate travel mode choice for the full urbanized area using industry accepted methodologies and approaches resulting in a margin of error that is acceptable to industry standards, allow for updates on at least a biennial frequency, and distinguish non-SOV travel occurring in the area as a percent of all work or household travel.

(iii) *Method C—system use measurement.* The volume of travel using surface modes of transportation may be estimated from measurements of actual use of each transportation mode. Sample or continuous measurements may be used to count the number of travelers using different surface modes of transportation. The method used to count travelers shall estimate the total volume of annual travel for the full urbanized area within a margin of error that is acceptable to industry standards and allows for updates on at least a biennial frequency. The method shall include sufficient information to calculate the amount of non-SOV travel occurring in the area as a percentage of all surface transportation travel. State DOTs are encouraged to report use counts to FHWA that are not included in currently available national data sources.

(2) State DOTs shall report the data collection method that is used to determine the Percent of Non-SOV Travel measure for each applicable urbanized area in the State to FHWA in their first Baseline Performance Period Report required in § 490.107(b)(1). The State DOT shall include sufficient detail to understand how the data are

collected if either Method B or Method C are used for the urbanized area. This method shall be used for the full performance period for each applicable urbanized area.

(3) If State DOTs and MPOs that contribute to an applicable urbanized area elect to change the data collection method reported under paragraph (f)(2) of this section, then each respective State DOT shall report this change in their next Baseline Performance Report required in § 490.107(b)(1). The new method reported as a requirement of this paragraph shall not be used until the beginning of the next performance period for the Baseline Performance Report in which the method was reported to be changed.

(g) Populations of urbanized areas shall be as identified based on the most recent annual estimates published by the U.S. Census available 1 year before the State DOT Baseline Performance Period Report is due to FHWA to identify applicability of the CMAQ Traffic Congestion measures in § 490.707(a) and (b) for each performance period, as described in § 490.105(e)(8)(iii)(D) and (f)(5)(iii)(D). For computing the PHED measure in § 490.713(b), the most recent annual population estimate published by the U.S. Census, at the time when the State DOT Biennial Performance Period Report is due to FHWA shall be used.

(h) Nonattainment and maintenance area determinations for the CMAQ Traffic Congestion measures:

(1) The CMAQ Traffic Congestion measures apply to nonattainment and maintenance areas. Such areas shall be identified based on the effective date of U.S. EPA's designations under the NAAQS in 40 CFR part 81, as of the date 1 year before the State DOT Baseline Performance Period Report is due to FHWA.

(2) The nonattainment and maintenance areas to which the CMAQ Traffic Congestion measures applies shall be revised if, on the date 1 year before the State DOT Mid Performance Period Progress Report is due to FHWA, the area is no longer in nonattainment or maintenance for a criteria pollutant included in § 490.703.

§ 490.711 Calculation of Peak Hour Excessive Delay metric.

(a) The performance metric required to calculate the measure specified in § 490.707(a) is Total Peak Hour Excessive Delay (person-hours)(referred to as the PHED metric). The following paragraphs explain how to calculate this PHED metric.

(b) State DOTs shall use the following data to calculate the PHED metric:

(1) Travel times of all traffic (''all vehicles'' in NPMRDS nomenclature) during each 15 minute interval for all applicable reporting segments in the travel time data set occurring for peak periods from January 1st through December 31st of the same year;

(2) The length of each applicable reporting segment, reported as required under § 490.709(b);

(3) Hourly volume estimation for all days and for all reporting segments where excessive delay is measured, as specified in § 490.709(c);

(4) Annual vehicle classification data for all days and for all reporting segments where excessive delay is measured, as specified in § 490.709(d); and

(5) Annual vehicle occupancy factors for cars, buses, and trucks for all days and for all reporting segments where excessive delay is measured, as specified in § 490.709(e).

(c) The State DOT shall calculate the ''excessive delay threshold travel time'' for all applicable travel time segments as follows:

$$Excessive\ Delay\ Threshold\ Travel\ Time_s = \left(\frac{Travel\ Time\ Segment\ Length_s}{Threshold\ Speed_s}\right) \times 3{,}600$$

Where:

Excessive Delay Threshold Travel Time$_s$ = the time of travel, to the nearest whole second, to traverse the Travel Time Segment at which any longer measured travel times would result in excessive delay for the travel time segment '''';

Travel Time Segment Length$_s$ = total length of travel time segment to the nearest thousandth of a mile for travel time reporting segment '''' ; and

Threshold Speed$_s$ = the speed of travel at which any slower measured speeds would result in excessive delay for travel time reporting segment ''.'' As defined in § 490.705, the speed threshold is 20 miles per hour (mph) or 60 percent of the posted speed limit travel time reporting segment ''s,'' whichever is greater.

(d) State DOTs shall determine the ''excessive delay'' for each 15 minute bin of each reporting segment for every hour and every day in a calendar year as follows:

(1) The travel time segment delay (RSD) shall be calculated to the nearest whole second as follow:

$RSD_{s,b}$ − Excessive Delay Threshold Travel Time$_s$ and *$RSD_{s,b} \leq 900$ seconds*

Where:

RSD$_{s,b}$ = travel time segment delay, calculated to the nearest whole second, for a 15-minute bin ''b'' of travel time reporting segment ''s'' for in a day in a calendar year. *RSD(s)$_b$* not to exceed 900 seconds;

Travel time$_{s,b}$ = a measured travel time, to the nearest second, for 15-minute time bin ''b'' recorded for travel time reporting segment ''s'';

Excessive Delay Threshold Travel Time$_s$ = The maximum amount of time, to the nearest second, for a vehicle to traverse through travel time segment ''s'' before excessive delay would occur, as specified in paragraph (c) of this section;

b = a 15-minute bin of a travel time reporting segment ''s''; and

s = a travel time reporting segment.

(2) Excessive delay, the additional amount of time to traverse a travel time segment in a 15-minute bin as compared to the time needed to traverse the travel time segment when traveling at the excessive delay travel speed threshold, shall be calculated to the nearest thousandths of an hour as follows:

$$Excessive\ Delay_{s,b} = \begin{cases} \dfrac{RSD_{s,b}}{3{,}600}\ when\ RSD_{s,b} \geq 0 \\ or \\ 0\ when\ RSD_{s,b} < 0 \end{cases}$$

Where:

Excessive $Delay_{s,b}$ = excessive delay, calculated to the nearest thousandths of an hour, for 15-minute bin ''b'' of travel time reporting segment ''s'';

$RSD_{s,b}$ = the calculated travel time reporting segment delay for fifteen minute bin ''b'' of a travel time reporting segment ''s,'' as described in paragraph (d)(1) of this section;

b = a fifteen minute bin of a travel time reporting segment ''s''; and

s = a travel time reporting segment.

(e) State DOTs shall use the hourly traffic volumes as described in § 490.709(c) to calculate the PHED metric for each reporting segment as follows:

$$Total\ Excessive\ Delay_s = AVO \times \sum_{d=1}^{TD}\left\{\sum_{h=1}^{TH}\left[\sum_{b=1}^{TB}\left(Excessive\ Delay_{s,b,h,d} \times \left(\frac{hourly\ volume}{4}\right)_{s,h,d}\right)_b\right]_h\right\}_d$$

Where:

Total Excessive $Delay_s$ (in person-hours) = the sum of the excessive delay, to the nearest thousandths, for all traffic traveling through single travel time reporting segment ''s'' on NHS within an urbanized area, specified in § 490.703, accumulated over the full reporting year;

AVO = Average Vehicle Occupancy;

s = a travel time reporting segment;

d = a day of the reporting year;

TD = total number of days in the reporting year;

h = single hour interval of the day where the first hour interval is 12 a.m. to 12:59 a.m.;

TH = total number of hour intervals in day ''h'';

b = 15-minute bin for hour interval ''h'';

TB = total number of 15-minute bins where travel times are recorded in the travel time data set for hour interval ''h'';

Excessive $Delay_{s,b,h,d}$ = calculated excessive travel time, in hundredths of an hour, for 15 minute bin (), hour interval (h), day (d), and travel time segment (s), as described in paragraph (d)(2) of this section; and

$$\left(\frac{\text{hourly volume}}{4}\right)_{s,hd}$$

Where the equation equals hourly traffic volume, to the nearest tenth, for hour interval ''h'' and day ''d'' that corresponds to 15-minute bin ''b'' and travel time reporting segment ''s'' divided by 4. For example, the 9 a.m. to 9:15 a.m. minute bin would be assigned one fourth of the hourly traffic volume for the 9 a.m. to 9:59 a.m. hour on the roadway in which travel time segment is included;

$AVO = (P_C \times AVO_C) + (P_B \times AVO_B) + (P_T \times AVO_T)$

Where:

P_C = the percent of cars as a share of total AADT on the segment as specified in § 490.709(d);

P_B = the percent of buses as a share of total AADT on the segment as specified in § 490.709(d);

P_T = the percent of trucks as a share of total AADT on the segment as specified in § 490.709(d);

AVO_C = the average vehicle occupancy of cars as specified in § 490.709(e);

AVO_B = the average vehicle occupancy of buses as specified in § 490.709(e); and

AVO_T = the average vehicle occupancy of trucks as specified in § 490.709(e).

(f) Starting in 2018 and annually thereafter, State DOTs shall report the PHED metric (to the nearest one hundredth hour) in accordance with HPMS Field Manual by June 15th of each year for the previous year's PHED measures. The PHED metric shall be reported for each reporting segment. All reporting segments of the NPMRDS shall be referenced by NPMRDS TMC or HPMS section(s). If a State DOT elects to use, in part or in whole, the equivalent data set, all reporting segments shall be referenced by HPMS sections.

§ 490.713 Calculation of Traffic Congestion measures.

(a) The performance measures in § 490.707 shall be computed in accordance with this section by State DOTs and MPOs to carry out CMAQ traffic congestion performance-related requirements of this part and by FHWA to report on traffic congestion performance.

(b) The performance measure for CMAQ traffic congestion specified in § 490.707, Annual Hours of Peak Hour Excessive Delay Per Capita (the PHED measure), shall be computed to the nearest tenth, and by summing the PHED metrics of all reporting segments in each of the urbanized area, specified in § 490.703, and dividing it by the population of the urbanized area to produce the PHED measure. The equation for calculating the PHED measure is as follows:

$$Annual\ Hours\ of\ Peak\ Hour\ Excessive\ Delay\ per\ Capita = \frac{\sum_{s=1}^{T} Total\ Excessive\ Delay_s}{Total\ Population}$$

Where:

Annual Hours of Peak Hour Excessive Delay per Capita = the cumulative hours of excessive delay, to the nearest tenth, experienced by all people traveling through all reporting segments during peak hours in the applicable urbanized area for the full reporting calendar year;

s = travel time reporting segment within an urbanized area, specified in § 490.703;

T = total number of travel time reporting segments in the applicable urbanized area;

Total Population = total hours of excessive delay in § 490.711(e) for all people traveling through travel time reporting segment ''s'' during a calendar year (as defined in § 490.711(f)); and

Total Population = the total population in the applicable urbanized area from the most recent annual population published by the U.S. Census at the time that the State Biennial Performance Period Report is due to FHWA.

(c) Calculation for the PHED measure, described in paragraph (b) of this section, and target establishment for the measure shall be phased-in under the requirements in § 490.105(e)(8)(vi) and (f)(5)(vi).

(d) The performance measure for CMAQ traffic congestion specified in § 490.707(b), Percent of Non-SOV Travel, shall be computed as specified in paragraphs (d)(1) through (3) of this section corresponding to the method reported by the State DOT to collect travel data for the applicable area under § 490.709(f)(2).

(1) *Method A—American Community Survey.* The Percent of Non-SOV Travel shall be calculated to the nearest tenth of a percent using the following formula:

Percent of Non-SOV Travel = 100% − % SOV

Where:

Percent of Non-SOV Travel = percent of commuting working population, to the nearest tenth of a percent, that predominantly do not commute by driving alone in a car, van, or truck, including travel avoided by telecommuting; and

% SOV = percent estimate for ''Car, truck, or van—drive alone''.

(2) *Method B—local survey.* The Percent of Non-SOV Travel shall be calculated using the data derived from local survey results as specified in § 490.709(f)(1)(ii). The Percent of Non-SOV Travel measure shall be calculated to represent travel that is not occurring by driving alone in a motorized vehicle, including travel avoided by telecommuting, as a percentage of all surface transportation occurring in the applicable area. The Percent of Non-SOV Travel measure shall be calculated to the nearest tenth of a percent.

(3) *Method C—system use measurement.* The Percent of Non-SOV Travel shall be calculated to the nearest tenth of a percent from the data collected from system use measurements as specified in § 490.709(f)(1)(iii) using the general form of the following formula:

$$Percent\ of\ Non-SOV\ Travel = 100 \times \left(\frac{Volume_{non-SOV}}{(Volume_{non-SOV}) + (Volume_{SOV})}\right)$$

Where:

Percent of Non-SOV Travel = percentage of travel, to the nearest tenth of a percent, that is not occurring by driving alone in a motorized vehicle, including travel avoided by telecommuting

$Volume_{non\text{-}SOV}$ *Volume* = Annual volume of person travel occurring while driving alone in a motorized vehicle; and

$Volume_{SOV}$ = Annual volume of person travel occurring on modes other than driving alone in a motorized vehicle, calculated as:

$$\sum_{m=1}^{t} Volume_m$$

Where:

m = travel mode (modes other than driving alone in a motorized vehicle, including travel avoided by telecommuting);

Volume $_m$ = annual volume of person travel for each mode, ''m''; and

t = total number of modes that are not driving alone in a motorized vehicle.

■ 6. Add a new subpart H to read as follows:

Subpart H- National Performance Management Measures to Assess the Congestion Mitigation and Air Quality Improvement Program—On-Road Mobile Source Emissions

Sec.

§ 490.801 Purpose.

The purpose of this subpart is to implement the requirements of 23 U.S.C. 150(c)(5)(B) to establish performance measures for State DOTs and the MPOs to use in assessing on-road mobile source emissions.

§ 490.803 Applicability.

(a) The on-road mobile source emissions performance measure (called the Total Emissions Reduction- see § 490.807) is applicable to all States and MPOs with projects financed with funds from the 23 U.S.C. 149 CMAQ program apportioned to State DOTs for areas designated as nonattainment or maintenance for ozone (O_3), carbon monoxide (CO), or particulate matter (PM_{10} and $PM_{2.5}$) National Ambient Air Quality Standards (NAAQS).

(b) This performance measure does not apply to States and MPOs that do not contain any portions of nonattainment or maintenance areas for the criteria pollutants identified in paragraph (a) of this section.

§ 490.805 Definitions.

All definitions in § 490.101 apply to this subpart. Unless otherwise specified in this subpart, the following definitions apply in this subpart:

On-road mobile source means, within this part, emissions created by all projects and sources financed with funds from the 23 U.S.C. 149 CMAQ program.

§ 490.807 National performance management measure for assessing on-road mobile source emissions for the purposes of the Congestion Mitigation and Air Quality Improvement Program.

The performance measure for the purpose of carrying out the CMAQ Program and for State DOTs to use to assess on-road mobile source emissions is ''Total Emissions Reduction,'' which is the 2-year and 4-year cumulative reported emission reductions, for all projects funded by CMAQ funds, of each criteria pollutant and applicable precursors ($PM_{2.5}$, PM_{10}, CO, VOC, and NOx) under the CMAQ program for which the area is designated nonattainment or maintenance.

§ 490.809 Data requirements.

(a) The data needed to calculate the Total Emission Reduction measure shall come from the CMAQ Public Access System and includes:

(1) The applicable nonattainment or maintenance area;

(2) The applicable MPO; and

(3) The emissions reduction estimated for each CMAQ funded project for each of the applicable criteria pollutants and their precursors for which the area is nonattainment or maintenance.

(b) The State DOT shall:

(1) Enter project information into the CMAQ project tracking system for each CMAQ project funded in the previous fiscal year by March 1st of the following fiscal year; and

(2) Extract the data necessary to calculate the Total Emissions Reduction measures as it appears in the CMAQ Public Access System on July 1st for projects obligated in the prior fiscal year.

(c) Nonattainment and maintenance area determinations for the CMAQ Total Emissions Reduction measure:

(1) The CMAQ Total Emissions Reduction measure applies to nonattainment and maintenance areas. Such areas shall be identified based on the effective date of U.S. EPA's designations under the NAAQS in 40 CFR part 81, as of the date 1 year before the State DOT Baseline Performance Period Report is due to FHWA.

(2) The nonattainment and maintenance areas to which the Total Emissions Reduction measure applies shall be revised if, on the date 1 year before the State DOT Mid Performance Period Progress Report is due to FHWA, the area is no longer in nonattainment or maintenance for a pollutant included in § 490.803.

§ 490.811 Calculation of Total Emissions Reduction measure.

(a) The Total Emission Reductions performance measure specified in § 490.807 shall be calculated in accordance with this section by State DOTs and MPOs to carry out CMAQ on-road mobile source emissions performance-related requirements of this part.

(b) The Total Emission Reductions measure for each of the criteria pollutant or applicable precursor for all projects reported to the CMAQ Public Access System shall be calculated to the nearest one thousandths, as follows:

$$Total\ Emission\ Reduction_p = \sum_{i=1}^{T} Daily\ Kilograms\ of\ Emission\ Reductions_{p,i}$$

Where:

i = applicable projects reported in the CMAQ Public Access System for the first 2 Federal fiscal years of a performance period and for the entire performance period, as described in in § 490.105(e)(4)(i)(B);

p = criteria pollutant or applicable precursor: $PM_{2.5}$, PM_{10}, CO, VOC, or NOx;

Daily Kilograms of Emission Reductions$_{p,i}$ = total daily kilograms, to the nearest one thousandths, of reduced emissions for a criteria pollutant or an applicable precursor ''p'' in the in the first year the project is obligated;

T = total number of applicable projects reported to the CMAQ Public Access System for the first 2 Federal fiscal years of a performance period and for the entire performance period, as described in § 490.105(e)(4)(i)(B); and

Total Emission Reduction$_p$ = cumulative reductions in emissions over 2 and 4 Federal fiscal years, total daily kilograms, to the nearest one thousandths, of reduced emissions for criteria pollutant or precursor ''p.''

[FR Doc. 2017–00681 Filed 1–12–17; 4:15 pm]

BILLING CODE 4910–22–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

18 CFR Part 385

[Docket No. RM18–7–000; Order No. 846]

Withdrawal of Pleadings

AGENCY: Federal Energy Regulatory Commission.

ACTION: Final rule; errata notification.

SUMMARY: This document contains corrections to the final rule (RM18–7–000) which published in the **Federal Register** of Wednesday, May 23, 2018.

DATES: Effective June 22, 2018.

FOR FURTHER INFORMATION CONTACT: Vince Mareino, 888 First Street NE, Washington, DC 20426, (202) 502–6167, *Vince.Mareino@ferc.gov*.

SUPPLEMENTARY INFORMATION:

1. On May 17, 2018, the Commission issued a Final Rule in the above captioned proceeding. *Withdrawal of Pleadings,* 163 FERC ¶ 61,118 (2018), *see* 83 FR 23807. This errata notification hereby corrects paragraph 11 of the Final Rule by deleting the second sentence that was inadvertently included. Accordingly, paragraph 11 is corrected to read as follows: ''These regulations are effective June 22, 2018.''

Issued: May 24, 2018.

Kimberly D. Bose,

Secretary.

[FR Doc. 2018–11639 Filed 5–30–18; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

23 CFR Part 490

[Docket No. FHWA–2017–0025]

RIN 2125–AF76

National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program

AGENCY: Federal Highway Administration (FHWA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: This final rule repeals the performance management measure that assessed the percent change in tailpipe carbon dioxide (CO_2) emissions, from the reference year 2017, on the National Highway System (NHS) (also referred to as the Greenhouse Gas (GHG) measure). The GHG measure was one of several performance measures that FHWA required State departments of transportation (State DOTs) and metropolitan planning organizations (MPOs) to use to assess performance in a variety of areas. After considering the comments received in response to the notice of proposed rulemaking (NPRM) published on October 5, 2017, FHWA has decided to repeal the GHG measure.

DATES: This final rule is effective July 2, 2018.

FOR FURTHER INFORMATION CONTACT: For technical information: Michael Culp, Office of Planning, Environment and Realty, (202) 366–9229; for legal information: Christopher Richardson, Office of Chief Counsel, (202) 366–1383, Federal Highway Administration, 1200 New Jersey Avenue SE, Washington, DC 20590. Office hours are from 8:00 a.m. to 4:30 p.m. ET, Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Electronic Access and Filing

The notice of proposed rulemaking (NPRM) was published at 82 FR 46427 on October 5, 2017.[1] A copy of the NPRM, all comments received, and all background material may be viewed online at *http://www.regulations.gov.* Electronic retrieval help and guidelines are available on the website, which is available 24 hours each day, 365 days each year. An electronic copy of this document may also be downloaded from the Office of the Federal Register's website at *http://www.ofr.gov* and the Government Publishing Office's website at *http://www.gpo.gov.*

Table of Contents for Supplementary Information

I. Executive Summary

A. Purpose of the Deregulatory Action

The purpose of this deregulatory action is to repeal the requirement that State departments of transportation (State DOTs) and metropolitan planning organizations (MPOs) assess the performance of the National Highway System (NHS) under the National Highway Performance Program (NHPP) by measuring the percent change in tailpipe carbon dioxide (CO_2) emissions on the NHS from calendar year 2017 (also referred to as the Greenhouse Gas (GHG) measure). This measure was calculated using data on fuel use and vehicle miles traveled (VMT). After further consideration and review of the comments received, as well as relevant statutory authorities, we have decided to repeal this measure. This repeal will alleviate a burden on State DOTs and MPOs that imposed costs with no predictable level of benefits. This final rule does not prohibit State DOTs and MPOs from choosing voluntarily to measure and assess CO_2 emissions.

B. Summary of the Deregulatory Action in Question

This final rule repeals the GHG measure. By repealing this measure, FHWA will no longer require State DOTs and MPOs to undertake administrative activities to establish targets, calculate their progress toward their selected targets, report to FHWA, and determine a plan of action to make progress toward their selected targets if

[1] 82 FR 46427 Pg. 46427–46433: *https://www.federalregister.gov/documents/2017/10/05/2017-21442/national-performance-management-measures-assessing-performance-of-the-national-highway-system.*

they failed to make significant progress during a performance period.[2]

C. Costs and Benefits

This final rule is a deregulatory action estimated to result in cost savings of $10.89 million, which rounds to $10.9 million discounted at 7 percent over 9 years. This equates to annualized cost savings of $1.67 million at a 7 percent discount rate, or $1.64 million at a 3 percent discount rate. Table 1 displays the Office of Management and Budget (OMB) A–4 Accounting Statement as a summary of the cost savings associated with repealing the GHG measure.

TABLE 1—OMB A–4 ACCOUNTING STATEMENT

Category	Estimates			Units			Source/citation
	Primary	Low	High	Year dollar	Discount rate %	Period covered (years)	
Benefits							
Annualized Monetized ($ millions/year).	None	None	None	NA	7	NA	Not Quantified.
	None	None	None	NA	3	NA	
Annualized Quantified	None	None	None	NA	7	NA	Not Quantified.
	None	None	None	NA	3	NA	
Qualitative	More informed decision-making on project, program, and policy choices.						Final RIA.
Costs							
Annualized Monetized ($/year)	($1,671,758)			2014	7	9	Final RIA.
	($1,644,687)			2014	3	9	
Annualized Quantified	None	None	None	2014	7	9	Final RIA.
	None	None	None	2014	3	9	
Qualitative							
Transfers	None						
From/To	From:			To:			
Effects							
State, Local, and/or Tribal Government.	($1,671,758)			2014	7	9	Final RIA.
	($1,644,687)			2014	3	9	
Small Business	Not expected to have a significant impact on a substantial number of small entities.			NA	NA	NA	Final RIA.

II. Acronyms and Abbreviations

Acronym or abbreviation	Term
AASHTO	American Association of State Highway and Transportation Officials.
AGC	Associated General Contractors of America.
AMPO	Association of Metropolitan Planning Organizations.
APA	Administrative Procedure Act.
Caltrans	California Department of Transportation.
CARB	California Air Resources Board.
CFR	Code of Federal Regulations.
CMAP	Chicago Metropolitan Agency for Planning.
CMAQ	Congestion Mitigation and Air Quality Improvement Program.
CO_2	Carbon dioxide.
DOT	U.S. Department of Transportation.
EO	Executive Order.
EIA	Energy Information Agency, U.S. Department of Energy.
EIS	Environmental Impact Statement.
FAHP	Federal-aid Highway Program.
FAST Act	Fixing America's Surface Transportation Act.
FHWA	Federal Highway Administration.
FR	Federal Register.
GHG	Greenhouse gas.
HPMS	Highway Performance Monitoring System.
MAP–21	Moving Ahead for Progress in the 21st Century Act.
MOVES	Motor Vehicle Emission Simulator.
MPO	Metropolitan Planning Organizations.
NEPA	National Environmental Policy Act.
NHPA	National Historic Preservation Act.
NHPP	National Highway Performance Program.
NHS	National Highway System.
NPRM	Notice of proposed rulemaking.

[2] *See* 23 CFR 490.105, 490.107, 490.109.

Acronym or abbreviation	Term
NRDC	Natural Resources Defense Council.
OMB	Office of Management and Budget.
PM3	''Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program'' The third performance measure rule.
PRA	Paperwork Reduction Act of 1995.
RIA	Regulatory Impact Analysis.
RIN	Regulatory Identification Number.
State DOTs	State departments of transportation.
U.S.C.	United States Code.
VMT	Vehicle miles traveled.

III. Regulatory History

The Moving Ahead for Progress in the 21st Century Act (MAP–21) (Pub. L. 112–141) transforms the Federal-aid Highway Program (FAHP) by establishing new requirements for performance management to ensure the most efficient investment of Federal transportation funds. The Fixing America's Surface Transportation (FAST) Act (Pub. L. 114–94) continued these requirements. Performance management increases the accountability and transparency of the FAHP and provides a framework to support improved investment decisionmaking through a focus on performance outcomes for key national transportation goals.

As part of this mandate, FHWA issued a set of three related national performance management measure rules for State DOTs and MPOs to use to assess performance. In these rules, FHWA established performance measures in 12 areas generalized as follows: (1) Serious injuries per VMT; (2) fatalities per VMT; (3) number of serious injuries; (4) number of fatalities; (5) pavement condition on the Interstate System; (6) pavement condition on the non-Interstate National Highway System (NHS); (7) bridge condition on the NHS; (8) performance of the Interstate System; (9) performance of the non-Interstate NHS; (10) freight movement on the Interstate System; (11) traffic congestion; and (12) on-road mobile source emissions.

The third performance management measures NPRM (PM3 NPRM) was published on April 22, 2016 (81 FR 23806).[3] The PM3 NPRM proposed a set of national measures for State DOTs to use to assess the performance of the Interstate and non-Interstate NHS to carry out the NHPP; to assess freight movement on the Interstate System; and to assess traffic congestion and on-road mobile source emissions for the purpose of carrying out the CMAQ Program. In the preamble to the PM3 NPRM, FHWA sought public comment on whether and how to establish a CO_2 emissions measure in the PM3 Final Rule.

The FHWA published the third performance measure final rule (PM3 Final Rule) on January 18, 2017, at 82 FR 5971.[4] As finalized, the rule measured total annual tons of CO_2 emissions from all on-road mobile sources. For a discussion of the comments received, FHWA's response to those comments, and FHWA's rationale for adopting the GHG measure, please see the PM3 Final Rule.

On October 5, 2017, FHWA published an NPRM proposing to repeal the GHG measure (82 FR 46427),[5] while seeking additional public comment on whether to retain or revise the GHG measure established in the PM3 Final Rule. The rulemaking sought additional information that may not have been available during the development of the PM3 Final Rule. The NPRM was published with a 30-day comment period set to close on November 6, 2017. The comment period was extended to November 15, 2017,[6] in response to requests submitted to the docket.

IV. Decision To Repeal the GHG Performance Measure

A. Summary of Decision

The FHWA initiated this rulemaking after reviewing existing and pending regulations pursuant to Executive Order 13771 and 13777. On January 30, 2017, the President issued Executive Order 13771, titled, ''Reducing Regulation and Controlling Regulatory Costs,'' which requires Federal agencies to take proactive measures to reduce the costs associated with complying with Federal regulations. In addition, on February 24, 2017, the President issued Executive Order 13777, titled, ''Enforcing the Regulatory Reform Agenda,'' which requires Federal agencies to designate a Regulatory Reform Officer and a Regulatory Reform Task Force to carry out the initiatives described in that Executive Order.

The objective of our review was to determine whether changes would be appropriate to eliminate duplicative regulations and streamline regulatory processes. Based upon this review, DOT identified the GHG measure of the PM3 Final Rule as being potentially duplicative of existing efforts in some States, and as potentially imposing unnecessary burdens on State DOTs and MPOs that were not contemplated by Congress. In addition, when the GHG measure was adopted, there were numerous comments regarding FHWA's legal authority to adopt the measure. Due to those concerns and because the performance management statute (23 U.S.C. 150) does not require a GHG measure, FHWA decided to reconsider its legal interpretation of the statute under which the GHG measure was adopted. All of these concerns contributed to the decision to publish the NPRM proposing to repeal the GHG measure.[7]

The FHWA's decision to repeal is based on the combined effects of three primary factors. These are: (1) Reconsideration of the legal authority under which the GHG measure was promulgated; (2) the cost of the GHG measure when considered in relation to the lack of demonstrated benefits; and (3) the potential duplication between information produced by the GHG measure and information produced by other initiatives related to measuring CO_2 emissions.

[3] Third performance measure NPRM: ''Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program'' (RIN 2125–AF54): *https://www.gpo.gov/fdsys/pkg/FR-2016-04-22/pdf/2016-08014.pdf.*

[4] *https://www.gpo.gov/fdsys/pkg/FR-2017-01-18/pdf/2017-00681.pdf.*

[5] 82 FR 46427, October 5, 2017 *https://www.federalregister.gov/documents/2017/10/05/2017-21442/national-performance-management-measures-assessing-performance-of-the-national-highway-system.*

[6] 82 FR 51786, November 8, 2017 *https://www.federalregister.gov/documents/2017/11/08/2017-24345/national-performance-management-measures-assessing-performance-of-the-national-highway-system.*

[7] 82 FR 46427, October 5, 2017 *https://www.federalregister.gov/documents/2017/10/05/2017-21442/national-performance-management-measures-assessing-performance-of-the-national-highway-system.*

FHWA adopted the GHG measure as a matter of discretion in interpreting 23 U.S.C. 150(c), as the statute does not explicitly address CO_2 emissions or require FHWA to include a GHG measure among the national performance measures. Repeal of the measure, for the reasons described in this final rule, is also a matter within FHWA's discretion, and repeal does not conflict with the statute. Further, repeal of the FHWA GHG measure does not preclude State DOTs and MPOs from tracking CO_2 levels related to their own transportation programs, or from independently establishing measures and targets outside the national performance management program.

The FHWA also considered alternatives to the repeal of the GHG measure. This consideration included whether FHWA should retain the measure as adopted in the PM3 Final Rule, or adopt a modified version of the GHG measure within the framework of the national performance management program. The FHWA did not identify an alternative that would address its concerns with the GHG measure. For more information about the alternatives considered, including comments received on this topic and FHWA's responses, please see Section V.E.

B. Reasons for the Repeal of the GHG Measure

As noted above, in addition to the comments received, FHWA's decision to repeal the GHG measure is based on three primary factors.

1. Reconsideration of Legal Authority To Adopt GHG Measure

When FHWA adopted the GHG measure in January 2017, we noted that we had received comments from supporters and opponents addressing FHWA's legal authority to adopt such a measure.[8] In response to the NPRM issued for this rule, we received an equally divided set of comments regarding our legal authority to adopt the GHG measure. Questions about FHWA's legal authority arose from the express provisions of 23 U.S.C. 150.

In the PM3 Final Rule, FHWA concluded that it had the discretion to interpret the term ''performance'' as it relates to the Interstate and non-Interstate NHS, pursuant to the Secretary's authority set forth in 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V). FHWA's prior interpretation of the term ''performance'' included ''environmental performance'' and, consequently, FHWA determined that the adoption of the GHG measure was thus not outside the scope of section 150.[9] Upon reconsideration, as explained below, we have determined that although the statute confers upon FHWA the discretion to determine the proper interpretation of the statute, FHWA's prior interpretation was based on a strained reading of the statutory language in section 150, and one that did not fully consider the limitations imposed by the statute itself and by other relevant considerations.

As outlined in the PM3 Final Rule, FHWA supported its discretion to broadly interpret the term ''performance'' with four arguments.[10] First, FHWA relied on other provisions in Title 23 that make the environment an integral part of the FAHP, such as the national goal of environmental sustainability in 23 U.S.C. 150(b)(6), to demonstrate support for its interpretation. Second, FHWA asserted that its interpretation of ''performance'' was supported by numerous other FHWA actions, including various reports and guidance related to CO_2 emissions, that treat the environment, including global sustainability and global climate change, as part of a State's highway system performance. Third, FHWA noted that section 150(c)(3) mandated the measures for the purpose of carrying out 23 U.S.C. 119, which establishes the National Highway Performance Program. The purposes of the NHPP, as set forth in 23 U.S.C. 119, included providing support for the condition and performance of the NHS. Specifically, section 119(e) calls for a performance-driven asset management plan that would support progress toward achievement of the national goals identified in section 150(b), which include environmental sustainability. Finally, FHWA identified other FHWA statutory provisions found in Title 23 as potentially supporting its authority to address CO_2 emissions through the PM3 rulemaking. FHWA argued that because these provisions identified interrelationships among the environment, energy conservation, infrastructure performance, and performance-based decisionmaking, when read together, they provided a basis for FHWA to conclude that assessing infrastructure performance under 23 U.S.C. 150(c)(3) may properly encompass environmental performance and, by extension, assessment of CO_2 emissions.[11]

What is notable about these four arguments, however, is that none of them points to any statutory provision that specifically directs or requires FHWA to adopt a GHG measure. Instead they encourage State DOTs and MPOs to consider a variety of ways to incorporate environmental considerations under their existing authority. Further, even though FHWA has taken other actions, such as issuing reports and guidance regarding GHG emissions and climate change, those actions were not taken to fulfill the statutory mandate of section 150, and therefore, do not lead to the conclusion that FHWA is required to adopt a GHG measure. Since those actions were taken to fulfill other statutory obligations and policy goals, they do not lead to the conclusion that FHWA must adopt a comprehensive performance requirement, such as the GHG measure.

It is true that section 150 establishes seven national goals for the Federal-aid Highway program (FAHP), including ''environmental sustainability.'' [12] However, subsection 150(c), in directing the Secretary to establish performance measures, imposes a specific limitation: the Secretary ''shall . . . limit the performance measures only to those described in [subsection c].'' [13] Subsection (c) specifically directs the Secretary to establish measures regarding the pavement and bridge conditions of the National Highway System (NHS), the performance of the Interstate System and the National Highway System (excluding the Interstate System), the Highway Safety Improvement Program, the Congestion Mitigation and Air Quality Program (CMAQ), and national freight movement.[14] Though environmental sustainability is one of the enumerated national goals in section 150, it is not one of the categories of performance measures specifically mentioned in subsection (c).

Furthermore, in exercising its discretion previously, FHWA failed to fully consider the provisions in the National Highway Performance Program (NHPP) statute, 23 U.S.C. 119, when it originally decided to rely on the section 150(b) national goal of environmental sustainability to establish the GHG measure. The FHWA did not evaluate whether the national goals language in section 119(d)(1)(A) imposed limitations on how FHWA would meet the national goals enumerated in section 150 when establishing NHPP performance measures under section 150(c)(3). Section 119(d)(1)(A) defines eligibility criteria for projects funded under NHPP. While the provision references

[8] See 82 FR 5993 (Jan. 18, 2017).

[9] 82 FR 5994–95.

[10] 82 FR 5993–96.

[11] Id.

[12] 23 U.S.C. 150(b)(6).

[13] Section 150(c)(2)(C).

[14] Section 150(c)(3)–(6).

achievement of national performance goals, the statute also delineates *which* national performance goals are relevant to the NHPP: ''. . . national performance goals for improving infrastructure condition, safety, congestion reduction, system reliability, or freight movement on the [NHS].'' While these goals are consistent with an interpretation of ''performance'' that focuses on the physical condition of the system and the efficiency of transportation operations across the system, they do not support FHWA's prior, broader interpretation of ''performance'' under section 150(c)(3), which encompassed environmental performance. FHWA, in exercising its discretion to interpret the statute, now concludes that a narrower interpretation of the term ''performance'' is the better view of the statutory scheme and is more consistent with the text, structure, and purpose of the statute.

The structure of section 150 itself supports a narrower construction of the section 150 performance measures authorization than previously adopted by FHWA. Congress specifically directed the Secretary of Transportation to ''limit performance measures only to those described in [section 150(c)]'' in establishing the performance measures. One of those authorized performance measures, section 150(c)(5), directs the Secretary to establish measures for States to use in assessing on-road mobile source emissions. After reconsideration, FHWA believes that because Congress specifically designated a part of section 150(c) for on-road mobile source emissions measures, it is reasonable to conclude that Congress did not intend the other parts of section 150(c) to be used to address other similar or related performance measures, such as the GHG measure. At the same time, by placing the on-road mobile source emissions provision in section 150(c)(5), Congress limited the types of emissions that could be the subject of a performance measure to those listed in the CMAQ statute (23 U.S.C. 149(b)). CO_2 is not among those pollutants. Given the long history of congressional actions relating to on-road mobile source emissions and the CMAQ Program, FHWA must presume that Congress understood both the breadth of the term ''on-road mobile source emissions,'' and the narrowness of the criteria pollutants covered by the CMAQ Program. It is reasonable to conclude that Congress was well aware that, because CO_2 emissions are not a criteria pollutant covered by the CMAQ Program, section 150(c)(5) could not be used to create a performance measure for CO_2. Nothing in section 150 suggests that Congress wanted the Secretary to go beyond the express emissions provision in section 150(c)(5), to undertake an expansive program relating to on-road mobile source emissions. Had it wanted to do so, Congress could have crafted such an express provision, but it did not do so. Given this statutory analysis, the reasons we have explained above, and upon reconsideration of our prior interpretation, we believe that a narrower interpretation of ''performance'' as it relates to the ''performance'' of the Interstate System and the National Highway System is more consistent with the language of section 150. Accordingly, we have concluded that the term ''performance'' as it relates to the Interstate System and the National Highway System is better read not to encompass measures relating to CO_2, as previously concluded by FHWA in adopting the GHG measure in January 2017.

Moreover, consistent with our reinterpretation of the statutory language of subsection 150(c), FHWA believes the better approach is to focus on implementing the CMAQ Program, as Congress directed, through FHWA's establishment of performance measures for States to assess on-road mobile source emissions pursuant to 23 U.S.C. 150(c)(5). One reason is that the CMAQ statute reflects a more localized approach that is based on each State's nonattainment and maintenance areas for the covered pollutants.[15] FHWA believes this tailored approach is more appropriate for the Federal-aid highway program than attempting to use a GHG measure to induce States to address global climate concerns. This view is supported by section 150(d)(2), which contemplates a localized approach by granting States the discretion to set different performance targets for urbanized and rural areas in developing and implementing the performance measures. Further, the CMAQ Program contains substantive requirements that are designed directly to ameliorate the localized effects of the covered pollutants.

Finally, although FHWA has decided to repeal the GHG measure, many sources of information exist regarding GHGs and their impact on the environment, on both regional and local levels, which State DOTs and MPOs can continue to draw upon in evaluating their transportation projects. In addition, there are other comprehensive statutory schemes, such as the Corporate Average Fuel Economy program, administered by the National Highway Traffic Safety Administration, which exist to address issues such as the environment and energy conservation.

2. Costs and Burdens of the Measure

Reducing regulatory burdens is a FHWA priority. FHWA is giving particular attention to opportunities to reduce burdens imposed by existing regulations through consideration of their repeal, replacement, or modification. Our efforts are guided by a number of Executive Orders, including Section 5 of Executive Order 12688, Section 2 of Executive Order 13777, and Section 3 of Executive Order 13783, titled ''Promoting Energy Independence and Economic Growth.''

After considering the comments received in this rulemaking and the revised regulatory impact assessment (RIA), FHWA has decided that the GHG measure imposes unnecessary regulatory burdens on State DOTs and MPOs with no predictable benefits. FHWA is concerned about the potential the GHG measure has to cause adverse impacts on overall State DOT and MPO efforts to implement the national performance management program. FHWA assigns a high priority to the successful implementation of the national performance management program. The removal of the GHG measure from the program reduces the number of measures the State DOTs and MPOs must address, and allows those entities to focus their resources on implementing the remaining measures. We heard from commenters that the GHG measure would impose additional resource requirements that would either adversely affect the ability of State DOTs and MPOs to implement the national performance management program, or take focus away from the core mission of FHWA.

These costs include the resources needed to obtain and review the required data, to calculate the measure, and to coordinate and select a CO_2 emissions target. The FHWA considered comments received about costs to set and report targets, and to calculate the metric. Also, if a State DOT does not achieve its selected target under the previous rule, it would incur additional costs to develop and report on actions the State DOT will take to make progress towards its target.[16]

Other types of costs are harder to predict with reasonable certainty, such as the GHG measure's potentially adverse impact in rural States. While the GHG measure did not require States to reduce CO_2 emissions, a State could feel pressured to change its mix of

[15] 23 U.S.C. 149.

