



NEW YORK UNIVERSITY SCHOOL OF LAW

January 28, 2022

To: Federal Highway Administration, Department of Transportation

Subject:Comments on "Development of Guidance for Electric Vehicle Charging
Infrastructure Deployment," 86 Fed. Reg. 67, 782 (Nov. 29, 2021)

Docket ID: FHWA-2021-0022

The Institute for Policy Integrity at New York University School of Law ("Policy Integrity")¹ respectfully submits the following comments on the Federal Highway Administration's ("FHWA") Development of Guidance for Electric Vehicle Charging Infrastructure Deployment.²

Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy. Policy Integrity commends FHWA for seeking to promote equity in deployment of electric vehicle ("EV") charging. Policy Integrity makes the following recommendations to incorporate consideration of equity into FHWA's guidance for funding applicants:

- FHWA should provide tools and support to applicants so they can perform rigorous distributional analysis. Such analysis should include:
 - Use of granular data, using spatial scales that are appropriate for analyzing the effects of EV charging infrastructure siting; and
 - Monetization of such effects, wherever practicable, by subpopulation, and disaggregation of costs and benefits by those same subpopulations.
- Using this information, FHWA can factor applicants' findings into its decisionmaking by:
 - Qualitatively comparing the relative "winners and losers" from the disaggregated cost-benefit analysis; or
 - Using quantitative tool, such as an inequality metric or social welfare function, to assign numeric values to the relatively distributional desirability of a proposal.
- FHWA should require applicants to conduct stakeholder outreach during the proposal development phase.
- FHWA should work in coordination with other federal, state, and local agencies to address equity in the buildout of EV charging infrastructure.

¹ This document does not purport to represent the views, if any, of New York University School of Law.

² 86 Fed. Reg. 67,782 (Nov. 29, 2021) (Docket ID FHWA-2021-0022).

I. Introduction

FHWA seeks input on developing guidance under the EV Charging Program for States and localities "to strategically deploy EV charging infrastructure," based on nine statutory factors including the need for such infrastructure "in rural corridors and underserved or disadvantaged communities."³ In addition, FHWA requests comments to inform the administration of its discretionary grant disbursement under the Charging and Fueling Infrastructure Program.⁴

Historically, transportation emissions have disproportionately affected low-income communities and communities of color.⁵ As a result of elevated concentrations of ozone, fine particulate matter, and oxides of nitrogen, these communities face increased risk of chronic respiratory diseases such as asthma⁶—and more recently, COVID-19.⁷

As vehicle sales shift away from internal combustion vehicles and toward EVs, consideration of equity is important to ensure that the communities disproportionately burdened by pollution from transportation see the benefit of increased EV deployment. One way to achieve that goal is to prioritize these communities for federal investment in EV charging in order to remove barriers to greater EV usage in those communities⁸ and accordingly, reduce emissions.⁹ FHWA can ensure that these communities receive the greatest benefit by recommending that States, localities, and other applicants seeking federal EV infrastructure funding commit to providing rigorous distributional analysis in grant proposals and conducting robust stakeholder engagement during proposal development.

Distributional analysis helps decisionmakers understand how the impacts of an action affect different groups. Decisionmakers should be concerned if one or more groups face disproportionately adverse impacts from such an action.¹⁰ Although distributional analysis has been a required component in federal decisionmaking for many years, agencies have inconsistently tried to address the question of how their actions create—or hinder—equitable

³ 86 Fed. Reg. at 67,784.

⁴ *Id.* at 67,785.

⁵ See, e.g., Pinto de Moura, et al., *Inequitable Exposure to Air Pollution from Vehicles in the Northeast and Mid-Atlantic* (Union of Concerned Scientists Report, 2019), https://www.ucsusa.org/resources/inequitable-exposure-airpollution-vehicles.

⁶ See, e.g., Kenneth F. Davidson et al., *The Recent and Future Health Burden of the U.S. Mobile Sector Apportioned by Source*, 15 ENVIRON. RES. LETT, 1–7 (2020), https://doi.org/10.1088/1748-9326/ab83a8.