[16] 23 U.S.C. 119(e)(7) and 23 CFR 490.109.

projects to reduce CO_2 emissions. Rural States may face more challenges, and indirect costs, in adapting their programs to reduce CO_2 emissions. The challenges are rooted in the type of driving typically done in rural areas, and the predominantly system-preservation focus of rural States' highway programs. Commenters [17] indicated rural residents drive relatively long distances, often in heavy-duty vehicles. Such States may have limited ability to reduce VMT. In some rural States, such as Alaska, on-road vehicle CO_2 emissions represent a much smaller share of total CO_2 emissions than in other States or in the United States as a whole.[18] For rural States, this may mean shifting away from their typical system-preservation focus.[19] A reduction in system preservation investments could result in adverse cost impacts because the failure to take timely preservation measures can result in higher costs over the life of a facility and other unintended results.[20] According to one commenter,[21] failure to preserve highway pavements could increase CO_2 emissions as drivers reduce speeds due to rough surfaces.

While the RIA for this final rule estimated marginally lower total costs than the RIA in the NPRM, FHWA reaches the same conclusion regarding the costs and burdens of the GHG measure. That analysis, summarized in Section VI.A. of this document, found that the aggregate costs to State DOTs and MPOs to implement the GHG measure would be $10.9 million over 9 years, discounted at 7 percent.[22] These costs represent a burden that would be imposed on State DOTs and MPOs with no discernable benefits.

While some commenters argued that the GHG measure would produce wide-ranging benefits, it is important to recognize that the measure itself did not require reductions in CO_2 emissions and would not have produced predictable climate change effects. The measure did not require State DOTs or MPOs to adopt targets that reflect declining emissions levels. As described in the PM3 Final Rule,[23] the benefits that may possibly flow from the GHG measure came from its potential to influence State DOT and MPO investment decisions, and it is not possible to conclude with certainty the GHG measure would cause State DOTs and MPOs to make decisions that change CO_2 emissions levels. Similarly, it is not possible to conclude with certainty that repeal of the rule will cause State DOTs and MPOs to make decisions that result in increases in CO_2 emissions. The GHG measure had no legal power to force any change in CO_2 emissions levels, and the GHG measure had no predictable effect on those emissions. The GHG measure required very limited actions (though with some cost) from State DOTs and MPOs, and those actions were purely administrative in character.[24] FHWA concludes that it is not possible to predict, with any reasonable degree of certainty, the extent to which the influence effects of the GHG measure might result in actual changes in emissions levels. Thus, FHWA does not believe the speculative and uncertain benefits are a sufficient reason to retain the GHG measure, especially given the very definite costs associated with the measure.

3. Duplication of Other Efforts

FHWA also considered whether the GHG measure is duplicative, as raised by some commenters. In addition, the recent executive mandates to reduce regulatory costs and burdens mean FHWA must consider whether the information the measure would produce duplicates information produced by others.

FHWA considered that there are other existing methods for producing nearly the same information as would result from the implementation of the GHG measure, using publicly available data and methodologies, if that information is desired. FHWA also recognized that the repeal of the measure would not affect the ability of State DOTs and MPOs to create their own CO_2 emissions measures and targets independently outside the national performance management program. Indeed, several State DOTs and MPOs said that they are already tracking CO_2 emissions, either voluntarily or to comply with State requirements.[25]

Other Federal agencies, such as the Environmental Protection Agency (EPA) and the Department of Energy (DOE), have undertaken regulatory and other efforts to address CO_2 emissions. Among those efforts is the annual DOE publication of State-by-State data on CO_2 emissions for the transportation sector.[26] That DOE transportation data includes CO_2 emissions from all mobile sources (*e.g.,* aviation, highway), not just motor vehicles (although the published table does not break the CO_2 emissions data into subcategories, such as CO_2 emissions on the NHS). Thus, the information published by EPA and DOE overlaps with, but is not precisely identical to, the information that would be produced by calculation of the GHG measure. However, that existing collection of data does provide States with trend information on CO_2 emissions from mobile sources in each State, and the highway component is based on the same fuel sales information used for the GHG measure.

In light of these circumstances, FHWA now concludes that the GHG measure in the performance management program is unnecessary. The information available through DOE informs State DOTs and MPOs whether transportation CO_2 emissions in their States are increasing, decreasing, or staying the same. Although this existing information is provided at the transportation sector level, rather than the systems level, the information addresses the same ultimate point as the GHG measure. FHWA acknowledges there may be instances when States or MPOs may want to have CO_2 emissions data for specific transportation systems or facilities, rather than data at the transportation sector level. State DOTs and MPOs are free to create such data, if they wish, by using publicly available data and existing methodologies.

Pursuant to the mandates of Executive Order 13771, Executive Order 13777, and Executive Order 13783, FHWA concluded that the data needed to support the GHG measure is at least somewhat duplicative of the EPA and

[17] DOTs of ID, MT, ND, SD, and WY, FHWA–2017–0025–0125–4.

[18] Alaska DOT and Alaska Department of Environmental Conservation, FHWA–2017–0025–0135–3.

[19] Wyoming DOT, FHWA–2017–0025–0124–2.

[20] *See, e.g. Life Cycle Cost Analysis Primer,* FHWA (August 2002) at page 10, available online at *https://www.fhwa.dot.gov/asset/lcca/010621.pdf* (as of May 1, 2018).

[21] Wyoming DOT, FHWA–2017–0025–0124–2.

[22] Rounded from $10.89 million discounted at 7 percent.

[23] National Performance Management Measures: Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program'' (RIN 2125–AF54): *https://www.gpo.gov/fdsys/pkg/FR-2017-01-18/pdf/2017-00681.pdf*.

[24] Under the previous rule, State DOTs and MPOs were required to set CO_2 emissions targets, which can be for declining emission levels, increasing emission levels, or unchanged emission levels, as compared to a 2017 baseline. State DOTs were required to use data from existing sources to calculate the CO_2 emissions measure at various points in time, reporting the results to FHWA. If the State DOT did not meet its target, it was required to report to FHWA on actions the State DOT would take to reach its selected target.

[25] Washington State DOT, FHWA–2017–0025–0132–10; National Capital Region Transportation Planning Board, FHWA–2017–0025–0158–6; City of New York, FHWA–2017–0025–0195–7; City of Portland, OR, FHWA–2017–0025–0234–3; Northeast Ohio Areawide Coordination Agency (NOACA), FHWA–2017–0025–0243–2.

[26] *See* ''CO_2 Emissions from Fossil Fuel Combustion—Million Metric Tons CO2 ($MMTCO_2$),'' available online at *https://www.epa.gov/statelocalenergy/state-co2-emissions-fossil-fuel-combustion* (as of January 19, 2018).

DOE data on CO_2 emissions. That duplication, together with other options States and MPOs can use independently to produce more specific data if they wish, reduces the need for the FHWA GHG measure, and makes imposition of incremental regulatory costs less supportable. Even if the degree of duplication is limited, FHWA believes the duplication in information produced by the Federal government is a concern and a factor that supports repeal of the GHG measure.

FHWA believes the repeal of the GHG performance measure will reduce the existing duplication, streamline the regulations, and reduce the potential for the confusion that can arise when multiple Federal and State entities impose different requirements for categorizing and measuring CO_2 emissions. FHWA acknowledges that multi-jurisdictional regulation of the same matter does occur, but FHWA believes that it ought to be avoided where reasonably possible and not inconsistent with statutory requirements.

C. Impact of Repeal on Effectiveness of Performance Management Program

In the context of the national performance management program, FHWA believes the GHG performance measure can be repealed without harm to the overall effectiveness of the national performance management program. As described in the performance management statute, the purpose of the program is to provide a means to the most efficient investment of Federal transportation funds by refocusing on national transportation goals, increasing the accountability and transparency of the FAHP, and improving project decisionmaking through performance-based planning and programming. The program is broad-based, and FHWA has substantial discretion in determining which types of performance measures will be given priority and adopted as national measures. After the repeal of the GHG measure, the remaining 17 national performance measures will fully meet the 23 U.S.C. 150 requirements, and serve the interests of the FAHP. The transparency and accountability effects of the national measures are unaffected by the repeal. The repeal of the GHG measure will permit State DOTs and MPOs to reallocate resources they would have used to implement the GHG measure, providing a potential benefit to implementation efforts for the remaining measures.

V. Response to Comments Received on the NPRM

FHWA received 251 comment submissions to the public docket on the proposed NPRM to repeal the GHG measure. Many submittals were signed by multiple organizations or representatives. This section of the preamble provides a response to the most significant issues raised in the comments received.

A. Costs and Benefits of the GHG Measure

As part of the rulemaking that was finalized in January 2017, FHWA estimated the incremental costs associated with the new requirements for a GHG measure that represented a change to current practices of DOT, State DOTs, and MPOs. The 9-year, discounted cost to comply with the GHG measure was estimated at $10.9 million in the PM3 Final Rule.[27] In the NPRM to repeal the GHG measure, FHWA used this same $10.9 million figure as the amount of cost savings that would be achieved.

Commenters who supported the repeal of the GHG measure cited two primary reasons related to its costs. First, commenters argued that requiring the GHG measure diverts resources during a time of limited State resources, which could potentially affect their ability to deliver projects and programs, implement existing performance measures, and provide other transportation investments. Second, commenters argued that FHWA underestimated additional burdens of complying with the GHG measure requirement, though no further detail on those additional costs was provided.

Commenters who stated that the measure should be retained cited a number of reasons as well. These commenters felt that the benefits would outweigh the costs of the measure and that FHWA overestimated the cost of compliance. Some commenters noted that several States and MPOs are already tracking CO_2 emissions, either voluntarily or to comply with State requirements, and that repealing the GHG measure would, therefore, provide little if any savings to those particular entities. Other commenters argued that the cost of complying with the GHG measure is small when considered in relation to overall investments in transportation infrastructure, and that costs are ''negligible'' when spread out across State DOTs and MPOs. In response to the NPRM's request for comments on any costs to States associated with the NHPP ''significant progress'' determination for the GHG measure,[28] some noted that States that failed to meet their targets would need to document actions that would be taken to achieve the target in the future. However, the commenters indicated such States would likely need to perform ongoing investment-decision analysis anyway and, therefore, preparation of the action plan would not incur a significant additional burden.

Several commenters also discussed that the proposed repeal did not take into account the benefits of keeping the GHG measure, such as foregone benefits associated with reduced household transportation costs, congestion, and delay. One commenter provided an analysis claiming that even minimal reductions in CO_2 emissions, when monetized using FHWA's estimate of the social cost of carbon, would yield monetary benefits that would exceed the estimated cost of complying with the GHG measure. Other commenters [29] cited as benefits the ability to compare CO_2 emission rates with peer regions and States, measure and communicate the effect of transportation investments on CO_2 emissions region-wide, and track emissions to set business goals.

Finally, several commenters [30] said that without the GHG measure, the transportation-investment decisions by States and MPOs would result in increased CO_2 emissions, which would result in increased economic costs from climate change. Many of them argued that these costs would exceed the benefits of repealing the GHG measure, and that the RIA did not estimate benefits.

FHWA Response

FHWA reviewed the comments relating to the costs and benefits associated with keeping the GHG measure, including establishing performance targets, assessing and reporting on progress toward meeting

[27] Rounded from $10.96 million discounted at 7 percent.

[28] *See* 23 U.S.C. 119(e)(7).

[29] Oregon Environmental Council, FHWA–2017–0025–0130–2; Metropolitan Council, FHWA–2017–0025–0140–3; City of New York, FHWA–2017–0025–0195–6; U.S. Green Building Council, FHWA–2017–0025–0247.

[30] Oregon Environmental Council, FHWA–2017–0025–0130–1 and –2; Safe Routes to School National Partnership, FHWA–2017–0025–0133; Diaz, FHWA–2017–0025–0143; Caltrans and CARB, FHWA–2017–0025–0162–10; Mass Comment Campaign led by NRDC, FHWA–2017–0025–0184; Institute for Policy Integrity at NYU School of Law, FHWA–2017–0025–0189; Joint submission led by NRDC (12), FHWA–2017–0025–0190–3, –4, and –5; City of New York, FHWA–2017–0025–0195–1, –4, –6, and –7; Transportation for America, FHWA–2017–0025–0200–4; NOACA, FHWA–2017–0025–0243–2; Southwest Energy Efficiency Project, FHWA–2017–0025–0244–2; TRANSCOM, FHWA–2017–0025–0253.

those targets, and calculating the GHG-related system performance metrics and measures. FHWA cannot accurately and confidently estimate the amount and value of the likely benefits of the GHG measure, and thus FHWA is not persuaded that the benefits of the GHG measure would justify its costs to States and MPOs. As with the other PM3 measures, there are requirements to set targets, but the GHG measure does not mandate changes in State DOT or MPO decisions on investments or management of the NHS relative to the measure or those targets. The GHG measure relies on influencing the behavior of State DOTs and MPOs. The measure does not require States or MPOs to reduce CO_2 emissions levels. Accordingly, any changes in CO_2 emissions levels would be caused by the independent actions of State DOTs and MPOs when they make transportation-investment and operations decisions, and not as a direct result of the GHG measure. Any actions those entities might take to change the CO_2 emissions levels associated with their portions of the NHS would occur only as part of a mix of issues they consider when making transportation-investment decisions. Many of the competing issues, such as safety, mobility, and congestion relief, would usually be of higher priority. Therefore, there is greater uncertainty about how much, if at all, overall agency decisions would be different if a GHG measure were in place versus not having it as a PM3 measure. FHWA notes that the RIA conducted for this rulemaking cannot clearly show that the GHG measure ''is necessary,'' [31] as per OMB Circular A–4.

Regarding comments relating to the cost and burden of the GHG measure, FHWA carefully considered whether to adjust its analysis of the relative costs of the GHG measure and assessment of the measure's burden on States and MPOs. With respect to the comments that specifically addressed the estimated hours to calculate the GHG-related system performance metrics and measures, FHWA carefully considered them while preparing this final rule's RIA, refined the estimate of the number of hours it would take State DOTs to calculate the GHG measure, and conducted multiple sensitivity analyses. Commenters stated that the burden to establish performance targets or to assess and report on progress toward meeting those targets would be minimal. Comments regarding other factors that could reduce the overall burden to States and MPOs, such as future technology improvements and mutual assistance among States, were also considered. The final rule's RIA estimated marginally lower total costs than the NPRM's RIA, but this does not lead FHWA to a different conclusion regarding the costs and burdens of the GHG measure.

FHWA reviewed comments regarding the fact that some States are already preparing a similar (or the same) GHG measure, independent of the rule, and that FHWA should therefore lower its estimated costs of implementing the GHG measure. The NPRM's accompanying RIA already assumed that some States are doing so, estimating that 42 of 52 States would have additional costs related to the GHG measure. None of the comments received specified a different estimate and this conclusion remains unchanged in the RIA for the final rule.

While reviewing the comments that the total cost of the GHG measure is small relative to total annual expenditures on transportation, FHWA noted that it is required to look at the total costs of implementing the GHG measure and balance them against the total benefits directly due to that measure, not against another metric, such as overall transportation spending. Similarly, comments about the total costs per State or MPO on a per entity basis are not pertinent and do not address the fact that FHWA is required to analyze overall costs against overall benefits, not total costs relative to other costs, expenses, revenues, or other measures.

In reviewing public comments and estimated costs of the proposed rule, FHWA considered the fact that alternative ways exist in which the same information could be collected but with less burden on States and MPOs. Data to calculate the GHG measure by State is already publicly available and can be calculated by a single person for all States at once, rather than having each State perform individual calculations. Under this scenario, overall efficiencies should lower the total costs of calculating the GHG measure.

FHWA reviewed the comments on the forgone benefits of repealing the GHG measure requirement. FHWA carefully considered the comments that the GHG measure would lead to decreases in CO_2 emissions, which the commenters thought would lead to other benefits, including fewer negative impacts on people's health and the natural environment. To attribute such health and environmental benefits to the GHG measure, FHWA must be confident that implementation of the GHG measure would result in different transportation-investment decisions by State and local agencies that directly cause reductions in CO_2 emissions. As noted by commenters, some agencies are already calculating a GHG-type measure for their State and others are not. Since, under the GHG measure, the State DOT can choose to establish its own GHG targets for a rise or decrease in CO_2, the States that are more concerned with CO_2 emissions are likely to set more aggressive targets. In such circumstances, FHWA believes that it is not possible to determine that the presence or absence of the GHG measure will result in changes in the overall set of investment transportation decisions by State and local agencies in the next few years. This uncertainty supports FHWA's decision to repeal the GHG measure.

FHWA also carefully considered the comments stating that the GHG measure would lead to reductions in household transportation costs, congestion and delay, and transportation infrastructure and maintenance costs. In order for these benefits to be attributable to the GHG measure, the implementation of the GHG measure would need to result in different investment decisions by State and local agencies that would allow people to travel faster and more cheaply and that would be more cost effective to build and maintain. FHWA is not confident that including the GHG measure with other performance management metrics will result in transportation investments that are more efficient to develop, operate, and use. The comment that the GHG measure would also help foster a more competitive and growing economy is related to the above arguments; it is based on the presumption that the measure would result in transportation investment choices that are more efficient for the economy, which is not evident at this time. States wishing to compare themselves to their peers can do so independent of the presence of the GHG measure since the necessary data for all States is already publicly available.

Regarding the comments that the NPRM's RIA does not include a quantitative assessment of the potential benefits of keeping the GHG measure, FHWA notes that the RIA is not required to include quantitative analysis (of either costs or benefits) if the agency does not have the necessary data and metrics to do so. OMB Circular A–4 states that some important benefits and costs may be difficult or impossible to quantify or monetize, given current data

[31] See OMB Circular A–4, September 17, 2003 and Economic Assessment: Repeal of Green House Gas Performance Measure. *https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A4/a-4.pdf.*

and methods. The circular advises agencies to carry out a careful evaluation of non-quantifiable and non-monetized benefits and costs.[32] Based on this guidance, the RIA for both the NPRM and for this final rule include a qualitative analysis of potential forgone benefits resulting from repeal of the GHG measure.

B. Utility and Burden of the GHG Measure

Utility of the GHG Measure

Twenty-eight commenters discussed whether the GHG measure, including the methodology adopted in the PM3 Final Rule, provides meaningful utility for assessment of environmental performance of the NHS. Twenty-three [33] commenters said that the GHG measure does provide utility, while five commenters [34] said that it does not provide utility.

Commenters who stated that the measure should be repealed cited three primary reasons. First, these commenters noted that State DOTs and MPOs have little to no ability to reduce CO_2 emissions through highway programs because it has not been demonstrated that States or MPOs have the ability to effect meaningful change in CO_2 emissions through stewardship of the highway program. They commented that the GHG rule effectively looks for GHG reductions from a largely preservation-oriented highway program where they are not available to be had. According to the commenters, the rule would place pressure on a State to change its mix of highway projects for speculative benefits.

Second, two submissions [35] noted that rural States may face particular challenges and program distortions under the rule. Five State DOTs jointly asserted that many of the strategies for how a State might influence CO_2 emission that were included in the PM3 Final Rule are not well-suited to rural settings, where residents drive relatively long distances, often in heavy-duty vehicles. The Wyoming DOT [36] noted that rural States are focused on system preservation and that the GHG measure could pressure the agency to change its mix of projects away from preservation. According to the Wyoming DOT, failure to preserve pavement could increase CO_2 emissions through reduced speeds due to rough surfaces. In a joint comment, two Alaska State agencies [37] said on-road vehicle CO_2 emissions represent a much smaller share of total CO_2 emissions in Alaska than in other States or in the United States as a whole.

Third, another commenter [38] asserted that GHG tailpipe emissions are already subject to regulation through the fuel economy standards set by DOT and EPA, and another [39] stated that other Federal agencies, like EPA, already have set new nationwide standards and guidelines for CO_2 emission reductions that are focused on the most significant sources.

The commenters who stated that the GHG measure should be retained because it does provide utility [40] cited the following reasons: Several State DOTs [41] commented that the measure would be highly useful in understanding the trend of transportation emissions at the State level, evaluating national performance, and pursuing GHG reduction work. In a joint comment, 51 Members of Congress [42] said that a GHG performance measure is critical for State DOTs and MPOs to determine the type of investments needed to accommodate future increases in passenger and freight travel. The lawmakers added that one of the national goals established in MAP–21 was environmental sustainability and that repealing the GHG measure would inhibit the ability of decisionmakers to make progress toward that national goal. Rails-to-Trails Conservancy [43] stated that the GHG measure provides some assurance that State and local transportation agencies are tracking the full benefits of active transportation and trail networks. Similarly, the Association for Commuter Transportation [44] said that repealing the GHG measure would cause a policy bias that would thwart efforts to improve air quality, reduce congestion, and create an efficient transportation system. Finally, four commenters [45] asserted that tracking carbon emissions would be a valuable way to evaluate the spending decisions made by transportation agencies.

Burden of the GHG Measure

FHWA received 22 comments related to the resource burdens associated with the GHG measure. Twelve of the comments stated that the costs and resource burdens would be minimal, while ten of the comments noted that measure would be burdensome.

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[32] *https://obamawhitehouse.archives.gov/omb/circulars_a004_a-4/.*

[33] Washington State DOT, FHWA–2017–0025–0132; Rails to Trails Conservancy, FHWA–2017–0025–0139–2; Metropolitan Council, FHWA–2017–140–1; Metropolitan Area Planning Council, FHWA–2017–0025–0150; Stratford MPO, FHWA–2017–0025–0151; Oregon DOT, FHWA–2017–0025–0152; Oregon Metro, FHWA–2017–0025–0160; National Capital Region Transportation Planning Board, FHWA–2017–0025–0158; Caltrans and CARB, FHWA–2017–0025–0162; Mass comment campaign led by U.S. PIRG (28), FHWA–2017–0025–0172–2; Joint submission led by NRDC (12), FHWA–2017–0025–0190–7, –8, and –9; City of New York, FHWA–2017–0025–0195–6; Mass comment campaign sponsored by Transportation for America (87), FHWA–2017–0025–0197; Transportation for America, FHWA–2017–0025–0200; Chicago Metropolitan Agency for Planning (CMAP), FHWA–2017–0025–201; Members of Congress (51), FHWA–2017–0025–0206–1; Colorado DOT, FHWA–2017–0025–0208; CrossTown Connect TMA, FHWA–2017–0025–222; Association for Commuter Transportation, FHWA–2017–0025–225; City of Portland, OR, FHWA–2017–0025–0234–1; Local Government Commission, FHWA–2017–0025–0236; Joint submission led by California Association of Councils of Governments (5), FHWA–2017–0025–0242–1; Brookings Institution, FHWA–2017–0025–0248–3 and –4.

[34] Wyoming DOT, FHWA–2017–0025–0124–2 and –3; DOTs of ID, MT, ND, SD, and WY, FHWA–2017–0025–0125–4; Texas DOT, FHWA–2017–0025–0127–3; Joint submission led by American Highway Users Alliance (38), FHWA–2017–0025–0196–2 and –3; AGC, FHWA–2017–0025–0213–4 and –5.

[35] Wyoming DOT, FHWA–2017–0025–0124–2; DOTs of ID, MT, ND, SD, and WY, FHWA–2017–0025–0125–4.

[36] Wyoming DOT, FHWA–2017–0025–0124–2.

[37] Alaska DOT and Alaska Department of Environmental Conservation, FHWA–2017–0025–0135–3.

[38] Joint submission led by American Highway Users Alliance (38), FHWA–2017–0025–0196–2 and –3.

[39] AGC, FHWA–2017–0025–0213–4 and –5.

[40] Washington State DOT, FHWA–2017–0025–0132; Rails to Trails Conservancy, FHWA–2017–0025–0139–2; Metropolitan Council, FHWA–2017–140–1; Metropolitan Area Planning Council, FHWA–2017–0025–0150; Oregon DOT, FHWA–2017–0025–0152; Oregon Metro, FHWA–2017–0025–0160; National Capital Region Transportation Planning Board, FHWA–2017–0025–0158; Caltrans and CARB, FHWA–2017–0025–0162; Mass comment campaign led by U.S. PIRG (28), FHWA–2017–0025–0172–2; Joint submission led by NRDC (12), FHWA–2017–0025–0190–7, –8, and –9; City of New York, FHWA–2017–0025–0195–6; Mass comment campaign sponsored by the Transportation for America (87), FHWA–2017–0025–0197; Transportation for America, FHWA–2017–0025–0200; CMAP, FHWA–2017–0025–201; Members of Congress (51), FHWA–2017–0025–0206–1; Colorado DOT, FHWA–2017–0025–0208; CrossTown Connect TMA, FHWA–2017–0025–222; Association for Commuter Transportation, FHWA–2017–0025–225; City of Portland, OR, FHWA–2017–0025–0234–1; Local Government Commission, FHWA–2017–0025–0236; Joint submission led by California Association of Councils of Governments (5), FHWA–2017–0025–0242–1; Brookings Institution, FHWA–2017–0025–0248–3 and –4.

[41] E.g., Oregon DOT, FHWA–2017–0025–0152; Washington State DOT, FHWA–2017–0025–0132–3.

[42] Members of Congress (51), FHWA–2017–0025–0206–1.

[43] Rails to Trails Conservancy, FHWA–2017–0025–0139–1.

[44] Association for Commuter Transportation, FHWA–2017–0025–225.

[45] Metropolitan Area Planning Council, FHWA–2017–0025–0150; Stratford MPO, FHWA–2017–0025–0151; mass comment campaign sponsored by Transportation for America (87), FHWA–2017–0025–0197; mass comment campaign sponsored by Environmental Law & Policy Center (360), FHWA–2017–0025–0255.

Seven State DOTs [46] and a joint letter by 38 associations [47] commented that the GHG performance measure would require State DOTs to dedicate additional resources and effort to regulatory compliance, instead of focusing on the core mission of highway projects and programs. Similarly, the American Association of State Highway and Transportation Officials (AASHTO),[48] the Association of Metropolitan Planning Organizations (AMPO),[49] and the Georgia DOT [50] commented that any new national-level measures added will require further implementation and evaluation, which may translate to less adequate resources and data to ensure effective implementation of existing measures. The AASHTO and the Western Connecticut Council of Governments [51] said that State DOTs, MPOs, and DOT need both time and experience successfully to implement the other 17 new national-level measures that are currently required by regulations (in addition to those required by the National Highway Traffic Safety Administration and the Federal Transit Administration) before more measures are added. The Georgia DOT [52] commented that, unlike many of the performance measures in effect, some performance measures such as the GHG measure are not appropriate to be implemented from a national or one-size-fits-all approach. The Missouri DOT [53] said that transportation agencies should have the flexibility to develop performance measures other than those explicitly required by Federal statute without having to report them to FHWA. The Wyoming DOT specifically referenced the additional resources necessary to implement the GHG measure, which it said would take away staff resources and funds from achieving its core mission of highway projects and programs.

Many other commenters, including six State DOTs,[54] four planning agencies,[55] one local government,[56] and a joint letter by six State Attorneys General,[57] said that calculating the GHG measure would place a minimal burden on the States, particularly in comparison to the other performance measures already in place.[58] The commenters noted that the data needed to calculate the measure is already collected and reported by States. The Minnesota DOT (MnDOT) [59] said that it took only 2 hours for one of its employees to collect the data, perform the analysis, and complete a mock report that met FHWA requirements. MnDOT added that it expects the annual staff burden for analysis and reporting to be less than 2 hours per year, or approximately $530 over 9 years. The City of New York [60] commented that if the GHG measure were repealed, then the cost and time involved in doing transportation sector GHG analysis will be higher due to the lack of standardization of assumptions and reporting methods. The city asserted that, without the GHG measure, it will be harder to ensure consistency across the MPOs in the NJ–NY–CT metropolitan region, and to compare transportation CO_2 emissions and mitigation strategies against those of other States and regions.

FHWA Response

In considering the potential burden of the GHG measure, many States and planning agencies have accurately noted that establishing the target and calculating the measure would not require many additional resources, though the burden would vary by State and MPO depending on previous experience with the topic and the data. However, FHWA is concerned that even a marginal increase in effort generated by the GHG measure could cause some States and MPOs to reduce resources devoted to the other national performance measures.

While the measure could help foster a structure for analyzing potential reductions at the State or local level, FHWA finds persuasive other commenters' concern that such a situation has adverse impacts. Those commenters [61] stated the GHG measure puts pressure on them to reduce emissions, and that reducing emissions would be difficult, particularly in rural States. Others noted that there are already policies in effect to reduce tailpipe CO_2 emissions. However, FHWA notes that the GHG measure did not force transportation entities to reduce CO_2 emissions; the States and local agencies themselves set GHG targets at their discretion. Rather, the GHG measure required States to go through the process of setting targets, allowing States at their discretion to set targets that either increase, decrease, or maintain the *status quo* over time.

FHWA agrees that more rural or preservation-focused States that are not building as much new infrastructure may have fewer options for reducing emissions. There are some available options, such as transportation system management and fuel switching strategies, for example, that may be appropriate for States to use voluntarily.[62] These strategies do not rely on VMT reductions that arguably may be difficult to achieve in rural areas. Also, while valuable, the fuel economy standards raised by commenters represent only one method for addressing CO_2 emissions from on-road vehicles.

C. Duplication of Efforts at Federal, State, or Local Levels

Seven agencies submitted comments related to whether repealing the measure would be appropriate to eliminate duplication of efforts, or to eliminate duplicative regulations and streamline the regulatory processes. Several State DOTs and MPOs [63] said that they are already tracking CO_2 emissions, either voluntarily or to comply with State requirements. Seven

[46] Wyoming DOT, FHWA–2017–0025–0124–2; DOTs of ID, MT, ND, SD, and WY, FHWA–2017–0025–0125; Alaska, FHWA–2017–0025–0135; Tennessee DOT, FHWA–2017–0025–0258.

[47] Joint submission led by American Highway Users Alliance (38), FHWA–2017–0025–0196.

[48] AASHTO, FHWA–2017–0025–0138.

[49] AMPO, FHWA–2017–0025–0179.

[50] Georgia DOT, FHWA–2017–0025–0156.

[51] AASHTO, FHWA–2017–0025–0138; Western Connecticut Council of Governments, FHWA–2017–0025–0240–1.

[52] Georgia DOT, FHWA–2017–0025–0156.

[53] Missouri DOT, FHWA–2017–0025–0131.

[54] Washington State DOT, FHWA–2017–0025–0132; Minnesota DOT, FHWA–2017–0025–0149; Oregon DOT, FHWA–2017–0025–0152; Vermont DOT, FHWA–2017–0025–0155; Caltrans and CARB, FHWA–2017–0025–0162; Colorado DOT, FHWA–2017–0025–0208.

[55] DVRPC, FHWA–2017–0025–0145; National Capital Region Transportation Planning Board, FHWA–2017–0025–158–5; Joint submission led by California Association of Councils of Government (5), FHWA–2017–0025–0242; TRANSCOM, FHWA–2017–0025–0253.

[56] City of New York, FHWA–2017–0025–0195.

[57] Attorneys General of CA, MD, OR, VT, WA, and MA, FHWA–2017–002–0199.

[58] *See* Washington State DOT, FHWA–2017–0025–0132; Minnesota DOT, FHWA–2017–0025–0149; Oregon DOT, FHWA–2017–0025–0152; Vermont DOT, FHWA–2017–0025–0155; Caltrans and CARB, FHWA–2017–0025–0162; Colorado DOT, FHWA–2017–0025–0208; DVRPC, FHWA–2017–0025–0145; National Capital Region Transportation Planning Board, FHWA–2017–0025–158–5; Joint submission led by California Association of Councils of Government (5), FHWA–2017–0025–0242; TRANSCOM, FHWA–2017–0025–0253; City of New York, FHWA–2017–0025–0195; Attorneys General of CA, MD, OR, VT, WA, and MA, FHWA–2017–002–0199.

[59] Minnesota DOT, FHWA–2017–0025–0149.

[60] City of New York, FHWA–2017–0025–0195.

[61] Wyoming DOT, FHWA–2017–0025–0124–2; DOTs of ID, MT, ND, SD, and WY, FHWA–2017–0025–0125–4.

[62] See FHWA's Reference Sourcebook for Reducing Greenhouse Gas Emissions from Transportation Sources (2012).

[63] Washington State DOT, FHWA–2017–0025–0132–10; National Capital Region Transportation Planning Board, FHWA–2017–0025–0158–6; City of New York, FHWA–2017–0025–0195–7; City of Portland, OR, FHWA–2017–0025–0234–3; NOACA, FHWA–2017–0025–0243–2.

commenters [64] stated that the measure should be retained, and four [65] said it should be repealed.

One State DOT said that the GHG performance measure should be repealed because it is duplicative of other government efforts to estimate and regulate air emissions.[66] Another commenter said that the transportation conformity process already governs air emissions and could be extended to include GHGs, possibly at lower cost.[67] One commenter [68] stated that the EPA MOVES14 vehicle emissions model already has the capability of estimating vehicle CO_2 emissions. One State DOT and one State environmental agency [69] jointly noted that the EPA GHG Emissions Inventory relies on information already provided by State DOTs to FHWA on a monthly basis. The commenters added that the U.S. Department of Energy's Energy Information Administration (EIA) also tracks fuel production and use by the transportation sector.

One State DOT,[70] referencing comments submitted previously during the prior rulemaking by nine additional State DOTs, noted FHWA incorporated many of their suggestions in the January 2017 PM3 Final Rule, and as a result the rule is not duplicative. Two State DOTs and one MPO noted that the rule is aligned with their existing goals and would therefore not be duplicative.[71]

FHWA Response

Other Federal agencies, such as EPA and DOE, have undertaken regulatory and other efforts to address CO_2 emissions. Those efforts include production by DOE of annual State-by-State CO_2 emissions information for the transportation sector. FHWA has reviewed the comments in this area and the efforts of other agencies, and concludes that the rule is unnecessarily duplicative of efforts at the Federal level to produce information on CO_2 emissions.

FHWA fully considered the comments relating to duplication, as well as the potential impacts on the national performance management program if FHWA repeals the GHG performance measure. As noted in the PM3 Final Rule,[72] the existence of other governmental efforts in this area does not necessarily bar FHWA from using CO_2 emissions as a performance measure; however, FHWA must consider whether the existence of duplication in this area might indicate that this is not the best use of Federal regulation. After further consideration, FHWA believes the duplication issue is meaningful to FHWA's reconsideration of the GHG performance measure at this time. FHWA believes the repeal of the GHG performance measure will reduce duplication at the Federal level, and reduce the potential for the confusion that could arise when multiple Federal entities impose different requirements for categorizing and measuring CO_2 emissions. FHWA acknowledges that multi-jurisdictional regulation of the same matter does occur, but FHWA believes that it ought to be avoided where avoidance is reasonably possible and not inconsistent with statutory requirements.

States and MPOs are free to continue to adopt their own measures for CO_2 emissions, including measures that rely on the same methodology and data as the FHWA GHG performance measure. They also are free to produce CO_2 emissions information specific to highway systems and individual facilities. The CO_2 emissions data used in the FHWA CO_2 measure is publicly available, and that availability is not impacted by the repeal of this measure.

D. Appropriateness of the Measure Methodology

Five commenters addressed the level of precision associated with the original rule, and whether the measure impedes the ability of State DOTs and MPOs to use the measure and associated targets in evaluating system performance and making investment decisions. All five [73] agencies stated the measure is accurate enough so as to provide sufficient trend information to determine whether the rule is effective at reducing emissions and should be retained. These commenters found the GHG measure to be simple and replicable nationwide, that it provides sufficiently accurate trend information to make significant progress determinations, and that it would provide a useful reference point and inform decision-making over time.

FHWA Response

FHWA has decided to repeal the GHG measure for reasons unrelated to the soundness of the measure's methodology. For those commenters who find that the methodology for the GHG measure is well-suited for use with a GHG performance measure, FHWA notes that State DOTs and MPOs may independently choose to adopt this methodology outside of the national performance management program.

E. Alternatives to Current GHG Performance Measure

FHWA considered alternatives to the repeal of the GHG measure, including alternatives suggested by commenters. This included consideration of whether FHWA should retain the measure as adopted in the PM3 Final Rule, or adopt a modified version of the GHG measure within the framework of the national performance management program.

The AMPO [74] stated that if CO_2 emissions must be measured, EPA is the Federal agency that should administer such a requirement, because EPA already requires emissions measures for criteria pollutants as part of the transportation-conformity process. The commenter indicated the EPA MOVES14 vehicle emissions model already has the capability of estimating vehicle CO_2 emissions; however, those estimates are rather crude and based on assumed fuel economy and the amount of fuel consumed. Thus, a State-by-State estimate of CO_2 emissions could just as easily be determined by EPA or FHWA based on fuel sales and vehicle fuel economy. For this reason, AMPO stated, there is no need to burden the States and MPOs to report these estimates.

The CMAP [75] suggested establishing a measure that addresses all on-road

[64] Washington State DOT, FHWA–2017–0025–0132–6 and –10; Oregon DOT, FHWA–2017–0025–0152; Joint submission led by California Association of Councils of Governments (5), FHWA–2017–0025–0242; National Capital Region Transportation Planning Board, FHWA–2017–0025–0158; City of New York, FHWA–2017–0025–0195; City of Portland, OR, FHWA–2017–0025–0234–3; NOACA, FHWA–2017–0025–0243.

[65] Arkansas DOT, FHWA–2017–0025–0054, Alaska DOT and Alaska Department of Environmental Conservation, FHWA–2017–0025–0135; AASHTO, FHWA–2017–0025–0138; Western Connecticut Council of Governments, FHWA–2017–0025–0240.

[66] Alaska DOT and Alaska Department of Environmental Conservation, FHWA–2017–0025–0135–1.

[67] Western Connecticut Council of Governments, FHWA–2017–0025–0240–2.

[68] AMPO, FHWA–2017–0025–0179–2.

[69] Alaska DOT and Alaska Department of Environmental Conservation, FHWA–2017–0025–0135–1 and –2.

[70] Minnesota DOT, FHWA–2017–0025–0148.

[71] Washington State DOT, FHWA–2017–0025–0132–6; Oregon DOT, FHWA–2017–0025–0152–10; Joint submission led by California Association of Councils of Governments (5), FHWA–2017–0025–0242–2.

[72] Final Rule on ''National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program'': Docket No. FHWA–2013–0054, RIN 2125–AF54, **Federal Register**—Vol. 82, No. 11, Pg. 5996—January 18, 2017: *https://www.gpo.gov/fdsys/pkg/FR-2017-01-18/pdf/2017-00681.pdf.*

[73] Washington State DOT, FHWA–2017–0025–0132–4; Metropolitan Council, FHWA–2017–0025–0140–2; Oregon DOT, FHWA–2017–0025–0152–5 and –7; National Capital Region Transportation Planning Board, FHWA–2017–0025–0158–3; City of Portland, OR, FHWA–2017–0025–0234–2.

[74] AMPO, FHWA–2017–0025–0179–2.

[75] CMAP, FHWA–2017–0025–0201.

mobile sources and reporting the measure both in absolute and normalized terms using population. CMAP stated that the EPA's Motor Vehicle Emissions Simulator (MOVES) or a simplified speed-emissions rate lookup table based on MOVES could be used to help address the concerns that the original measure calculation (using VMT and fuel sales to calculate CO_2 emissions) is not sophisticated enough to capture some of the nuances of CO_2 emissions.

The Western Connecticut Council of Governments [76] recommended FHWA work with EPA to expand the existing transportation-conformity process that EPA oversees, and in which State DOTs and MPOs participate, to include CO_2 emissions. They thought there was the potential for the benefit-cost ratio of such an extension to be more favorable than the creation of a GHG performance measure under Title 23. They also discussed the benefits of voluntary measures, such as allowing States' focus to remain on requirements relating to other performance measures while also allowing for policy experimentation, innovation, and peer learning.

In addition to alternatives submitted by commenters, FHWA considered directly publishing CO_2 emissions trend information as an alternative means to achieve the outcomes FHWA expected from the GHG measure. Under this alternative, FHWA would calculate trend information using much the same methodology as the GHG measure, though the trend information would not involve any performance targets. This alternative would not use a ''measure and target'' framework, which is required in the performance management program under section 150. For that reason, adopting this alternative would result in the repeal of the GHG measure.

FHWA Response

None of the alternatives provide a way to modify the GHG measure while retaining it as part of the national performance management program at this time. The alternative proposed by AMPO would have a Federal agency calculate the measure for each State DOT and MPO. FHWA agrees that a single Federal or private entity could calculate the measure based on fuel sales. However, the State DOTs and MPOs still would have to carry out the remaining activities required for the national performance management program. These include setting their CO_2 emissions targets (a local, not a Federal, decision), reporting to FHWA on progress toward their targets, and determining a plan of action to make progress toward their selected targets if they failed to make significant progress during a performance period.[77] Therefore, having FHWA or EPA calculate the measure would not substantially reduce the overall burden on States or MPOs.

In addition, with respect to CMAP's comments on using MOVES to calculate the measure, FHWA considered this suggestion during the PM3 rulemaking. FHWA elected to use fuel sales to calculate the measure, instead of MOVES, because such a requirement to use MOVES would create an extra burden for State DOTs and MPOs that do not currently use that model. One of the reasons FHWA is repealing the GHG measure through this rulemaking is to reduce the burdens on State DOTs and MPOs. Switching to the use of MOVES would likely increase, not decrease, the burdens imposed on State DOTs and MPOs by the GHG measure.

FHWA interprets the Western Connecticut Council of Governments' comment as suggesting it might be more beneficial if the transportation air quality conformity program, rather than the national performance management program, were used to address CO_2 emissions in transportation. FHWA believes this comment supports its decision to remove the GHG measure from the national performance management program. EPA has used the conformity program to mandate changes in emissions levels of pollutants subject to conformity. FHWA defers to EPA on whether adding CO_2 emissions to the conformity program is an appropriate action.

FHWA acknowledges the Western Connecticut Council of Governments' suggestion that the voluntary use of a GHG performance measures might prove useful, but FHWA does not believe a voluntary measure can be included in the national performance management program. Making the GHG measure voluntary would require FHWA to establish a new category for voluntary measures, create a set of procedures for voluntary measures, and exempt voluntary measures from certain parts of the existing performance management regulations in 23 CFR part 490. FHWA is also concerned that an attempt to accommodate voluntary performance measures in the national performance management program could cause confusion among stakeholders, including State DOTs, MPOs, and the public. Such confusion would be harmful to the national performance management program. FHWA encourages State DOTs and MPOs to continue to establish and use performance measures independent of the national performance management program, as many have done for a long time.

In addition to alternatives suggested by commenters, FHWA considered the alternative of having FHWA provide CO_2 emissions information directly. Under this alternative, FHWA would directly calculate the State-by-State trends and publish the information, which would eliminate requirements for State DOTs and MPOs to implement the GHG measure. This alternative could have the some of the influencing effects FHWA described in the PM3 Final Rule, although this alternative has some potential to result in lower levels of engagement by State DOTs and MPOs than alternatives that retain a GHG measure. This alternative would require FHWA to provide some additional administrative resources, or reallocate existing resources that FHWA currently uses for other work. Like State DOTs, FHWA operates in a resource-constrained environment. FHWA declines to adopt this alternative at this time.

F. Other Comments

1. Legal Authority for the GHG Measure

Roughly one in ten commenters submitted opinions on FHWA's legal authority to establish this rule. Eleven commenters [78] stated that FHWA does have the authority; whereas, twelve commenters [79] had the opposite opinion. A number of commenters suggested that FHWA has authority to regulate, arguing that a GHG measure is

[76] Western Connecticut Council of Governments, FHWA–2017–0025–0240–1.

[77] *See* 23 CFR 490.105, 490.107, 490.109.

[78] Metropolitan Council, FHWA–2017–0025–0140–1; Association of Pedestrian and Bicycling Professionals, FHWA–2017–0025–141–1; Minnesota DOT, FHWA–2017–0025–0149–2; Metropolitan Area Planning Council, FHWA–2017–0025–0150; Caltrans and CARB, FHWA–2017–0025–0162–7 and –8; Straw, FHWA–2017–0025–0173; Joint submission led by NRDC (12), FHWA–2017–0025–190–1 and –2; mass comment campaign led by U.S. PIRG (mayors) (66), FHWA–2017–0025–0192; Attorneys General of CA, MD, OR, VT, WA, and MA, FHWA–2017–0025–0199–3; Transportation for America, FHWA–2017–0025–0200–1 and –3; Colorado DOT, FHWA–2017–0025–0208–3.

[79] Arkansas DOT, FHWA–2017–0025–0054; Michigan DOT, FHWA–2017–0025–0070; DOTs of ID, MT, ND, SD, and WY, FHWA–2017–0025–0125; Texas DOT, FHWA–2017–0025–0127; Michigan DOT, FHWA–2017–0025–0134; Nebraska DOT, FHWA–2017–0025–0146; Montana DOT, FHWA–2017–0025–0153; National Ready Mixed Concrete Association, FHWA–2017–0025–0159–2; Joint submission led by American Highway Users Alliance (38), FHWA–2017–0025–0196–3; AGC, FHWA–2017–0025–0213–1; ARTBA, FHWA–2017–0025–0246–1; Tennessee DOT, FHWA–2017–0025–0258.

authorized by 23 U.S.C. 150 and other Title 23 statutes, reiterating the same reasons articulated in the PM3 rulemaking.[80] One commenter[81] stated the EPA's endangerment finding[82] for CO_2 emissions provides FHWA with legal authority to regulate CO_2 emissions.

Most of the comments received in this rulemaking stating that FHWA does not have legal authority to adopt a GHG measure recited the same reasons as comments received during the PM3 rulemaking.[83] These comments pointed to the language in 23 U.S.C. 150(c)(2)(C) that limits FHWA authority to adopting performance measures described in that statute. Given that GHG is not expressly mentioned anywhere in the statute, the commenters viewed a GHG measure as prohibited by 23 U.S.C. 150(c)(2)(C). Some commenters noted that while 23 U.S.C. 150(c)(5) calls for an emissions measure, that provision is tied to the CMAQ program. Because CO_2 emissions are not a criteria pollutant targeted by the CMAQ Program, the commenters concluded 23 U.S.C. 150(c)(5) could not provide a legal basis for a GHG measure.[84]

Two joint submissions[85] stated that principles of statutory construction barred FHWA from adopting a GHG performance measure. The commenters pointed out that Congress expressly addressed emissions in 23 U.S.C. 150(c)(5). Applying the statutory construction principle that ''the specific governs the general,'' the commenters concluded that Congress expressly stated how to address emissions in 23 U.S.C. 150(c)(5), and that nothing in the remainder of 23 U.S.C. 150(c) provided other authority to regulate emissions.

Finally, the Michigan DOT[86] pointed out that GHGs are not criteria air pollutants targeted by CMAQ funding and expressed concern about the precedent that would be set if FHWA were to establish a performance measure for which Congress did not designate any funding.

FHWA Response

FHWA appreciates the many comments received in this rulemaking on the question of FHWA's legal authority. Please see our resolution of the legal authority issue above in Section IV.B.1.

2. Legal Duty To Adopt a GHG Measure

Two submissions[87] stated that FHWA has a duty to adopt a GHG measure. One[88] described FHWA's obligation to use ''unenumerated performance criteria'' when such measures are ''appropriate or necessary to further Congress's purposes.'' That commenter also stated that emissions that cause climate change would be a critical aspect of NHS performance in the future, and that it would be ''contrary to the statute, and to the record, for the FHWA to decline to exercise its discretion to include'' a GHG measure.

FHWA Response

FHWA does not believe that a GHG measure is mandated by 23 U.S.C. 150(c). As noted by commenters in this rulemaking, there is no explicit reference to a GHG measure in 23 U.S.C. 150(c). Thus, adoption of a GHG measure rested entirely on FHWA's discretion to interpret 23 U.S.C. 150(c). As discussed in the legal authority section in Section IV.B.1, FHWA has concluded, upon reconsideration, that the better reading of the statute does not encompass the GHG measure.

3. Administrative Procedure Act Concerns

We received a joint comment from State Attorneys General[89] arguing that repealing the GHG measure would be arbitrary and capricious under the Administrative Procedure Act (APA). The comment claimed that FHWA's NPRM had not provided sufficient justification to repeal the measure, and FHWA could not provide the reasoned analysis needed to support a repeal of the GHG measure. The comment also stated that FHWA must consider alternative solutions to address alleged problems with the GHG measure, rather than repealing it. Two other commenters[90] noted similar APA concerns, with one[91] stating that a repeal would be inconsistent with ''relevant executive orders,'' based on a comparison of the cost analysis in the PM3 Final Rule and the cost analysis in the NPRM for this rulemaking.

FHWA Response

FHWA has examined the relevant data and other information, and carefully considered the comments received, as outlined in this document. FHWA has examined the facts and has provided a reasoned explanation for the repeal of the GHG measure consistent with APA requirements, as detailed throughout this preamble.

4. Rulemaking Concerns

FHWA received comments[92] concerning the comment period, requesting an extension or otherwise stating the 30-day comment period was inadequate. Four commenters[93] stated that FHWA should issue a new, full NPRM to effectuate the repeal to better define the proposed regulatory action, and allow for broad comment on the specifics of a proposed policy.

FHWA Response

FHWA considered the comments stating FHWA should have provided a 90-day comment period for this rulemaking, questioning whether the proposed regulatory action and related matters were adequately described in the NPRM, and suggesting FHWA should have engaged in additional rulemaking to seek comments on certain topics not specified in the NPRM.

While FHWA sometimes uses a 90-day comment period in its rulemaking proceedings, that length of time is not required. In this instance, FHWA received not only comments asking for a longer comment period, but also comments asking for a quick decision so States could have certainty about the national performance measures. FHWA did provide a short extension of the 2017 comment period, from November 6 to November 15. However, FHWA

[80] ''National Performance Management Measures: Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program'' (RIN 2125–AF54): *https://www.gpo.gov/fdsys/pkg/FR-2017-01-18/pdf/2017-00681.pdf.*

[81] Isbell, FHWA–2017–0025–0169.

[82] *https://www.gpo.gov/fdsys/pkg/FR-2009-12-15/pdf/E9-29537.pdf.*

[83] ''National Performance Management Measures: Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program'' (RIN 2125–AF54): *https://www.gpo.gov/fdsys/pkg/FR-2017-01-18/pdf/2017-00681.pdf.*

[84] DOTs of ID, MT, ND, SD, and WY, FHWA–2017–0025–0125–3; Texas DOT, FHWA–2017–0025–0127–2; Joint submission led by American Highway Users Alliance (38), FHWA–2017–0025–0196–3; ARTBA, FHWA–2017–0025–0246–3.

[85] DOTs of ID, MT, ND, SD, and WY, FHWA–2017–0025–0125–3; Joint submission led by American Highway Users Alliance (38), FHWA–2017–0025–0196–3.

[86] Michigan DOT, FHWA–2017–0025–0070–1.

[87] Caltrans and CARB, FHWA–2017–0025–0162–7; Attorneys General of CA, MD, OR, VT, WA, and MA, FHWA–2017–0025–0199–5.

[88] Caltrans and CARB, FHWA–2017–0025–0162–7.

[89] Attorneys General of CA, MD, OR, VT, WA, and MA, FHWA–2017–0025–0199–4.

[90] Straw, FHWA–2017–0025–0173; Joint submission led by NRDC (12), FHWA–2017–0025–0190–1 and –3.

[91] Joint submission led by NRDC (12), FHWA–2017–0025–0190–1 and –3.

[92] Joint submission led by Clean Air Carolina (4), FHWA–2017–0025–0027; City of New York Law Department, FHWA–2017–0025–0060; Joint submission led by Clean Air Carolina (4), FHWA–2017–0025–0027; City of New York Law Department, FHWA–2017–0025–0060.

[93] Schroeckenthale, FHWA–2017–0025–0030; Oregon DOT, FHWA–2017–0025–0152–1; Caltrans and CARB, FHWA–2017–0025–0162–12; Denver Regional Council of Governments, FHWA–2017–0025–0163.

concluded the comment period represented a reasonable balance of the various concerns and declined to further extend the time for comment.

FHWA reviewed the NPRM in response to the suggestions that the NPRM did not meet APA requirements for notice of the proposed regulatory action. FHWA concluded the NPRM provides adequate notice of the proposal. The NPRM describes the history of the GHG measure, some of the concerns identified by commenters in the PM3 rulemaking, the reasons FHWA was proposing a repeal, and a request for comments on specific questions and on whether FHWA should take an action other than repeal (*i.e.,* retain or revise the GHG measure). The NPRM included the regulatory language needed for a repeal of the measure. Considered together, these elements provided more than adequate notice that FHWA was considering repeal of the GHG measure due to various concerns, including policy changes, reconsideration of the legal authority for the measure, implementation costs and other regulatory burdens, lack of precision in the measure, lack of utility of the measure, and duplication of requirements. FHWA received comments in this rulemaking on all of these topics. FHWA concluded no additional rulemaking proceeding is needed before FHWA makes a decision on the GHG measure.

5. Environmental Reviews

Caltrans and the CARB [94] jointly argued that, because repeal would result in increased CO_2 emissions and exacerbation of climate change, FHWA may not repeal the GHG performance measure without considering the implications of such a repeal on ''many affected resources and communities.'' The commenters asserted that the required analytic considerations, include, but are not limited to, the following: A full environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA); analysis and consultation under the Endangered Species Act (ESA); review under the National Historic Preservation Act (NHPA); review under Executive Order 13211; and review under Executive Order 12898.

FHWA Response

Repeal of the GHG measure does not require an EIS or the other reviews called for by the comment. The commenters incorrectly conclude that the repeal of the measure would ''result in increased GHG emissions.'' [95]

As a matter of law, the 23 U.S.C. 150 performance measures are part of a congressionally mandated performance management system intended to provide a means to the most efficient investment of Federal transportation funds by refocusing on national transportation goals, increasing the accountability and transparency of the FAHP, and improving project decisionmaking through performance-based planning and programming. The planning statutes incorporate performance management into the metropolitan and statewide transportation planning processes.[96] Those statutes call for use of the performance measures and targets adopted pursuant to 23 U.S.C. 150(c) and (d) to assess performance and progress towards critical outcomes for the States and regions of the MPOs, not to regulate State and MPO activities. Performance management, together with asset management plans prepared pursuant to 23 U.S.C. 119, and other State plans, feed into the metropolitan and statewide transportation planning process that States DOTs and MPOs use to identify their investment priorities.[97] The performance measures and resulting targets are planning and administrative activities that do not involve or lead directly to construction. The comprehensive, interrelated, planning-based nature of this system is evident in MAP–21, where Congress addressed metropolitan and statewide planning and performance management together in their own subtitle of the reauthorization legislation.[98]

As previously described, the GHG measure relies on influencing the behavior of State DOTs and MPOs. It does not require any action by those entities to reduce CO_2 emissions. The repeal of the GHG measure cannot be determined to cause increases in CO_2 emissions because the GHG measure has no legal power to force any change in CO_2 emission levels under 23 U.S.C. 150, and the GHG measure does not have a predictable effect on those emissions. State DOTs and MPOs were free to choose targets that reflect an increase, a decrease, or static levels of CO_2 emissions. The GHG measure required limited actions from State DOTs and MPOs, and those actions are administrative in character.[99] The measure, which did not set any regulatory limit or emissions target, relied on the potential that it may produce an ''influencing'' effect on third-party behavior.[100] But acting to influence others is different from an action that imposes a requirement to meet an emissions limit, or otherwise commands State DOTs and MPOs to produce a specific outcome with respect to CO_2 emissions. It is not possible to determine whether the behavior of third parties will change as a result of the retention, modification, or repeal of the GHG measure, or to what degree a change in third-party behavior will have any effect on CO_2 emissions. None of the laws cited by the commenter require FHWA to engage in such speculation.

The impacts of Title 23-funded projects and programs selected by State DOTs and MPOs through the metropolitan and statewide planning process are subject to NEPA and other reviews listed in the comment prior to the project's implementation. That is the correct point in the process for such reviews, as that is the time when potential impacts can be determined with reasonable accuracy. Thus, there is no basis now for the reviews that the commenters seek. Rather than ''escaping'' evaluation as commenters contend, these issues can be addressed at an appropriate time in connection with the particular projects or programs. Please see Section VI.G. of this document for FHWA's regulatory analysis conducted pursuant to NEPA.

VI. Rulemaking Analyses and Notices

A. Executive Order 13771 (Reducing Regulations and Controlling Regulatory Costs), Executive Order 12866 (Regulatory Planning and Review), Executive Order 13563 (Improving Regulation and Regulatory Review), and DOT Regulatory Policies and Procedures

FHWA has determined that this action is a significant action within the meaning of Executive Order (E.O.) 12866 and within the meaning of DOT regulatory policies and procedures. However, it is anticipated that the economic impact of this rulemaking will not be economically significant within the meaning of E.O. 12866 as discussed below. This action complies with E.O.s 12866, 13563, and 13771 to improve regulation. This action is considered significant because of widespread

[94] Caltrans and CARB, FHWA–2017–0025–0162.

[95] Caltrans and CARB, FHWA–2017–0025–0162.

[96] See 23 U.S.C. 134(h)(2) and 135(d)(2).

[97] See 23 CFR 450.206(c)(4)–(5) and 450.306(d)(2) and (4).

[98] See Map-21, Subtitle B, Sections 1201–1203.

[99] State DOTs and MPOs must set CO_2 emissions targets, which can be for declining emission levels, increasing emission levels, or unchanged emission levels, as compared to a 2017 baseline. State DOTs must use data from existing sources to calculate the CO_2 emissions measure at various points in time, reporting the results to FHWA. If the State DOT does not meet its target, it must report to FHWA on actions the State DOT will take to reach its selected target.

[100] 82 FR at 5975–76.

public interest in the transformation of the FAHP to be performance-based, although it is not economically significant within the meaning of E.O. 12866.

FHWA considers this final rule to be an E.O. 13771 deregulatory action, resulting in $1.67 million in annualized cost savings at a 7 percent discount rate. Details on the estimated cost savings of this final rule are presented in the RIA, which may be accessed from the docket (docket number FHWA–2013–0054). The RIA evaluates the economic impact, in terms of costs and benefits, on Federal, State, and local governments, as well as private entities regulated under this action, as required by E.O. 12866 and E.O. 13563. However, the RIA is unable to quantify any changes from improved decisionmaking that would result in benefits if the GHG measure requirement were retained.

Estimated Cost Savings of Repealing the GHG Measure

To estimate cost savings of this final rule, FHWA assessed the level of effort that would have been needed to comply with each section under the PM3 rule with respect to the now-repealed GHG measure. These costs are expressed in labor hours and the labor categories for those needed to implement the GHG measure. Level of effort by labor category is monetized with loaded wage rates to estimate total costs.

Table 2 displays the total cost savings of this final rule for the 9-year study period (2018–2026) and the corresponding annualized values.

TABLE 2—TOTAL COST SAVINGS OF THE RULE

Cost components	9-Year total cost*		Annualized cost	
	7%	3%	7%	3%
Section 490.105–490.109—Reporting Requirements	$9,090,263	$10,652,791	$1,395,232	$1,368,179
Establish and Adjust GHG Targets	6,368,958	7,392,818	977,549	949,488
Reporting on GHG Targets and Progress Toward Them	2,573,869	3,068,421	395,054	394,089
Develop and Report Plan to Achieve GHG Targets	147,435	191,552	22,629	24,602
Section 490.511—Calculation of System Performance Metrics	1,752,927	2,094,857	269,051	269,051
Calculate Annual Total Tailpipe CO_2 Emissions	1,752,927	2,094,857	269,051	269,051
Section 490.513—Calculation of System Performance Measures	48,703	58,061	7,475	7,457
Calculate % Change in Tailpipe CO_2 Emissions the NHS Compared to the Calendar Year 2017 Level	48,703	58,061	7,475	7,457
Total Cost of Final Rule	10,891,892	12,805,709	1,671,758	1,644,687

*Results presented in 2014 dollars for consistency with GHG Repeal NPRM RIA.

The effects potentially caused by the national GHG performance measure established in the PM3 Final Rule were administrative activities (such as holding meetings and the use of energy to operate offices) that State DOTs and MPOs would undertake to establish targets, calculate their progress toward their selected targets, report to FHWA, and determine a plan of action to make progress toward their selected targets if they failed to make significant progress during a performance period.[101] Those effects serve as the baseline in this analysis. It is foreseeable that the decision to repeal the GHG measure in this rulemaking will cause (1) State DOTs and MPOs that have not yet set a CO_2 emissions target to terminate their 23 U.S.C. 150(d) target-setting activities for the GHG measure; and (2) State DOTs and MPOs that have selected a CO_2 emissions target to terminate activities related to tracking their performance and progress towards a 23 U.S.C. 150(d) CO_2 emissions target. The repeal also will relieve State DOTs and MPOs of all future obligations with respect to this national CO_2 emissions measure, including the obligation to calculate and report on their progress and to identify an action plan if they do not make significant progress toward their CO_2 emissions target. The effects will be to reduce or eliminate the administrative activities associated with implementing the GHG measure.

This action complies with the principles of E.O. 13563. After evaluating the costs and benefits of the rule, FHWA believes that the cost savings from this rulemaking would exceed the forgone benefits. These changes are not anticipated to adversely affect, in any material way, any sector of the economy. In addition, these changes will not create a serious inconsistency with any other agency's action or materially alter the budgetary impact of any entitlements, grants, user fees, or loan programs.

B. Regulatory Flexibility Act

In compliance with the Regulatory Flexibility Act (Pub. L. 96–354, 5 U.S.C. 601–612), FHWA has evaluated the effects of this action on small entities and has determined that the action would not have a significant economic impact on a substantial number of small entities. The rule addresses the obligation of Federal funds to State DOTs for Federal-aid highway projects. The rule affects two types of entities: State governments and MPOs. State governments do not meet the definition of a small entity under 5 U.S.C. 601, which have a population of less than 50,000.

The MPOs are considered governmental jurisdictions, and to qualify as a small entity they would need to serve less than 50,000 people. The MPOs serve urbanized areas with populations of 50,000 or more. As discussed in the RIA, the rule is expected to impose costs on MPOs that serve populations exceeding 200,000. Therefore, the MPOs that incur economic impacts under this rule do not meet the definition of a small entity.

We hereby certify that this regulatory action would not have a significant economic impact on a substantial number of small entities.

C. Unfunded Mandates Reform Act of 1995

FHWA has determined that this action does not impose unfunded mandates as defined by the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4, March 22, 1995, 109 Stat. 48). This rule does not include a Federal mandate that may result in expenditures of $151 million or more in any 1 year (when adjusted for inflation) in 2012 dollars for either State, local, and tribal governments in the aggregate, or by the private sector. In addition, the definition of ''Federal mandate'' in the Unfunded Mandates Reform Act

[101] 23 CFR 490.109.

excludes financial assistance of the type in which State, local, or tribal governments have authority to adjust their participation in the program in accordance with changes made in the program by the Federal Government. The FAHP permits this type of flexibility.

D. Executive Order 13132 (Federalism Assessment)

FHWA has analyzed this action in accordance with the principles and criteria contained in E.O. 13132. FHWA has determined that this action does not have sufficient federalism implications to warrant the preparation of a federalism assessment. FHWA has also determined that this action does not preempt any State law or State regulation or affect the States' ability to discharge traditional State governmental functions.

E. Executive Order 12372 (Intergovernmental Review)

The regulations implementing E.O. 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program. Local entities should refer to the Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction, for further information.

F. Paperwork Reduction Act

Under the PRA (44 U.S.C. 3501, *et seq.*), Federal agencies must obtain approval from the OMB for each collection of information they conduct, sponsor, or require through regulations. FHWA has analyzed this action under the PRA and has determined that this rulemaking would reduce PRA burdens associated with this measure.

G. National Environmental Policy Act

FHWA has analyzed this action for the purpose of NEPA, as amended (42 U.S.C. 4321 *et seq.*), and has determined that this action would not have any significant effect on the quality of the environment and meets the criteria for the categorical exclusion at 23 CFR 771.117(c)(20).[102]

The nature and potential effects of the GHG measure are described in detail in Section V.F.5. of this document. With respect to this rulemaking, changes in CO_2 emissions are not a direct or indirect effect of the repeal of the GHG measure because there is no reasonably close causal connection between the repeal and actions taken by the State DOTs and MPOs to change CO_2 emissions levels. Any potential change in CO_2 emissions levels associated with the NHS would be the result of independent actions taken (or not taken) by State DOTs and MPOs. These intervening State DOT and MPO actions are not reasonably foreseeable effects[103] of the GHG measure because the measure does not require those entities to take steps to reduce CO_2 emissions, and the GHG measure does not prescribe any method for State DOTs and MPOs to take such steps. The absence of a sufficiently close causal connection, and reasonable foreseeability, also means that NEPA does not require FHWA to consider CO_2 emissions effects as a cumulative impact.

FHWA's conclusion that the GHG measure would not be a legal cause of changes in CO_2 emissions levels, and thus would not produce effects that NEPA requires FHWA to analyze in this rulemaking, is further supported by Clean Air Act regulations promulgated by the EPA. In 40 CFR 93.152, EPA adopted a ''but for'' approach, defining direct and indirect emissions caused by a Federal action as emissions that would not otherwise occur in the absence of Federal action. As described above, a decision to leave the GHG measure in effect would not result in the reduction of CO_2 emissions. For the same reasons, the decision to repeal the measure does not result in an increase in CO_2 emissions.

Pursuant to 23 CFR 771.117(c)(20), this repeal qualifies as categorically excluded from preparation of an EIS or environmental assessment under NEPA. FHWA concluded that the repeal of the GHG measure will not involve reasonably foreseeable significant environmental impacts. The GHG measure imposed no limits or controls on CO_2 emissions, had no legal power to force changes in CO_2 emissions, and left target-setting entirely to the discretion of State DOTs and MPOs. The repeal of the GHG measure is not a legally relevant cause of any change, or lack of change, in CO_2 emissions levels or the direct, indirect, or cumulative impacts potentially related to those emissions. This is true regardless of the geographic impact area considered. With respect to other types of potential environmental impacts from the repeal of the GHG measure, they are minor and consistent with the type of impacts related to administrative activities, such as analyzing data and reporting on the results (*e.g.,* use of energy to operate computers, telephones, and office space). Such activities fit squarely within the boundaries of 23 CFR 771.117(c)(20).

In making the determination that the repeal of the GHG measure qualifies for a categorical exclusion, FHWA considered whether the proposed regulatory action involves unusual circumstances. 23 CFR 771.117(b). Given FHWA's determination that the GHG measure is not reasonably causally connected to CO_2 emissions levels, the analysis of unusual circumstances in this instance focuses on whether there are unusual circumstances relating to other types of potential environmental effects. FHWA found none of the environmental impacts from implementing, not implementing, or ceasing current implementation of the GHG measure rose to the level of significance under NEPA (23 CFR 771.117(b)(1)). FHWA found no substantial controversy exists over the size, nature, or effect of potential environmental impacts from the States DOTs and MPOs not carrying out the administrative activities associated with CO_2 emissions target-setting or reporting on their performance with regard to those targets (23 CFR 771.117(b)(2)). There are no anticipated impacts from those administrative activities, or lack thereof, on properties protected by the NHPA or section 4(f) (23 U.S.C. 138) (23 CFR 771.117(b)(3)). Finally, FHWA found no inconsistencies with other laws, requirements, or determinations within the meaning of 23 CFR 771.117(b)(4).

H. Executive Order 12630 (Taking of Private Property)

FHWA has analyzed this action under E.O. 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights. FHWA does not anticipate that this action would affect a taking of private property or otherwise have taking implications under E.O. 12630.

I. Executive Order 12988 (Civil Justice Reform)

This action meets applicable standards in sections 3(a) and 3(b)(2) of E.O. 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

J. Executive Order 13045 (Protection of Children)

We have analyzed this rule under E.O. 13045, Protection of Children from Environmental Health Risks and Safety Risks. FHWA certifies that this action would not cause an environmental risk

[102] This rulemaking also qualifies for a categorical exclusion under 23 CFR 771.117(c)(1) (activities which do not involve or lead directly to construction).

[103] Courts have interpreted ''reasonably foreseeable'' as meaning that the likelihood that the effects will occur is high enough that a person of ''ordinary prudence'' would consider the effects when making decisions.

to health or safety that might disproportionately affect children.

K. Executive Order 13175 (Tribal Consultation)

FHWA has analyzed this action under E.O. 13175, dated November 6, 2000, and believes that the action would not have substantial direct effects on one or more Indian tribes; would not impose substantial direct compliance costs on Indian tribal governments; and would not preempt tribal laws. The rulemaking addresses obligations of Federal funds to State DOTs for Federal-aid highway projects and would not impose any direct compliance requirements on Indian tribal governments. Therefore, a tribal summary impact statement is not required.

L. Regulation Identifier Number

A RIN is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN number contained in the heading of this document can be used to cross-reference this action with the Unified Agenda.

List of Subjects in 23 CFR Part 490

Bridges, Highway safety, Highways and roads, Reporting and recordkeeping requirements.

Issued in Washington, DC, on May 21, 2018 under authority delegated in 49 CFR 1.85:

Brandye L. Hendrickson,

Acting Administrator, Federal Highway Administration.

In consideration of the foregoing, FHWA amends 23 CFR part 490 as follows:

PART 490—NATIONAL PERFORMANCE MANAGEMENT MEASURES

■ 1. The authority citation for part 490 continues to read as follows:

Authority: 23 U.S.C. 134, 135, 148(i), and 150; 49 CFR 1.85.

Subpart A—General Information

§ 490.105 [Amended]

■ 2. Amend § 490.105 by removing and reserving paragraphs (c)(5) and (d)(1)(v).

§ 490.107 [Amended]

■ 3. Amend § 490.107 by removing and reserving paragraphs (b)(1)(ii)(H), (b)(2)(ii)(J), (b)(3)(ii)(I), and (c)(4).

■ 4. Amend § 490.109 by removing and reserving paragraphs (d)(1)(v) and (f)(1)(v) and revising paragraph (d)(1)(vi) to read as follows:

§ 490.109 Assessing significant progress toward achieving the performance targets for the National Highway Performance Program and the National Highway Freight Program.

* * * * *

(d) * * *

(1) * * *

(vi) Baseline condition/performance data contained in HPMS and NBI of the year in which the Baseline Period Performance Report is due to FHWA that represents baseline conditions/performances for the performance period for the measures in § 490.105(c)(1) through (4).

* * * * *

Subpart E—National Performance Management Measures to Assess Performance of the National Highway System

§ 490.503 [Amended]

■ 5. Amend § 490.503 by removing and reserving paragraph (a)(2).

§ 490.505 [Amended]

■ 6. Amend § 490.505 by removing the definition for ''Greenhouse gas (GHG).''

§ 490.507 [Amended]

■ 7. Amend § 490.507 as follows:

■ a. By removing the word ''three'' and adding in its place ''two'' in the introductory text; and

■ b. By removing and reserving paragraph (b).

§ 490.509 [Amended]

■ 8. Amend § 490.509 by removing paragraphs (f)–(h).

§ 490.511 [Amended]

■ 9. Amend § 490.511 by removing and reserving paragraphs (a)(2), (c), (d), and (f).

§ 490.513 [Amended]

■ 10. Amend § 490.513 by removing paragraph (d).

[FR Doc. 2018–11652 Filed 5–30–18; 8:45 am]

BILLING CODE 4910–22–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 117

[Docket No. USCG–2018–0301]

Drawbridge Operation Regulation; Columbia River, Portland, OR and Vancouver, WA

AGENCY: Coast Guard, DHS.

ACTION: Notice of deviation from drawbridge regulation.

SUMMARY: The Coast Guard has issued a temporary deviation from the operating schedule that governs the Interstate 5 (I–5) Bridges across the Columbia River, mile 106.5, between Portland, OR, and Vancouver, WA. The deviation is necessary to facilitate the movement of heavier than normal roadway traffic associated with the Independence Day fireworks show near the I–5 Bridges. This deviation allows the bridges to remain in the closed-to-navigation position during the event.

DATES: This deviation is effective from 9 p.m. to 11:59 p.m. on July 4, 2018.

ADDRESSES: The docket for this deviation, USCG–2018–0301 is available at *http://www.regulations.gov.* Type the docket number in the ''SEARCH'' box and click ''SEARCH.'' Click on Open Docket Folder on the line associated with this deviation.

FOR FURTHER INFORMATION CONTACT: If you have questions on this temporary deviation, call or email Mr. Steven Fischer, Bridge Administrator, Thirteenth Coast Guard District; telephone 206–220–7282, email *d13-pf-d13bridges@uscg.mil.*

SUPPLEMENTARY INFORMATION: Oregon Department of Transportation, the bridge owner, requested a temporary deviation from the operating schedule for the I–5 Bridges, mile 106.5, across the Columbia River between Vancouver, WA, and Portland, OR, to facilitate safe passage of participants in the Independence Day fireworks show event. The I–5 Bridges provides three designated navigation channels with vertical clearances ranging from 39 to 72 feet above Columbia River Datum 0.0 while the lift spans are in the closed-to-navigation position. The I–5 Bridges operate in accordance with 33 CFR 117.869(a). The subject bridges need not open to marine vessels during the deviation period from 9 p.m. to 11:59 p.m. on July 4, 2018. The bridges shall operate in accordance with 33 CFR 117.869(a) at all other times. Waterway usage on this part of the Columbia River includes vessels ranging from large commercial ships, tug and tow vessels to recreational pleasure craft.

Vessels able to pass under the bridges in the closed-to-navigation positions may do so at any time. The bridges will be able to open for emergencies, and this part of the Columbia River has no alternate route for vessels to pass. The Coast Guard will also inform the users of the waterways through our Local and Broadcast Notices to Mariners of the change in operating schedule for the

1. FDA/Economics Staff, ''Revocation of Methods of Analysis Regulation, Preliminary Regulatory Impact Analysis, Preliminary Regulatory Flexibility Analysis, Unfunded Mandates Reform Act Analysis,'' 2020. (Available at: *https://www.fda.gov/AboutFDA/ReportsManualsForms/Reports/EconomicAnalyses/default.htm.*)

List of Subjects in 21 CFR Part 2

Administrative practice and procedure, Cosmetics, Drugs, Foods.

Therefore, under the Federal Food, Drug, and Cosmetic Act, and under authority delegated to the Commissioner of Food and Drugs, FDA proposes that 21 CFR part 2 be amended as follows:

PART 2—GENERAL ADMINISTRATIVE RULINGS AND DECISIONS

■ 1. The authority citation for part 2 continues to read as follows:

Authority: 15 U.S.C. 402, 409; 21 U.S.C. 321, 331, 335, 342, 343, 346a, 348, 351, 352, 355, 360b, 361, 362, 371, 372, 374; 42 U.S.C. 7671 *et seq.*

§ 2.19 [Removed]

■ 2. Remove § 2.19.

Dated: July 11, 2022.

Robert M. Califf,

Commissioner of Food and Drugs.

[FR Doc. 2022–15109 Filed 7–14–22; 8:45 am]

BILLING CODE 4164–01–P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

23 CFR Part 490

[Docket No. FHWA–2021–0004]

RIN 2125–AF99

National Performance Management Measures; Assessing Performance of the National Highway System, Greenhouse Gas Emissions Measure

AGENCY: Federal Highway Administration (FHWA), U.S. Department of Transportation (DOT).

ACTION: Notice of proposed rulemaking (NPRM); request for comments.

SUMMARY: Extreme weather due to climate change threatens the safety and mobility of Americans and challenges the stability of supply chains. To help address the climate crisis, FHWA proposes to amend its regulations governing national performance management measures to require State departments of transportation (State DOTs) and metropolitan planning organizations (MPOs) to establish declining carbon dioxide (CO_2) targets and to establish a method for the measurement and reporting of greenhouse gas (GHG) emissions associated with transportation under the Highways title of the United States Code (U.S.C.). The proposed rule would not mandate the level of the targets. Rather, State DOTs and MPOs would have flexibility to set targets that are appropriate for their communities and that work for their respective climate change and other policy priorities, as long as the targets would reduce emissions over time. Specifically, the proposed rule would require State DOTs and MPOs that have National Highway System (NHS) mileage within their State geographic boundaries and metropolitan planning area boundaries, respectively, to establish declining CO_2 emissions targets to reduce CO_2 emissions generated by on-road mobile sources relative to a reference year defined as calendar year 2021, that align with the Administration's net-zero targets as outlined in the national policy established under Executive orders entitled ''Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis'' and ''Tackling the Climate Crisis at Home and Abroad'' and at the Leaders Summit on Climate. The proposed rule would require MPOs serving urbanized areas with multiple MPOs to establish additional joint targets. The proposed rule also would require State DOTs and MPOs to biennially report on their progress in meeting the targets and require FHWA to assess significant progress toward achieving the targets.

DATES: Comments must be received on or before October 13, 2022.

ADDRESSES: To ensure that you do not duplicate your docket submissions, please submit comments by only one of the following means:

- *Federal eRulemaking Portal:* Go to *https://www.regulations.gov* and follow the online instructions for submitting comments.
- *Mail:* Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE, Washington, DC 20590.
- *Hand Delivery:* U.S. Department of Transportation, Docket Operations, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The telephone number is (202) 366–9329.

All submissions should include the agency name and the docket number that appears in the heading of this document or the Regulation Identifier Number (RIN) for the rulemaking. All comments received will be posted without change to *https://www.regulations.gov,* including any personal information provided.

FOR FURTHER INFORMATION CONTACT: Mr. John Davies, Office of Planning, Environment, and Realty, (202) 366–6039, or via email at *JohnG.Davies@dot.gov,* or Mr. Lev Gabrilovich, Office of the Chief Counsel (HCC–30), (202) 366–3813, or via email at *Lev.Gabrilovich@dot.gov.* Office hours are from 8:00 a.m. to 4:30 p.m., E.T., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Electronic Access and Filing

This document and all comments received may be viewed online through the Federal eRulemaking portal at *www.regulations.gov* using the docket number listed above. Electronic retrieval help and guidelines are also available at *www.regulations.gov.* An electronic copy of this document may also be downloaded from the Office of the Federal Register's website at *www.FederalRegister.gov* and the Government Publishing Office's website at *www.GovInfo.gov.*

All comments received before the close of business on the comment closing date indicated above will be considered and will be available for examination in the docket at the above address. Comments received after the comment closing date will be filed in the docket and will be considered to the extent practicable. In addition to late comments, FHWA will also continue to file relevant information in the docket as it becomes available after the comment period closing date and interested persons should continue to examine the docket for new material. A final rule may be published at any time after close of the comment period and after DOT has had the opportunity to review the comments submitted.

Table of Contents for Supplementary Information

I. Executive Summary

FHWA proposes to amend its regulations on national performance management measures to establish a method for the measurement and reporting of GHG emissions associated with transportation under Title 23, U.S.C. The environmental sustainability, and specifically the carbon footprint, of the transportation system is a critically important attribute that State DOTs can and should use to assess the performance of the Interstate and non-Interstate National Highway System (NHS). 23 U.S.C. 150(c) directs FHWA to establish performance measures that the State DOTs can use to assess performance of the Interstate and non-Interstate NHS. Although the statute does not define the meaning of ''performance'' of the Interstate and non-Interstate NHS under 23 U.S.C. 150(c), Congress identified national goals under 23 U.S.C. 150(b), which include environmental sustainability. To support the environmental sustainability national goal, FHWA is proposing that ''performance'' of the Interstate and non-Interstate NHS under 23 U.S.C. 150(c) includes environmental performance. This definition of ''performance'' is also consistent with other Title 23, U.S.C. provisions, such as 23 U.S.C. 119, as discussed later in this preamble.

The proposed GHG measure would be codified among the National Highway Performance Program (NHPP) performance measures that FHWA established in 23 CFR part 490 (part 490) through prior rulemakings. The proposed rule would require State DOTs and MPOs that have NHS mileage within their State geographic boundaries and metropolitan planning area boundaries, respectively, to establish declining targets that reduce CO_2 emissions [1] generated by on-road mobile sources relative to a reference year defined as calendar year 2021, that align with the Administration's target of net-zero emissions, economy-wide, by 2050, as outlined in the national policy established under section 1 of E.O. 13990, ''Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis'', E.O. 14008, and ''Tackling the Climate Crisis at Home and Abroad'', and at the Leaders Summit on Climate. Declining targets also indicate a reduction in CO_2 emissions from one performance period to a subsequent performance period. The proposed rule uses ''NHS'' to mean the mainline highways of the NHS, consistent with the applicability of the measure described in proposed § 490.503(a)(2). State DOTs would establish 2- and 4-year statewide emissions reduction targets, and MPOs would establish 4-year emissions reduction targets for their metropolitan planning areas. In addition, the proposed rule would require certain MPOs serving urbanized areas to establish additional joint targets. The term ''urbanized area'' means a geographic area with a population of 50,000 or more, as designated by the Bureau of the Census. 23 CFR 450.104; *see* 23 U.S.C. 101(a)(34). Specifically, when the metropolitan planning area boundaries of two or more MPOs overlap any portion of an urbanized area, and the urbanized area contains NHS mileage, those MPOs would establish joint 4-year targets for that urbanized area. This joint target would be established in addition to each MPO's target for their metropolitan planning area. Further, the proposed rule would require State DOTs and MPOs to set declining targets for reducing tailpipe CO_2 emissions on the NHS. State DOTs and MPOs would have the flexibility to set targets that work for their respective climate change policies and other policy priorities, so long as they are in line with the net-zero goals by 2050 set forth in this rule. The proposed rule also would require State DOTs and MPOs to report on their progress in meeting the targets. The proposed rule would apply to the 50 States, the District of Columbia, and Puerto Rico, consistent with the definition of the term ''State'' in 23 U.S.C. 101(a).

The proposed GHG measure would help the United States confront the increasingly urgent climate crisis. The Sixth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC), released on August 7, 2021, confirms that human activities are increasing GHG concentrations that have warmed the atmosphere, ocean, and land at a rate that is unprecedented in at least the last 2,000 years.[2] According to the report, global mean sea level has increased between 1901 and 2018, and changes in extreme events such as heatwaves, heavy precipitation, hurricanes, wildfires, and droughts have intensified since the last assessment report in 2014.[3] These changes in extreme events, along with anticipated future changes in these events due to climate change, threaten the reliability, safety and efficiency of the transportation system and the people who rely on it to move themselves and transport goods. The National Oceanic and Atmospheric Administration (NOAA) has documented billion-dollar weather and climate disasters since 1980. According to the NOAA data, which are adjusted for inflation, five of the six years with the greatest total annual costs occurred between 2012 and 2021.[4] Many of these disasters have impacted a variety of Federal, State, and local resources, including FHWA funding programs, in a number of ways, including recovery and response. Action to significantly reduce global GHG emissions can reduce climate-related risks to communities. At the same time, transportation contributes significantly to the causes of climate change,[5] and each additional ton of CO_2 produced by the combustion of fossil fuels contributes to future warming and other climate impacts.