⁷ X. Wu et al., *Air Pollution and COVID-19 Mortality in the United States: Strengths and Limitations of an Ecological Regression Analysis*, SCI. ADV. (2020), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7673673/

⁽increased exposure to PM2.5 associated with statistically significant increase in COVID-19 mortality rate).

⁸ See, e.g., Ethan Elkind, *Plugging Away: How To Boost Electric Vehicle Charging Infrastructure* (Berkeley Law Center for Law, Energy, and the Environment Report, June 2017) (recommending government interventions to spur development of EV charging infrastructure in order to overcome barriers to adoption and jumpstart greater EV usage).

⁹ See, e.g., Jordan L. Schnell, et al., Air Quality Impacts from the Electrification of Light-Duty Passenger Vehicles in the United States, 208 ATMOSPHERIC ENV. 95, 101 (2019),

https://www.sciencedirect.com/science/article/abs/pii/S1352231019302183 (finding that transitioning from combustion vehicles to EVs decreases localized ozone formation, regardless of power grid source).

¹⁰ Executive Order 12,898 on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations directs agencies to address "disproportionately high and adverse human health or environmental effects" on certain populations, which is a useful lens to consider distributional effects more generally. Exec. Order 12,898 § 1, 59 Fed. Reg. 7629, 7629 (Feb. 16, 1994).

outcomes.¹¹ The recommendations in Sections III-V below are drawn from Policy Integrity's August 2021 report, *Making Regulations Fair: How Cost-Benefit Analysis Can Promote Equity and Advance Environmental Justice (Making Regulations Fair)*.¹² Although *Making Regulations Fair* focuses on the federal rulemaking process, the methodologies described in that report are applicable to a broad range of decisionmaking contexts, including grantmaking, investment, and procurement.

To conduct distributional analysis in the context of EV charging infrastructure, FHWA may need to support applicants in their efforts to provide sufficiently detailed data and monetized estimates of effects. With this information in hand, FHWA can determine if the outcomes of a particular proposal are distributionally desirable or weigh the distributional desirability of multiple proposals against one another. This distributional analysis should be underpinned by a robust stakeholder engagement process so that applicant proposals reflect accurate data and take into account community concerns. Concurrent with improving the grantmaking process to reflect distributional outcomes, FHWA should also assess whether and to what extent it may need to coordinate with other federal, state, or local agencies to ensure that new investments in EV charging infrastructure promote equity.

II. FHWA Should Provide Tools and Support to Applicants to Conduct Distributional Analysis

As discussed in *Making Regulations Fair*, decisionmakers need to analyze sufficiently granular data to understand the distributional impacts of an action. Then they should disaggregate effects, including costs and benefits, to demonstrate to what extent certain groups are facing disproportionately high or adverse impacts or, conversely, which groups are largely benefitting from an action. FHWA grant applicants may be able to provide such information but will likely need the support of the FHWA or other federal agencies, depending on their resources and capabilities.

1. Applicant Should Use Sufficiently Granular Data, Using Spatial Scales that Are Appropriate to Analyze the Effects of EV Charging Infrastructure Planning

FHWA should require applicants to use granular geographic data to assess the potential equity effects of an EV charging infrastructure proposal.¹³ Applicants should ensure that the specificity of the data is appropriate for the nature of the impact (e.g., taking into consideration the downwind locations of air pollution impacts).¹⁴ Focusing on appropriately specific geographic units of analysis not only helps applicants identify which communities and groups may be affected by the siting of EV infrastructure, but also allows applicants and the FHWA to understand disparate impacts that may be obscured when the analysis looks at larger geographic

¹¹ Jack Lienke et al., Inst. for Pol'y Integrity, *Making Regulations Fair: How Cost-Benefit Analysis Can Promote Equity and Advance Environmental Justice* at 3-4 (Aug. 2021),

https://policyintegrity.org/publications/detail/making-regulations-fair [hereinafter "Making Regulations Fair"]; see also Richard L. Revesz, Regulation and Distribution, 93 N.Y.U. L. REV. 1489 (2018).

 $^{^{12}}$ *Id*.

¹³ Making Regulations Fair, supra note 11, at 6–9.

¹⁴ For a discussion on units of analysis when assessing distributional impacts, see Richard L. Revesz & Samantha P. Yi, *Distributional Consequences and Regulatory Analysis*, 52 ENV'T L. (forthcoming 2022) (manuscript at 26–29), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3927277.

units.¹⁵ In this way, a consistently granular approach both facilitates accurate assessments of an action's impacts *and* provides an informational foundation for weighing the equity impacts of an action against that action's other effects.

Though granular data is a central component of rigorous distributional analysis, some of FHWA's applicants may not have the resources or capacity to analyze such data. As a starting point, FHWA can direct applicants to the Environmental Protection Agency's environmental justice screening and mapping tool, EJSCREEN, which uses nationally consistent data to map environmental and demographic indicators,¹⁶ to identify communities that face high pollution burdens. Additionally, FHWA should consider providing training and analytical support for applicants. For example, FHWA could pilot a program to build the capacity of applicants and prospective applicants to assess the equity effects of their proposals before making such analysis a required part of the grantmaking process.

2. Applicants Should Disaggregate Effects, such as Costs and Benefits, by Demographic Groups

Equipped with granular estimations of effects, including different impact intensities and risk factors across communities, applicants could tally how those effects, including any monetized costs and benefits, are distributed among discrete demographic groups.¹⁷ Applicants should provide such demographically disaggregated impacts—in addition to aggregate impacts—whenever possible in their proposal to FHWA.

Such disaggregated analysis would enable an applicant—and so FHWA—to assess not only how costs and benefits are dispersed among different subpopulations, but also whether a proposal is net-beneficial or net-costly for particular groups. This information then would help the applicant understand the magnitude and spread of distributional consequences. The applicant should conduct such disaggregated analysis not only of the preferred proposal, but also of any alternatives it considers. This exercise would reveal important information about whether there are alternatives with more desirable distributional outcomes.¹⁸

Although applicants are likely familiar with estimating project construction and operation costs, they may have little experience with the type of analysis required to assess the distributional impacts of EV charging siting, such as estimating the monetized health or environmental benefits of a particular proposal, and so need support like that proposed above. Policy Integrity's 2018 report, *Valuing Pollution Reductions: How to Monetize Greenhouse Gas and Local Air Pollutant Reductions from Distributed Energy Resources*,¹⁹ describes how decisionmakers can use location- and demographically specific data to assess the value of nonemitting electricity generators, which may provide some useful analogues for FHWA and its applicant in their efforts to promote equity in the EV charging infrastructure grantmaking program. Although this

¹⁵ Id.

¹⁶ EJSCREEN: ENVIRONMENTAL JUSTICE SCREENING AND MAPPING TOOL, https://www.epa.gov/ejscreen (last visited on Jan. 26, 2022).

¹⁷ Making Regulations Fair, supra note 11, at 10–12.

¹⁸ See Revesz & Yi, supra note 14 (manuscript at 33–35).

¹⁹ Jeffrey Shrader et al., Inst. for Pol'y Integrity, *Valuing Pollution Reductions: How To Monetize Greenhouse Gas and Local Air Pollutant Reductions from Distributed Energy Resources* (2018), https://policyintegrity.org/publications/detail/valuing-pollution-reductions.

report focuses on reducing stationary sources of pollution,²⁰ the methodology for determining the environmental and public health benefits in a specific area could be adapted to the potential pollution-reduction effects of improved EV infrastructure. Again, FHWA could consider working with a small group of initial applicants to refine a replicable methodology that could be implemented by future applicants.

III. Using Applicants' Distributional Analyses, FHWA Can Factor Equity Considerations into Its Grantmaking Process

It is important that FHWA not only ask applicants to provide detailed information on the distributional or equity effects of their proposals, but also that FHWA develop a clear methodology for how to factor equity considerations into its grant approval process.