The proposed GHG measure would align with recent Executive Orders described later in this preamble and a U.S. target of achieving a 50 to 52 percent reduction from 2005 levels of economy-wide net GHG pollution in

[1] The proposed GHG measure specifically applies to CO_2 emissions, which is the predominant human-produced greenhouse gas. CO_2 is also the predominant GHG from on-road mobile sources, accounting for 97 percent of total greenhouse gas emissions weighted by global warming potential in 2019. See EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks, *available at https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019.*

[2] *See* IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, *available at https://www.ipcc.ch/report/ar6/wg1/#SPM.*

[3] IPCC, 2021: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press. In Press.

[4] NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2022). *https://www.ncei.noaa.gov/access/billions/,* DOI: 10.25921/stkw-7w73.

[5] Jacobs, J.M., M. Culp, L. Cattaneo, P. Chinowsky, A. Choate, S. DesRoches, S. Douglass, and R. Miller, 2018: Transportation. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 479–511. doi: 10.7930/NCA4.2018.CH12.

2030, on a course toward reaching net-zero emissions economy-wide by no later than 2050.[6] The first step toward reducing GHG emissions in every sector involves inventorying and monitoring those emissions. The transportation sector is both the largest source of U.S. CO_2 emissions[7] and increasingly vulnerable to the higher temperatures, more frequent and intense precipitation, and sea level rise associated with the changing climate.

Accordingly, as a matter of transportation policy, DOT considers the proposed GHG performance management measure essential not only to improve transportation sector GHG performance and work toward achieving net-zero emissions economy-wide by 2050, but also to demonstrate Federal leadership in the assessment and disclosure of climate pollution from the transportation sector. Measuring and reporting complete, consistent, and timely information on GHG emissions from on-road mobile source emissions is necessary so that all levels of government and the public can monitor changes in GHG emissions over time and make more informed choices about the role of transportation investments and other strategies in achieving GHG reduction targets. In addition, a requirement for State DOTs and MPOs to establish declining targets for reductions in tailpipe CO_2 emissions on the NHS, informed by complete, consistent, and timely information on GHG emissions from on-road mobile source emissions, is vital to achieving 50 to 52 percent reductions by 2030 and net-zero emissions economy-wide by 2050.

Furthermore, the proposed rule responds to the direction in sections 1 and 2 of Executive Order 13990 that Federal agencies review any regulations issued or similar actions taken between January 20, 2017, and January 20, 2021, and, consistent with applicable law, take steps to address any such actions that conflict with the national objectives set forth in the order to address climate change. FHWA reviewed its 2018 final rule (83 FR 24920, May 31, 2018) that repealed a GHG measure FHWA adopted in 2017 (2017 GHG measure) and determined that the repeal conflicts with those objectives.

FHWA has the legal authority to establish the proposed GHG measure under 23 U.S.C. 150. Specifically, FHWA is directed under 23 U.S.C. 150(c)(A)(ii) to establish measures for States to use to assess the performance of the Interstate System and non-Interstate NHS. Although the statute does not define performance, 23 U.S.C. 150(b)(6) identifies environmental sustainability as a national goal of the Federal-aid highway program. To address this national goal, FHWA has determined that the performance of the Interstate System and the NHS under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V) includes environmental performance. The proposed GHG measure is also appropriate in light of other provisions of Title 23, U.S.C., notably the National highway performance program provisions at 23 U.S.C. 119, which include requirements for State asset management plans that support progress toward the achievement of the environmental sustainability national goal to enhance the performance of the transportation system while protecting and enhancing the natural environment at 23 U.S.C. 150(b)(6). In addition, several other provisions support the measure, including: 23 U.S.C. 101(b)(3)(G) (transportation policy); 134(a)(1) (transportation planning policy); 134(c)(1) (metropolitan planning); and 135(d)(1) and (d)(2) (statewide planning process and a performance-based approach).

The proposed GHG measure does not conflict with the on-road mobile source emissions provision in 23 U.S.C. 150(c)(5), which requires that the Secretary establish performance measures to carry out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program to reduce criteria pollutants under 23 U.S.C. 149. As discussed below, performance measures may overlap to achieve the national goals set forth in the statute.

In addition, there are two other lines of support for the proposed GHG measure. First, the proposed measure would inform transportation planning at all levels of government, including by State DOTs, MPOs, and FHWA. By providing consistent and timely information about on-road mobile source emissions on the NHS, the proposed GHG measure has the potential to yield benefits including greater public awareness of GHG emissions trends, increased transparency and improved decision-making at all levels of government, and planning choices to reduce GHG emissions or inform tradeoffs among competing policy choices.

Second and related, the establishment of a national GHG measure would provide a new source of information that would be valuable to State DOTs, MPOs, and the Federal government as they pursue GHG reduction goals and targets. The potential for duplication of efforts by other government entities was one reason FHWA cited in 2018 when repealing the 2017 GHG measure. Upon further consideration, FHWA rejects the notion that the proposed GHG measure would duplicate other efforts and therefore is inappropriate. While the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) publish State-by-State CO_2 estimates for the transportation sector, this data is not disaggregated to reflect CO_2 emissions from on-road sources, and can reflect significant fluctuations in CO_2 emissions from other transportation sources (such as aircraft, boats, and rail). The DOE and EPA data also lag FHWA's publication of fuel use data by up to a year. The proposed GHG measure would utilize FHWA's fuel use data very shortly after its publication and provide a more timely information source that is better suited for setting targets, monitoring trends, and evaluating the impact of strategies across various levels of government to reduce GHG emissions. In these capacities the proposed GHG measure is integral to a whole-of-Government approach to address climate change and its effects, and would provide State DOTs with valuable information that is not already addressed by other Federal agencies.

FHWA proposes changes to two subparts of part 490: Subpart A—General Information, and Subpart E—National Performance Management Measures to Assess Performance of the National Highway System. The proposed changes to subpart A include a new definition in § 490.101 and the addition of references to the proposed GHG measure and new provisions in the following sections: § 490.105 Establishment of performance targets; § 490.107 Reporting on performance targets; and § 490.109 Assessing significant progress toward achieving the performance targets for the National Highway Performance Program and the National Highway Freight Program. The

[6] White House Fact Sheet: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies (Apr. 22, 2021), *available at https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/;* White House Fact Sheet: President Biden's Leaders Summit on Climate (Apr. 23, 2021), *available at https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/23/fact-sheet-president-bidens-leaders-summit-on-climate/; see* U.S. Department of Transportation Strategic Plan FY 2022–2026, *available at https://www.transportation.gov/sites/dot.gov/files/2022-04/US_DOT_FY2022-26_Strategic_Plan.pdf.*

[7] *See* EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks, *available at https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019.*

proposed changes to subpart E would incorporate the GHG measure into existing regulations on NHPP performance measures. Specifically, the proposed changes would affect the following sections: § 490.503 Applicability; § 490.505 Definitions; § 490.507 National performance management measures for system performance; § 490.509 Data requirements; § 490.511 Calculation of National Highway System performance metrics; and § 490.513 Calculation of National Highway System performance measures.

The draft regulatory impact analysis (RIA) prepared pursuant to Executive Order 12866, and which is available in the rulemaking docket (Docket No. FHWA–2021–0004), estimates the costs associated with establishing the GHG measure, derived from the costs of implementing the GHG measure for each component of the rule that may involve costs. To estimate the costs, FHWA assessed the level of effort that would be needed to comply with each applicable section in part 490 with respect to the GHG measure, including labor hours by labor category, over a 10-year study period (2022–2031). Total costs over this period are estimated to be $11.0 million, discounted at 7 percent, and $12.9 million, discounted at 3 percent. The RIA discusses anticipated benefits of the rule qualitatively; they are not quantified because they are difficult to forecast and monetize.

II. Background and Regulatory History

The 2012 Moving Ahead for Progress in the 21st Century Act (MAP–21, Pub. L. 112–141) and the 2015 Fixing America's Surface Transportation (FAST Act, Pub. L. 114–94) transformed the Federal-aid highway program by establishing performance management requirements and tasking FHWA with carrying them out. To implement this program, FHWA established an organizational unit with dedicated full time staff to coordinate with program staff from each of the performance areas to design and establish an approach to effectively implement the Title 23 performance provisions. FHWA has technical and policy experts on staff to provide State DOTs and MPOs assistance implementing performance management, and to oversee program requirements.

FHWA conducted several rulemakings to implement the new performance management framework. The rulemakings established in part 490 the performance measures and requirements for target establishment, reporting on progress, and how determinations would be made on whether State DOTs have made significant progress toward applicable targets.

The transportation performance management requirements provide increased accountability and transparency, and facilitate efficient investment of Federal transportation funds through a focus on performance outcomes for the seven national transportation goals concerning safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery delays. *See* 23 U.S.C. 150(b). Through performance management, recipients of Federal-aid highway funds make transportation investments to achieve short-term performance targets and make progress toward the longer-term national goals. Performance management allows FHWA to more effectively evaluate and report on the Nation's surface transportation conditions and performance.

Prior to MAP–21, there were no explicit statutory requirements for State DOTs or MPOs to demonstrate how their transportation programs supported national performance outcomes, making it difficult to assess the effectiveness of the Federal-aid highway program. The new Transportation Performance Management (TPM) requirements established in MAP–21 changed this paradigm by requiring State DOTs and MPOs to measure condition or performance, establish targets, assess progress towards targets, and report on condition or performance in a nationally consistent manner for the first time (23 U.S.C. 150(e) and 23 CFR 490.107).

As previously noted, FHWA conducted several rulemakings implementing the performance management framework. Most relevant to this proposed rule are three related national performance management measure rulemakings in which FHWA established various measures for State DOTs and MPOs to use to assess performance, found at 23 CFR part 490. The first rulemaking focused on Safety Performance Management (PM1), and a final rule published on March 15, 2016 (81 FR 13882), established performance measures for State DOTs to use to carry out the Highway Safety Improvement Program (HSIP). The second rulemaking on Infrastructure Performance Management (PM2) resulted in a final rule published on January 18, 2017 (82 FR 5886), that established performance measures for assessing pavement condition and bridge condition for the NHPP. The third rulemaking, System Performance Management (PM3), established measures for State DOTs and MPOs to use to assess the performance of the Interstate and non-Interstate NHS for the purpose of carrying out the NHPP; to assess freight movement on the Interstate System; and to assess traffic congestion and on-road mobile source emissions for the purpose of carrying out the CMAQ Program. The PM3 final rule was published on January 18, 2017 (82 FR 5970).

The PM3 rule addressed a broad set of performance issues and some of the national transportation goals, such as environmental sustainability, that were not addressed in the earlier rulemakings focused solely on safety and infrastructure condition. In the preamble to the PM3 proposed rule, published on April 22, 2016 (81 FR 23806), FHWA requested public comment on whether to establish a CO_2 emissions measure in the final rule and, if so, how to do so. FHWA acknowledged the contribution of on-road sources to over 80 percent of U.S. transportation sector GHG emissions, and the historic Paris Agreement in which the United States and more than 190 other countries agreed in December 2015 to reduce GHG emissions, with the goal of limiting global temperature rise to less than 2 degrees Celsius above pre-industrial levels by 2050. FHWA recognized that achieving U.S. climate goals would require significant GHG reductions from on-road transportation sources. *See* 81 FR 23830. Against this backdrop, FHWA stated that it was considering how GHG emissions could be estimated and used to inform planning and programming decisions to reduce long term emissions. FHWA sought comment on the potential establishment and effectiveness of a GHG emissions measure as a planning, programming, and reporting tool, and FHWA requested feedback on specific considerations related to the design of such a measure. 82 FR 23831.

In the PM3 final rule, FHWA established a GHG emissions performance measure to measure environmental performance in accordance with 23 U.S.C. 150(c)(3) after considering extensive public comments on whether and how FHWA should establish such a measure. Specifically, the GHG measure involved the percent change in CO_2 emissions from the reference year 2017, generated by on-road mobile sources on the NHS. Had the GHG measure remained in effect, State DOTs would have been required to estimate CO_2 emissions based on annual fuel sales, Energy Information Agency (EIA) published emission conversion factors, and the proportion of statewide vehicle miles

traveled (VMT) that occurs on the NHS. MPOs would have been given options as to how they would calculate CO_2 emissions. All State DOTs and MPOs with NHS mileage in their State geographic boundaries and metropolitan planning areas, respectively, would have been required to establish targets and report on progress. A State DOT would have reported annual CO_2 emissions every 2 years to FHWA in its Biennial Performance Report. FHWA would have assessed and determined every 2 years whether a State DOT had made significant progress toward achieving its targets. *See* 82 FR 5974 and 5981.

On October 5, 2017 (82 FR 46427), however, FHWA proposed to repeal the 2017 GHG measure. FHWA requested public comment on whether to retain or revise the 2017 GHG measure. *See* 82 FR 46430. In light of policy direction to review existing regulations to determine whether changes would be appropriate to eliminate duplicative regulations, reduce costs, and streamline regulatory processes, and after considering public comments received, on May 31, 2018 (83 FR 24920), FHWA repealed the GHG measure, effective on July 2, 2018. FHWA identified three main reasons for the repeal: (1) reconsideration of the underlying legal authority; (2) the cost of the GHG measure in relation to the lack of demonstrated benefits; and (3) potential duplication of information produced by the GHG measure and information produced by other initiatives related to measuring CO_2 emissions.

All other performance management measures remained in place and implementation is underway. FHWA continues to expect that State DOTs and MPOs will use the information and data generated in response to part 490 to inform State or local planning and programming decisions. FHWA, in turn, will continue to use the information and data to improve national performance on all of the statutory goals and to assess more reliably the impacts of Federal funding investments.

III. Statement of the Problem, Legal Authority, and Rationale

FHWA believes that establishment of performance management requirements remains a powerful tool for achieving all seven of the statutory national transportation goals, including environmental sustainability. As FHWA acknowledged in the preamble to the PM3 final rule, implementation of the performance management requirements should evolve over time for various reasons, including shifts in national priorities for the focus on a goal area. *See* 82 FR 5974. In light of the Agency's policy emphasis on using its available authorities to confront worsening climate change—as well as the new facts identified in reports issued between 2018 and 2021 that expand our knowledge of the severe consequences of climate change—FHWA reconsidered its legal authority, reexamined the assumptions regarding potential costs and potential duplication that underlay the repeal of the 2017 measure, and proposes adopting a GHG performance measure. Consistent with the purpose and text of the statute, FHWA believes establishing a GHG performance measure could be an effective means for supporting the environmental sustainability of the Federal-aid highway program.

A. Confronting the Climate Crisis

Scientific literature published since the 2018 GHG measure repeal provides greater certainty on the impact of human activities on the earth's current and future climate, as well as the urgency of actions to reduce human GHG emissions. The IPCC Sixth Assessment Report states that it is now unequivocal that human activities have increased atmospheric GHG emissions concentrations and resulted in warming of the atmosphere, ocean, and land, with average surface temperature having increased by approximately 2 degrees Fahrenheit since the 1800s.[8] The IPCC Sixth Assessment Report also points to growing evidence linking human production of GHG emissions to extreme events such as heatwaves, heavy precipitation, droughts, and hurricanes. The report warns that human-produced GHG emissions already in the atmosphere have assured that global surface temperatures will continue to increase until at least the mid-century, even with significant reductions in CO_2 emissions. This warming will result in other changes that are irreversible for centuries to millennia, including the continued melting of mountain and polar glaciers, the loss of ice from the Greenland Ice Sheet, and the continued rise in global mean sea level. The IPCC Sixth Assessment Report further notes that every ton of CO_2 emissions contributes to climate change.

Other research also shows that CO_2 and other GHG emissions have accumulated rapidly as the world has industrialized, with concentrations of atmospheric CO_2 increasing from roughly 278 parts per million in 1750[9] to 414 parts per million in 2020.[10] Human-produced GHG emissions have increased over this time period, with larger absolute increases since 2000 despite a growing number of climate change mitigation policies.[11] Since GHGs, such as CO_2, methane (CH_4), and nitrous oxide (N_2O), have atmospheric lifetimes ranging from a decade to a century or more,[12] atmospheric concentrations have increased every year measurements have been recorded since 1959, even when GHG emissions have decreased on a year-over-year basis.[13] This phenomenon was demonstrated in 2020 when global mean CO_2 concentration increased by 2.7 parts per million (ppm) relative to 2019[14] despite a 5.8 percent decrease in global energy-related CO_2 emissions, which represented the largest percentage decline since World War II.[15]

Scientists have warned that significant and potentially dangerous shifts in climate and weather are possible with climate change of 2 degrees Celsius (3.6 degrees Fahrenheit) beyond preindustrial levels.[16] Stabilizing at this level would likely require atmospheric CO_2 concentrations of approximately 450 ppm or lower;[17] achieving this concentration would likely require a decrease in global net anthropogenic CO_2 emissions of about 25 percent below 2010 levels by 2030, leading to net-zero CO_2 emissions by

[8] See IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, *available at https://www.ipcc.ch/report/ar6/wg1/#SPM.*

[9] Wuebbles, D.J., D.R. Easterling, K. Hayhoe, T. Knutson, R.E. Kopp, J.P. Kossin, K.E. Kunkel, A.N. LeGrande, C. Mears, W.V. Sweet, P.C. Taylor, R.S. Vose, and M.F. Wehner, 2017: Climate Science Special Report: Fourth National Climate Assessment, Volume I [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, (U.S. GCRP 2017 Climate Science Special Report) pp. 82, doi: 10.7930/J08S4N35, *available at https://science2017.globalchange.gov/.*

[10] National Oceanic and Atmospheric Administration (2021). Trends in Atmospheric Carbon Dioxide (NOAA 2021 Trends in Atmospheric Carbon Dioxide), *available at https://www.esrl.noaa.gov/gmd/ccgg/trends/.*

[11] Intergovernmental Panel on Climate Change. Climate Change 2014 Synthesis Report Summary for Policymakers (IPCC 2014 Report), *available at https://www.ipcc.ch/site/assets/uploads/2018/02/AR5_SYR_FINAL_SPM.pdf.*

[12] U.S. GCRP 2017 Climate Science Special Report at 80.

[13] NOAA 2021 Trends in Atmospheric Carbon Dioxide.

[14] *Id.*

[15] International Energy Agency (2021) Global Energy Review: CO_2 Emissions in 2020.

[16] *See* Intergovernmental Panel on Climate Change (2018) Summary for Policymakers. In Global Warming of 1.5 Deg. C. An IPCC Special Report, *available at https://www.ipcc.ch/sr15/chapter/spm.*

[17] IPCC 2014 Report.

2070.[18] The Paris Agreement goal is to limit global warming well below that level, and preferably to 1.5 degrees Celsius (2.7 degrees Fahrenheit),[19] which the IPCC estimates would likely require decreasing global net anthropogenic CO_2 emissions 45 percent below 2010 levels by 2030, reaching net-zero around 2050.[20] The IPCC Sixth Assessment Report includes new estimates of the likelihood of crossing the 1.5 degree Celsius threshold, concluding that without immediate, rapid and large-scale reductions in GHG emissions, it will no longer be possible to limit warming to 1.5 degrees or even 2 degrees Celsius.[21]

Given the urgency of the climate crisis, several recent Executive orders and other commitments prioritize actions throughout the Government to address climate change. Section 1 of E.O. 13990, ''Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis,'' 86 FR 7037 (Jan. 25, 2021), articulates national policy objectives, including listening to the science, improving public health and protecting the environment, reducing GHG emissions, and strengthening resilience to the impacts of climate change. E.O. 14008, ''Tackling the Climate Crisis at Home and Abroad,'' 86 FR 7619 (Feb. 1, 2021), recommits the United States to the Paris Agreement and calls on the United States to begin the process of developing its nationally determined contribution to global GHG reductions with analysis and input from executive departments and agencies and outreach to domestic stakeholders. 86 FR 7620. Under that nationally determined contribution, the U.S. will target reducing emissions by 50 to 52 percent by 2030 compared to 2005 levels.[22]

E.O. 14008 also calls for a Government-wide approach to the climate crisis and acknowledges opportunities to create jobs to build a modern, sustainable infrastructure, to provide an equitable, clean energy future, and to put the United States on a path to achieve net-zero emissions, economywide, no later than 2050. 86 FR 7622. Notably, section 201 of E.O. 14008 calls on the Federal Government to drive assessment, disclosure, and mitigation of climate pollution and envisions Federal actions combined with efforts from every level of government and every economic sector. 86 FR 7622. It also supports the principle set forth in section 213 ''to ensure that Federal infrastructure investment reduces climate pollution.'' 86 FR 7626. This principle affirms that reducing GHGs is part of the expected performance of transportation infrastructure, making it an appropriate and necessary metric for the NHS.

In addition, sections 1 and 2 of E.O. 13990 direct that all agencies immediately review Federal regulations promulgated and other actions taken between January 20, 2017, and January 20, 2021, and, consistent with applicable law, take action to address regulations that conflict with the national objectives stated in section 1 of E.O. 13990 and to begin work immediately to address the climate crisis. 86 FR 7037. In response to this direction, FHWA has reviewed the May 2018 final rule that repealed the 2017 GHG measure and has concluded that the repeal conflicts with those national objectives, which include reducing GHG emissions. Because reducing GHG emissions is clearly established as a national priority and national goal in section 1 of E.O. 13990 and E.O. 14008, FHWA has concluded that it is appropriate to propose to reestablish a GHG performance measure for the reasons set forth in this preamble. The proposed measure is similar to the repealed 2017 GHG measure. However, FHWA is updating analyses and proposing updated requirements associated with the measure. Additionally, FHWA is proposing to require State DOTs and MPOs to set declining targets for reducing tailpipe CO_2 emissions on the NHS that align with the 2030 and 2050 targets set out in the Executive Orders discussed previously in this section.

By establishing the proposed GHG measure, FHWA would be taking action to address the largest source of U.S. CO_2 emissions. In 2019, the transportation sector accounted for 34.6 percent of total U.S. CO_2 emissions, with 83.2 percent of the sector's total CO_2 emissions coming from on-road sources.[23] The transportation sector is expected to remain the largest source of U.S. CO_2 emissions through 2050, increasing at an average annual rate of 0.3 percent per year despite improvements in the energy efficiency of light-duty vehicles, trucks, and aircraft.[24] Factors such as population growth, expansion of urban centers, a growing economy, and increased international trade are expected to result in growing passenger and freight movement. These changes can make GHG reductions and environmental sustainability both more challenging to implement and more important to achieve.[25]

In addition to being the largest source of U.S. CO_2 emissions, the transportation sector is increasingly vulnerable to the effects of climate change. As highlighted in FHWA's 2013 Conditions and Performance Report[26] and in *A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning*,[27] there are two main types of climate change risk affecting transportation infrastructure: continued emissions of GHGs, such as CO_2, that adversely affect the atmosphere, leading to climate change effects; and threats to the transportation system posed by climate change impacts (*e.g.,* damaged

[18] Intergovernmental Panel on Climate Change. Climate Change 2018: Summary for Policymakers. (IPCC 2018 Report), *available at https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf.*

[19] U.S. Department of State (2021). U.S.—China Joint Statement Addressing the Climate Crisis, *available at https://www.state.gov/u-s-china-joint-statement-addressing-the-climate-crisis/.*

[20] Intergovernmental Panel on Climate Change (2018). Special Report: Global Warming of 1.5 Degrees. Summary for Policymakers. *https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf.*

[21] *See* IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, *available at https://www.ipcc.ch/report/ar6/wg1/#SPM.*

[22] White House Fact Sheet: President Biden's Leaders Summit on Climate (Apr. 23, 2021), *available at https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/23/fact-sheet-president-bidens-leaders-summit-on-climate/.* In addition, E.O. 14057, ''Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability,'' 86 FR 70935 (Dec. 13, 2021), highlights the Federal Government's role in transforming the ways the Government builds, buys, and manages electricity, vehicles, buildings, and other operations to be clean and sustainable.

[23] U.S. Environmental Protection Agency (2021). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2019, *available at https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019.*

[24] U.S. Energy Information Administration (2021). Annual Energy Outlook 2021, *available at https://www.eia.gov/outlooks/aeo/tables_ref.php.*

[25] Jacobs, J.M., M. Culp, L. Cattaneo, P. Chinowsky, A. Choate, S. DesRoches, S. Douglass, and R. Miller, 2018: Transportation. In Impacts, Risks, and Adaption in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Mayock, and B.C. Stewart (eds.)] U.S. Global Change Research Program, Washington, DC, USA, pp. 479–511. doi: 10.7930/NCA4.2018.CH12, *available at https://nca2018.globalchange.gov/chapter/12/.*

[26] FHWA 2013 Conditions and Performance Report (PDF Version), ''Advancing Environmental Sustainability'' at 5–6 through 5–7, *available at https://www.fhwa.dot.gov/policy/2013cpr/pdfs.cfm.*

[27] A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning, FHWA (December 2013) at iii–iv, *available at https://www.fhwa.dot.gov/environment/ climate_change/mitigation/publications/ghg_planning/index.cfm.*

or flooded facilities).[28] In other words, the transportation system both contributes to climate change and suffers from the impacts of climate change.

Transportation infrastructure is increasingly at risk from increased intensity and frequency of precipitation, sea level rise and resulting coastal flooding, heat, wildfires, and other extreme events associated with a changing climate. These impacts threaten to increase the cost of maintaining, repairing, and replacing infrastructure, particularly assets that are approaching or beyond their design life. Climate impacts also threaten the performance of the entire network, as defined by national goals identified in 23 U.S.C. 150(b). Basic mobility and economic needs will be compromised by both short-term and long-term impacts of climate change. Potential consequences include effects on safety, environmental sustainability, economic vitality and mobility, congestion, and system reliability. Given the increased severity of extreme weather events resulting from climate change, ensuring safe and effective emergency evacuation routes will become increasingly difficult. These effects may disproportionately affect vulnerable populations and urban transportation assets.[29]

In the face of these climate challenges, establishing a GHG measure in FHWA's Transportation Performance Management Program would provide a consistent basis for addressing the environmental sustainability of the system and estimating on-road GHG emissions. The measure would aid State DOTs and MPOs in planning GHG emissions reductions and evaluating progress toward national, State, and local GHG targets. Comprehensive transportation planning processes require consideration of strategies that protect and enhance the environment, promote energy conservation, improve the quality of life, and improve the resiliency and reliability of the transportation system. *See* 23 U.S.C 134(h)(1)(E) and (I) and 23 U.S.C 135(d)(1)(E) and (I). Statewide and metropolitan transportation planning processes are required to use a performance-based approach to transportation decision-making to support the national goals described in 23 U.S.C. 150(b). Such an approach includes establishing performance targets that address the performance measures established by FHWA under 23 U.S.C. 150(c), where applicable, to track progress toward attainment of critical outcomes for the State or MPO region. 23 U.S.C. 134(h)(2)(A)–(B) and 135(d)(2)(A)–(B). Further, States and MPOs are required to integrate the goals, objectives, performance measures, and targets into their transportation planning processes, and States consider them when developing policies, programs, and investment priorities reflected in the statewide transportation plan and the Statewide Transportation Improvement Program (STIP). 23 U.S.C. 134(h)(2)(D) and 135(d)(2)(C) and (D); *see* 23 CFR 450.218(q) and 450.326(d).

Establishing a GHG measure also would result in a consistent set of data that could inform the future investment decisions of the Federal Government, State DOTs, and MPOs towards achieving their targets or goals. In addition, an on-road GHG emissions measure would advance the Federal-aid highway program's national goal for environmental sustainability identified under 23 U.S.C. 150(b)(6). In implementing the proposed measure, FHWA intends to consider a wide range of data and tools from EPA, the DOE National Laboratories, and other Federal agencies.

An on-road GHG emissions measure would allow State DOTs, MPOs, and FHWA to analyze transportation GHG trends and could facilitate DOT contributions to the National Climate Task Force established in section 203 of E.O. 14008 to facilitate the organization and deployment of a Government-wide approach to the climate crisis. *See* 86 FR 7623. The proposed GHG measure would inform DOT-wide efforts to engage with domestic stakeholders and to identify U.S. contributions to needed reductions under the Paris Agreement and the U.S. target of reducing emissions by 50 to 52 percent by 2030 compared to 2005 levels, as well. While on-road tailpipe CO_2 emissions on the NHS represent one discrete component of U.S. transportation sector GHG emissions, measuring and reporting on-road tailpipe CO_2 emissions on the NHS under the proposed GHG measure would be useful for all of these reasons.

B. Legal Authority for the Proposed GHG Measure

FHWA is proposing to establish a GHG emissions performance measure under 23 U.S.C. 150(c)(3), which calls for performance measures that the States can use to assess performance of the Interstate and non-Interstate NHS for the purpose of carrying out the NHPP under 23 U.S.C. 119. 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V). Since Congress did not define the term ''performance,'' as used in 23 U.S.C. 150(c)(3), FHWA must interpret this term in the context of the statute. Accordingly, FHWA is interpreting ''performance'' of the Interstate and non-Interstate NHS under 23 U.S.C. 150(c) to include the system's environmental performance, an interpretation that is consistent with the national goals established under 23 U.S.C. 150(b). Assessing environmental performance will further the environmental sustainability national goal to enhance the performance of the transportation system while protecting and enhancing the natural environment. 23 U.S.C. 150(b)(6). This national goal is incorporated into the NHPP under 23 U.S.C. 119(e), which calls for a performance-driven asset management plan that would ''support progress toward the achievement of the national goals identified in section 150(b).'' Assessing environmental performance also provides support for activities to increase the resiliency of the NHS to mitigate the cost of damages from sea level rise, extreme weather events, flooding, wildfires, or other natural disasters, which is one of the purposes of the NHPP. 23 U.S.C. 119(b)(4). This measure would only apply to the Interstate and non-Interstate NHS. Since 23 U.S.C. 150(c)(3)(IV)–(V) refers only to the performance of the Interstate system and the non-Interstate NHS, FHWA only has authority to apply this measure to the Interstate system and the non-Interstate NHS. This interpretation is also consistent with 23 U.S.C. 150(c)(2), as further described in this preamble.

In the May 2018 final rule repealing the GHG performance requirements in the PM3 rule, FHWA reconsidered its interpretation of the statute and determined that the statute did not

[28] Extreme weather and other impacts related to GHG emissions, such as sea level rise, can harm, disrupt, and damage transportation systems, particularly through flooding, resulting in costly disruptions. For discussions of the potential disruptive effects of climate change on the transportation system, see also Impacts of Climate Change and Variability on Transportation Systems and Infrastructure: The Gulf Coast Phase 2, Task 3.2 Engineering Assessments of Climate Change Impacts and Adaptation Measures (FHWA and DOT Climate Change Center) (August 2014) at 273 (*available as of September 14, 2016, at http://www.fhwa.dot.gov/environment/ climate_change/adaptation/ongoing_and_current_research/gulf_coast_study/phase2_task3/task_3.2/task2phase3.pdf*); and Hampton Roads Climate Impact Quantification Initiative, Baseline Assessment of the Transportation Assets and Overview of Economic Analyses Useful in Quantifying Impacts, DOT (September 13, 2016) (*available as of November 1, 2016 at https://rosap.ntl.bts.gov/view/dot/12379*).

[29] Jacobs, J.M., M. Culp, L. Cattaneo, P. Chinowsky, A. Choate, S. DesRoches, S. Douglass, and R. Miller, 2018: Transportation. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 479–511. doi: 10.7930/NCA4.2018.CH12.

specifically direct or require FHWA to adopt a GHG measure. In deciding to repeal the GHG measure in 2018, FHWA adopted a narrow interpretation of the statute. FHWA has reconsidered its interpretation of the statute and believes that adopting a GHG measure is both consistent with the Agency's statutory authority and the implementation of sections 1 and 2 of E.O. 13990.

First, Congress specifically directed FHWA to establish measures for States to use to assess the performance of the Interstate System and the non-Interstate NHS. *See* 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V). Although Congress did not define the meaning of performance under this provision, the statute identifies seven national goals to inform performance management. Environmental sustainability is one of the specifically identified goals, which is defined as ''enhance[ing] the performance of the transportation system while protecting and enhancing the natural environment.'' 23 U.S.C. 150(b)(6). In light of this explicit goal and FHWA's past practice, as described further in this section, FHWA believes that it is appropriate to interpret the meaning of performance of the Interstate System and the NHS under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V) to include environmental performance. When FHWA enacted a GHG performance measure in the PM3 final rule, the Agency determined that it is appropriate to adopt the measure under 23 U.S.C. 150(c)(3), as that section does not impose any limitation on what type of NHS performance may be measured in rules promulgated under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V), and because environmental performance is an integral part of the Federal-aid highway program, as reflected by the national goal of environmental sustainability in 23 U.S.C. 150(b)(6), transportation planning provisions in 23 U.S.C. 134 and 135, and environmental provisions in 23 U.S.C. 109(c), (g), (h), (i), and (j). The Agency also noted that this interpretation is supported by the many FHWA actions to treat the environment, and specifically sustainability and climate change, as part of system performance. 82 FR 5970, 5995. When FHWA repealed the GHG performance measure, the Agency took a narrow view and determined that since 23 U.S.C. 150(c)(2)(C) directs FHWA to limit performance measures only to those described in 23 U.S.C. 150(c), FHWA's previous interpretation that performance of the Interstate System and the National Highway System under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V) includes environmental performance was overly broad.

FHWA has reexamined this determination from the 2018 repeal final rule and is proposing to reassert FHWA's earlier determination in the PM3 final rule that FHWA has authority under 23 U.S.C. 150(c)(3) to establish a GHG performance measure. Congress has not directly addressed the meaning of ''performance'' under the NHPP. Rather, FHWA is proposing that Congress has directed FHWA to determine the nature and scope of the specific performance measures that will fulfill the statutory mandate in 23 U.S.C. 150(c). Accordingly, FHWA is proposing that the performance of the Interstate System and the NHS includes environmental performance. This interpretation is reasonable in light of FHWA's statutory mandate to address the national goal of environmental sustainability under 23 U.S.C. 150(b)(6), as well as resilience under 23 U.S.C. 119, as further described in this preamble. Notably, 23 U.S.C. 150(c)(2)(C) limits performance measures to those described in 23 U.S.C. 150(c). The provision limits FHWA's authority to establish measures States use to assess performance only to the Interstate System and the NHS. However, the provision does not otherwise limit the meaning of ''performance''.

Second, FHWA's proposed adoption of the GHG measure is consistent with other parts of Title 23 of the U.S.C., notably 23 U.S.C. 119. In the PM3 final rule, the Agency identified that 23 U.S.C. 119 provides additional statutory support for the GHG measure. 82 FR 5995. Section 119 of Title 23, U.S.C. sets forth the purposes of the NHPP, eligibilities for NHPP funding, purposes and requirements for State performance management (including asset management, significant progress and reporting requirements for performance measures), Interstate and bridge condition penalty provisions for falling below minimum conditions established by the Secretary, and environmental mitigation. FHWA noted that the performance management provisions in 23 U.S.C. 119(e) call for a performance-driven asset management plan that would ''support progress toward the achievement of the national goals identified in section 150(b).'' The 2017 GHG measure was developed to enhance the performance of the transportation system while protecting and enhancing the natural environment, consistent with the national goal under 23 U.S.C. 150(b)(6). Thus, by supporting the achievement of the national performance goals, the 2017 GHG measure, and by extension this proposed rule, supports FHWA's implementation of 23 U.S.C. 119. Additionally, the Infrastructure Investment and Jobs Act (IIJA) (Pub. L. 117–58, also known as the ''Bipartisan Infrastructure Law''), amended 23 U.S.C. 119 to indicate that one of the purposes of the NHPP is ''to provide support for activities to increase the resiliency of the National Highway System to mitigate the cost of damages from sea level rise, extreme weather events, flooding, wildfires, or other natural disasters.'' IIJA Section 11105. By addressing the performance of the transportation system related to the largest source of U.S. CO_2 emissions, FHWA is implementing Congress's express direction regarding NHPP goals. As described in this proposal, measuring environmental performance though the GHG performance measure will assist States to consider CO_2 emissions from transportation in the performance management framework and help frame responses to the growing climate crisis. Reducing GHG emissions that are causing increases in temperature, sea level, extreme weather events, flooding, wildfires, and other natural disasters should then decrease the severity and impact of those conditions in the future. This NPRM will provide support for activities to increase the resilience of the NHS.

When FHWA repealed the 2017 GHG measure, the Agency exercised its discretion to reinterpret the definition of performance to exclude environmental performance due, in part, to the eligibility criteria for projects under the NHPP 23 U.S.C. 119(d). Under 23 U.S.C. 119(d)(1)(A), eligible projects must be ''a project or part of a program of projects supporting progress toward the achievement of national performance goals for improving infrastructure condition, safety, congestion reduction, system reliability, or freight movement on the National Highway System.'' FHWA determined that these goals are consistent with an interpretation of ''performance'' that focuses on the physical condition of the system and the efficiency of transportation operations across the system, and do not support FHWA's prior, broader interpretation of ''performance'' under 23 U.S.C. 150(c)(3), which encompassed environmental performance. 83 FR 24924.

FHWA has reexamined the rationale in the May 2018 repeal final rule and has determined that performance measures under 23 U.S.C. 150(c)(3) are not limited only to the national performance goals identified in 23 U.S.C. 119(d)(1). Section 119(d)(1), Title

23, U.S.C., establishes eligibility criteria for using funds apportioned to a State for carrying out the NHPP, but does not set forth all relevant considerations for carrying out the program. For example, 23 U.S.C. 119(d)(2) identifies purposes for eligible projects, including development and implementation of a State DOT's asset management plan for the NHS under 23 U.S.C. 119(e) and environmental mitigation efforts related to projects funded under 23 U.S.C. 119(g). As previously noted, 23 U.S.C. 119(e) calls for a performance-driven asset management plan that would ''support progress toward the achievement of the national goals identified in section 150(b)'', which includes the environmental sustainability national goal under 23 U.S.C. 150(b)(6). Risk-based asset management planning under 23 U.S.C. 119(e) includes consideration of life-cycle costs and risk management, financial planning, and investment strategies. As previously discussed, rapidly changing climate and increased weather extremes due to fossil fuel combustion directly impact the condition and performance of transportation facilities due to increases in heavy precipitation, coastal flooding, heat, wildfires, and other extreme events. Extreme events will lead to increasing transportation challenges, inducing societal and economic consequences. The number of billion-dollar climate disaster events has been much higher over the last five years than the annual average over the last 30 years.[30] Low-income and vulnerable populations are disproportionately affected by the impacts of climate change.[31] These impacts are not attributable to any single action, but are exacerbated by a series of actions, including actions taken under the Federal-aid highway program. Measuring environmental performance though the GHG performance measure will assist States to consider CO_2 emissions from transportation in the performance management framework and help frame responses to the growing climate crisis. Therefore, the GHG performance measure is appropriate in light of 23 U.S.C. 119. FHWA therefore has determined that the Agency's interpretation of ''performance'' to include ''environmental performance'' is consistent with 23 U.S.C. 119.

FHWA also reiterates the Agency's statements in the PM3 final rule that several other provisions in Title 23, U.S.C., support FHWA's proposal to address GHG emissions in this rulemaking:

- 23 U.S.C. 101(b)(3)(G) is a transportation policy declaration that ''. . . transportation should play a significant role in promoting economic growth, improving the environment, and sustaining the quality of life . . .''.
- 23 U.S.C. 134(a)(1) is a congressional statement of transportation planning policy that it is in the national interest ''. . . to encourage and promote the safe and efficient management, operation, and development of surface transportation systems . . . while minimizing transportation-related fuel consumption and air pollution through metropolitan and statewide transportation planning processes identified in this chapter . . .''.
- 23 U.S.C. 134(c)(1) requires MPOs to develop long range plans and transportation improvement programs to achieve the objectives in 23 U.S.C. 134(a)(1) through a performance-driven, outcome-based approach to planning.
- 23 U.S.C. 134(h) defines the scope of the metropolitan planning process. Paragraphs (h)(1)(E) and (I), respectively, require consideration of projects and strategies that will ''. . . protect and enhance the environment, promote energy conservation, improve the quality of life . . .'' and ''. . . improve the resiliency and reliability of the transportation system . . .''.
- 23 U.S.C. 135(d)(1) defines the scope of the statewide planning process. Paragraphs (d)(1)(E) and (I), respectively, require consideration of projects, strategies, and services that will ''. . . protect and enhance the environment, promote energy conservation, improve the quality of life . . .'', and ''. . . improve the resiliency and reliability of the transportation system . . .''.
- 23 U.S.C. 135(d)(2) requires the statewide transportation planning process to ''. . . provide for the establishment and use of a performance-based approach to transportation decision-making to support the national goals described in section 150(b) of this title . . .''.

FHWA reaffirms that these Title 23, U.S.C., provisions make it clear that assessing infrastructure performance under 23 U.S.C. 150(c)(3) properly encompasses assessment of environmental performance, including GHG emissions and other climate-related matters. As noted in FHWA's May 2018 repeal of the 2017 GHG measure, nothing in the statute specifically requires FHWA to adopt a GHG emissions measure. 83 FR 24923. However, consistent with all of the statutory provisions cited above, no provision of law prohibits FHWA from adopting a GHG emissions measure.

Third, FHWA's decision to adopt the GHG measure under 23 U.S.C. 150(c)(3) does not conflict with the on-road mobile source emissions provision in 23 U.S.C. 150(c)(5). Section 150(c)(5), Title 23, U.S.C., requires that the Secretary establish performance measures for the purposes to carrying out the CMAQ Program under 23 U.S.C. 149. FHWA has established performance measures pursuant to 23 U.S.C. 150(c)(5) to assess traffic congestion and on-road mobile source emissions under 23 CFR 490.701 through 490.811. In the May 2018 repeal final rule, FHWA stated its belief that because Congress specifically designated a part of 23 U.S.C. 150(c) for on-road mobile source emissions measures, it is reasonable to conclude that Congress did not intend the other parts of 23 U.S.C. 150(c) to be used to address other similar or related performance measures, such as the GHG measure, and that by placing the on-road mobile source emissions provision in 23 U.S.C. 150(c)(5), Congress limited the types of emissions that could be the subject of a performance measure to those listed in the CMAQ statute. 83 FR 23924. FHWA has reexamined this reasoning and has determined that 23 U.S.C. 150(c)(5) is consistent with FHWA's proposal to adopt performance measures related to emissions if they support the achievement of the national performance goals.

Under 23 U.S.C. 150(c), Congress requires FHWA to establish performance measures for a number of programs, including the CMAQ Program under 23 U.S.C. 149. This language indicates congressional intent that FHWA establish a performance measure for on-road mobile source emissions for the purposes of carrying out the CMAQ Program. However, nothing in 23 U.S.C. 150 limits measures that take into account emissions only to measures established for the purposes of carrying out the CMAQ Program. FHWA is proposing that it is appropriate to examine relevant emissions as part of assessing performance of the Interstate and non-Interstate NHS in support of the NHPP.

[30] NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2022). *https://www.ncdc.noaa.gov/billions/,* DOI: 10.25921/stkw-7w73.

[31] Ebi, K.L., J.M. Balbus, G. Luber, A. Bole, A. Crimmins, G. Glass, S. Saha, M.M. Shimamoto, J. Trtanj, and J.L. White-Newsome, 2018: Human Health. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 539–571. doi: 10.7930/NCA4.2018.CH14.

Notably, Congress's inclusion of a specific CMAQ measure indicates that Congress was contemplating CMAQ and its coverage in terms of geography and types of emissions when drafting 23 U.S.C. 150. Since Congress did not expressly limit emissions measures to those related to CMAQ, it is reasonable to conclude that Congress intended FHWA to retain the discretion to adopt other emissions measures, such as the GHG measure.

In addition, the measures described in 23 U.S.C. 150(c) inherently include overlapping topics. For example, freight movement in 23 U.S.C. 150(c)(6) (see also 23 CFR part 490, subpart F) clearly involves congestion reduction or management, but CMAQ measures under 23 U.S.C. 150(c)(5) do not foreclose a congestion-related measure. Therefore, the best interpretation of 23 U.S.C. 150 contemplates measures that may overlap to achieve the national goals.

For all of these reasons, upon reexamination of FHWA's repeal of the 2017 GHG measure, FHWA asserts the proposed measure is consistent FHWA's authority under 23 U.S.C. 150(c).

C. Additional Rationale for the Proposed GHG Measure

FHWA is proposing to establish a GHG emissions measure for environmental performance in accordance with 23 U.S.C. 150(c)(3). This measure will incorporate an important environmental aspect of system performance into the set of national performance measures and support the national transportation goal of environmental sustainability in the Federal-aid highway program and the national performance management program established in 23 U.S.C. 150. FHWA has previously identified that a GHG performance measure will help address transportation GHG emissions. In the 2017 PM3 final rule, FHWA noted that reducing GHG emissions involves strategies to reduce the growth in future travel activity, such as the shift of travel to public transportation and non-motorized options, and improve system efficiency, such as optimizing the operation, use, and maintenance of transportation networks. The PM3 final rule noted that these activities are influenced by the planning activities and investment decisions of State DOTs and MPOs. 82 FR 8997. FHWA is reasserting that establishing a GHG measure in FHWA's Transportation Performance Management Program would help implement a national policy to reduce GHG emissions. As discussed in Section III(A) of this NPRM, the GHG performance measure would provide a consistent basis for estimating on-road GHG emissions and would aid States and MPOs in planning GHG emissions reductions and evaluating progress toward national, State, and local GHG goals. In addition, establishing a GHG measure also would inform the future investment decisions of the Federal Government, State DOTs, and MPOs towards achieving their targets or goals.

As discussed in Section III(A) of this NPRM, FHWA anticipates this measure will assist with comprehensive transportation planning. Current performance measures are integrated into the planning process and used to track progress and attainment of critical outcomes of the goals. 23 U.S.C. 135(d)(2) and 23 U.S.C. 134(h)(2). Establishment of the GHG emissions performance measure aligns with current requirements, goals, and processes under the planning requirements. Through these processes, the GHG performance measure would advance the Federal-aid highway program's national goal for environmental sustainability identified under 23 U.S.C. 150(b)(6). In addition, transportation investments advanced to achieve GHG performance measure targets can have co-benefits that would assist States and MPOs make progress towards other performance measures listed in 23 U.S.C. 119(d)(1)(A). For instance, the construction of a new grade-separated transit facility has the potential to reduce travel on neighboring roadways, which in turn would reduce congestion, improve safety, and reduce criteria pollutant emissions in addition to reducing on-road GHG emissions.

FHWA acknowledges that in proposing to establish this measure, FHWA would be largely reestablishing the measure repealed in 2018. 83 FR 24920. FHWA expects that States and MPOs have no reliance interests resulting from the repeal or, for that matter, from the 2017 GHG measure. FHWA repealed the 2017 GHG measure before the respective due dates for target setting or reporting, and FHWA assumes that no State DOTs or MPOs incurred any costs due to the promulgation and prompt repeal of that measure. Nor did the repeal itself impose any compliance costs on State DOTs or MPOs. Accordingly, FHWA does not expect this proposed rule to result in any increased burden on State DOTs or MPOs by virtue of the fact that FHWA previously established a similar measure that was repealed before any State DOTs or MPOs relied on and implemented its target setting and reporting requirements. The proposed measure would be a new one. As a result, FHWA expects that States or MPOs would not have any reliance interests based on the repeal of the 2017 GHG measure. Moreover, it is FHWA's policy judgment that implementation of the proposed GHG measure, which would advance the national policy objectives stated in section 1 of E.O. 13990 and E.O. 14008 and the Department's strategic goal of reducing GHG emissions from transportation and would increase accountability through reporting requirements, would outweigh any minimal reliance interests, to the extent they exist.

1. Costs and Benefits

The May 2018 repeal final rule determined that ''the measure imposes unnecessary regulatory burdens on State DOTs and MPOs with no predictable benefits,'' and stated that ''FHWA does not believe the speculative and uncertain benefits are a sufficient reason to retain the GHG measure, especially given the very definite costs associated with the measure.'' 83 FR 24924–25. FHWA previously noted that since benefits that may possibly flow from the GHG measure came from its potential to influence State DOT and MPO investment decisions, and it is not possible to conclude with certainty the GHG measure would cause State DOTs and MPOs to make decisions that change CO_2 emissions levels. 83 FR 24925. Thus, FHWA concluded that it was not possible to predict, with any reasonable degree of certainty, the extent to which the influence effects of the GHG measure might result in actual changes in emissions levels.

FHWA has reexamined this approach and anticipates that this proposed rule would result in substantial benefits that are neither speculative nor uncertain. This measure would create environmental sustainability benefits by supporting more informed choices about transportation investments and other policies to help achieve net-zero emissions economy-wide by 2050. Reporting GHG emissions and setting GHG emissions targets would increase public awareness of GHG emissions trends, promote the consideration of GHG emissions in transportation planning decisions, and more transparently characterize the impact of these decisions on GHG emissions. These benefits are not easily quantifiable.

Climate change results from the incremental addition of GHG emissions from millions of individual sources, which collectively have a large impact on a global scale. The totality of climate change impacts is not attributable to any single action, but is exacerbated (or

reduced) by a series of actions, including actions taken under the Federal-aid highway program. Policies to reduce GHG pollution from transportation align with environmental performance and are essential to minimize the impacts from climate change discussed in the Fourth National Climate Assessment, which include sea level rise and increased frequency and severity of heat waves and heavy precipitation, coastal flooding, wildfires, and other extreme events.[32]

As stated in section 101 of E.O. 14008, U.S. engagement to address the climate crisis is both necessary and urgent to avoid ''a dangerous, potentially catastrophic, climate trajectory.'' Significant short-term global reductions in GHG emissions and net-zero global emissions by 2050 or before will be important. 86 FR 7619.

Achieving CO_2 reductions of this magnitude will depend on actions such as increasing the adoption of zero emission vehicles, improving system efficiency, and reducing the growth in future on-road travel activity through the shift from single occupant vehicles and other measures that reduce on-road travel demand. Actions such as these are significantly influenced by the planning activities and investment decisions of State DOTs and MPOs. A GHG measure emerged as a leading candidate for measuring the environmental aspect of the performance of the highway system during FHWA and stakeholder discussions in 2009. Subsequently, FHWA initiated a research project to investigate GHG measures that would align with performance-based planning and programming, as well as how State DOTs and MPOs could go about implementing such a measure.[33]

The proposed GHG measure aligns with the national goal of reducing CO_2 emissions 50 to 52 percent below 2005 levels by 2030 in support of the Paris Agreement. The proposed GHG measure could be utilized to drive decisions that help to meet or exceed the national goals under that agreement and create transparency for policy maker decisions to achieve those goals and as a means to measure progress. The process of setting targets creates transparency, allowing stakeholders and the public to see what goals are being set, how they are being pursued, and results produced by the measure. The proposed GHG measure also provides greater visibility and accountability for GHG emissions due to mandatory reporting requirements.

FHWA has also re-evaluated the costs of compliance with the proposed measure and estimated total 10-year costs of $11,022,835 at a 7% discount rate and $12,887,491 at a 3% discount rate. These costs, which reflect 2020 loaded wage rates,[34] are marginally greater than costs calculated in the 2018 repeal final rule, which used 2014 loaded wage rates, and estimated total costs of $10,891,892 at a 7% discount rate and $12,805,709 at a 3% discount rate. FHWA has determined that implementation of a GHG measure would require fewer hours of State DOT and MPO staff time than estimated for the 2018 repeal final rule, primarily since the cost analysis for this proposed rule no longer assumes that MPOs will adjust their targets during mid-performance periods of 2024 and 2028. The reduction in estimated labor hours from this revised assumption is partly offset by additional estimated labor hours that would be required to address the new requirement for joint urbanized area targets.

2. Duplication of Efforts

The 2018 repeal final rule evaluated whether the 2017 GHG measure was potentially duplicative of other government efforts, both at the Federal and State level, based on direction from previously applicable E.O.s to reduce regulatory costs and burdens.[35] FHWA concluded at that time that the data needed to support the 2017 GHG measure was at least somewhat duplicative of the EPA and DOE data on CO_2 emissions, and this duplication was a concern and a factor that supported repeal of the GHG measure. However, FHWA has reexamined this duplication in light of recent E.O.s prioritizing actions to address climate change.[36] FHWA has determined that the GHG measure is appropriate even if DOE and EPA data or other government efforts provide some information about CO_2 emissions trends in the transportation sector, for the reasons discussed below.

Specifically, the 2018 repeal final rule identified that several States and MPOs were already tracking CO_2 emissions voluntarily or to comply with State requirements. However, FHWA has examined a 2018 survey of 52 State DOTs to evaluate whether States are tracking CO_2 emissions. The survey indicates that relatively few State DOTs are currently addressing GHG emissions, and even fewer are using performance measures and quantitative approaches to do so.[37] In response to the survey, nine States reported they ''externally communicate progress regarding plans or projects which contribute to achieving GHG targets or goals'' (Question 8). A smaller subset of this group reported they have established quantitative or performance-based approaches related to GHG emissions, with three States reporting the implementation of quantitative measures with reduction targets, and one reporting the implementation of quantitative measures without a reduction target (Question 5). Similarly, four States indicated that they have developed an inventory and/or forecast specifically to support performance metrics (Question 4). Therefore, FHWA now concludes that the proposed GHG measure would not be duplicative of existing efforts as the majority of State DOTs are not currently tracking and addressing GHG emissions.

In addition, the 2018 repeal final rule asserted that other Federal agencies, such as the EPA and the DOE, had undertaken regulatory and other efforts to address CO_2 emissions, including the annual DOE publication of State-by-State data on CO_2 emissions for the transportation sector, which includes data on CO_2 emissions from all mobile sources (*e.g.,* aviation, highway), not just motor vehicles (although the published table does not break the CO_2 emissions data into subcategories, such as CO_2 emissions on the NHS). The 2018 repeal final rule concluded that this information, while not precisely identical to the information provided by the 2017 GHG measure, provides States with trend information on CO_2 emissions from mobile sources in each State, and the highway component is based on the same fuel sales information used for the GHG measure. However, upon reevaluation, FHWA has determined that the proposed GHG

[32] *See* U.S. GCRP 2017 Climate Science Special Report, at 12–34.

[33] A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning, FHWA 2013, *available at https://www.fhwa.dot.gov/environment/sustainability/energy/publications/ghg_planning/ghg_planning.pdf.*

[34] A loaded wage rate reflects an annual salary, including benefits, that is converted to an hourly wage rate.

[35] *See* E.O. 13771, ''Reducing Regulation and Controlling Regulatory Costs,'' E.O. 13777, ''Enforcing the Regulatory Reform Agenda,'' E.O. 13783, ''Promoting Energy Independence and Economic Growth.''

[36] E.O. 13990, ''Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis,'' section 1; *see* E.O. 13992, ''Revocation of Certain Executive Orders Concerning Federal Regulation'' (revoking E.O. 13771 and E.O. 13777).

[37] National Cooperative Highway Research Program (NCHRP) Report 25–56, Methods for State DOTs to Reduce Greenhouse Gas Emissions from the Transportation Sector. Currently under pre-publication review by the Transportation Research Board.

measure would provide State DOTs with valuable information that is not already covered by other Federal agencies. Data published by DOE and the EPA do not specifically cover the NHS. In addition, while the 2018 repeal final rule identified that DOE publishes State-level CO_2 estimates for the transportation sector, this data is not disaggregated to reflect CO_2 emissions from on-road mobile sources. Sector-level data is not ideal for evaluating CO_2 emissions trends associated with roadways or the NHS, since fluctuations in CO_2 emissions from other transportation sources (such as aircraft, boats and rail) can significantly influence year-over-year changes. Finally, transportation sector CO_2 emissions trends published by DOE and the EPA lag FHWA's publication of fuel use data by up to a year, and accordingly the GHG measure will be more useful for setting targets, identifying CO_2 reduction strategies, and monitoring outcomes. For these reasons, FHWA has determined that the GHG measure would provide a valuable source of data and is not duplicative of the DOE and EPA data discussed in this section of the preamble. Indeed, FHWA believes that the GHG measure is an integral part of the whole-of-Government approach to the climate crisis as described in E.O. 14008.

D. Establishing Targets and Schedule for Implementation

The 2017 rule did not include any language about how the State DOTs and MPOs were to establish GHG performance targets. Since that time, however, the United States has committed to achieving net-zero GHG emissions by 2050 and established an aggressive national goal of reducing CO_2 emissions 50 to 52 percent below 2005 levels by 2030 in support of the Paris Agreement. As noted above, in 2019 the transportation sector accounted for 34.6 percent of total U.S. CO_2 emissions, with 83.2 percent of the sector's total CO_2 emissions coming from on-road sources, and the sector is expected to remain the largest source of U.S. CO_2 emissions through 2050. This proposed measure would require State DOTs and MPOs to establish declining targets for GHG emissions from such sources to achieve the national goals for 2030 and 2050. The declining targets should be consistent with national, State, and local GHG emission reduction goals for 2030 and 2050. However, State DOTs and MPOs would have flexibility in setting targets. For example, a State DOT might set targets that would result in steady, incremental progress toward net-zero emissions, or that achieve aggressive early GHG emissions reductions, or be more gradual at first and become more aggressive later. When setting targets, a State DOT also could draw on any relevant work by State environmental agencies or other State bodies. FHWA is not proposing to prescribe what declining targets would look like in each State. However, the States should be able to demonstrate how their targets fit into a longer timeframe of emissions reductions that will reach the national GHG goals for 2030 and 2050.

In addition, FHWA is proposing to require that MPOs establish a single joint target for each urbanized area that contains NHS mileage and that is overlapped by the boundaries of two or more metropolitan planning areas. This requirement would help ensure a coordinated approach to GHG emission reductions in areas where multiple MPOs serve a single urbanized area. For example, the urbanized area for Boston, Massachusetts-New Hampshire-Rhode Island is overlapped by 11 MPOs, and the urbanized area for Tampa-St Petersburg, Florida, is overlapped by 4 MPOs. Coordinated systems and region-based approaches to reduce GHG emissions are intended to ensure the collaboration necessary to achieve meaningful reductions in GHG emissions. FHWA has not proposed joint targets with State DOTs because State DOTs and MPOs are already required to coordinate on the establishment of targets to the maximum extent practicable. 23 CFR 450.206(c) and 450.306(d)(2)(ii); *see also* 23 CFR 490.105(f)(2). As discussed in Part V of this preamble, FHWA is seeking comment on the efficacy of the proposed approach and how it could best be implemented.

As the recent IPCC report emphasizes, time is of the essence in addressing GHG emissions, including those from the transportation sector. FHWA also anticipates that States should have adequate time to establish targets for the proposed GHG measure before targets are reported in the State Biennial Performance Report due to FHWA by October 1, 2022. This expedited schedule is proposed to allow this new measure to be in place at the start of TPM's 4-year reporting period, represented by the baseline performance period report due by October 1, 2022. FHWA recognizes that it is possible the due date to report State DOT initial targets for the proposed GHG measure may need to be adjusted. FHWA requests comment on what the due date should be in the event a final rule is not effective in advance of the October 1, 2022, reporting date. As stated elsewhere in this proposal, FHWA also will consider public comments to establish a GHG measure for States and MPOs in a final rule based on this proposed rule.

For the proposed measure, State DOTs would be required to establish 2- and 4-year targets, and report on progress biennially. MPOs would be required to establish 4-year targets for their metropolitan planning area. MPOs would establish additional 4-year targets for select urbanized areas. MPOs would report progress toward the achievement of targets every 4 years to the State DOT in a manner that is documented and mutually agreed upon. Pursuant to 23 U.S.C. 135(d)(2)(B)(i)(II), the proposed measure would be subject to 23 CFR 490.105(e)(2), which requires State DOTs to coordinate with relevant MPOs to establish targets, to the maximum extent practicable. The coordination would be accomplished in accordance with the transportation planning process set forth in 23 CFR part 450. FHWA recognizes the need for State DOTs and MPOs to have a shared vision on expectations for future condition/performance and target establishment process, one that is consistent with national, State, and local policies and targets for total GHG emission reductions.

IV. Section-by-Section Discussion of the Proposed Changes

FHWA proposes changes to two subparts of 23 CFR part 490: Subpart A—General Information, which applies to all of the regulations throughout part 490; and Subpart E—National Performance Management Measures to Assess Performance of the National Highway System, where FHWA proposes to locate the GHG measure. This section of the preamble describes the proposed changes and the reasons behind them. The proposed rule would apply to the 50 States, the District of Columbia, and Puerto Rico consistent with the definition of the term ''State'' in 23 U.S.C. 101(a). FHWA also invites comments on the proposed changes and identifies areas where comments may be particularly useful in facilitating implementation of the GHG measure.

Subpart A—General Information

Section 490.101 Definitions

FHWA proposes to amend § 490.101 by adding a new definition of the term *Fuels and Financial Analysis System-Highways (FUELS/FASH)* for purposes of part 490. The term refers to FHWA's system of record for motor fuel, highway program funding, licensed drivers, and registered vehicles data. The FUELS/

FASH system is used to facilitate the collection, validation, review, analysis, and finalization of data reported by State agencies. Currently, FHWA uses the FUELS/FASH data to respond to legislative requests or prepare reports to the Congress; analyze existing and proposed Federal-aid funding methods and levels and the assignment of user cost responsibility; maintain a critical information base on fuel availability, use, and revenues generated; and calculate apportionment factors. The system is used to facilitate the collection, validation, review, analysis, and finalization of data reported by State agencies on an annual or monthly basis. Including the definition in § 490.101 is consistent with the inclusion in this section of definitions of other systems and databases used in performance management reporting, including *Highway Performance Monitoring System (HPMS)* and *National Bridge Inventory (NBI).*

Section 490.105 Establishment of Performance Targets

FHWA proposes to add five new paragraphs to § 490.105 regarding the establishment of performance targets and proposes adjustments to five existing paragraphs due to the proposed GHG measure. First, proposed new § 490.105(c)(5) would add a reference to proposed § 490.507(b) for the GHG performance measure to the existing list of applicable performance measures for State DOTs and MPOs that include, within their respective geographic boundaries, any portion of the applicable transportation network (*i.e.,* for the GHG measure, all mainline highways on the Interstate and non-Interstate NHS). Second, proposed changes would affect the target scope provisions of § 490.105(d). Proposed new § 490.105(d)(1)(v) would require that State DOTs and MPOs establish statewide and metropolitan planning area wide targets, respectively, that represent the condition/performance of the NHS as specified in proposed § 490.503(a)(2) for the GHG measure for the NHS specified in proposed § 490.507(b). Proposed new § 490.105(d)(4) would require that certain MPOs also establish joint targets for the GHG measure for select urbanized areas specified in proposed new § 490.105(f)(10). Additionally, FHWA proposes to revise the introductory text of § 490.105(d) to include the scope of urbanized areas, consistent with proposed § 490.105(d)(4). In Part V of this preamble, FHWA encourages submission of comments on the type of target setting requirements that would best help MPOs improve the environmental performance of their transportation systems with respect to GHG emissions.

Furthermore, FHWA proposes changes to § 490.105(e) regarding the establishment of targets. FHWA proposes to revise existing § 490.105(e)(1), which addresses the schedule by which States are required to establish performance targets. The proposed revisions would clarify that State DOTs are required to establish initial targets for the GHG measure identified in proposed § 490.507(b) no later than October 1, 2022. The structure of the paragraph also would change to clarify the distinct deadline for performance targets for the GHG measure.

In addition, the proposed revisions would clarify the existing requirement that State DOTs were to establish initial targets for all other performance measures no later than February 20, 2018, by correcting the date to May 20, 2018. Under 23 U.S.C. 150(d)(1), State DOTs are required to establish such targets not later than one year after the promulgation of FHWA's final rule establishing performance measures. As discussed previously, FHWA promulgated the PM3 final rule establishing NHPP performance measures on January 18, 2017 (82 FR 5970), with an effective date of February 17, 2017. That effective date corresponds to the February 20, 2018, deadline for target establishment in the current regulations. However, FHWA later delayed the effective date of the PM3 final rule until May 20, 2017 (82 FR 14438), which corresponds to an initial date of May 20, 2018, for establishing targets for NHPP performance measures other than the proposed GHG measure. The proposed rule would codify the May 20, 2018, date in § 490.105(e)(1) for accuracy, even though the date has passed.

FHWA proposes to require that State DOTs establish initial targets for the GHG measure no later than October 1, 2022, to facilitate implementation of the GHG measure on the same schedule as the other NHPP performance measures. The proposed initial target establishment date is expected to synchronize this new GHG measure with the reporting cycle in part 490 for NHPP measures. FHWA believes that such a schedule will increase the potential for efficiencies and ease administrative efforts on the part of State DOTs and MPOs. FHWA anticipates that State DOTs would be able to establish targets to be reported in the State DOT's Biennial Performance Report due to FHWA by October 1, 2022. However, the proposed GHG measure is important to advancing the national policies discussed in the ''Statement of the Problem, Legal Authority, and Rationale'' section of this preamble to confront the climate crisis. FHWA encourages State DOTs to consider preparing for implementation of the proposed GHG measure to help advance those national policies.

Proposed new § 490.105(e)(10) would require declining targets for reductions in tailpipe CO_2 emissions on the NHS that align with the 2030 and net-zero by 2050 emissions reduction targets discussed earlier. In addition, FHWA proposes revising § 490.105(f)(1)(i) to include the requirement that the targets established by an MPO for the GHG measure will also be declining targets for reducing tailpipe CO_2 emissions on the NHS.

FHWA also proposes revisions to § 490.105(f) regarding MPO establishment of targets. FHWA proposes to revise § 490.105(f)(3) to clarify that the existing target establishment options for MPOs apply to the targets established for the metropolitan planning area. Specifically, FHWA proposes to add language clarifying that the MPOs shall establish targets ''for the metropolitan planning area'' by either of the two options described. No other changes to § 490.105(f)(3) are proposed, but the entire provision is included for convenience. In Part V(A) of this preamble, FHWA encourages submission of comments on the important issue of how targets established by State DOTs and MPOs for reduced emissions might be implemented in order to lead to improved environmental performance.

Proposed new § 490.105(f)(10) would require that certain MPOs establish joint targets for the GHG measure for select urbanized areas. These targets would be in addition to the targets for the metropolitan planning area required in § 490.105(f)(1)(i). FHWA proposes that when an urbanized area that contains mainline highways on the Interstate or non-Interstate NHS, and any portion of that urbanized area is overlapped by the metropolitan planning area boundaries of two or more MPOs, those MPOs would need to coordinate to establish a single, joint target for that urbanized area. FHWA proposes to require a joint target for select urbanized areas in recognition of the importance of all MPOs that serve the same urbanized area working together regionally to solve common transportation problems in order to address GHG emissions.

FHWA proposes in § 490.105(f)(10)(i) that NHS designations and urbanized

areas shall be determined from the data, contained in HPMS, one year before the State DOT Baseline Performance Period Report is due to FHWA. This is consistent with existing requirements in § 490.105(f)(5)(iii)(E) and would not add additional burden. FHWA proposes to specify in § 490.105(f)(10)(ii) that only one target shall be established for the entire urbanized area regardless of roadway ownership and that each MPO shall report the joint target for the urbanized area. In § 490.105(f)(10)(iii), FHWA proposes that any joint target established for an urbanized area would be a quantifiable target. This is different than the existing options in § 490.105(f)(3) that allow MPOs to agree to plan and program projects so that they contribute toward the accomplishment of the relevant State DOT target. For the MPOs' joint urbanized area targets, MPOs would need to establish a quantifiable value for the joint target. Under the proposed rule, that value could be the same as the State DOT's target. MPOs would not be required to adjust their joint target if the State DOT adjusts its target.

Section 490.107 Reporting on Performance Targets

The proposed GHG measure would be subject to the biennial reporting requirements in § 490.107, which includes reporting targets and performance. Proposed § 490.107 would revise existing regulations governing biennial performance period progress reporting to provide the date for State DOTs to submit initial reports to FHWA that contain the GHG measure information, and would add references to the GHG measure identified in § 490.507(b). Proposed § 490.107 would add metric reporting requirements as part of the biennial reports State DOTs submit to FHWA that would be unique to the GHG measure. In addition, proposed § 490.107 would add that MPOs report to the State DOT their metric calculation method, along with the calculation of tailpipe CO_2 emissions for the NHS (the metric used in calculating the measure) and all public roads within the MPO (the step before calculating the metric).

As proposed, revised § 490.107(b)(1) would update the existing requirement that State DOTs submit their first Baseline Performance Period Report (Baseline PPR) to FHWA by October 1, 2018, by providing that for the GHG measure, State DOTs are required to submit their first Baseline PPR containing information for the proposed GHG measure by October 1, 2022. This provision also would require State DOTs to submit subsequent Baseline PPRs to FHWA by October 1 every 4 years thereafter, which is consistent with other measures in 23 CFR part 490. FHWA proposes corresponding revisions to § 490.107(b)(2) and (3) to provide the first time information for the GHG measure would be included in the Mid Performance Period Progress Report (Mid PPPR) would be October 1, 2024, and October 1, 2026, for the Full Performance Period Progress Report (Full PPPR). These additions would fold performance reporting for the proposed GHG measure into the existing reporting requirement and schedule for other performance measures in 23 CFR part 490.

Proposed new § 490.107(b)(1)(ii)(H) would revise the existing regulations governing the content of Baseline PPRs to include a requirement that the State DOT report the GHG metric for the GHG measure and tailpipe CO_2 emissions on all public roads in each Baseline PPR. Specifically, such reporting would cover tailpipe CO_2 emissions on the NHS for the reference year and the two calendar years preceding the Baseline PPR and tailpipe CO_2 emissions on all public roads for the same time periods. Similarly, proposed § 490.107(b)(2) would amend the existing regulations governing Mid PPPRs to provide the schedule for State DOTs to submit the first such reports to FHWA for the proposed GHG measure and to include information pertaining to the proposed GHG measure in the required content of such reports. First, proposed revisions to the second sentence of § 490.107(b)(2)(i) would update the existing requirement that State DOTs submit their first Mid PPPR to FHWA by October 1, 2020, to require that the first Mid PPPR containing the proposed GHG measure information be submitted to FHWA by October 1, 2024. This provision also would require State DOTs to submit subsequent Mid PPPRs containing the proposed GHG measure information to FHWA by October 1 every 4 years thereafter, which is consistent with other measures in 23 CFR part 490.

Proposed new § 490.107(b)(2)(ii)(J) would revise the requirements for the content of Mid PPPRs to include the GHG metric for the GHG measure and tailpipe CO_2 emissions for all public roads in each Mid PPPR. Such reporting would cover tailpipe CO_2 emissions for the NHS and all public roads for the two calendar years preceding the Mid PPPR.

Proposed § 490.107(b)(3) would amend the existing regulations governing Full PPPRs to provide the schedule for State DOTs to submit the first such reports to FHWA containing the proposed GHG measure and to include information pertaining to the proposed GHG measure in the required content of such reports. Proposed revisions to the second sentence of § 490.107(b)(3)(i) would update the existing schedule requiring that State DOTs submit their first Full PPPR to FHWA by October 1, 2022, to require that the first Full PPPR containing the proposed GHG measure information be submitted to FHWA by October 1, 2026. This provision also would require State DOTs to submit subsequent Full PPPRs containing the proposed GHG measure information to FHWA by October 1 every 4 years thereafter, which is consistent with other measures in part 490.

Proposed new § 490.107(b)(3)(ii)(I) would revise the content requirements for the Full PPPRs to include the GHG metric for the GHG measure and tailpipe CO_2 emissions for all public roads in each Full PPPR. Such reporting would cover tailpipe CO_2 emissions for the NHS and all public roads for the two calendar years preceding the Full PPPR.

Finally, proposed revisions to § 490.107(c)(1) would require each MPO to report in the system performance report in the metropolitan transportation plan, a description of its GHG metric calculation method, described in § 490.511(d), including the calculation of tailpipe CO_2 emissions for the NHS and all public roads. FHWA considers documenting the method used to calculate the metric used in calculating the measure itself important for achieving consistency, providing transparency, and maintaining quality control in the reported measure calculations. FHWA also expects that MPO reporting of tailpipe CO_2 emissions on the NHS would provide useful information for State DOTs since these estimates would be expressed in absolute terms and could be easily summed to evaluate progress across MPOs. FHWA requests comment on whether MPOs should be required to provide the metric calculation method and their tailpipe CO_2 emissions to the State DOT outside of the system performance report to provide for more frequent information sharing. FHWA also requests comment on whether to specify a uniform metric calculation method for MPOs, as opposed to allowing a range of approaches that are referenced in the description of § 490.511.

Section 490.109 Assessing Significant Progress Toward Achieving the Performance Targets for the National Highway Performance Program and the National Highway Freight Program

FHWA proposes to amend § 490.109 to update the sources of information that FHWA will use to assess NHPP target achievement and condition/performance progress for the GHG measure.[38] First, FHWA proposes to add new § 490.109(d)(1)(v), to provide that FHWA will extract data contained within FUELS/FASH on August 15 of the year in which the significant progress determination is made. This data would account for fuel use from the prior calendar year and the reference year. FUELS/FASH is proposed as the source of this information because it is a national, established, and validated data source for total fuel use as reported annually to FHWA by the States, Washington, DC, and Puerto Rico. FUELS/FASH is also the most accurate and up-to-date source known for this sort of information.

FHWA desires to use national datasets in a consistent manner as a basis for making its significant progress determinations. Thus, consistent with existing § 490.109(d), FHWA proposes to use specific data sources that could be accessed by State DOTs and others if they choose to replicate FHWA's determinations.

For consistency with existing requirements in part 490 that use August 15 as the date data will be extracted, FHWA is proposing to establish August 15 as the date on which FHWA will extract data from the HPMS and FUELS/FASH related to the proposed GHG measure. Providing a specific as-of-date related to the data used will create an incentive to ensure the data is submitted correctly and accurate information is available on that date. The August 15 date is considered the earliest time data reasonably would be available in a national data source. This proposed date considers the time State DOTs typically need to submit the relevant data to HPMS and FUELS/FASH, to process raw data, and to address missing or incorrect data that may be identified as a result of quality assessments conducted by the State DOT or FHWA. The proposed date also is necessary for FHWA to make the significant progress determination for the proposed GHG measure in a timely manner.

FHWA additionally proposes to revise § 490.109(d)(1)(vi), which would provide that baseline condition/performance data contained in FUELS/FASH, HPMS, and NBI of the year in which the Baseline PPR is due to FHWA represents baseline conditions/performances for the performance period for the measures in § 490.105(c)(1) through (5).

Finally, FHWA proposes to add § 490.109(d)(1)(vii) to indicate that FHWA will extract data contained within the HPMS, on August 15 of the year in which the significant progress determination is made. These data would account for VMT from the prior calendar year and the reference year.

FHWA proposes to add a new § 490.109(e)(4)(iv) to specify that in order for the FUELS/FASH data to be sufficient for FHWA's significant progress determination, it must be cleared by August 15th. The requirement for data submitted by a State DOT to be cleared prior to use in the significant progress determination is consistent with the requirements for other such data sets in 23 CFR part 490.

In addition, FHWA proposes to revise the existing regulations governing performance achievement by adding § 490.109(f)(1)(v) to require that if significant progress is not made for the target established for the GHG measure in § 490.507(b), the State DOT must document the actions it will take to achieve that target in its next biennial report. This provision would apply the same approach to the proposed GHG measure that the existing regulations use for other NHPP performance measures.[39]

Subpart E—National Performance Management Measures to Assess Performance of the National Highway System

In addition, FHWA proposes to amend several sections of 23 CFR part 490, subpart E, to incorporate the GHG measure into existing regulations on NHPP performance measures.

Section 490.503 Applicability

FHWA proposes to amend § 490.503 by adding a new paragraph (a)(2) providing that the GHG measure specified in § 490.507(b) is applicable to all mainline highways on the Interstate and non-Interstate NHS. FHWA believes this applicability is appropriate because the measure, which is limited to CO_2 emissions on the NHS, aims to assess the performance of the NHS. *See* 23 U.S.C. 150(c)(3)(A)(ii)(IV) and (V) (concerning measures to assess the performance of the Interstate System and the performance of the NHS (excluding the Interstate System), respectively).

Section 490.505 Definitions

Proposed § 490.505 would add two new definitions to the Definitions section of the National Performance Management Measures to Assess Performance of the National Highway System. First, FHWA proposes to define the term *greenhouse gas (GHG)* as any gas that absorbs infrared radiation (traps heat) in the atmosphere. The proposed definition further notes that 97 percent of on-road GHG emissions are CO_2 from burning fossil fuels, and that other transportation GHGs are methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs). This information comes from EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks.[40] This information supports that CO_2 is the appropriate pollutant to examine in the GHG measure. The proposed definition also establishes the acronym, ''GHG,'' that FHWA uses throughout the section to refer to greenhouse gas.

Second, FHWA proposes to define the term *reference year* as calendar year 2021 for the purpose of the GHG measure. As explained later in this preamble, under the proposed rule, the reference year would be used in calculating the GHG measure. FHWA proposes to use calendar year 2021 for the reference year for the GHG measure because it is the most recent year for which data will be complete and available.

Section 490.507 National Performance Management Measures for System Performance

FHWA proposes to revise the introductory text of § 490.507 to refer to ''three'' performance measures to assess the performance of the Interstate System and the performance of the non-

[38] FHWA regulations at 23 CFR 490.109 describe the method FHWA uses to determine if State DOTs have achieved or have made significant progress toward the achievement of their NHPP targets. Under the existing regulation, progress toward the achievement of an NHPP target would be considered ''significant'' when either of the following occur: the actual condition/performance level is equal to or better than the State DOT established target; or actual condition/performance is better than the State DOT identified baseline condition/performance. If a State DOT fails to achieve significant progress, the State DOT must document in its next report the actions it would take to achieve the targets.

[39] See 23 CFR 490.109 (regulations governing FHWA's assessment of significant progress toward achieving NHPP performance targets, among others). FHWA is not proposing specific penalties for failure to achieve performance targets. Failure to comply with Federal requirements, including requirements to set performance targets, may be subject to penalties under 23 CFR 1.36.

[40] *See* EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks, *available at https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019.*

Interstate NHS for purposes of carrying out the NHPP. The three measures would include the proposed GHG measure in addition to the two Travel Time Reliability measures in the existing regulations. In addition, FHWA proposes to add a new § 490.507(b) to describe the GHG measure as the percent change in tailpipe CO_2 emissions on the NHS compared to the reference year. FHWA proposes a GHG measure that uses existing data sources in order to minimize the burden on transportation agencies. Because FHWA is establishing this measure under 23 U.S.C. 150(c)(3), it applies to the NHS in all States and metropolitan planning areas. The measure would be calculated by multiplying motor fuel sales volumes already reported by State DOTs to FHWA though the FUELS/FASH system by FHWA-supplied emissions factors for the CO_2 per gallon of fuel, and the percentage of VMT on the NHS. The percent change from the current year to the reference year would then be calculated. As defined in proposed § 490.505, the reference year would be calendar year 2021.

Section 490.509 Data Requirements

FHWA proposes to revise § 490.509 to add three new paragraphs regarding the GHG measure. Proposed § 490.509(f) would provide that FHWA plans to post on the FHWA website the CO_2 emissions factors for each on-road fuel type. The emissions factors are needed to calculate the GHG metric for the GHG measure in § 490.105(c)(5). FHWA would post this information in order to ensure that a consistent factor is used by all DOTs and MPOs for each fuel type. For these factors, FHWA is considering using information from EPA's MOVES [41] model, Argonne National Laboratory's GREET [42] model, CO_2 coefficients published by the Energy Information Administration, or other U.S. Government published data sources. FHWA requests comments on any U.S. Government emissions factors or calculation methods that may be useful.

Proposed § 490.509(g) would establish a data source for total fuel use by fuel type, which is needed for the calculation of the GHG measure, as described in § 490.513. The proposed data source is FHWA's FUELS/FASH system, which reports gallons of fuel used by State across multiple fuel types.

Proposed § 490.509(h) would require that VMT data used come from HPMS. This data would include estimates of both NHS VMT and total VMT developed from HPMS data available as of August 15 and would represent the previous calendar year.

Section 490.511 Calculation of National Highway System Performance Metrics

FHWA proposes to include in § 490.511 new provisions for the calculation of a ''GHG metric,'' the annual total tailpipe CO_2 emissions on the NHS, for the GHG measure. Under the existing performance management regulations, the term ''metric'' means a quantifiable indicator of performance or condition. 23 CFR 490.101. Proposed § 490.511(a)(2) would add a reference to the ''GHG metric'' to the existing regulations that describe the performance metrics that are required for the NHS performance measures specified in § 490.507. The proposed rule uses ''NHS'' to mean the mainline highways of the NHS, consistent with the applicability of the measure described in proposed § 490.503(a)(2). The definition of the term ''mainline highways'' specifically excludes ramps, shoulders, turn lanes, crossovers, rest areas, and other pavement surfaces that are not part of the roadway normally traveled by through traffic. 23 CFR 490.101.

In addition, FHWA proposes to add a new § 490.511(c) to require that tailpipe CO_2 emissions on the NHS for a given calendar year be estimated millions of metric tons (mmt) and rounded to the nearest hundredth mmt using a formula set forth in the proposed regulation. Specifically, the calculation is based on State reported fuel use by fuel type (such as gasoline and diesel), as reported to FHWA. These fuel use values are then multiplied by a corresponding CO_2 emissions factor (amount of CO_2 per gallon of each fuel type). The CO_2 emissions factor would be posted on FHWA's website no later than August 15 each year. These values are then summed and multiplied by the NHS VMT relative to the total VMT. A key assumption in using the proportion of NHS VMT to total VMT, is that there is a similar rate of GHG emissions on NHS and non-NHS facilities per VMT.

FHWA also proposes to add a new § 490.511(d) to address the expectations for MPOs in implementing the GHG measure. Proposed § 490.511(d) would state that MPOs have additional flexibility, compared to State DOTs, in how they calculate the GHG metric, since MPOs may employ various models and data collection methods that can be used to estimate CO_2 emissions. Proposed § 490.511(d) would allow an MPO to use a range of approaches, including: the MPO share of the State's VMT as a proxy for the MPO share of CO_2 emissions; VMT estimates along with emissions factors from EPA MOVES model EMFAC; [43] or FHWA's Energy and Emissions Reduction Policy Analysis Tool (EERPAT) model. Alternatively, proposed § 490.511(d) would also allow an MPO to use another method if the MPO can demonstrate to its State DOT that it has a technically valid and useful approach to estimating CO_2 emissions.

Finally, FHWA proposes § 490.511(f) to require the reporting of two related CO_2 emissions calculations in State DOT's Biennial Performance Reports for the reference year and the 2 years preceding each reporting year. The first of these is a calculation of total tailpipe CO_2 emissions from on-road sources travelling on all roadways, which represents a component of the calculation of the metric, as described in § 490.511(a)(2). The second of these is a calculation of the metric itself. FHWA is proposing to require the reporting of total tailpipe CO_2 emissions on all roadways to ensure a consistent basis for monitoring tailpipe CO_2 emissions trends, since year-over-year variation in NHS mileage would impact the calculation of the metric. Reporting on this data is not believed to add burden since State DOTs would need to perform this calculation as part of calculating the metric.