Once FHWA has received detailed proposals from applicants that include tallies of proposals' effects disaggregated by demographic group, FHWA should assess each applicant's proposal based on to what extent they promote equity, and then make base approvals in large part on those assessments. In *Making Regulations Fair*, Policy Integrity identifies three possible approaches to incorporating the findings of a distributional analysis into decisionmaking:²¹

- 1. Qualitatively comparing distribution outcomes, including identifying the relative "winners and losers" from the disaggregated cost-benefit analysis;
- 2. Using an inequality metric to assign numeric values to the relatively distributional desirability of a proposal; or
- 3. Using a social welfare function to assess the distributional desirability of a proposal.

We describe these options briefly below.

The first option, qualitative assessment, is premised on the status quo, where FHWA maintains broad discretion to determine whether and how distributional desirability should affect its decisions. Coupled with disaggregated tallies of costs and benefits, a qualitative assessment would give FHWA an opportunity to discuss how the costs and benefits are distributed and then demonstrate why it is acceptable to move forward with the action considering this distribution of beneficial and adverse impacts. In other words, FHWA could treat distributional outcomes as it would any other important nonmonetized project effect or characteristics, by explaining why "the better distributional consequence is sufficiently compelling to overcome the loss in quantified net benefits."²² Where one alternative has higher net benefits in monetary terms but another alternative (which is also net-beneficial) has better distributional attributes because more benefits accrue to disadvantaged populations, FHWA could therefore justify selecting the latter.²³ However, FHWA should be wary of presenting a qualitative analysis of equity effects alone, without a presentation of disaggregated costs and benefits, which could make it easy to give those effects minimal weight in deciding to approve a proposed action.²⁴

²⁰ For more on the environmental and public health value of distributed energy resources, see Matthew Butner et al., Inst. for Pol'y Integrity, *Making the Most of Distributed Energy Resources* (2020),

https://policy integrity.org/publications/detail/making-the-most-of-distributed-energy-resources.

²¹ Making Regulations Fair, supra note 11, at 13–21.

²² See Revesz & Yi, supra note 14, at 38.

²³ See id. at 38–39.

²⁴ See Making Regulations Fair, supra note 11, at 3.

The second and third options fall under the umbrella of quantitative assessment. FHWA should consider quantitative assessment that involves using a set of standardized metrics for scoring policies' distributional outcomes. This kind of approach includes use of inequality metrics and/or social welfare functions that can enable FHWA to "score," or assess the desirability of, different distributional outcomes.²⁵ Inequality metrics take a range of data inputs, like household-level characteristics like income or pollution exposure), apply a formula that reflects certain assumptions about the decisionmakers priorities, and produce values that represent the level of inequality in a given scenario.²⁶ Social welfare functions are used to understand how social welfare changes as a function of the distribution of units of well-being, in a given population.²⁷ Social welfare functions are typically based on income or consumption, but it is also possible to define well-being using characteristics like health status, pollution exposure, or leisure time.²⁸ Although FHWA would retain discretion as to how to use those scores when approving proposals, it should treat these scores similarly to how it would treat significant or important nonmonetized project characteristics or effects. Agencies often use their expert judgement to weigh quantified but nonmonetized effects, like risks, or unquantified benefits against costs and benefits, and FHWA should consider the outputs of these metrics in the same way.²⁹

IV. FHWA Should Require Applicants to Conduct Stakeholder Outreach During the Proposal Development Phase

Although distributional analysis is an essential tool in ensuring equitable policy outcomes, it is not the only tool that FHWA should use. Robust stakeholder engagement is another cornerstone of equity-promoting decisionmaking. Engagement of the public—and specifically environmental justice communities—can provide important benefits for FHWA applicants and FHWA's grantmaking process overall. Among other reasons, participation can help FHWA and its applicants obtain more comprehensive information on relevant issues and build public confidence in the ultimate selection of proposals for funding.