Section 490.513 Calculation of National Highway System Performance Measures

The existing performance management regulations define the term ''measure'' as an expression based on a metric that is used to establish targets and to assess progress toward achieving them. 23 CFR 490.101. In proposed § 490.513, FHWA would add a new § 490.513(d) to require computation of the GHG measure, specified in proposed § 490.507(b), to the nearest tenth of a percent according to a formula that would be set forth in the regulation. The computation would involve: (1) determining the difference between tailpipe CO_2 emissions on the NHS in the calendar year and tailpipe CO_2 emissions on the NHS in the reference year (calendar year 2021); (2) dividing that amount by tailpipe CO_2 emissions on the NHS in the reference year (calendar year 2021); and (3) multiplying the total by 100 so that the result is expressed as a percent change from the reference year (calendar year

[41] Motor Vehicle Emissions Simulator.

[42] Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies.

[43] The California Air Resources Board (CARB) maintains the EMission FACtor (EMFAC) model, which is approved by EPA for developing on-road motor vehicle emission inventories and analyses in California.

2021). As noted, the proposed rule uses ''NHS'' to mean the mainline highways of the NHS, as defined in § 490.101, consistent with the applicability of the measure described in proposed § 490.503(a)(2).

FHWA has provided an example of the metric and measure computation in the rulemaking docket (Docket No. FHWA–2001–0004) and invites comments on the proposed method.

V. Additional Requests for Comments

A. Establishing Targets That Lead to Improved Environmental Performance

The proposed measure is intended to support the national policy established under section 1 of E.O. 13990 and E.O. 14008 and at the Leaders Summit on Climate. This policy calls for GHG emissions reductions of 50 to 52 percent below 2005 levels by 2030 and for the U.S. to achieve net-zero emissions by 2050. FHWA encourages comments that address whether the proposed measure would support those national policies, the ways in which the proposed measure would do so or why it would not, and whether the final rule should contain any other provisions to better support those national policies.

FHWA is proposing to require declining targets for reducing tailpipe CO_2 emissions compared to the reference year. State DOTs would establish 2- and 4-year statewide targets, and MPOs would establish 4-year targets for the metropolitan planning area. In addition, MPOs would establish 4-year targets for select urbanized areas jointly with other applicable MPOs.

However, it may be appropriate to implement improving targets that are structured to support longer-term GHG reduction goals. 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.

For example, 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. These targets could inform decision-making to support of longer-term GHG reduction goals. The 8- and 20-year improving targets established as part of the first 4-year performance period would indicate a reduction as compared to the reference year, while subsequent 8- and 20-year targets would indicate a reduction as compared to previous 8- and 20-year targets. These targets could inform decision-making to support of longer-term GHG reduction goals. FHWA also seeks comments on how these targets could align with and inform existing transportation planning and programming processes.

Additionally, FHWA invites comments on the following:

- 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?
- What changes to the proposed measure or its implementation in TPM could better the impact of transportation decisions on CO_2 emissions, and enable States to achieve tailpipe CO_2 emissions reductions necessary to achieve national targets?

Finally, this NPRM proposes that when there are two or more MPOs with metropolitan planning area boundaries that overlap any portion of an urbanized area, and the urbanized area contains NHS mileage, the MPOs would be required to establish a joint urbanized area target in addition to metropolitan planning area targets. FHWA invites comments on the following questions:

- In instances that MPOs are establishing a joint urbanized area target, should FHWA require that the individual MPO-wide targets be the same as the jointly established urbanized area target?
- Should MPOs that establish a joint urbanized area target be exempt from establishing individual MPO-level targets, and instead only be required to adopt and support the joint urbanized area target?
- In cases where there are multiple MPOs with boundaries that overlap any portion of an urbanized area, and that urbanized area contains NHS mileage, should each of those MPOs establish their own targets, with no requirement for a joint urbanized area target?
- Are there other approaches to target setting in urbanized areas served by multiple MPOs that would better help MPOs reach net-zero emissions?

B. Summary of and Request for Comments on the Regulatory Impact Analysis

The Regulatory Impact Analysis (RIA) for the proposed rule estimates the costs associated with establishing the GHG measure, which are derived from the costs of implementing the GHG measure for certain components of the rule. The sections of part 490 amended by this proposed rule for which FHWA assumes associated costs in the RIA are target establishment by State DOTs and MPOs (23 CFR 490.105), reporting by State DOTs and MPOs (23 CFR 490.107), FHWA's assessment of significant progress toward State DOT targets and action plans by State DOTs that do not make significant progress (23 CFR 490.109), calculating the GHG metric (23 CFR 490.511), and calculating the GHG measure (23 CFR 490.513). To estimate the costs of this proposed rule, FHWA assessed the level of effort that would be needed to comply with each applicable section in part 490 with respect to the proposed GHG measure, including labor hours by labor category. The level of effort by labor category was monetized with loaded wage rates to estimate total costs. The RIA covers a 10-year study period (2022–2031). Total costs over this period are estimated to be $11.0 million, discounted at 7 percent, and $12.9 million discounted at 3 percent.

Benefits of the rule are not quantified since FHWA is unable to reasonably forecast the number and extent of actions of State DOTs and MPOs in response to this rule. However, it is anticipated that the measure will influence transportation decisions and result in significant reductions in GHG emissions. Office of Management and Budget (OMB) Circular A–4 (Regulatory Analysis) provides guidance on implementing a break-even analysis when benefits of a rule cannot be fully quantified. The RIA estimates the break-even threshold for tons of transportation-related CO_2 emissions reduced, since it is reasonable to assume the GHG performance measure will influence tons of transportation-related CO_2 emissions. At a discount rate of 7 percent, the number of tons of CO_2 emissions reduction that would be required for the proposed rule to be cost-beneficial range from 75,669 to 835,044 over the total 10-year analysis period, representing 0.0004 percent to 0.005 percent of total transportation CO_2 emissions. Similarly, at a discount rate of 3 percent, the total number of tons of CO_2 emissions reduction that would be required for the proposed rule to be cost-beneficial range from 88,772 to 983,896 over the total 10-year analysis period, representing 0.0005 percent to 0.006 percent of total transportation CO_2 emissions. These estimates were developed using interim estimated values of the social cost of CO_2 published by the Interagency Working Group on Social Cost of Greenhouse Gases, as FHWA has reviewed those estimates and determined that they are appropriate for use in this kind of break-even analysis. The break-even estimates are not intended justify the proposed rule, but are provided as context to illustrate the magnitude of CO_2

reductions required to equal estimated compliance costs. The RIA also notes a range of potential benefits, including more informed decision-making, more comprehensive performance and practices, greater accountability and progress on national transportation goals.[44]

FHWA is seeking comment on assumptions that were developed as part of the RIA, as well as information on other benefits or costs that would result from implementation of the rule.

- The RIA includes assumptions regarding the applicability, level of effort and frequency of activities under proposed §§ 490.105, 490.107, 490.109, 490.511, and 490.513. Are these assumptions reasonable? Are there circumstances that may result in greater or lesser burden relative to the RIA assumptions?
- 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? If so, please describe and provide any information on programs that would benefit from this measure and estimate any costs that would be reduced by implementing this measure.
- 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? If so, please describe such efficiencies and provide any information on potential cost savings.
- 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? 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).

[44] The potential benefits that may flow from the proposed GHG measure stem from its potential to support more informed choices about transportation investments and other policies to help achieve net zero emissions economy-wide by 2050, including projects eligible under the Carbon Reduction Program and the National Electric Vehicle Infrastructure Program, both established under the Bipartisan Infrastructure Law.

VI. Rulemaking Analyses and Notices

A. Executive Order 12866 (Regulatory Planning and Review), Executive Order 13563 (Improving Regulation and Regulatory Review), and DOT Regulatory Policies and Procedures

The Office of Management and Budget (OMB) has determined that the proposed rule would be a significant regulatory action within the meaning of E.O. 12866 because it may raise novel legal or policy issues arising out of the President's priorities. However, it is anticipated that the proposed rule would not be economically significant for purposes of E.O. 12866. The proposed rule would not have an annual effect on the economy of $100 million or more. The proposed rule would not adversely affect in a material way the economy, any sector of the economy, productivity, competition, or jobs. In addition, the proposed changes would not interfere with any action taken or planned by another agency and would not materially alter the budgetary impact of any entitlements, grants, user fees, or loan programs. As described above, FHWA estimates that total costs associated with this proposed rule would be $11.0 million, discounted at 7 percent, and $12.9 million discounted at 3 percent. While FHWA is unable to quantify the benefits of the proposed rulemaking, FHWA describes the expected benefits qualitatively in the preamble and the regulatory impact analysis. These benefits include potentially significant reductions in GHG emissions resulting from greater consideration of GHG emissions in transportation planning, public awareness of GHG emissions trends, and better information on the impact of transportation decisions on GHG emissions. FHWA also performed a break-even analysis to analyze the relationship between the costs and potential benefits of the proposed rule. The full regulatory impact analysis is available in the docket.

B. Regulatory Flexibility Act

In compliance with the Regulatory Flexibility Act (Pub. L. 96–354, 5 U.S.C. 601–612), FHWA has evaluated the effects of this proposed rule on small entities and has determined that it is not anticipated to have a significant economic impact on a substantial number of small entities. The proposed rule would affect two types of entities: State governments and MPOs. State governments are not included in the definition of small entity set forth in 5 U.S.C. 601. The MPOs are considered governmental jurisdictions, and to qualify as a small entity they would need to serve fewer than 50,000 people. The MPOs are designated to serve urbanized areas with populations of 50,000 or more. *See* 23 U.S.C. 134(d)(1). Therefore, FHWA certifies that the proposed rule will not have a significant economic impact on a substantial number of small entities.

C. Unfunded Mandates Reform Act of 1995

This proposed rule would not impose unfunded mandates as defined by the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4, 109 Stat. 48). This proposed rule would not result in the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector, of $168 million or more in any one year (2 U.S.C. 1532). In addition, the definition of ''Federal Mandate'' in the Unfunded Mandates Reform Act excludes financial assistance of the type in which State, local, or Tribal governments have authority to adjust their participation in the program in accordance with changes made in the program by the Federal Government. The Federal-aid highway program permits this type of flexibility.

D. Executive Order 13132 (Federalism Assessment)

This proposed rule has been analyzed in accordance with the principles and criteria contained in E.O. 13132, and FHWA has determined that this proposed rule would not have sufficient federalism implications to warrant the preparation of a federalism assessment. FHWA also has determined that this proposed rule would not preempt any State law or State regulation or affect the States' ability to discharge traditional State governmental functions.

E. Paperwork Reduction Act of 1995

Under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501, *et seq.*), Federal agencies must obtain approval from the Office of Management and Budget (OMB) for each collection of information they conduct, sponsor, or require through regulations. FHWA has determined that this proposal contains collection of information requirements for the purposes of the PRA. This proposed rule introduces a GHG performance measure that would be implemented as part of the overarching TPM regulations in 23 CFR part 490, which includes State DOT reporting on performance. The collection of biennial report information in support of 23 CFR 490.107 is covered by OMB Control No. 2125–0656.

FHWA has analyzed this proposed rule under the PRA and has determined the following:

Respondents: 52 State DOTs.
Frequency: Biennial reporting.
Estimated Average Burden per Response: Approximately 88 hours to complete and submit the biennial report, or 44 hours annually.
Estimated Total Annual Burden Hours: Approximately 2,288 hours annually.

In addition, MPO coordination and reporting activities are covered by OMB Control No. 2132–0529, Metropolitan and Statewide and Nonmetropolitan Transportation Planning. FHWA invites interested persons to submit comments on any aspect of the information collection in this NPRM. FHWA anticipates updating the burden estimates for the applicable OMB control numbers to reflect the final rule.

F. National Environmental Policy Act

FHWA has analyzed this proposed rule pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 *et seq.*) and has determined that it is categorically excluded under 23 CFR 771.117(c)(20), which applies to the promulgation of rules, regulations, and directives. Categorically excluded actions meet the criteria for categorical exclusions under the Council on Environmental Quality regulations and under 23 CFR 771.117(a) and normally do not require any further NEPA approvals by FHWA. This proposed rule would establish in FHWA regulations a performance measure for on-road CO_2 emissions on the NHS for use by States and MPOs in measuring transportation performance. FHWA does not anticipate any adverse environmental impacts from this proposed rule, the purpose of which is to inform decisionmaking about the transportation sector's contribution to GHG emissions, and thereby contribute to environmental sustainability; no unusual circumstances are present under 23 CFR 771.117(b).

G. Executive Order 13175 (Tribal Consultation)

FHWA has analyzed this proposed rule in accordance with the principles and criteria contained in E.O. 13175, ''Consultation and Coordination with Indian Tribal Governments.'' The proposed rule would implement statutory requirements under 23 U.S.C. 150(c)(3)(A)(ii)(IV)–(V) to establish measures for States to assess the performance of the Interstate and non-Interstate NHS, which FHWA interprets to include environmental performance. This measure applies to States that receive Title 23 Federal-aid highway funds, and it would not have substantial direct effects on one or more Indian Tribes, would not impose substantial direct compliance costs on Indian Tribal governments, and would not preempt Tribal laws. Accordingly, the funding and consultation requirements of E.O. 13175 do not apply and a Tribal summary impact statement is not required.

I. Executive Order 12898 (Environmental Justice)

E.O. 12898 requires that each Federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minorities and low-income populations. FHWA has determined that this proposed rule does not raise any environmental justice issues.

J. Regulation Identifier Number

A regulation identifier number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN contained in the heading of this document can be used to cross reference this action with the Unified Agenda.

List of Subjects in 23 CFR Part 490

Bridges, Highway safety, Highways and roads, Reporting and recordkeeping requirements.

Issued under authority delegated in 49 CFR 1.81 and 1.85.

Stephanie Pollack,

Deputy Administrator, Federal Highway Administration.

In consideration of the foregoing, FHWA proposes to amend title 23, Code of Federal Regulations, part 490, as set forth below:

PART 490—NATIONAL PERFORMANCE MANAGEMENT MEASURES

■ 1. The authority citation for part 490 continues to read as follows:

Authority: 23 U.S.C. 134, 135, 148(i) and 150; 49 CFR 1.85.

Subpart A—General Information

■ 2. Amend § 490.101 by adding the definitions of ''Fuels and Financial Analysis System-Highways (FUELS/FASH)'' and ''Net-zero'' in alphabetical order to read as follows:

§ 490.101 Definitions.

* * * * *

Fuels and Financial Analysis System-Highways (FUELS/FASH), as used in this part, means the FHWA's system of record for motor fuel, highway program funding, licensed drivers, and registered vehicles data.

* * * * *

Net-zero, as used in this part, means that human activities produce no more greenhouse gases than they remove from the atmosphere.

* * * * *

■ 3. Amend § 490.105 by adding paragraph (c)(5), revising the introductory text of paragraph (d), adding paragraphs (d)(1)(v) and (d)(4), revising paragraph (e)(1), adding paragraph (e)(10), revising paragraphs (f)(1)(i) and (f)(3), and adding paragraph (f)(10) to read as follows:

§ 490.105 Establishment of performance targets.

* * * * *

(c) * * *

(5) 490.507(b) for the greenhouse gas (GHG) performance for the NHS;

* * * * *

(d) *Target scope.* Targets established by State DOTs and MPOs shall, regardless of ownership, represent the transportation network or geographic area, including bridges that cross State borders, that are applicable to the measures as specified in paragraphs (d)(1), (2), and (4) of this section.

(1) * * *

(v) 490.503(a)(2) for the GHG measure specified in § 490.507(b);

* * * * *

(4) MPOs shall establish targets for the GHG measure specified in § 490.507(b) that represent performance of the transportation network specified in § 490.503(a)(2), for urbanized areas meeting the criteria specified in paragraph (f)(10) of this section.

(e) * * *

(1) *Schedule.* State DOTs shall establish targets not later than the due dates provided in paragraphs (e)(1)(i) and (ii) of this section, and for each performance period thereafter, in a manner that allows for the time needed to meet the requirements specified in this section and so that the final targets are submitted to FHWA by the due date provided in § 490.107(b).

(i) State DOTs shall establish initial targets not later than May 20, 2018, except as provided in paragraph (e)(1)(ii) of this section.

(ii) State DOTs shall establish initial targets for the GHG measure identified in § 490.507(b) not later than October 1, 2022.

* * * * *

(10) *Targets for the GHG measure.* Targets established for the GHG measure in paragraph (c)(5) of this section shall

be declining targets for reducing tailpipe CO_2 emissions on the NHS, that demonstrate reductions toward net-zero targets.

(f) * * *

(1) * * *

(i) The MPOs shall establish 4-year targets, described in paragraph (e)(4)(iv) of this section, for all applicable measures, described in paragraphs (c) and (d) of this section. For the GHG measure described in paragraph (c)(5) of this section, the targets established shall be declining targets for reducing tailpipe CO_2 emissions on the NHS.

* * * * *

(3) *Target establishment options.* For each performance measure identified in paragraph (c) of this section, except the CMAQ Traffic Congestion measures in paragraph (f)(5) of this section, MPOs meeting the criteria under paragraph (f)(6)(iii) of this section for Total Emissions Reduction measure, the MPOs shall establish targets for the metropolitan planning area by either:

(i) Agreeing to plan and program projects so that they contribute toward the accomplishment of the relevant State DOT target for that performance measure; or

(ii) Committing to a quantifiable target for that performance measure for their metropolitan planning area.

* * * * *

(10) *Joint targets for the GHG measure.* Where an urbanized area contains mainline highways on the NHS, and any portion of that urbanized area is overlapped by the metropolitan planning area boundaries of two or more MPOs, those MPOs shall collectively establish a single joint 4-year target for that urbanized area, described in paragraph (e)(4)(iv) of this section. This joint target is in addition to the targets for the metropolitan planning area required in paragraph (f)(1)(i) of this section.

(i) NHS designations and urbanized areas shall be determined from the data, contained in HPMS, 1 year before the State DOT Baseline Performance Period Report is due to FHWA.

(ii) Only one target shall be established for the entire urbanized area regardless of roadway ownership. In accordance with paragraph (f)(9) of this section, each MPO shall report the joint target for the urbanized area.

(iii) The target established for each urbanized area shall represent a quantifiable target for that urbanized area.

■ 4. Amend § 490.107 by revising the second sentence of paragraph (b)(1)(i), adding paragraph (b)(1)(ii)(H), revising the second sentence of paragraph (b)(2)(i), adding paragraph (b)(2)(ii)(J), revising the second sentence of paragraph (b)(3)(i), and adding paragraph (b)(3)(ii)(I), and adding a second sentence in paragraph (c)(2) to read as follows:

§ 490.107 Reporting on performance targets.

* * * * *

(b) * * *

(1) * * *

(i) * * * State DOTs shall submit their first Baseline Performance Period Report to FHWA by October 1, 2018, and subsequent Baseline Performance Period Reports to FHWA by October 1st every 4 years thereafter, except for the GHG measure specified in § 490.105(c)(5), State DOTs shall submit their first Baseline Performance Period Report to FHWA by October 1, 2022, and subsequent Baseline Performance Period Reports to FHWA by October 1st every 4 years thereafter.

(ii) * * *

(H) *GHG metric for the GHG measure.* Tailpipe CO_2 emissions on the NHS, as described in § 490.511(f), for the reference year and the 2 calendar years preceding the Baseline Performance Period Report, and tailpipe CO_2 emissions on all public roads for the reference year and the 2 calendar years preceding the Baseline Performance Period Report; and

* * * * *

(2) * * *

(i) * * * State DOTs shall submit their first Mid Performance Period Progress Report to FHWA by October 1, 2020, and subsequent Mid Performance Period Progress Reports to FHWA by October 1st every 4 years thereafter, except for the GHG measure specified in § 490.105(c)(5), State DOTs shall submit their first Mid Performance Period Progress Report to FHWA by October 1, 2024, and subsequent Mid Performance Period Progress Reports to FHWA by October 1st every 4 years thereafter.

(ii) * * *

(J) *GHG metric for the GHG measure.* Tailpipe CO_2 emissions for the NHS and all public roads, as described in § 490.511(f), for the 2 calendar years preceding the Mid Performance Period Progress Report for the GHG measure in § 490.105(c)(5).

* * * * *

(3) * * *

(i) * * * State DOTs shall submit their first Full Performance Period Progress Report to FHWA by October 1, 2022, and subsequent Full Performance Period Progress Reports to FHWA by October 1st every 4 years thereafter, except for the GHG measure specified in § 490.105(c)(5), State DOTs shall submit their first Full Performance Period Progress Report to FHWA by October 1, 2026, and subsequent Full Performance Period Progress Reports to FHWA by October 1st every 4 years thereafter.

(ii) * * *

(I) *GHG metric for the GHG measure.* Tailpipe CO_2 emissions for the NHS and all public roads, as described in § 490.511(f), for the 2 calendar years preceding the Full Performance Period Progress Report for the GHG measure in § 490.105(c)(5).

(c) * * *

(2) * * * For the GHG measure in § 490.105(c)(5), the MPO shall report a description of its metric calculation method, as described in § 490.511(d), and the calculation of tailpipe CO_2 emissions for the NHS and all public roads.

* * * * *

■ 5. Amend § 490.109 by:

■ a. Adding paragraph (d)(1)(v);

■ b. Revising paragraph (d)(1)(vi);

■ c. Adding paragraph (d)(1)(vii);

■ d. In paragraph (e)(4)(iv), removing the word ''or'';

■ e. In paragraph (e)(4)(v), removing the period at the end of the paragraph and adding ''; or'' in its place; and

■ f. Adding paragraphs (e)(4)(vi) and (f)(1)(v).

The additions and revision read as follows:

§ 490.109 Assessing significant progress toward achieving the performance targets for the National Highway Performance Program and the National Highway Freight Program.

* * * * *

(d) * * *

(1) * * *

(v) Data contained within FUELS/FASH on August 15th of the year in which the significant progress determination is made that represents performance from the prior year and for the reference year for targets established for the GHG measure in § 490.105(c)(5);

(vi) Baseline condition/performance data contained in FUELS/FASH, HPMS, and NBI of the year in which the Baseline Period Performance Report is due to FHWA that represents baseline conditions/performances for the performance period for the measures in § 490.105(c)(1) through (5); and

(vii) Data contained within the HPMS on August 15th of the year in which the significant progress determination is made that represents performance from the prior year and for the reference year for targets established for the GHG measure specified in § 490.105(c)(5).

* * * * *

(e) * * *

(4) * * *

(vi) A State DOT reported data are not cleared in the FUELS/FASH by the data extraction date specified in paragraph (d)(1) of this section for the GHG measure in § 490.105(c)(5).

* * * * *

(f) * * *

(1) * * *

(v) If significant progress is not made for the target established for the GHG measure in § 490.105(c)(5), then the State DOT shall document the actions it will take to achieve the target for the GHG measure.

* * * * *

Subpart E—National Performance Management Measures to Assess Performance of the National Highway System

■ 6. Amend § 490.503 by adding paragraph (a)(2) to read as follows:

§ 490.503 Applicability.

(a) * * *

(2) The greenhouse gas (GHG) measure in § 490.507(b) is applicable to all mainline highways on the Interstate and non-Interstate NHS.

* * * * *

■ 7. Amend § 490.505 by adding the definitions ''Greenhouse gas (GHG)'' and ''Reference year'' in alphabetical order to read as follows:

§ 490.505 Definitions.

* * * * *

Greenhouse gas (GHG) is any gas that absorbs infrared radiation (traps heat) in the atmosphere. Ninety-seven percent of on-road GHG emissions are carbon dioxide (CO_2) from burning fossil fuel. Other transportation GHGs are methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs).

* * * * *

Reference year is calendar year 2021 for the purpose of the GHG measure.

* * * * *

■ 8. Amend § 490.507 by revising the introductory text and adding paragraph (b) to read as follows:

§ 490.507 National performance management measures for system performance.

There are three performance measures to assess the performance of the Interstate System and the performance of the non-Interstate NHS for the purpose of carrying out the National Highway Performance Program (referred to collectively as the NHS Performance measures).

* * * * *

(b) One measure is used to assess GHG emissions, which is the percent change in tailpipe CO_2 emissions on the NHS compared to the reference year (referred to as the GHG measure).

■ 9. Amend § 490.509 by adding paragraphs (f) through (h) to read as follows:

§ 490.509 Data requirements.

* * * * *

(f) The FHWA will post on the FHWA website, no later than August 15th each year, the CO_2 factor for each on-road fuel type that will be used to calculate the GHG metric for the GHG measure in § 490.105(c)(5).

(g) Fuel sales information needed to calculate the fuel consumed for the GHG measure in § 490.507(b) shall:

(1) Represent the total number of gallons of fuel consumed by fuel type; and

(2) Be based on fuels sales data for the previous calendar year, and reported to FUELS/FASH.

(h) Annual total vehicle-miles traveled (VMT) needed to calculate the GHG measure in § 490.507(b) shall come from HPMS data as of August 15, for the prior calendar year.

■ 10. Amend § 490.511 by adding paragraphs (a)(2), (c), (d), and (f) to read as follows:

§ 490.511 Calculation of National Highway System performance metrics.

(a) * * *

(2) Annual Total Tailpipe CO_2 Emissions on the NHS for the GHG measure in § 490.507(b) (referred to as the GHG metric).

* * * * *

(c) Tailpipe CO_2 emissions on the NHS for a given year shall be computed in million metric tons (mmt) and rounded to the nearest hundredth as follows:

$$(\text{Tailpipe } CO_2 \text{ Emissions on NHS})_{CY} = \left(\sum_{t=1}^{T} (\text{Fuel Consumed})_t \times (CO_2 \text{ Factor})_t\right) \times \left(\frac{\text{NHS VMT}}{\text{Total VMT}}\right)$$

Where:

$(\text{Tailpipe } CO_2 \text{ Emissions on NHS})_{CY}$ = Total tailpipe CO_2 emissions on the NHS in a calendar year (expressed in mmt, and rounded to the nearest hundredth);

T = the total number of on-road fuel types;

t = an on-road fuel type;

$(\text{Fuel Consumed})_t$ = the quantity of total annual fuel consumed for on-road fuel type ''*t*'' (to the nearest thousand gallons);

$(CO_2 \text{ Factor})_t$ = is the amount of CO_2 released per unit of fuel consumed for on-road fuel type ''*t*'';

NHS VMT = annual total vehicle-miles traveled on NHS (to the nearest one million vehicle-miles); and

Total VMT = annual total vehicle-miles traveled on all public roads (to the nearest one million vehicle-miles).

(d) For the GHG measure specified in § 490.507(b), MPOs are granted additional flexibility in how they calculate the GHG metric, described in paragraph (a)(2) of this section. MPOs may use the MPO share of the State's VMT as a proxy for the MPO share of CO_2 emissions in the State, VMT estimates along with MOVES [1] emissions factors, FHWA's Energy and Emissions Reduction Policy Analysis Tool (EERPAT) model, or other method the MPO can demonstrate has valid and useful results for CO_2 measurement. The metric calculation method shall be mutually agreed upon by both the State DOT and the MPO.

* * * * *

(f) Tailpipe CO_2 emissions generated by on-road sources travelling on the NHS (the GHG metric), and generated by on-road sources travelling on all roadways (the step in the calculation prior to computing the GHG metric) shall be calculated as specified in paragraph (c) of this section. The calculations shall be reported in the State Biennial Performance Reports, as required in § 490.107, and shall address the following time periods.

(1) The reference year, as required in § 490.107(b)(1)(ii)(H); and

(2) The 2 years preceding the reporting years, as required in § 490.107(b)(1)(ii)(H), (b)(2)(ii)(J), and (b)(3)(ii)(I).

■ 10. Amend § 490.513 by adding paragraph (d) to read as follows:

§ 490.513 Calculation of National Highway System performance measures.

* * * * *

(d) The GHG measure specified in § 490.507(b) shall be computed to the nearest tenth of a percent as follows:

[1] MOVES (Motor Vehicle Emission Simulator) is EPA's emission modeling system that estimates emissions for mobile sources at the national, county, and project level for criteria air pollutants, greenhouse gases, and air toxics. See *https://www.epa.gov/moves.* The EMission FACtor (EMFAC) model is used in California for emissions analysis.

$$\frac{(\text{Tailpipe } CO_2 \text{Emissions on NHS})_{CY} - (\text{Tailpipe } CO_2 \text{Emissions on NHS})_{\text{reference year}}}{(\text{Tailpipe } CO_2 \text{Emissions on NHS})_{\text{reference year}}} \times 100$$

Where:

(Tailpipe CO_2 Emissions on NHS)$_{CY}$ = total tailpipe CO_2 emissions on the NHS in a calendar year (expressed in million metric tons (mmt), and rounded to the nearest hundredth); and

(Tailpipe CO_2 Emissions on NHS)$_{\text{reference year}}$ = total tailpipe CO_2 emissions on the NHS in calendar year 2021 (expressed in million metric tons (mmt), and rounded to the nearest hundredth).

[FR Doc. 2022–14679 Filed 7–14–22; 8:45 am]

BILLING CODE 4910–22–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA–R09–OAR–2021–0923; FRL–9882–01–R9]

Air Plan Approval; California; Mojave Desert Air Quality Management District

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve a revision to the Mojave Desert Air Quality Management District (MDAQMD or ''District'') portion of the California State Implementation Plan (SIP). This revision concerns emissions of oxides of nitrogen (NO_X) from Portland cement kilns. We are proposing to approve a local rule to regulate these emission sources under the Clean Air Act (CAA or the Act). We are taking comments on this proposal and plan to follow with a final action.

DATES: Comments must be received on or before August 15, 2022.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–R09–OAR–2021–0923 at *https://www.regulations.gov.* For comments submitted at *Regulations.gov*, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from *Regulations.gov.* The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.,* on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets.* If you need assistance in a language other than English or if you are a person with disabilities who needs a reasonable accommodation at no cost to you, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

FOR FURTHER INFORMATION CONTACT: Elijah Gordon, EPA Region IX, 75 Hawthorne St. (AIR–3–2), San Francisco, CA 94105. By phone: (415) 972–3158 or by email at *gordon.elijah@epa.gov.*

SUPPLEMENTARY INFORMATION: Throughout this document, ''we,'' ''us'' and ''our'' refer to the EPA.

Table of Contents

I. The State's Submittal

A. What rule did the State submit?

Table 1 lists the rule addressed by this proposal with the dates that it was adopted by the local air agency and submitted by the California Air Resources Board (CARB).

TABLE 1—SUBMITTED RULE

Local agency	Rule #	Rule title	Amended	Submitted
MDAQMD	1161	Portland Cement Kilns	01/22/2018	05/23/2018

On November 23, 2018, pursuant to CAA section 110(k)(1)(B) and 40 CFR part 51, appendix V, the submittal for the MDAQMD Rule 1161 was deemed complete by operation of law.

B. Are there other versions of this rule?

We approved an earlier version of Rule 1161 into the SIP on February 27, 2003 (68 FR 9015). The MDAQMD adopted revisions to the SIP-approved version on January 22, 2018, and CARB submitted them to us on May 23, 2018. If we take final action to approve the January 22, 2018 version of Rule 1161, this version will replace the previously approved version of the rule in the SIP.

C. What is the purpose of the rule revision?

Emissions of NO_X contribute to the production of ground-level ozone, smog and particulate matter (PM), which harm human health and the environment. Section 110(a) of the CAA requires states to submit plans that provide for implementation, maintenance, and enforcement of the National Ambient Air Quality Standards (NAAQS). SIP-approved Rule 1161 established NO_X emission limits for Portland cement kilns within the District.

On November 17, 2017 (82 FR 54309), the EPA proposed to conditionally approve the MDAQMD's reasonably available control technology (RACT) demonstrations for the 1997 8-hour ozone NAAQS and the 2008 8-hour ozone NAAQS (referred to as the 2006 and 2015 RACT SIPs) based on deficiencies in several rules. One of the rules noted was Rule 1161, which did not meet current RACT based on comparisons of NO_X emission limits in ozone nonattainment areas located in other states deemed to meet or exceed RACT. The conditional approval, finalized on February 12, 2018 (83 FR 5921), was based on commitments from

Commonwealth of Kentucky
Office of the Attorney General

Daniel Cameron
Attorney General

Capitol Building
Frankfort, Kentucky

March 28, 2023

Via Federal eRulemaking Portal

U.S. Environmental Protection Agency
EPA Docket Center
Air and Radiation Docket
Mail Code 28221T
1200 Pennsylvania Avenue NW
Washington, DC 20460.

Re: Reconsideration of the National Ambient Air Quality Standards for Particulate Matter (Docket ID No. EPA–HQ–OAR–2015–0072; FRL–8635–01–OAR)

The Attorneys General of Kentucky and the eighteen undersigned States respectfully submit the following comments in response to the Environmental Protection Agency's (EPA) Reconsideration of the National Ambient Air Quality Standards for Particulate Matter (Proposed Rule).[1] Following a careful review spanning six years and culminating in a well-reasoned decision in 2020, the EPA found the national ambient air quality standards for particulate matter (NAAQS) were at the level requisite to protect public health.[2] The EPA therefore concluded that the NAAQS required no adjustment. Only after a change in administration and the issuance of President Biden's Executive Order on "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis,"[3] did the EPA decide to reconsider its 2020 Action.[4] As a result of such reconsideration, the EPA

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[1] 88 Fed. Reg. 18 (Jan. 27, 2023), *available at* https://www.govinfo.gov/content/pkg/FR-2023-01-27/pdf/2023-00269.pdf [hereinafter Proposed Rule].

[2] Review of the National Ambient Air Quality Standards for Particulate Matter, 85 Fed. Reg. 244 (Dec. 18, 2020), *available at* https://www.govinfo.gov/content/pkg/FR-2020-12-18/pdf/2020-27125.pdf [hereinafter 2020 Action].

[3] Exec. Order No. 13990, 86 Fed. Reg. 14 (Jan. 25, 2021), *available at* https://www.govinfo.gov/content/pkg/FR-2021-01-25/pdf/2021-01765.pdf.

[4] Proposed Rule, *supra* note 1 at 5567 (beginning the section titled "Reconsideration of the 2020 PM NAAAQS Final Action" with a discussion of Executive Order 13990).

now proposes lowering the annual $PM_{2.5}$ standard from 12 µg/m3 to a range of 9.0–10.0 µg/m3.[5]

The EPA should withdraw the proposed change. The Proposed Rule exceeds the EPA's statutory authority under the Clean Air Act, fails to offer sufficient scientific evidence demonstrating a need to revise the NAAQS, and imposes real harm. We, therefore, urge the EPA to withdraw the Proposed Rule and maintain the current NAAQS.

I. Background

The Clean Air Act (or, the Act) directs the EPA to propose and promulgate "primary" and "secondary" NAAQS for certain pollutants.[6] As part of this process, the EPA has set primary and secondary standards for two kinds of particulate matter: PM_{10} (air pollution particles with a diameter less than 10 microns) and $PM_{2.5}$ (air pollution particles with a diameter less than 2.5 microns). The EPA's primary standards for PM_{10} and $PM_{2.5}$ must be national air quality levels "requisite to protect the public health."[7] Secondary standards are those "requisite to protect the public welfare from any known or anticipated adverse effects" from pollutants.[8] The Clean Air Act envisions the EPA adjusting its prior determinations as the scientific evidence evolves. The Act thus requires the EPA to conduct a new review no more than five years after its previous review.[9] Although the five-year review period is a ceiling and not a floor, the review period nevertheless establishes a reliable timeline for anticipated EPA action. Affected entities make costly investments based on a reliance that the EPA will not arbitrarily shift its determination like the winds it studies.

To prevent such arbitrary action, the Clean Air Act requires the EPA to establish primary and secondary standards that are no more or less stringent than necessary. Importantly, the Clean Air Act does not require the EPA to establish primary standards that remove *all* pollutants from the air.[10] Instead, the EPA's standards must provide only "an adequate margin of safety."[11]

The requirement that primary standards establish an adequate margin of safety, instead of absolute safety, was intentional. There is no process for removing all pollutants from the air, and there is no method for determining conclusively the

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5 *Id.* at 5560.
6 42 U.S.C. § 7409(a).
7 *Id.* at § 7409(b)(1).
8 *Id.* at § 7409(b)(2).
9 *Id.* at § 7409(d)(1).
10 *See Lead Indus. Ass'n. v. EPA*, 647 F.2d 1130, 1155 n.51 (D.C. Cir. 1980), *cert. denied*, 449 U.S. 1042 (1980); *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 494–95 (2001) (Breyer, J., concurring in part and in the judgment) (explaining that the language "requisite to protect the public health" does not require standards that enable "a world that is free from all risk").
11 42 U.S.C. § 7409(b)(1).

exact impact of air quality on public health.[12] Consequently, as the EPA noted in 2020, the Clean Air Act intended the NAAQS to reflect merely the "best, current scientific information."[13]

Since the 1980s, the EPA has collected and reviewed the science and determined whether current standards are sufficient to protect public health, with an "adequate margin of safety." In 2020, that is exactly what the EPA did when it agreed to continue the standards set by the Obama Administration.[14] Yet, on January 27, 2023, the EPA published the Proposed Rule and announced its plan to lower the primary annual standard for $PM_{2.5}$ to a range of 9.0–10.0 μg/m3 from the current standard of 12 μg/m3, as well as accept comments regarding whether the standard should be decreased further to as low as 8.0 μg/m3.[15]

As grounds for this change, the EPA offers nothing more than questionable studies about COVID-19 and certain groups' increased "exposure" to $PM_{2.5}$, and additional studies confirming a causal link between $PM_{2.5}$ exposure and adverse health effects that had already been determined to exist in 2020.[16] This "new science" is simply a pretext for the EPA to establish the NAAQS at a level commensurate with President Biden's policy preferences.[17]

II. Analysis

While the EPA can revisit and revise its standards, it can only do so in a manner that is consistent with its authority under the Clean Air Act and if supported by science showing the revision is "requisite for the public health."[18] The Proposed Rule fails on both accounts. Therefore, the undersigned Attorneys General urge the EPA to maintain the current NAAQS and withdraw the Proposed Rule.

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[12] *See* 2020 Action, *supra* note 2 at 82710 (noting conflicting reports on the exact impact of air quality on public health, especially the difficulty in separating air quality's impact from the impact of other factors and in determining the impact of more stringent standards).

[13] *Back-to-Basics Process for Reviewing National Ambient Air Quality Standards* at 1, EPA (May 9, 2018), https://perma.cc/6FFZ-RP8M.

[14] 2020 Action, *supra* note 2.

[15] Proposed Rule, *supra* note 1 at 5560.

[16] *See id*. at 5580.

[17] On his first day in office, President Biden signed a letter to have the United States rejoin the Paris Climate Agreement. *Press Statement of Secretary of State Anthony Blinken* (Feb. 19, 2021), *available at* https://www.state.gov/the-united-states-officially-rejoins-the-paris-agreement/; *see* Matt McGrath, *US rejoins Paris accord: Biden's first act sets tone for ambitious approach*, BBC (Feb. 19, 2021), https://www.bbc.com/news/science-environment-55732386. He has also issued a number of executive orders directing the federal government to address "the climate crisis." *See, e.g., Tackling the Climate Crisis at Home and Abroad*, Exec. Order No. 14008, 86 Fed. Reg. 19 at 7622 (Jan. 27, 2021), *available at* https://www.govinfo.gov/content/pkg/FR-2021-02-01/pdf/2021-02177.pdf ("Together, we must combat the climate crisis with bold, progressive action that combines the full capacity of the Federal Government with efforts from every corner of our Nation, every level of government, and every sector of our economy.").

[18] *See* 42 U.S.C. § 7409.

A. The Proposed Rule exceeds the EPA's statutory authority.

The Clean Air Act seeks to safeguard human health and the environment from air pollution, and it gives the EPA authority to take delineated actions to further that goal. But the Act does not give the EPA unlimited authority to address all environmental issues generally. "Agencies have only those powers given to them by Congress, and enabling legislation is generally not an open book to which the agency may add pages and change the plot line."[19] Put another way, the people's representatives in Congress, not unelected bureaucrats at the EPA, determine the extent of agency authority. Yet, rewriting the authority that Congress has given the EPA is exactly what this Proposed Rule attempts to do.

Under the Clean Air Act, the EPA must prescribe national ambient air quality standards that "are requisite to protect the public health" with "an adequate margin of safety."[20] This means the EPA "is to identify the maximum airborne concentration of a pollutant that the public health can tolerate, decrease the concentration to provide an 'adequate' margin of safety, and set the standard at that level."[21] But the EPA reads the Act to allow the agency "not only to prevent pollution levels that have been demonstrated to be harmful but also to prevent lower pollutant levels that may pose an unacceptable risk of harm, even if the risk is not precisely identified as to nature or degree."[22] This is contrary to the Act's language which directs the agency to establish standards that are "requisite to protect the public health,"[23] that is, standards that are "necessary."[24] Pollutant levels that *may* pose an unacceptable risk of harm are too speculative to demonstrate that a lower level is "requisite to protect the public health."

In setting the NAAQS, the EPA must rely on "the information about health effects contained in the technical 'criteria' documents compiled under § 108(a)(2), 42 U.S.C. § 7408(a)(2)."[25] Therefore, for the NAAQS to be requisite to protect the public health, they must be based on the criteria in § 7408.[26] That section says the criteria "shall accurately reflect the latest scientific knowledge" and should include information on:

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19 *West Virginia v. EPA*, 142 S. Ct. 2587, 2609 (2022) (cleaned up).
20 42 U.S.C. § 7409(b)(1).
21 *Whitman,* 531 U.S. at 465.
22 Proposed Rule, *supra* note 1 at 5564.
23 42 U.S.C. § 7409(b)(1).
24 Merriam Webster, https://www.merriam-webster.com/dictionary/requisite (defining requisite as "needed for a particular purpose: essential, necessary").
25 *Whitman,* 531 U.S. at 465.
26 *Id.* at 469 (finding defective the argument that the EPA can consider factors other than those set forth in § 7408 when establishing the standard "requisite to protect public health").

> (A) those variable factors (including atmospheric conditions) which of themselves or in combination with other factors may alter the effects on public health or welfare of such air pollutant;
> (B) the types of air pollutants which, when present in the atmosphere, may interact with such pollutant to produce an adverse effect on public health or welfare; and
> (C) any known or anticipated adverse effects on welfare.[27]

These criteria are science-based, not policy-based. Thus, policy initiatives—even ones the EPA considers important[28]—should not be included because the EPA has no authority to include them.[29] Indeed, the EPA's "mission is not a roving commission to achieve pure air or any other laudable goal."[30] This means the EPA simply cannot use the NAAQS "to confront the climate crisis" generally, as the President demands.[31] The authority to set and revise the NAAQS is much more limited.

Notably, instead of citing to §§ 7408 and 7409 of title 42 as its authority for lowering the NAAQS, the EPA cites "42 U.S.C. 7401, et. seq."[32] But the EPA cannot rely on the purpose statement or any other provision to expand on or supersede the provisions specific to setting the NAAQS.[33] Rather, the EPA's "power to act and *how* [it is] to act is authoritatively prescribed by Congress."[34] That means the EPA must ground its authority for changing the NAAQS in the provisions specific to the NAAQS.

With this Proposed Rule, the EPA is attempting to rewrite its authority under the Clean Air Act so it can respond to President Biden's environmental goals. But

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27 42 U.S.C. § 7408(2).

28 This includes "environmental justice." The EPA notes specifically that the new science on which it relies for amending the rule includes studies that examine disparities by race/ethnicity or socioeconomic status "in accordance with recent EPA goals on addressing environmental justice." Proposed Rule, *supra* note 1 at 5568. In particular, the EPA claims racial minorities may be disproportionally exposed to $PM_{2.5,}$ and therefore, a more stringent NAAQS is necessary. *See id.* at 5607. There may indeed be groups that are more impacted than others by air pollution, but nothing in the Clean Air Act indicates Congress meant for the EPA to address alleged societal discrimination. *See infra* note 47.

29 *See* 42 U.S.C. § 7408 ("Air quality criteria for an air pollutant shall accurately reflect the latest scientific knowledge[.]"); *see also Am. Petroleum Inst. v. EPA,* 52 F.3d 1113, 1120 (D.C. Cir. 1995) ("[W]e will not presume a delegation of power based solely on the fact that there is not an express withholding of such power." (internal citation omitted)).

30 *Michigan v. EPA,* 268 F.3d 1075, 1084 (D.C. Cir. 2001)

31 Exec. Order No. 13990, *supra* note 3.

32 Proposed Rule, *supra* note 1 at 5694. Section 7401 is the purpose statement of the Clean Air Act.

33 *See Am. Petroleum Inst.,* 52 F.3d at 1119–20 ("EPA cannot rely on its general authority to make rules necessary to carry out its functions when a specific statutory directive defines the relevant functions of EPA in a particular area."); *Commonwealth v. Biden*, 57 F.4th 545, 552 (6th Cir. 2023) ("[A] purpose statement 'cannot override a statute's operative language.'" (internal citation omitted)).

34 *City of Arlington v. FCC*, 569 U.S. 290, 297 (2013) (emphasis added).

Congress has given it no such authority. Far from being based on the latest Administration's policies, the Act requires the EPA to set the NAAQS at the level "requisite to the public health" based on the "latest scientific knowledge."[35]

B. The EPA fails to offer sufficient scientific evidence demonstrating a need to revise the NAAQS.

Although the EPA has authority to reconsider its prior NAAQS determinations, the decision to do so cannot be arbitrary and capricious.[36] Because the EPA has reversed its "former views as to the proper course," it must "supply a reasoned analysis for the change beyond that which may be required when an agency does not act in the first instance."[37] The EPA retained the NAAQS in December 2020 because no new science demonstrated that public health required otherwise.[38] The same is true now. The science has not changed since the current standards were established. Indeed, in the Proposed Rule, the EPA offers only studies of dubious merit, or studies confirming what was already known at the time of the 2020 Action.

First, the EPA relies on studies that purport to examine the relationship between $PM_{2.5}$ exposure and COVID-19 health outcomes.[39] While it is certainly true the COVID-19 studies are "new" (the literature cutoff date for the 2020 Action predated COVID-19's arrival in the United States), the EPA fails to show the studies can be reasonably relied upon to change the NAAQS. After all, the EPA acknowledges that "uncertainties remain due to methodological issues that may influence the results."[40] For example, the studies examining short-term exposure to $PM_{2.5}$ examined deaths attributed to COVID-19 between March 1 and April 20, 2020,[41] and the studies examining long-term exposure to $PM_{2.5}$ examined COVID-19 deaths between January and July of 2020.[42] This means these studies were conducted at a time when very little was understood about the virus and mortality data was unreliable.[43] Moreover, the EPA acknowledges that the studies did not control for important factors such as "stay-at-home" orders.[44] As a result, any reliance on such

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35 42 U.S.C. § 7408(2).

36 *See Motor Vehicle Mfrs. Ass'n of United States, Inc. v. State Farm. Mut. Auto. Ins. Co.*, 463 U.S. 29, 42–43 (1983).

37 *Id*. at 41–42.

38 *See* 2020 Action, *supra* note 2 at 82685.

39 Proposed Rule, *supra* note 1 at 5590.

40 *Id*. at 5591.

41 *See* Supplement to the 2019 Integrated Science Assessment for Particulate Matter, EPA (Apr. 14, 2022) at 3.3.2.1, *available at* https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=354490 [hereinafter ISA Supplement].

42 *Id*. at 3.3.2.2.

43 *See* S.E. Galaitsi, et al., *The challenges of data usage for the United States' COVID-19 response*, INT'L J. OF INFO. MGMT (Aug. 2021), *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8017563/.

44 Proposed Rule, *supra* note 1 at 5591 ("[S]tudies did not account for crucial factors that could influence results (e.g., stay-at-home orders, social distancing, use of masks, and testing capacity).").

studies should be minimal. Yet, the EPA treats these admittedly uncertain studies as "evidence that addresses key scientific topics where the literature has evolved."[45] These studies simply are not sufficient to meet the agency's burden to show that evolving science demonstrates a lower standard is requisite for public health.

Second, the EPA relies on studies purporting to demonstrate that negative health impacts from particulate matter disproportionately affect racial minorities.[46] When non-race-based categories such as age, economic status, or diagnosed health conditions are available, it is questionable whether the EPA can consider race or ethnicity in determining the public health effects of particulate matter.[47] Furthermore, the EPA's race-based studies are rooted in "air quality scenarios defined by the . . . location with the highest 3-year average" particulate matter concentrations,[48] which tend to be in areas with large minority populations[49] and more sources of particulate matter.[50]

Regardless, the studies' conclusions do not clearly indicate that the EPA needs to change the NAAQS. The studies conclude racial minorities experience more adverse effects than others *living in the same area*.[51] In other words, something other than the level of particulate matter in the air is causing the disproportionate impact on minorities. For instance, *localized* air quality problems within the studied area may result in higher exposure of particulate matter for those living in the neighborhoods affected by the localized issues (such as proximity to a PM source).[52] It is not clear how a more stringent *national* standard will reduce the exposure disparity among groups living *within the same area*. Regardless, the EPA has already

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45 *Id*. at 5568.

46 *Id*. at 5561.

47 Courts have said that race-based actions cannot be used to rectify general discrimination that is not tied to specific government action. *See Parents Involved in Cmty. Sch. v. Seattle Sch. Dist. No. 1*, 551 U.S. 701, 731 (2007) ("[R]emedying past societal discrimination does not justify race-conscious government action."); *see also Vitolo v. Guzman*, 999 F.3d 353, 361 (6th Cir. 2021) (explaining there must be a "specific episode of past discrimination" by the governmental unit involved (citation omitted)); *Faust v. Vilsack*, 519 F. Supp.3d 470, 476 (E.D. Wis. 2021) (finding the USDA lacked a compelling interest for racial classifications in aid to farmers by noting that observations that "prior, race-neutral" action has resulted in inequality are insufficient to establish a compelling interest).

48 Proposed Rule, *supra* note 1 at 5615.

49 *See, e.g.*, *Racial and ethnic minorities made up about 22 percent of the rural population in 2018, compared to 43 percent in urban areas,* U.S. DEPT. OF AGR., https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=99538 (last updated Oct. 13, 2020).

50 Proposed Rule, *supra* note 1 at 5571 (noting that while ambient $PM_{2.5}$ concentrations have decreased across much of the United States, "urban $PM_{2.5}$ concentrations remain consistently higher than those in rural areas . . . due to the impact of local sources in urban areas").

51 *Id*. at 5615.

52 *See* ISA Supplement, *supra* note 41 at 3.3.3.3 ("Those of Black race, *or who live in predominantly Black neighborhoods*, are consistently subjected to the higher $PM_{2.5}$ exposures, especially when compared with non-Hispanic White groups" (emphasis added)).

considered studies on the exposure disparity among racial minorities and determined that changing the NAAQS was not necessary to protect public health.[53]

Similarly, the ISA Supplement references additional studies providing support for the EPA's previous conclusions that there is a causal link between $PM_{2.5}$ exposure and negative cardiovascular effects, as well as overall morbidity.[54] The ISA Supplement also reaffirmed the EPA's prior findings that $PM_{2.5}$ exposure is "likely to be causal" of negative respiratory effects.[55] Although this evidence supports prior findings of likely causality, it does not change the causality conclusions made by the EPA in its 2020 decision to leave the NAAQS unchanged. To demonstrate that it is now necessary to lower the NAAQS, the EPA cannot just provide additional studies proving causality. Rather, it must provide studies showing that particulate matter exposure at levels *lower* than the current standards also show a causal effect, thereby necessitating a lower NAAQS in order to be "requisite to protect the public health." The EPA fails to make such a showing.

Finally, the EPA also relies on studies with limited real-world data. The agency acknowledges that calculation of the mean concentration rates of exposure is important.[56] The EPA describes two study methods for calculating mean exposures: studies using monitor-based measurements and "hybrid" studies that use *modeling* (*i.e.*, not real-world measurements) to calculate the purported mean exposure. The Proposed Rule separates the studies using real-world data drawn from monitoring sites from the abstract modeling or "hybrid" studies.[57] Of those studies using real-world data based on EPA monitors, the only "new study" examining exposure at mean concentrations less than the current standard of 12 µg/m3 was a 2018 study by Eum, *et al.*,[58] which was clearly available before the 2019 literature cutoff date. Moreover, the study found a statistically significant increased risk of morbidity per each increase of 10 µg/m3 of $PM_{2.5}$, not that associations of increased morbidity exist *at* 10 µg/m3.[59]

All of the other studies on which the EPA relies are "hybrid" studies, which are models that require inputs based on human assumptions in addition to real-world data derived from other sources, such as satellites.[60] Given the variance that can

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[53] 2020 Action, *supra* note 2 at 82703 ("[T]he ISA concludes that '[t]here is strong evidence demonstrating that black and Hispanic populations, in particular, have higher $PM_{2.5}$ exposures than non-Hispanic white populations' and that 'there is consistent evidence across multiple studies demonstrating an increase in risk for nonwhite populations' (U.S. EPA, 2019, p. 12– 38)").

[54] *See* ISA Supplement, *supra* note 41, Table 2-2.

[55] *Id*. at 2.1.1.1.

[56] Proposed Rule, *supra* note 1 at 5596.

[57] *Id*. at 5600–01, Figures 1 and 2.

[58] *Id*. at Figure 1.

[59] Ki-Do Eum, et al., *Impact of long-term temporal trends in fine particulate matter ($PM_{2.5}$) on associations of annual $PM_{2.5}$ exposure and mortality*, Environmental Epidemiology 2(2): e009 (2018), *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8493859/.

[60] *See* Proposed Rule, *supra* note 1 at 5601, Figure 2.

result based on human-selected inputs in modeling, as opposed to concrete evidence of the actual $PM_{2.5}$ exposure concentrations based on EPA monitors, these studies do not call into question the EPA's 2020 decision to keep the NAAQS unchanged.[61]

In sum, the EPA's "new science" simply does not demonstrate that the current NAAQS are inadequate to protect public health. The EPA is required to consider evolving science, but the agency is not required to make changes every time it goes through such a consideration. Indeed, there will certainly be times—as in 2020 and now—when the science indicates that the current NAAQS are requisite to protect public health. Being "requisite to protect the public health" does not require standards that enable "a world that is free from all risk."[62] And it certainly doesn't mean the Biden Administration can use it to ram through the President's climate change policies. Without more, the EPA fails to offer sufficient scientific evidence requiring it to reject its 2020 determination not to adjust the standards.

C. The Proposed Rule will impose real harm.

While the EPA fails to provide sufficient evidence that a lower NAAQS is requisite to protect public health, undeniable evidence exists demonstrating the real harm this decision will cause to the States. First, the Proposed Rule will devastate economic development. The lower the NAAQS standard, the more areas of the country the EPA will consider out of attainment.[63] And being designated a nonattainment area has serious and costly implications. For instance, one study noted that over a fifteen year period, counties targeted by Clean Air Act regulations lost $37 billion in capital stock and $75 billion of industrial output.[64] Because the EPA fails to articulate a pathway to compliance with the lower standards, the Proposed Rule raises the serious possibility that compliance will require closing

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[61] *See* 2020 Action, *supra* note 2 at 82711 (noting that "uncertainty in hybrid model predictions becomes an increasingly important issue as lower predicted concentrations are considered. This additional source of uncertainty is an important consideration, particularly when all grid cell estimates are being used to calculate the study mean concentration, and further adds to why using study reported mean concentrations from epidemiological studies that use hybrid approaches to inform conclusions on the primary $PM_{2.5}$ standards is a challenge").

[62] *Whitman*, 531 U.S. at 494 (Breyer, J., concurring in part and in the judgment).

[63] There are areas of the country that are not in attainment with the current standards. *See PM-2.5 (2012) Nonattainment Area State/Area/County Report*, EPA (data current as of Feb. 28, 2023), https://www3.epa.gov/airquality/greenbook/kncs.html#CA. And there certainly will be areas that meet the current standards, but cannot meet the lower standards of the Proposed Rule. Further, the Proposed Rule says more than just the area violating the standard will be designated as nonattainment. *See* Proposed Rule at 5681 (explaining that the EPA will "designate as nonattainment not only the area that is violating the pertinent standard, but also those nearby areas that contribute to the violation in the violating area").

[64] Michael Greenstone, *The Impacts of Environmental Regulations on Industrial Activity: Evidence from the 1970 and 1977 Clean Air Act Amendments and the Census of Manufactures*, 110 J. POL. ECON. 1175, 1176 (2002).

existing manufacturing and industrial facilities.[65] Such closures will affect not only those individual businesses but also the communities that are built around them.[66]

Second, the Proposed Rule will eliminate jobs. From 1972–1987, counties targeted by Clean Air Act regulations lost almost 600,000 jobs.[67] Additionally, data from a 2019 study concluded that the NAAQS "may have affected employment . . . by inducing firms to change their production technology in a way affecting labor intensity."[68] As we know, "change in production technology" is often just another way of saying "abandon coal." And any regulatory scheme that induces firms to swap coal-generation for some other power source has a disparate impact on coal-producing States.

Kentucky is the seventh-largest coal-producing state in America, ranks fifth among states in recoverable coal reserves, and possesses about one-sixth of the country's operating coal mines.[69] But, as in other States, "Kentucky's coal production has declined as coal-fired electricity generating plants . . . were taken out of commission or converted to natural gas."[70] This has an impact on employment and economic well-being. In Kentucky, between 2019 and 2021, fuel employment—of which mining and extraction jobs represent 41%—decreased every year.[71] Eastern

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[65] *See* U.S. Chamber of Commerce, *Public Comment on the Environmental Protection Agency's Proposed Rule entitled "Reconsideration of the National Ambient Air Quality Standards for Particulate Matter,"* (Feb. 23, 2023), *available at* https://www.regulations.gov/comment/EPA-HQ-OAR-2015-0072-1856.

[66] *See* John Russo and Sherry Lee Linkon, *The Social Costs of Deindustrialization*, YOUNGSTOWN STATE UNIVERSITY, https://ysu.edu/center-working-class-studies/social-costs-deindustrialization (discussing the widespread costs of deindustrialization); *see also* Matt Combs, *The Ripple Effect Caused by the Collapse of Coal*, THE REGISTER-HERALD (Mar. 4, 2018), https://www.register-herald.com/news/money/the-ripple-effect-caused-by-the-collapse-of-coal/article_2ca75bbe-aa4f-5462-ab27-ab047ca82cd9.html (explaining how the "downturn in the coal industry has had an ongoing . . . ripple effect across communities . . . [w]hether that county has a coal mine or not"); Alex Brown, *Study: Coal Plant Closures Will Create Local Impact*, INSIDE INDIANA BUSINESS (Mar. 29, 2021), https://www.insideindianabusiness.com/articles/inpower-study-coal-plant-closures-will-create-local-impact#:~:text=According%20to%20the%20study%2C%20the,%24354%20million%20in%20economic%20output (discussing local communities' worries about losing population and having enough tax base to pay for schools if coal-fired power plants in Indiana are closed).

[67] Greenstone, *supra* note 64.

[68] Glenn Sheriff et al., *How Did Air Quality Standards Affect Employment at US Power Plants? The Importance of Timing, Geography, and Stringency*, 6 J. ASSOC. ENVIRON RESOUR. ECON. 111, 126 (2019), https://perma.cc/Q454-FS5S.

[69] *Kentucky State Profile and Energy Estimates*, U.S. ENERGY INFORMATION ADMINISTRATION (Aug. 18, 2022), https://www.eia.gov/state/analysis.php?sid=KY [hereinafter EIA Report].

[70] Brandon Roberts, *Increased demand for coal as economy rebounds could benefit Kentucky*, SPECTRUM NEWS (Sep. 16, 2021), https://spectrumnews1.com/ky/louisville/news/2021/09/16/demand-for-coal-increasing*; see* EIA Report, *supra* note 69 (explaining that for many years, Kentucky was third in coal production (after West Virginia and Wyoming), but now it is ranked seventh in U.S. coal production).

[71] Energy Employment by State, U.S. Dep't of Energy (June 2022) at 120, 122, https://www.energy.gov/sites/default/files/2022-06/USEER%202022%20State%20Report_0.pdf.

Kentucky, one of the state's largest coal producing regions, has gone from around 14,000 coal jobs in 2011[72] to a little less than 3,200 coal jobs in the fourth quarter of 2022.[73] This is a decrease of over 75%, and it has had serious consequences. Kentucky's Fifth Congressional District, which encompasses mines producing about one-third of Kentucky's coal,[74] has the lowest median income of any congressional district in the nation.[75] The district has an average poverty rate of 25.9%, which is over twice the national average.[76]

While § 7408(b)(1) of the Clean Air Act does not allow the "costs of achieving [the] standard" to be included in the "initial calculation,"[77] this does not mean the EPA is required "to eliminate every health risk, however slight, at any economic cost, however great, to the point of hurtling industry over the brink of ruin, or even forcing deindustrialization."[78] Indeed, the purpose of the Clean Air Act is "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and *the productive capacity of its population*."[79] If the COVID-19 pandemic has taught us anything, it is that so-called "public health" policies that fail to consider the economic consequences of their implementation do not, in fact, protect the general welfare of citizens.

III. Conclusion

For these reasons, the EPA should withdraw the Proposed Rule and maintain the current NAAQS. We look forward to your response.

Respectfully submitted,

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[72] Bill Estep, *'Noticeable impact.' Coal jobs and production up in Eastern Kentucky*, HERALD LEADER (Nov. 18, 2021), https://perma.cc/2PX2-MQRP (noting that this is actually an increase from the third quarter in 2020).

[73] *Kentucky Quarterly Coal Report* (2022 – Q4), Kentucky Energy and Environment Cabinet, *available at* https://eec.ky.gov/Energy/News-Publications/Quarterly%20Coal%20Reports/2022-Q4.pdf.

[74] *Kentucky Coal Facts,* Kentucky Energy and Environment Cabinet 17 (2017), https://perma.cc/P5Z4-J6JE.

[75] August Benzow, *Mapping the Economic Well-being of the Nation's New Redistricted Congressional Districts*, ECONOMIC INNOVATION GROUP (Nov. 3, 2022), https://eig.org/economic-wellbeing-of-congressional-districts/.

[76] *Congressional District 5, KY.*, Data USA, https://datausa.io/profile/geo/congressional-district-5-ky (poverty rate based on 2020 data); Emily A. Shrider, et al., *Income and Poverty in the United States: 2020*, U.S. Census Bureau (Sep. 14, 2021), https://www.census.gov/library/publications/2021/demo/p60-273.html ("The official poverty rate in 2020 was 11.4 percent[.]").

[77] *Whitman*, 531 U.S. at 465.

[78] *Id*. at 494 (Breyer, J., concurring in part and in the judgment) (cleaned up).

[79] 42 U.S.C. § 7401(b)(1) (emphasis added).

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Comments of the Transportation Departments of
Idaho, Montana, North Dakota, South Dakota, and Wyoming
to the
Federal Highway Administration (FHWA)
in Docket No. FHWA-2021-0004
National Performance Management Measures;
Assessing Performance of the National Highway System, Greenhouse Gas Emissions Measure
Notice of Proposed Rulemaking
October 9, 2022

The transportation departments of Idaho, Montana, North Dakota, South Dakota and Wyoming ("we" or "our") respectfully submit these joint comments on the Notice of Proposed Rulemaking in this docket, published by the Federal Highway Administration (FHWA) at 87 Federal Register 42401 (July 15, 2022) ("NPRM").

Introduction and Overview.

We oppose the proposal and recommend that it be withdrawn. However, should FHWA proceed to adopt a rule in this docket, we offer important suggestions to improve it.

We also emphasize at the outset that these comments concern the specific rule proposed in this docket. These are not general comments on broad environmental issues. We are working towards a better environment and doing our part. However, we oppose this proposed rule.

The proposed rule would require State Departments of Transportation (DOTs) and Metropolitan Planning Organizations (MPOs) to establish targets for greenhouse gas (GHG) emissions from on-road mobile sources, specifically tailpipe CO2 emissions, on the National Highway System (NHS). Under the proposal, the targets not only would have to be declining targets (i.e., calling for reduced levels of tailpipe CO2 emissions from a reference year, using a metric defined by FHWA in the proposed rule), but "demonstrate reductions toward net-zero targets." The proposal in the NPRM would use as the reference year 2021, a year when economic and transportation activity was held down by the COVID virus, rather than this year or a later year. FHWA signals in the NPRM that penalties could be imposed on States that do not implement the rule per FHWA requirements.

Our key points include the following –

- FHWA lacks the authority to promulgate this rule, and that conclusion was reached by the previous Administration.
- Should FHWA in any event proceed to promulgate a performance measurement and management rule regarding GHG emissions, we would still oppose the rule unless amended to clearly establish that only States (and, to the extent applicable, MPOs) have the authority to set the emissions targets, whether declining, unchanged, or even increasing (such as due to economic growth). Further, if adopted, the rule should be revised to specify that no penalties may be imposed for not meeting a target.

- We strongly disagree with the proposed use of calendar 2021 as the reference or baseline year for measuring tailpipe CO2 emissions and setting targets, as 2021 tailpipe CO2 emissions levels were reduced due to the COVID pandemic.
- We also disagree generally with the approach of the rule as States, particularly very rural States such as ours, have little ability to influence tailpipe CO2emissions for multiple reasons. Among them, some States have restrictions on the use of State highway funds, requiring them to be used exclusively for maintenance, construction and supervision of highways and bridges.
- In his September 14 appearance before the Senate Environment and Public Works Committee, the nominee for FHWA Administrator, Shailen Bhatt, indicated general recognition that sometimes one size does not fit all. The proposed rule would be greatly improved by exemptions for very rural States (which have few if any options for actions to reduce tailpipe CO2 emissions) and for rural very low-income States (which are hard pressed to use scarce dollars on any but the State's highest priority transportation investments).

Before discussing those and other points, we note some background.

On January 18, 2017, FHWA published a final rule that, among other things, established a performance measure on the percentage change in CO2 emissions from 2017 (as a reference year) generated by on-road mobile sources on the NHS, as well as related requirements that States establish and meet targets relative to that GHG measure. 82 Federal Register 5970. Early in the last Administration, FHWA published a proposed rule to repeal those GHG performance measurement and management requirements. 82 Federal Register 46427 (October 5, 2017). On May 31, 2018 the last Administration did adopt a rule that repealed the January 18, 2017 rule, and found that the 2017 rule was beyond FHWA's statutory authority[1] while also identifying policy concerns with the rule that it repealed. 83 Federal Register at 24920. The proposal in this docket would, in essence, reinstitute the problematic CO2 performance measurement and management rule that the previous Administration repealed but make it more problematic by greatly undermining State authority to set targets -- by requiring States to set declining (toward net-zero) targets for on-road CO2 emissions on the NHS.

The GHG Performance Management Requirement is Without Statutory Authority.

In the statutory provision authorizing performance measurement and management, 23 USC 150, paragraph 23 USC 150(c)(2) states that USDOT shall "limit performance measures only to those described in this subsection." (Emphasis supplied).

There is no express mention of a GHG or CO2 performance measure in 23 USC 150(c). Nor is there other language in the subsection that "describes" a GHG measure.

[1] FHWA wrote in 2018: "… there is no explicit reference to a GHG measure in 23 U.S.C. 150(c). Thus, adoption of a GHG measure rested entirely on FHWA's discretion to interpret 23 U.S.C. 150(c). As discussed in the legal authority section in Section IV.B.1, FHWA has concluded, upon reconsideration, that the better reading of the statute does not encompass the GHG measure." 83 Federal Register at 24932.

There is, however, express direction to USDOT by Congress to establish measures to "assess … on-road mobile source emissions" in 23 USC 150(c)(5) "for the purpose of carrying out [23 USC] section 149." 23 USC 149 authorizes the Congestion Mitigation and Air Quality (CMAQ) program, an element of the Federal highway program. The CMAQ program concerns actions with respect to a specific list of pollutants that does not include GHG (CO2). So, while Congress acted in paragraph 150(c)(5) to require establishment of performance measures for some on-road mobile emissions, that section is not a basis of authority for a GHG performance measurement and management requirement.

In any event, under both the pending NPRM and the rule developed two Administrations ago (and subsequently repealed), FHWA advises that the basis for the tailpipe CO2 emissions performance measurement and management requirement was not 23 USC 150(c)(5), but 23 USC 150(c)(3). See NPRM at 87 Federal Register 42407 and 82 Federal Register at 46431 (2017).

There is nothing in 23 USC 150(c)(3), either, that could fairly be considered to have "described" a GHG performance measurement and management system for GHG (CO2). The words "greenhouse gas," "GHG," "CO2," "carbon dioxide," and "emissions" do not appear in the provision. Nor is there a sentence or phrase in paragraph (c)(3) describing a GHG performance measure or regulation.

23 USC 150(c)(3), claimed as the statutory basis for the proposed rule, concerns establishing certain listed standards "for the purpose of carrying out section 119 [of title 23]." Similarly, the words "greenhouse gas," "GHG," "CO2," "carbon dioxide," and "emissions" do not appear in 23 USC 119. To the extent that FHWA's interpretation is that a GHG measure is authorized by the very general reference in paragraph (c)(3) to measures for the "performance" of the Interstate System and the rest of the NHS, the interpretation is far removed from either a description specifically listing GHG as a topic for performance measurement and management or a less specific statement that would "describe" GHG as a permissible subject of a performance measure.

FHWA then tries to overcome the lack of a description in "subsection" 150(c), by referring to general national goals for the highway program set forth in 23 USC 150(b). But while Congress made clear in statute that authorization for a performance measure requires that the measure be "described in this subsection" (referring to subsection (c)), subsection (b), relied on by FHWA to supply the description that does not appear in subsection (c), in any event does not contain any reference to GHG or CO2 measures. So, FHWA notes that "environmental sustainability" is a goal in subsection (b) and, from that, concludes that means that the reference to "performance" in subsection (c)(3) meets the test of a tailpipe CO2 emissions reduction measure being described in subsection 150(c). Under such an approach 23 USC 150(c)(3) would appear to be a source of vast authority for regulation, whether of CO2 emissions or other factors not described in its text. This is contrary to the clear directive in 23 USC 150(c)(2) that USDOT shall "limit performance measures only to those described in this subsection." (Emphasis supplied).

And interpretations of subsection (b) are readily available that do not obliterate the requirement that a performance measure be described in subsection (c). Implementing paragraph (c)(5), for example, to assess on road mobile sources for the purposes of the CMAQ program, is consistent

with the "environmental sustainability" goal of subsection (b). The goals subsection is not a directive to rewrite subsection (c).

Further, a general rule in aid of statutory construction is that "the specific governs the general." See Morales v. Trans World Airlines, 504 U.S. 374, 384 (1992). Within 23 USC 150(c), paragraph (5) is the provision concerned with "on-road mobile source emissions" and congestion. Rather than respect that Congress had specifically addressed performance measures for emissions in paragraph (c)(5), the NPRM concludes that a very general reference to "performance" plus language not in subsection 150(c) is sufficient to justify measures regarding emissions (GHG) that are beyond the scope of paragraph (c)(5). The more logical approach, consistent with statutory construction rules, would be to conclude that, within subsection 150(c), Congress expressly stated how to address emissions in paragraph 150(c)(5) and that, particularly given the absence of any other "description" in subsection 150(c) of emissions regulation, the rest of subsection 150(c) -- including paragraph (c)(3) -- did not provide other authority to regulate emissions, including CO2 emissions.

In addition, importantly, an interpretation that results in regulatory power in USDOT to expand the set of performance measures is contrary to, not merely in addition to, other words that Congress included in 23 USC 150(c). As noted, in subsection 150(c) Congress stated that FHWA shall "limit performance measures only to those described in this subsection." 23 USC 150(c)(2)(C) (emphasis added).

Those are four words of limitation in one sentence! And they must be given weight. The words "limit" and "only" do not allow, much less encourage an expansive reading of the authority provided to promulgate performance management rules. They direct a limited, narrow reading of measures authorized by subsection 150(c). Nor does any word or phrase in subsection 150(c) "describe" a GHG performance measure. FHWA went looking in subsection (b) for a description while Congress specified the text of subsection (c) as the frame of reference, not the full statute or any other subsection.

Congress' reference to the subject of performance measures being "described" in subsection 150(c) cannot be treated as surplusage or as without meaning. In short, a GHG (CO2) measure is **not** "described" in 23 USC 150 subsection (c), either in paragraph (3) or elsewhere, which is a prerequisite for a performance measure under section 150.

The legislative history of 23 USC 150 supports the conclusion that the proposed rule is not authorized. The section was enacted as part of "MAP-21," Pub. L. No. 112-141 (2012). The Conference Report for MAP-21 described 23 USC 150, which has not been substantively modified since enactment, as follows:

> "Performance measures
>
> "The nation's surface transportation programs have not provided sufficient accountability for how tax dollars are being spent on transportation projects and would benefit from a greater focus on key national priorities. The conference report focuses the highway program on key outcomes, such as reducing fatalities, improving road and bridge

> conditions, reducing congestion, increasing system reliability, and improving freight movement and economic vitality."

H. Conf. Rep. No. 112-557, to accompany H.R. 4378, at 598 (2012).

While the conference report does say that the listed "key outcomes" from the performance measures program are "such as," it is conspicuous that there is no suggestion whatsoever of a GHG performance measure with targets to reduce CO2 emissions. Conference report language has always been viewed as critically important legislative history and the conference report language describing the performance measures the Congress authorized is fully consistent with the lack of authorization for a GHG performance measure. Simply, the Conference Report on what became MAP-21 was the opportunity for the Congress to explain what measures were "described" in subsection 150(c) and nothing resembling a GHG or CO2 performance measure was described.

For at least all of the above reasons, FHWA should not adopt the proposed rule. It is beyond the agency's authority as it does not meet the essential statutory test of setting forth a performance measure "described" in 23 USC 150(c).

Even if one were to believe there is arguably authority for the proposed rule, the Supreme Court recently reaffirmed that there must be "clear" authority for promulgation of a rule on a "major question." The proposal to regulate States to reduce GHG emissions would represent a major change in a major program, the highway program, without clear authority; so, there is not authority for the proposed rule.

In West Virginia v. EPA, 597 U.S. ___ (2022), 142 S. Ct. 2587, the Court recently applied the "major questions doctrine" to its review of a rule promulgated by the U. S. Environmental Protection Agency (EPA). The Court explained that an agency must point to "clear congressional authorization"[2] for the authority it claims in cases where the "breadth" of the authority claimed and the "economic and political significance" of the asserted authority provide "reason to hesitate before concluding that Congress meant to confer such authority." Id. (slip opinion) at 17 (quotation marks and citations omitted).

Under the proposed rule, FHWA would be able to influence the selection of projects by States that rely on formula funds that Congress requires FHWA to distribute to the States. This would be a major change from today's norm, where formula funds are distributed to States, with States selecting projects to execute with those funds pursuant to parameters set forth by Congress. If the proposed rule were adopted, a State would be faced with pressure to select projects based on whether they would help the State achieve a "declining target" for CO2 emissions – or face potential penalties.[3]

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[2] Id. (slip opinion) at 19 (quotations and citations omitted).

[3] While the proposed rule itself does not propose penalty authority or levels, both the NPRM and the Economic Assessment for the proposed rule volunteer that FHWA has penalty authority elsewhere that could be applied. See NPRM at n.39, 87 Federal Register 42415, and the Economic Assessment at 9.

In the FHWA's draft "Summary Report – Economic Assessment for Greenhouse Gas Performance Measure," June 2022 ("Economic Assessment," available in the docket for the NPRM), FHWA states "it is not possible to conclude with any degree of certainty whether and how the [proposed] GHG measure might cause State DOTs and MPOs to make transportation investment and operations decisions that they otherwise would not have made." Id. at 6.

Later on, the Economic Assessment acknowledges that "the rule may result in some offsetting loss of benefits from investment projects that would no longer be pursued, if funds are shifted towards other projects as a result of the rule." Id. at 29.

We are concerned that FHWA's Economic Assessment understates the consequences and the considerable pressure that a State could face under the proposed rule. In particular, all States strive to achieve economic growth and, historically, that is associated with an increase in vehicle miles traveled, which tends to generate increased CO2 emissions. To achieve a reduction in CO2 emissions during hoped-for long periods of substantial economic growth will be challenging at best, particularly in States where electric vehicle deployment may be slow.

Further, in rural States per person vehicle miles traveled (VMT) are generally higher than average, we suggest due to absence of congestion. Relatively dispersed populations in rural States have to travel longer distances to and from destinations for basic needs such as shopping and health services. Also contributing to high VMT per person in rural States are the long distances agricultural products and natural resources travel from rural points of origin on their way to national and world markets.

FHWA provides in the proposed rule that a State must meet a "declining" target for CO2 tailpipe emissions (measured against the baseline for that State under the particular way that FHWA would calculate CO2 emissions under the proposed rule). The proposed rule goes even further, specifying that the declining target must "demonstrate reductions toward net-zero targets." Proposed 23 CFR 490.105(e)(10), NPRM at 42419-20. Thus, it appears foreseeable that FHWA could, under this proposed rule, pressure States that fail to hit aggressive targets for tailpipe CO2 emissions reduction to adjust the mix of projects selected for action with the State's limited Federal formula funds – or face penalties, perhaps including non-approval of projects selected by the State that otherwise would be approved.

We also believe FHWA has significantly underestimated the costs of implementing this major rulemaking in terms of time and resources and opportunity costs associated with implementation of the rule. States may well be discouraged from making investments that they prefer in order to pursue projects to achieve "declining" tailpipe CO2 emissions. The benefits of such other projects are important – such as safety, connectivity and efficiency – and the proposed rule appears likely to discourage or delay at least some other projects and their benefits.[4]

[4] See pages 8-10, infra, for additional discussion of reasons why the proposed rule would have a major impact on the ability of States to function under the Federal highway program. Those reasons apply not only to the appropriateness of invoking the major questions doctrine, but the inappropriateness of the proposed rule's unprecedented limitations on the authority of States to set targets with respect to a performance measure and the overall inappropriateness of applying the rule to rural States. See also discussion at page 6, supra, where the Economic Assessment for the NPRM recognizes that the impact on project selection by States would result in the loss of benefits from projects that are delayed or canceled due to the proposed rule.

In addition, since Congress authorized the Interstate Highway System in 1956, the Federal highway program has given considerable emphasis to major arterial roads. Those are the Interstate System highways and other highways on the National Highway System that tie the country together and enable long distance movement of people and freight. The proposed rule would have a State focus its tailpipe CO2 emissions reduction efforts on Interstate System and NHS roads, the roads that carry the overwhelming majority of through interstate traffic, even though transferring highway funds to transit projects will not reduce through interstate traffic, but at most only some local traffic that uses NHS routes.

Moreover, rural States are at a disadvantage under the proposed rule in pursuing targeted reductions of CO2 emissions due to the absence of congestion. The calculations under the proposed rule for estimating CO2 emissions is purely a function of relationship of NHS to non-NHS VMT and fuel consumption (to which an emissions factor is applied). In densely populated States where there is congestion, there may well be opportunities to reduce CO2 emissions through transit investment. However, absent congestion, the opportunity in rural States to reduce VMT or fuel consumption is extremely limited.

Further, and importantly with respect to the principles of West Virginia v. EPA, authorization for a GHG performance measure was debated and not included in 2021's Infrastructure Investment and Jobs Act (IIJA), H.R. 3684, enacted as Pub. L. No. 117-58, or in 2022's budget reconciliation legislation, known as the Inflation Reduction Act, H.R. 5376, enacted as Pub. L. No. 117-169. The House of Representatives passed H.R. 3684 on July 1, 2021. Express authority for GHG performance measures and targets was set forth in section 1403, but not agreed to by the Senate and not included in the law.[5] Additionally, the House passed budget reconciliation legislation, H.R. 5376, on November 19, 2021; section 110002 of that bill included express authority for GHG performance measures and targets. Again, such authority was not agreed to by the Senate and not included in the law.

Instead, Congress addressed greenhouse gas in other ways, enacting in IIJA new programs with funding, for example, a carbon reduction program ($6.4 billion over 5 years) and investments in charging stations for electric vehicles (over 5 years $5 billion in formula funds and $2.5 billion in discretionary funds). Yet, FHWA claims authority from the 2012 legislation (MAP-21) that created the FHWA performance management program, and that legislation does not include any of the specific language that proponents of a GHG performance measurement and management system so recently sought to enact.

This is extraordinarily similar to the fact pattern before the Court in West Virginia v. EPA. There, the Court noted that Congress had considered and rejected the type of system of power plant regulation that EPA nonetheless promulgated and was before the Court. See West Virginia v. EPA, slip opinion at 27-30. The Court concluded that the Congressional rejection of the regulatory scheme that EPA proceeded to promulgate was an indication that EPA must point to "clear congressional authorization to regulate in that manner." Id. at 28 (quotation marks and citations omitted).

[5] In addition, at least one amendment was filed during Senate floor consideration of the bill that would have established a GHG performance measure, but it did not receive floor action. S. Amendment 2465, Sen. Cardin, Cong. Rec., August 3, 2021 (daily ed. at 5786).

We set forth above numerous reasons why the proposed rule is not authorized. Those same reasons also contribute to a conclusion, if needed, that the proposed rule is not grounded in "clear" authorization.

Further, as noted above (page 2, supra) the prior Administration closely considered the question of whether FHWA has authority for the proposed GHG performance measure rule and concluded that it does not. For the purposes of the major questions doctrine, the prior Administration's view that there is not authority for the proposed rule is a very strong indication that there is not the requisite "clear" statutory authority for such a major change in policy for the highway program.

Accordingly, in addition to other reasons advanced herein, FHWA should not adopt the proposed rule because it is not authorized under the major questions doctrine.

Should FHWA adopt a rule in this docket, it should first modify the proposed rule in important ways.

If FHWA nonetheless decides to impose tailpipe CO2 emissions performance measurement and management requirements, that does not mean that it should do so as it proposes, as discussed below.

Target Setting Must be Reserved Solely to States, particularly as it is Challenging at Best for a State to Directly Impact Tailpipe CO2 Emissions.

The performance measurement statute is clear that it is a "State" that sets targets for performance, not FHWA. 23 USC 150(d) provides –

> "…after the Secretary has promulgated the final rulemaking under subsection (c), **each State** shall set performance targets that reflect the measures identified …" (emphasis supplied).

Under the proposed rule, however, FHWA specifies that the targets must be "declining targets for reducing tailpipe CO2 emissions on the NHS, that demonstrate reductions toward net zero targets." Proposed 23 CFR 490.105(e)(10). 87 Federal Register 42419-20.

This proposal effectively leaves a State (or, as applicable, an MPO) with very little choice in setting targets; FHWA is really setting the targets.

FHWA's rulemaking approach stands in contrast to performance measurement and target setting under a program of grants to States administered by a different USDOT agency, the National Highway Traffic Safety Administration. In Section 24102 of the IIJA, Congress amended aspects of performance measurement and targeting for the purposes of NHTSA programs of grants to States, effective with fiscal year 2024.