Public participation by environmental justice communities can support FHWA's efforts to incorporate equity considerations in EV charging infrastructure funding by allowing the agency and grant applicants to obtain more comprehensive information for use in their decisions. Community members can provide novel information that can only be gleaned from lived experiences and a deeper understanding of these consequences than the literature might provide.³⁰ Additionally, communities might provide further information about public opinion

²⁵ *Id.* at 13.

²⁶ *Id.* at 16–18.

²⁷ *Id.* at 19.

 $^{^{28}}$ *Id*.

²⁹ See id. at 14; see also Revesz & Yi, supra note 14, at 38–39.

³⁰ Cynthia R. Farina et al., *Knowledge in the People: Rethinking "Value" in Public Rulemaking Participation*, 47 WAKE FOREST L. REV. 1185, 1197 (2012) (explaining that these communities have "situated knowledge" of the "impacts, ambiguities and gaps, enforceability, contributory causes, and unintended consequences that are based on the lived experience in the complex reality into which the proposed regulation would be introduced"); Eileen Gauna, *The Environmental Justice Misfit: Public Participation and the Paradigm Paradox*, 17 STAN. ENV'T. L.J. 3, 72 (1998) ("[F]ormal expertise cannot capture the knowledge that exists within affected communities."); MICHAEL SANT'AMBROGIO & GLEN STASZEWSKI, ADMIN. CONF. OF THE U.S., FINAL REPORT: PUBLIC ENGAGEMENT WITH AGENCY RULEMAKING 26 (2018).

that can help FHWA or applicants identify and analyze potential areas of conflict.³¹ With improved opportunities for communities to participate in the early stages of the proposal processes, members of such communities may be able to pass on information that FHWA and funding applicants might not otherwise obtain.

Moreover, community engagement in the grantmaking process can build public confidence in the applicants' proposals and FHWA's ultimate determinations. In general, stakeholders and the general public may be more supportive of agency action when they are given a meaningful opportunity to be heard.³² Stakeholders may also have greater confidence in a process that brings community interests to the forefront of the discussion by engaging environmental justice communities and reducing emphasis on stakeholder politics.³³ Where the public is able to participate in the process and see that their concerns are heard and considered, they may be more inclined to accept, or even support, the outcome of the process.³⁴

Public participation can also highlight areas for improvement in the decisionmaking processes of FHWA and its applicants. In a proceeding of the Federal Energy Regulatory Commission (FERC) on its natural gas infrastructure certification policy, a broad array of commenters provided FERC with recommendations on how to improve various aspects of its environmental justice review for natural gas infrastructure projects. FHWA may be interested in reviewing comments submitted by a coalition of public interest organizations, including environmental justice organizations.³⁵ This specific set of comments provides detailed recommendations on how to improve the environmental justice assessment, a type of distributional analysis, including ways to enhance identification of environmental justice communities and the proper use of study areas and reference populations in assessment of impacts.³⁶ These organizations also highlight the importance of a clear and articulable policy for evaluating environmental justice impacts and mitigation measures, explaining that failing to have clear guidelines or "standards and best practices" can "diminish[] government accountability and make it more difficult for interested

³³ Ian E. Cecala & A. Bryan Endres, *Damnesia: An Examination of Public Participation and Evolving Approaches to Hydropower Development in the US and Brazil*, 55 IDAHO L. REV. 115, 122 (2019).

³⁴ SANT'AMBROGIO & STASZEWSKI, *supra* note 30, at 3–4, 9–17.

³¹ Marc Mihaly, *Citizen Participation in the Making of Environmental Decisions: Evolving Obstacles and Potential Solutions Through Partnership with Experts and Agents*, 27 PACE ENV'T L. REV. 151, 164–65 (2009) (discussing how citizen participation can provide information about "the nature and depth of public opinion" and "the substance, weight, significance and politics of stakeholder concerns").