Section 24102 struck a reference in statute to States setting ''annual performance targets'' and inserted instead ''performance targets that demonstrate constant or improved performance''. 135 STAT 789.

So, when Congress wanted to require States to set targets for constant or improved performance, and not allow targets for declining performance, it knew how to do so. It did not do that for FHWA performance measurement under 23 USC 150. Yet, FHWA asserts in this NPRM authority to require declining CO2 emissions (improved GHG performance) and further greatly narrow the State's discretion by specifying that the State's targets must demonstrate progress towards "net zero." This is contrary to the straightforward statutory language that "each State shall set performance targets."

The top-down approach to target setting proposed in the NPRM also greatly impinges on the ability of a State to take into account, in target setting for the State, any State specific circumstances. What if the State is experiencing significant population growth? Significant economic growth? Both? What if, as is the case for many States, there are State constitutional restrictions on the use of highway revenues for non-highway purposes, limiting the prospects of using highway funding for a transit investment?

In addition, in States like ours, residents drive longer than average distances for basic goods and services, often in challenging weather. Cold weather and high elevation adversely impact the effectiveness of at least some electric vehicles (EVs). In our States, cold weather and high elevation may discourage purchases of electric vehicles (EVs). State target setting could take that into account. These and other factors can receive at most marginal weight under the proposed rule because FHWA has dictated the general nature of the target that must be set.

Moreover, the NPRM does not appear to recognize the potential dislocation to State transportation programs from the rule. Today, most highway projects advanced by State DOTs are in the nature of system preservation (resurfacing, etc.). Such projects do not add capacity or induce any demand; nor does a decision to not undertake resurfacing result in any meaningful shift of mobility to transit or walking from passenger cars. Moreover, failure to preserve pavement may well increase GHG emissions as rough pavement tends to reduce travel speeds (increasing per trip emissions). For such reasons, it is speculative and not demonstrated that States have the ability to effect meaningful change in GHG emissions through stewardship of the highway program. The GHG rule effectively looks for GHG reductions from a largely preservation-oriented highway program, where they are not available to be had. So, the rule would place pressure on a State to change the mix of projects, for speculative if any benefit.

We also note that, under another statutory regime, USDOT, through NHTSA, addresses the fuel economy of various vehicles. Vehicles (excluding EVs) and fleets of them regulated by NHTSA do produce direct CO2 emissions when operating, while States and others that own and operate the roads are not emitters in their capacity as owners or operators. Further, the three main components of the proposed GHG emissions performance metric are fuel sales, fuel efficiency factors, and vehicle miles traveled. State DOTs are generally non-regulatory agencies and have limited ability to change those variables.

As a result, a requirement to reduce CO2 emissions, imposed on States, would place pressure on States to adjust project selection. That will represent a major change in the nature of the program of Federal assistance to States for highways, where State authority and flexibility to prioritize projects has been a bedrock principle.

For the reasons set forth above, if a rule is promulgated in this docket, proposed 23 CFR 490.105(e)(10) must be revised to delete both the specification that targets must be "declining" and the specification that targets must "demonstrate reductions toward net-zero targets." The revision must not include any other specification as to what the target must do. Instead, the final rule must expressly establish that "only" the State (or if applicable, an MPO) sets targets and must also expressly allow a "State" the authority to set targets for the measure, in this case tailpipe CO2 emissions on the NHS, "whether constant, declining, or increasing."

States Face Great Difficulty in Efforts to Impact CO2 Emissions Levels; That Difficulty is Particularly Acute for Certain Rural States, Which Should be Exempted from the Requirements of the Proposed Rule.

Rural States may face particular challenges and program distortions under the rule as it is hard for States to influence the factors that form the proposed measurement metric, such as level of VMT, or fleet fuel economy. A review of the January 18, 2017, Federal Register notice that promulgated the GHG measurement and management rule as a final rule offers ideas from that time period by FHWA as to how States might influence a decrease in GHG emissions. See 82 Federal Register at 5997. Many of those ideas -- congestion pricing, road pricing, ramp metering, increased coordination with transit and non-motorized improvements, paying fees to scrap low mileage heavy duty vehicles – may be options for heavily populated metropolitan areas. The current NPRM notes the possibility that transit investment could help reduce CO2. NPRM at 42410. But these and similar actions are not well suited to rural settings, where residents drive relatively long distances, often in heavy duty vehicles required for business or agriculture and able to maneuver effectively in inclement weather and through altitude changes. Further, low population densities greatly limit, if not eliminate good transit options for investment. Further, Congress, in the IIJA already greatly increased transit program funding levels.

In any event the transit example noted in the NPRM is really geared to denser populations. FHWA states:

> For instance, the construction of a new grade-separated transit facility has the potential to reduce travel on neighboring roadways, which in turn would reduce congestion, improve safety, and reduce criteria pollutant emissions in addition to reducing on-road GHG emissions. NPRM at 42410.

A "grade-separated transit facility" is a high-volume transit facility, not a bus operating on a route in mixed traffic with passenger cars. So, as was the case in the Federal Register notice of January 18, 2017, references to transit in a Federal Register notice concerning a tailpipe CO2 emissions performance measure do not speak to an option likely to be available in the setting of a rural State.

Accordingly, if FHWA should proceed to adopt a final rule in this docket, that final rule should

> Be expressly inapplicable to very rural States, we would define them as having a population per square mile of land area of 30 or fewer, and other States with population density below the national average that are also among the five lowest per capita income States. These States may not be as rural but, with low per capita income, are especially pressed to focus their highway and transportation funds on the highest priority transportation projects.

Should a rule be promulgated, such limited (but highly meritorious) exemptions would still include within the rule the vast majority of States and an even higher proportion of the population.

No Penalties.

As noted above at note 3, FHWA has stated that it could use other rules as a basis for imposing penalties on States that do not meet the declining targets largely dictated by FHWA. Imposition of penalties would be, to our knowledge, contrary to practice under the performance management program. To date, when a State does not meet a target that it has set (for a measure adopted by FHWA), the result is consultation with FHWA and new target setting and efforts to meet the new target. Let us be clear, while not a penalty, such "consultation" gives FHWA an opportunity to press States, including to adjust the State's program of projects in pursuit of reduced CO2 emissions. The voluntary mention by FHWA of the possibility of penalties injects much more pressure for States into any such consultations. Further, penalties are particularly inappropriate as applied to this proposed rule because, as explained above, States have little opportunity to take actions that can impact the measurements.

Accordingly, if the proposed rule is to be finalized at all, a new section should be added to part 490 to specify that that "no penalty may be imposed for failure to meet a target [under the tailpipe GHG/CO2 emissions performance measure]."

The Proposed Use of Calendar Year 2021 as the Reference Year for Measurement under the Proposed Rule Should be Changed to 2022 or an Even Later Year.

It is axiomatic that a rule intended to spur States to reduce CO2 tailpipe emissions must have a reference year against which future emissions levels will be measured, to see if there is a reduction or other change. The proposed rule would use calendar 2021 as the reference year as, per FHWA, it is the most recent year for which FHWA will have data. See NPRM at 42415.

2021, however, was a year when economic and transportation activity was held down by the COVID virus and response to it, even though we now approach the end of 2022, a year expected to reflect an increase in VMT compared to 2021. Thus, from the outset, the proposed rule would make it even more difficult for States to achieve a declining target.

In contrast, this was not an issue under the rule promulgated on January 18, 2017, two Administrations ago. That rule set 2017, not an earlier year, as the baseline year. 82 Federal Register 5970. In that proposal, FHWA, consciously or not, recognized the inappropriateness of using, as a reference year, a year with lower emissions than the then current year.

In short, if there is a final rule in this docket, the reference year should not be 2021 or any other year that represents an unusually low level of VMT (and therefore of tailpipe CO2 emissions) but 2022 or an even later year.

No Retroactive Requirements.

The NPRM is clear that the comment deadline on the proposal is October 13, 2022. Yet the proposed revisions to 23 CFR 490.105 and 490.107 would establish an October 1, 2022 "reporting date" for information as to the proposed GHG rule, including targets. NPRM at 42412 and 42419. This proposed retroactive provision is perhaps inadvertent and clearly untenable.

If there is to be a final rule in this docket, the reporting dates for the new requirements should begin at least two years later than currently proposed, i.e., no earlier than October 1, 2024, to allow States to begin to implement the new provision before reporting on it.

Limit Definition of GHG to What is at Issue, CO2.

As the operative provision in the proposed rule is a measurement and targets for tailpipe CO2 emissions, we were surprised that the definition of "greenhouse gas (GHG)" at proposed 23 CFR 490.505 is broader than that. The definition also includes methane, nitrous oxides and unspecified hydrofluorocarbons. The definition further includes the statement that "97 percent of the on-road GHG emissions are CO2." NPRM at 42421 and 42415.

We do not discern (so far) that the proposed rule's inclusion of emissions other than CO2 in the definition of GHG establishes regulatory requirements as to those other emissions, but don't dismiss the possibility that FHWA may see authority as a result of including those additional gases in the definition, something that it has not explained in the NPRM. The point is that inclusion in the definition of these other emissions is unnecessary to effectuate a proposal to limit tailpipe CO2 emissions, which FHWA says represents 97 percent of the tailpipe GHG emissions. This overbroad definition seemingly opens the door to more regulation without even a rulemaking, as FHWA conceivably could issue guidance or an interpretation purporting to apply operative requirements with respect to these other than CO2 emissions – as they would already be in the rule as part of the term "GHG."

The reference to 97 percent is a reason why, if one were to support a GHG performance measurement and management rule, which we do not, it would focus on CO2. It is not a reason to include the sources of the other 3 percent in the definition. It is, to the contrary, a reason to exclude those other gases from the definition. If FHWA should later consider that it wants to regulate with respect to those other emissions, it can begin a new rulemaking and address issues as to its authority and reasons for the proposal at that time.

Accordingly, if there is to be a final rule in this docket, the definition of "greenhouse gas (GHG)" should be revised to refer solely to tailpipe CO2 emissions.

Conclusion.

The transportation departments of Idaho, Montana, North Dakota, South Dakota and Wyoming oppose the proposed rule to establish GHG performance measurement and management requirements. We do not believe there is authority for FHWA to promulgate such a rule. We also have explained above policy objections to such a rule, which will be especially problematic for rural States.

If, notwithstanding our objections, the rule is to be promulgated, revisions should be made, particularly to restore the exclusive State role in setting targets, and to exempt from coverage under the rule very rural States and certain States that are rural and have very low per capita income from coverage. Additional changes that we have recommended, such as changing the inappropriate proposed 2021 reference year for measurement, are also highly meritorious and should be incorporated if the rule is to be finalized.

The transportation departments of Idaho, Montana, North Dakota, South Dakota and Wyoming thank FHWA for its consideration and recommend that any further action on the issues addressed in these comments be in accord with these comments.

****

Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

October 13, 2022

Docket Management Facility
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Re: National Performance Management Measures; Assessing Performance of the National Highway System, Greenhouse Gas Emissions Measure, Docket No. FHWA-2021-0004

The Florida Department of Transportation (FDOT) appreciates the opportunity to comment on the Federal Highway Administration's (FHWA) Notice of Proposed Rulemaking on National Performance Management Measures, Assessing Performance of the National Highway System, Greenhouse Gas Emissions Measure (Docket No. FHWA-2021-0004).

FDOT and our transportation partners, including Florida's 27 Metropolitan Planning Organizations (MPOs), have a long history of measuring the performance of the transportation system and adapting policies, plans, and programs to help accomplish performance goals. Florida law establishes a framework for transportation performance management, with FDOT policy linking performance measures to planning and programming decision making. This ensures informed decisions on transportation system performance, agency operations, and program outcomes.

While the intent of the proposed rule is important, the implementation of the proposed rule is also important. Federal regulations should not burden states with overreaching or unnecessary requirements that may impact successful implementation. FDOT strongly encourages FHWA to consider this balance as it moves forward in the rulemaking process.

Instead of prescriptive targets and timelines, FDOT recommends FHWA allow states flexibility to make decisions based on the needs of their communities. Regulations should be broad enough to include the unique current characteristics and evolving conditions of all 50 states.

Docket Management Facility
October 13, 2022

Authority to Establish the GHG Measure

FDOT is concerned that FHWA relied upon an overly broad interpretation of 23 U.S.C. 150 to justify its legal authority for establishment of this rule. In 23 U.S.C. 150(c), Congress used clear language to direct USDOT to establish performance measures to assess pavement condition, bridge condition, system performance, serious injuries and fatalities, and, for the CMAQ program, traffic congestion and on-road mobile source emissions. Congress also stated that the USDOT Secretary shall limit performance measures to those described in the subsection. Notably absent from this section is a reference to GHGs. Furthermore, the national goals identified in 23 U.S.C. 150(b)(6), which FHWA also relies upon for legal justification, do not explicitly address reducing GHG emissions.

When Congress passed the Infrastructure Investment and Jobs Act (IIJA) less than one year ago it did not add a GHG performance measure to 23 U.S.C. 150(c) or expand upon the national goals. Congress did create new programs in IIJA that provide funding for and incentivize state DOTs and MPOs to develop carbon reduction strategies and implement projects accordingly. However, IIJA did not include a mandate that state DOTs or MPOs track on-road GHG tailpipe emissions or otherwise achieve year over year reductions in GHG emissions from on-road vehicles. Had Congress intended to require a GHG performance measure, the IIJA would have provided the opportunity to do so.

Timing of Proposed Target setting and Reporting Requirements

The proposed rule would require that state departments of transportation establish initial targets for greenhouse gas (GHG) performance measures no later than October 1, 2022. Comments on the proposed rule are due October 13, 2022, 12 days AFTER the deadline for target setting. It is impractical to require states to set targets before a rule is promulgated.

In order to establish targets, states must gather data, analyze, and calculate historic trends, coordinate among various functional areas, and review policy. The proposed measure requires the use of data sets controlled by FHWA, which are not currently available to state DOTs. Additionally, state DOTs are required by the proposed rule to coordinate the state performance targets with their metropolitan planning organizations. In the case of Florida, coordinating with 27 MPOs on new performance targets requires several months of collaboration.

Other rules requiring performance measures and targets provided at least one year for states to coordinate and establish state targets. Florida strongly encourages FHWA to extend the target-setting deadline and to consider alignment with the schedule that already exists for pavement and bridge conditions and mobility measures.

Declining Targets and Target Timeframes

As the nation's third most populous state, Florida's population is projected to grow from 21.5 million residents in 2020 to 27.8 million residents by 2050. Out-of-state visitors to Florida are projected to increase 55 percent between 2019 and 2031. Florida continues to experience growth in vehicle miles traveled (VMT), as a result of the growth in population and visitors. The proposed rule requires that states set declining targets from an established baseline, to show

improvements in GHG emissions. Realistically, this presents a challenge when VMT is increasing and population is growing, especially for 2- and 4-year targets.

A GHG performance measure expressed as a rate of emissions to VMT, or population would provide better context. States should not be penalized for population or economic growth.

By requiring declining targets, FHWA goes well beyond the statutory requirement in 23 U.S.C. 150(d) that "each *State* shall set performance targets that reflect the measures" promulgated by FHWA. The statute makes no reference to improving, declining, or constant targets. In effect, the requirement for declining targets inserts FHWA into the target setting role that is provided to states. It is more reasonable to maintain that states have the full ability to establish realistic, data-driven targets, whether they be improving or declining.

The most promising strategies to affect reductions in on-road tailpipe emissions are those that will take more time to build, implement, or adopt. States will have little influence to achieve progress toward short-term, 2- and 4-year targets.

FHWA is also proposing 8- and 20-year targets, which are more realistic. FDOT prefers 8- and 20-year targets over 2- and 4-year targets and respectfully suggests that the establishment of four separate targets for four time periods is overreach and a burden to states.

Reference Year

FDOT is concerned about the use of 2021 as the reference year due to the Covid-19 pandemic. VMT in Florida, both total and NHS, dropped significantly from 2019 to 2020. While VMT rebounded in 2021 to a level slightly above 2019, it was below the trajectory it was on prior to the start of the pandemic. This suggests that additional rebound is likely in 2022 and beyond. Thus, the use of 2021 as a baseline is not likely to reflect ongoing system performance over the next few years. We recommend that FHWA evaluate other options for the reference year to assess the impacts on target achievement.

MPO Requirements

The proposed rule requires MPOs to establish GHG targets for their MPO area, as well as for urbanized areas that may cross MPO jurisdictions (Figure 1). Creating 2-, 4-, 8-, and 20-year targets for the state, 27 MPOs, and at least 10 urbanized areas would mean at least 115 new targets for Florida. Not only does this create undue burden for the MPOs; it also creates undue burden for FDOT. FDOT monitors and tracks performance measures and targets for all federal measures for its 27 MPOs as part of its oversight responsibilities.

The proposed rule requires state DOT to review and, in essence, approve, the MPOs' approach to calculating metrics and targets. For FDOT, this means potentially validating 27 different approaches to GHG calculations.

Given transportation emissions are not physically contained within a jurisdictional boundary, it is unclear how performance targets specific to an urbanized area will create improvements above those coming from performance targets specific to an MPO area. The proposed rule should

Docket Management Facility
October 13, 2022

provide limited options for metrics, with any validation responsibility assigned to FHWA, and should not require targets for BOTH urbanized areas and MPO areas.

Thank you for the opportunity to provide these comments. Please do not hesitate to contact FDOT in regards to any of or comments. Your main point of contact will be Brad Thoburn, Assistant Secretary of Strategic Development. You can contact him by email at brad.thoburn@dot.state.fl.us or by phone at 850-414-5235.

Sincerely,

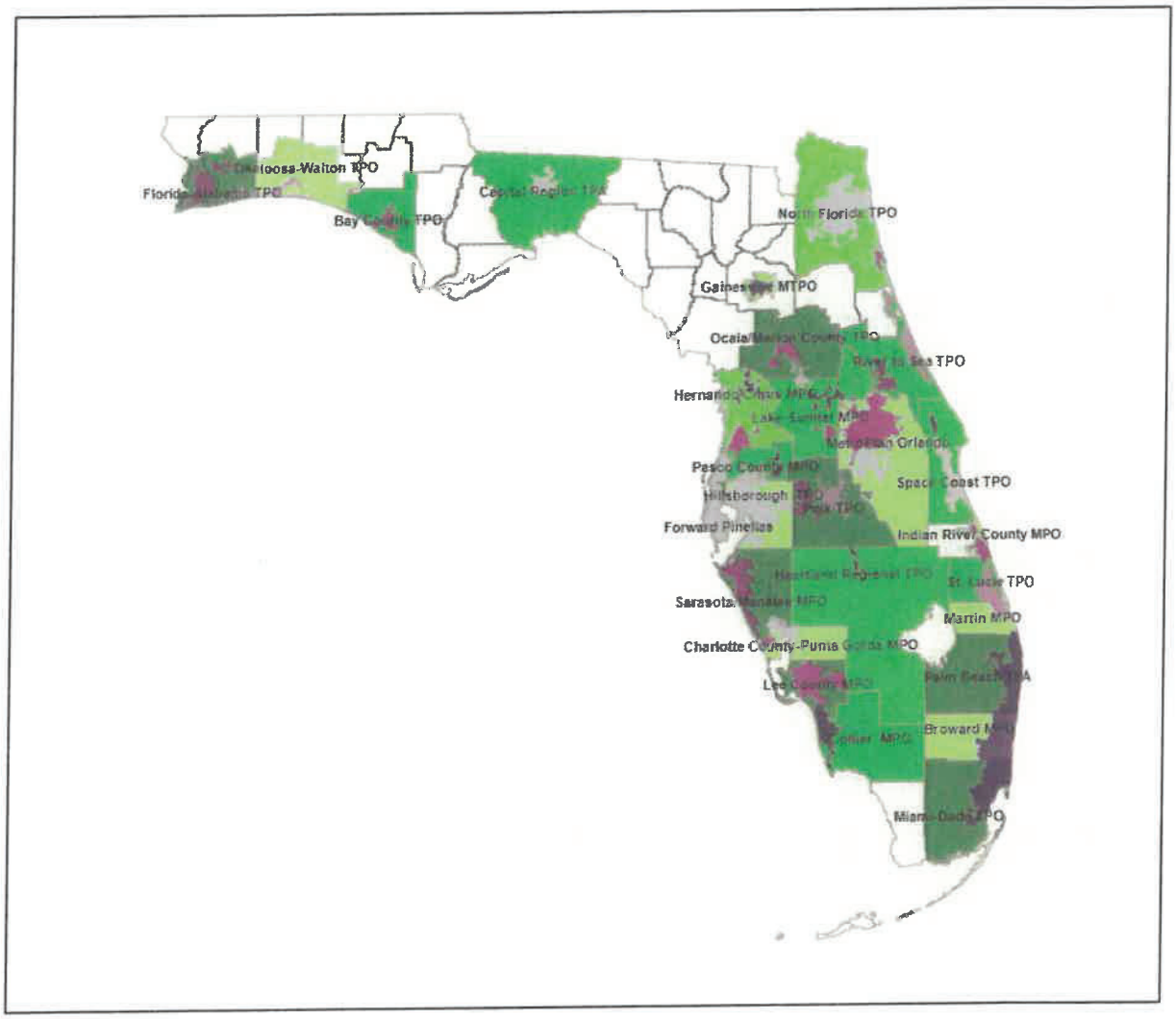
DocuSigned by:
862D6B01F4FF447...

Jared W. Perdue, P.E., Secretary
Florida Department of Transportation

JP:drs

Enclosures: Florida Urbanized Areas and MPO Boundaries

Figure 1 - Florida Urbanized Areas and MPO Boundaries
(Urbanized areas shown in light to dark purple. MPOs shown in light to dark green.)



AO 440 (Rev. 12/09) Summons in a Civil Action

UNITED STATES DISTRICT COURT

for the

Commonwealth of Kentucky, et al.
Plaintiff

v.

Federal Highway Administration, et al.
Defendant

Civil Action No. 5:23-cv-162-BJB

SUMMONS IN A CIVIL ACTION

To: *(Defendant's name and address)*

Shailen Bhatt
Federal Highway Administration
1200 New Jersey Ave. SE
Washington, D.C. 20590

A lawsuit has been filed against you.

Within 21 days after service of this summons on you (not counting the day you received it) — or 60 days if you are the United States or a United States agency, or an officer or employee of the United States described in Fed. R. Civ. P. 12 (a)(2) or (3) — you must serve on the plaintiff an answer to the attached complaint or a motion under Rule 12 of the Federal Rules of Civil Procedure. The answer or motion must be served on the plaintiff or plaintiff's attorney, whose name and address are:

Victor B. Maddox, Aaron J. Silletto, Lindsey R. Keiser
Office of the Kentucky Attorney General
700 Capital Avenue, Suite 118
Frankfort, KY 40601

If you fail to respond, judgment by default will be entered against you for the relief demanded in the complaint. You also must file your answer or motion with the court.

CLERK OF COURT

Date: _____

_____
Signature of Clerk or Deputy Clerk

Civil Action No. 5:23-cv-162-BJB

PROOF OF SERVICE

(This section should not be filed with the court unless required by Fed. R. Civ. P. 4 (l))

This summons for *(name of individual and title, if any)* _____

was received by me on *(date)* _____ .

❒ I personally served the summons on the individual at *(place)* _____

_____ on *(date)* _____ ; or

❒ I left the summons at the individual's residence or usual place of abode with *(name)* _____

_____ , a person of suitable age and discretion who resides there,

on *(date)* _____ , and mailed a copy to the individual's last known address; or

❒ I served the summons on *(name of individual)* _____ , who is

designated by law to accept service of process on behalf of *(name of organization)* _____

_____ on *(date)* _____ ; or

❒ I returned the summons unexecuted because _____ ; or

❒ Other *(specify)*:

My fees are $ _____ for travel and $ _____ for services, for a total of $ 0.00 .

I declare under penalty of perjury that this information is true.

Date: _____

_____

Server's signature

_____

Printed name and title

_____

Server's address

Additional information regarding attempted service, etc:

AO 440 (Rev. 12/09) Summons in a Civil Action

UNITED STATES DISTRICT COURT

for the

Commonwealth of Kentucky, et al.
Plaintiff

v.

Federal Highway Administration, et al.
Defendant

Civil Action No. 5:23-cv-162-BJB

SUMMONS IN A CIVIL ACTION

To: *(Defendant's name and address)*

President Joseph R. Biden, Jr.
The White House
1600 Pennsylvania Ave. NW
Washington, D.C. 20500

A lawsuit has been filed against you.

Within 21 days after service of this summons on you (not counting the day you received it) — or 60 days if you are the United States or a United States agency, or an officer or employee of the United States described in Fed. R. Civ. P. 12 (a)(2) or (3) — you must serve on the plaintiff an answer to the attached complaint or a motion under Rule 12 of the Federal Rules of Civil Procedure. The answer or motion must be served on the plaintiff or plaintiff's attorney, whose name and address are:

Victor B. Maddox, Aaron J. Silletto, Lindsey R. Keiser
Office of the Kentucky Attorney General
700 Capital Avenue, Suite 118
Frankfort, KY 40601

If you fail to respond, judgment by default will be entered against you for the relief demanded in the complaint. You also must file your answer or motion with the court.

CLERK OF COURT

Date: _____

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Signature of Clerk or Deputy Clerk

Civil Action No. 5:23-cv-162-BJB

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_____ on *(date)* _____ ; or

❒ I left the summons at the individual's residence or usual place of abode with *(name)* _____

_____ , a person of suitable age and discretion who resides there,

on *(date)* _____ , and mailed a copy to the individual's last known address; or

❒ I served the summons on *(name of individual)* _____ , who is

designated by law to accept service of process on behalf of *(name of organization)* _____

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UNITED STATES DISTRICT COURT

for the

Commonwealth of Kentucky, et al.
Plaintiff

v.

Federal Highway Administration, et al.
Defendant

Civil Action No. 5:23-cv-162-BJB

SUMMONS IN A CIVIL ACTION

To: *(Defendant's name and address)*

Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Ave. SE
Washington, D.C. 20590

A lawsuit has been filed against you.

Within 21 days after service of this summons on you (not counting the day you received it) — or 60 days if you are the United States or a United States agency, or an officer or employee of the United States described in Fed. R. Civ. P. 12 (a)(2) or (3) — you must serve on the plaintiff an answer to the attached complaint or a motion under Rule 12 of the Federal Rules of Civil Procedure. The answer or motion must be served on the plaintiff or plaintiff's attorney, whose name and address are:

Victor B. Maddox, Aaron J. Silletto, Lindsey R. Keiser
Office of the Kentucky Attorney General
700 Capital Avenue, Suite 118
Frankfort, KY 40601

If you fail to respond, judgment by default will be entered against you for the relief demanded in the complaint. You also must file your answer or motion with the court.

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_____ , a person of suitable age and discretion who resides there,

on *(date)* _____ , and mailed a copy to the individual's last known address; or

❒ I served the summons on *(name of individual)* _____ , who is

designated by law to accept service of process on behalf of *(name of organization)* _____

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❒ Other *(specify)*:

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Date: _____

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Server's signature

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Printed name and title

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Additional information regarding attempted service, etc:

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Office of the Kentucky Attorney General
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Printed name and title

_____

Server's address

Additional information regarding attempted service, etc:

AO 440 (Rev. 12/09) Summons in a Civil Action

UNITED STATES DISTRICT COURT

for the

Commonwealth of Kentucky, et al.
Plaintiff

v.

Federal Highway Administration, et al.
Defendant

Civil Action No. 5:23-cv-162-BJB

SUMMONS IN A CIVIL ACTION

To: *(Defendant's name and address)*

U.S. Department of Transportation
1200 New Jersey Ave. SE
Washington, D.C. 20590

A lawsuit has been filed against you.

Within 21 days after service of this summons on you (not counting the day you received it) — or 60 days if you are the United States or a United States agency, or an officer or employee of the United States described in Fed. R. Civ. P. 12 (a)(2) or (3) — you must serve on the plaintiff an answer to the attached complaint or a motion under Rule 12 of the Federal Rules of Civil Procedure. The answer or motion must be served on the plaintiff or plaintiff's attorney, whose name and address are:

Victor B. Maddox, Aaron J. Silletto, Lindsey R. Keiser
Office of the Kentucky Attorney General
700 Capital Avenue, Suite 118
Frankfort, KY 40601

If you fail to respond, judgment by default will be entered against you for the relief demanded in the complaint. You also must file your answer or motion with the court.

CLERK OF COURT

Date: _____

_____
Signature of Clerk or Deputy Clerk

Civil Action No. 5:23-cv-162-BJB

PROOF OF SERVICE

(This section should not be filed with the court unless required by Fed. R. Civ. P. 4 (l))

This summons for *(name of individual and title, if any)* _____

was received by me on *(date)* _____ .

❒ I personally served the summons on the individual at *(place)* _____

_____ on *(date)* _____ ; or

❒ I left the summons at the individual's residence or usual place of abode with *(name)* _____

_____ , a person of suitable age and discretion who resides there,

on *(date)* _____ , and mailed a copy to the individual's last known address; or

❒ I served the summons on *(name of individual)* _____ , who is

designated by law to accept service of process on behalf of *(name of organization)* _____

_____ on *(date)* _____ ; or

❒ I returned the summons unexecuted because _____ ; or

❒ Other *(specify)*:

My fees are $ _____ for travel and $ _____ for services, for a total of $ 0.00 .

I declare under penalty of perjury that this information is true.

Date: _____

_____

Server's signature

_____

Printed name and title

_____

Server's address

Additional information regarding attempted service, etc:

JS 44 (Rev. 10/20)

CIVIL COVER SHEET

5:23-cv-162-BJB

The JS 44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. *(SEE INSTRUCTIONS ON NEXT PAGE OF THIS FORM.)*

I. (a) PLAINTIFFS

Commonwealth of Kentucky, et al.

(b) County of Residence of First Listed Plaintiff Marshall
(EXCEPT IN U.S. PLAINTIFF CASES)

(c) Attorneys *(Firm Name, Address, and Telephone Number)*

Office of the Kentucky Attorney General, 700 Cap

DEFENDANTS

Federal Highway Administration, et al.

County of Residence of First Listed Defendant
(IN U.S. PLAINTIFF CASES ONLY)

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED.

Attorneys *(If Known)*

U.S. Attorney's Office for the Western District of Ke

II. BASIS OF JURISDICTION *(Place an "X" in One Box Only)*

- ☐ 1 U.S. Government Plaintiff
- ☐ 3 Federal Question *(U.S. Government Not a Party)*
- ☒ 2 U.S. Government Defendant
- ☐ 4 Diversity *(Indicate Citizenship of Parties in Item III)*

III. CITIZENSHIP OF PRINCIPAL PARTIES *(Place an "X" in One Box for Plaintiff and One Box for Defendant)*

(For Diversity Cases Only)

	PTF	DEF		PTF	DEF
Citizen of This State	1	1	Incorporated *or* Principal Place of Business In This State	4	4
Citizen of Another State	2	2	Incorporated *and* Principal Place of Business In Another State	5	5
Citizen or Subject of a Foreign Country	3	3	Foreign Nation	6	6

IV. NATURE OF SUIT *(Place an "X" in One Box Only)*

Click here for: Nature of Suit Code Descriptions.

CONTRACT
- ☐ 110 Insurance
- ☐ 120 Marine
- ☐ 130 Miller Act
- ☐ 140 Negotiable Instrument
- ☐ 150 Recovery of Overpayment & Enforcement of Judgment
- ☐ 151 Medicare Act
- ☐ 152 Recovery of Defaulted Student Loans (Excludes Veterans)
- ☐ 153 Recovery of Overpayment of Veteran's Benefits
- ☐ 160 Stockholders' Suits
- ☐ 190 Other Contract
- ☐ 195 Contract Product Liability
- ☐ 196 Franchise

REAL PROPERTY
- ☐ 210 Land Condemnation
- ☐ 220 Foreclosure
- ☐ 230 Rent Lease & Ejectment
- ☐ 240 Torts to Land
- ☐ 245 Tort Product Liability
- ☐ 290 All Other Real Property

TORTS

PERSONAL INJURY
- ☐ 310 Airplane
- ☐ 315 Airplane Product Liability
- ☐ 320 Assault, Libel & Slander
- ☐ 330 Federal Employers' Liability
- ☐ 340 Marine
- ☐ 345 Marine Product Liability
- ☐ 350 Motor Vehicle
- ☐ 355 Motor Vehicle Product Liability
- ☐ 360 Other Personal Injury
- ☐ 362 Personal Injury - Medical Malpractice

PERSONAL INJURY
- ☐ 365 Personal Injury - Product Liability
- ☐ 367 Health Care/ Pharmaceutical Personal Injury Product Liability
- ☐ 368 Asbestos Personal Injury Product Liability

PERSONAL PROPERTY
- ☐ 370 Other Fraud
- ☐ 371 Truth in Lending
- ☐ 380 Other Personal Property Damage
- ☐ 385 Property Damage Product Liability

CIVIL RIGHTS
- ☐ 440 Other Civil Rights
- ☐ 441 Voting
- ☐ 442 Employment
- ☐ 443 Housing/ Accommodations
- ☐ 445 Amer. w/Disabilities - Employment
- ☐ 446 Amer. w/Disabilities - Other
- ☐ 448 Education

PRISONER PETITIONS

Habeas Corpus:
- ☐ 463 Alien Detainee
- ☐ 510 Motions to Vacate Sentence
- ☐ 530 General
- ☐ 535 Death Penalty

Other:
- ☐ 540 Mandamus & Other
- ☐ 550 Civil Rights
- ☐ 555 Prison Condition
- ☐ 560 Civil Detainee - Conditions of Confinement

FORFEITURE/PENALTY
- ☐ 625 Drug Related Seizure of Property 21 USC 881
- ☐ 690 Other

LABOR
- ☐ 710 Fair Labor Standards Act
- ☐ 720 Labor/Management Relations
- ☐ 740 Railway Labor Act
- ☐ 751 Family and Medical Leave Act
- ☐ 790 Other Labor Litigation
- ☐ 791 Employee Retirement Income Security Act

IMMIGRATION
- ☐ 462 Naturalization Application
- ☐ 465 Other Immigration Actions

BANKRUPTCY
- ☐ 422 Appeal 28 USC 158
- ☐ 423 Withdrawal 28 USC 157

PROPERTY RIGHTS
- ☐ 820 Copyrights
- ☐ 830 Patent
- ☐ 835 Patent - Abbreviated New Drug Application
- ☐ 840 Trademark
- ☐ 880 Defend Trade Secrets Act of 2016

SOCIAL SECURITY
- ☐ 861 HIA (1395ff)
- ☐ 862 Black Lung (923)
- ☐ 863 DIWC/DIWW (405(g))
- ☐ 864 SSID Title XVI
- ☐ 865 RSI (405(g))

FEDERAL TAX SUITS
- ☐ 870 Taxes (U.S. Plaintiff or Defendant)
- ☐ 871 IRS—Third Party 26 USC 7609

OTHER STATUTES
- ☐ 375 False Claims Act
- ☐ 376 Qui Tam (31 USC 3729(a))
- ☐ 400 State Reapportionment
- ☐ 410 Antitrust
- ☐ 430 Banks and Banking
- ☐ 450 Commerce
- ☐ 460 Deportation
- ☐ 470 Racketeer Influenced and Corrupt Organizations
- ☐ 480 Consumer Credit (15 USC 1681 or 1692)
- ☐ 485 Telephone Consumer Protection Act
- ☐ 490 Cable/Sat TV
- ☐ 850 Securities/Commodities/ Exchange
- ☐ 890 Other Statutory Actions
- ☐ 891 Agricultural Acts
- ☐ 893 Environmental Matters
- ☐ 895 Freedom of Information Act
- ☐ 896 Arbitration
- ✓ 899 Administrative Procedure Act/Review or Appeal of Agency Decision
- ☐ 950 Constitutionality of State Statutes

V. ORIGIN *(Place an "X" in One Box Only)*

☒ 1 Original Proceeding ☐ 2 Removed from State Court ☐ 3 Remanded from Appellate Court ☐ 4 Reinstated or Reopened ☐ 5 Transferred from Another District *(specify)* ☐ 6 Multidistrict Litigation - Transfer ☐ 8 Multidistrict Litigation - Direct File

VI. CAUSE OF ACTION

Cite the U.S. Civil Statute under which you are filing ***(Do not cite jurisdictional statutes unless diversity)***:
5 U.S.C. Sections 702-03; 28 U.S.C. sections 1331 and 1361.

Brief description of cause:
Challenge to Final Agency Rule mandating States set declining on-road CO_2 emissions targets for violating federal Constitution and statutes.

VII. REQUESTED IN COMPLAINT:

☐ CHECK IF THIS IS A **CLASS ACTION** UNDER RULE 23, F.R.Cv.P.

DEMAND $

CHECK YES only if demanded in complaint:

JURY DEMAND: ☐ Yes ☐ No

VIII. RELATED CASE(S) IF ANY

(See instructions): JUDGE _____ DOCKET NUMBER _____

DATE 12/21/2023

SIGNATURE OF ATTORNEY OF RECORD /s/ Aaron J. Silletto

FOR OFFICE USE ONLY

RECEIPT # _____ AMOUNT _____ APPLYING IFP _____ JUDGE _____ MAG. JUDGE _____

INSTRUCTIONS FOR ATTORNEYS COMPLETING CIVIL COVER SHEET FORM JS 44

Authority For Civil Cover Sheet

The JS 44 civil cover sheet and the information contained herein neither replaces nor supplements the filings and service of pleading or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. Consequently, a civil cover sheet is submitted to the Clerk of Court for each civil complaint filed. The attorney filing a case should complete the form as follows:

I.(a) **Plaintiffs-Defendants.** Enter names (last, first, middle initial) of plaintiff and defendant. If the plaintiff or defendant is a government agency, use only the full name or standard abbreviations. If the plaintiff or defendant is an official within a government agency, identify first the agency and then the official, giving both name and title.

(b) **County of Residence.** For each civil case filed, except U.S. plaintiff cases, enter the name of the county where the first listed plaintiff resides at the time of filing. In U.S. plaintiff cases, enter the name of the county in which the first listed defendant resides at the time of filing. (NOTE: In land condemnation cases, the county of residence of the "defendant" is the location of the tract of land involved.)

(c) **Attorneys.** Enter the firm name, address, telephone number, and attorney of record. If there are several attorneys, list them on an attachment, noting in this section "(see attachment)".

II. **Jurisdiction.** The basis of jurisdiction is set forth under Rule 8(a), F.R.Cv.P., which requires that jurisdictions be shown in pleadings. Place an "X" in one of the boxes. If there is more than one basis of jurisdiction, precedence is given in the order shown below.
United States plaintiff. (1) Jurisdiction based on 28 U.S.C. 1345 and 1348. Suits by agencies and officers of the United States are included here.
United States defendant. (2) When the plaintiff is suing the United States, its officers or agencies, place an "X" in this box.
Federal question. (3) This refers to suits under 28 U.S.C. 1331, where jurisdiction arises under the Constitution of the United States, an amendment to the Constitution, an act of Congress or a treaty of the United States. In cases where the U.S. is a party, the U.S. plaintiff or defendant code takes precedence, and box 1 or 2 should be marked.
Diversity of citizenship. (4) This refers to suits under 28 U.S.C. 1332, where parties are citizens of different states. When Box 4 is checked, the citizenship of the different parties must be checked. (See Section III below**; NOTE: federal question actions take precedence over diversity cases.**)

III. **Residence (citizenship) of Principal Parties.** This section of the JS 44 is to be completed if diversity of citizenship was indicated above. Mark this section for each principal party.

IV. **Nature of Suit.** Place an "X" in the appropriate box. If there are multiple nature of suit codes associated with the case, pick the nature of suit code that is most applicable. Click here for: Nature of Suit Code Descriptions.

V. **Origin.** Place an "X" in one of the seven boxes.
Original Proceedings. (1) Cases which originate in the United States district courts.
Removed from State Court. (2) Proceedings initiated in state courts may be removed to the district courts under Title 28 U.S.C., Section 1441.
Remanded from Appellate Court. (3) Check this box for cases remanded to the district court for further action. Use the date of remand as the filing date.
Reinstated or Reopened. (4) Check this box for cases reinstated or reopened in the district court. Use the reopening date as the filing date.
Transferred from Another District. (5) For cases transferred under Title 28 U.S.C. Section 1404(a). Do not use this for within district transfers or multidistrict litigation transfers.
Multidistrict Litigation – Transfer. (6) Check this box when a multidistrict case is transferred into the district under authority of Title 28 U.S.C. Section 1407.
Multidistrict Litigation – Direct File. (8) Check this box when a multidistrict case is filed in the same district as the Master MDL docket.
PLEASE NOTE THAT THERE IS NOT AN ORIGIN CODE 7. Origin Code 7 was used for historical records and is no longer relevant due to changes in statue.

VI. **Cause of Action.** Report the civil statute directly related to the cause of action and give a brief description of the cause. **Do not cite jurisdictional statutes unless diversity.** Example: U.S. Civil Statute: 47 USC 553 Brief Description: Unauthorized reception of cable service.

VII. **Requested in Complaint.** Class Action. Place an "X" in this box if you are filing a class action under Rule 23, F.R.Cv.P.
Demand. In this space enter the actual dollar amount being demanded or indicate other demand, such as a preliminary injunction.
Jury Demand. Check the appropriate box to indicate whether or not a jury is being demanded.

VIII. **Related Cases.** This section of the JS 44 is used to reference related pending cases, if any. If there are related pending cases, insert the docket numbers and the corresponding judge names for such cases.

Date and Attorney Signature. Date and sign the civil cover sheet.