³² SANT'AMBROGIO & STASZEWSKI, *supra* note 30, at 17 ("[S]takeholders will be more supportive of agency rulemakings when their voices are heard by the agency, even when they do not get everything they want."); *id.* at 16 (citing CYNTHIA R. FARINA & CERI, IBM CTR. FOR THE BUS. OF GOV'T, RULEMAKING 2.0: UNDERSTANDING WHAT BETTER PUBLIC PARTICIPATION MEANS, AND DOING WHAT IT TAKES TO GET IT 12 (2013) as providing some evidence for this theory); *cf.* Michael Asimow, *Nonlegislative Rulemaking and Regulatory Reform*, 1985 DUKE L.J. 381, 402–03 (stating that public participation promotes democratic values because it allows agency staff to engage with groups or individuals that they may not regularly consult).

³⁵ Supplemental Comments of Public Interest Organizations at 79–107, *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1 (May 26, 2021) [hereinafter Public Interest Org. Natural Gas Comments] (comments of 54 environmental and other public interest organizations, including Natural Resources Defense Council, Sierra Club, WE ACT for Environmental Justice, Public Citizen, and Richmond Interfaith Climate Justice League, among others). Policy Integrity also submitted comments outlining recommendations on environmental justice analysis. Comments of the Inst. for Pol'y Integrity at New York University School of Law, *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1 (May 26, 2021) [hereinafter Policy Integrity Natural Gas Comments].

³⁶ *Id.* at 81–86.

and affected parties to anticipate what [FERC] will do about environmental justice for any given project."³⁷ FHWA may find this proceeding useful not only for informing how it assesses equity and environmental justice in the grantmaking context for EV charging infrastructure, but also for how it advises applicants to engage with stakeholders.

Further details on this FERC proceeding and the importance of public participation in agency decisonmaking, see Policy Integrity's comments on FERC's Office of Public Participation,³⁸ comments to FERC on Certification of New Interstate Natural Gas Facilities,³⁹ and comments to the Nuclear Regulatory Commission on Providing for Meaningful Participation by Environmental Justice Communities.⁴⁰

V. FHWA Should Work in Coordination with Other Regulators to Address Equity in the Development of EV Charging Infrastructure.

The actions of FHWA and its applicants do not exist in a vacuum. If FHWA is committed to promoting equity in the proliferation of EV charging infrastructure, it must also consider the other actions taken by federal, state, and local regulators that might contribute to—or conversely, hinder—its desired outcomes. Through this grantmaking program, FHWA has a unique opportunity to work with state and local decisionmakers to promote equity through improved public health outcomes in the communities that will eventually be home to public EV charging infrastructure. This is particularly true if applicants conduct robust stakeholder engagement during the initial phase of proposal development. Although correcting from inequitable outcomes created by other regulators may not be in its jurisdiction, FHWA can at least take distributional considerations into account when approving grant applications.

Respectfully,

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³⁷ Id.

³⁸ Comments of the Inst. for Pol'y Integrity at New York University School of Law, *The Office of Public Participation*, Docket No. AD21-9 (Apr. 23, 2021),

https://policyintegrity.org/documents/Comments_on_FERC_Office_Public_Participation_04.23.21.pdf. ³⁹ Comments of the Inst. for Pol'y Integrity at New York University School of Law, *Certification of New Interstate Natural Gas Facilities*, Docket No. PL18-1 (May 26, 2021),

https://policyintegrity.org/documents/Comments_on_FERC_NOI_05.26.21.pdf.

⁴⁰ Comments of the Inst. for Pol'y Integrity at New York University School of Law, *Providing for Meaningful Public Participation by Environmental Justice Communities*, Docket No. NRC-2021-0137 (Oct. 29, 2021), https://policyintegrity.org/documents/Policy_Integrity_Comments_on_NRC_EJ_Policy.pdf.

Attachments

- 1) Jack Lienke et al., Inst. for Pol'y Integrity, *Making Regulations Fair: How Cost-Benefit* Analysis Can Promote Equity and Advance Environmental Justice
- 2) Jeffrey Shrader et al., Inst. for Pol'y Integrity, Valuing Pollution Reductions: How to Monetize Greenhouse Gas and Local Air Pollutant Reductions from Distributed Energy Resources (2018)