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National Highway Transportation Safety Administration

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Joint Summary Comments of

The Center for Biological Diversity, Chesapeake Bay Foundation, Conservation Law Foundation, Earthjustice, Environmental Law & Policy Center, Natural Resources Defense Council, Public Citizen, Inc., Sierra Club, and Union of Concerned Scientists

The undersigned Environmental, Advocacy and Science organizations provide the following comments on the National Highway Transportation Safety Administration's proposed fuel economy standards for Model Years 2024-2026. In addition, we attach an extended appendix that provides additional detail and evidence in support of the comments made here.

I. NHTSA should adopt Alternative 3, which are the "maximum feasible" standards under EPCA.

NHTSA is required to set fuel economy standards that achieve the maximum feasible reduction in oil use. As NHTSA's own analysis indicates, Alternative 3 is technically feasible, "would save consumers the most in fuel costs" and would "maximize fuel consumption reductions, better protecting consumers from international oil market instability and price spikes." Proposal, 86 Fed. Reg. at 49, 792, 49,803. In fact, NHTSA concludes that "[i]t is therefore likely that Alternative 3 best meets the need of the U.S. to conserve energy." *Id.* Conserving energy is the fundamental purpose of the Energy Policy and Conservation Act and we strongly urge NHTSA to finalize this alternative. *Ctr. for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1195 (9th Cir. 2008).

When errors in NHTSA's analysis are corrected, the evidence shows that Alternative 3's benefits significantly exceed its costs, and that its net benefits also exceed Alternative 2's net benefits. These errors are further described in Section III below. For example, correcting NHTSA's assumptions regarding the rebound rate, sales elasticity value, compliance technology availability (specifically for high compression ratio technologies), and energy security valuation has a significant effect on the net benefits of more stringent standards. With just these changes, Alternative 3's benefits exceed its costs by $28.7 billion at a 3 percent discount rate using the Model Year 1981-2029 analysis, while Alternative 2 shows net benefits of $25.4 billion. In addition, Alternative 3 provides greater net benefits than Alternative 2 from Calendar Year 2023 to 2050, under both NHTSA's analysis in the Proposal and in our corrected modeling.

In addition, the cost-benefit analysis of Alternative 3 is likely to be improved further as external factors, such as the social cost of carbon now under review by the interagency working group, are adjusted.

II. NHTSA should acknowledge patent mistakes in the 2020 Final Rule.

The 2020 Final Rule was marked by serious errors that require correction. NHTSA should acknowledge these errors. Many of them are described in detail in the Union of Concerned Scientists' petition for administrative reconsideration filed with NHTSA. Of particular note is the 2020 Final Rule's erroneous claim that consumers prefer "upfront" vehicle cost savings over later fuel-cost savings, *see, e.g.*, 85 Fed. Reg. at 25,111, 25,171, and that these preferences override the nation's need to conserve energy. While NHTSA has not followed this approach in the current Proposal, NHTSA should explicitly acknowledge that these earlier pronouncements were erroneous.

III. NHTSA's analysis overstates the costs of more stringent standards, while understating their benefits.

Under NHTSA's modeling, both NHTSA's Preferred Alternative (Alternative 2) and Alternative 3 deliver significant societal net benefits when viewed across calendar years (CY) 2021-2050 and the regulated model years (MY) 2024-2026. But there remain a number of errors that continue to underestimate the benefits of the standards and exaggerate the costs. NHTSA should correct them.

A. A 15% rebound effect is unreasonably high and unsupported by the evidence.

NHTSA's Proposal estimates that stronger standards will result in a 15% rebound effect as the cost of driving drops. 86 Fed. Reg. at 49,714. This 15% rebound value is a departure from the 10% rebound effect used in the 2010 and 2012 fuel economy rulemakings and is unjustifiably high. The relevant research supports a maximum rebound effect of 10%, as modeled in NHTSA's sensitivity analysis, and indicates a reasonable value is likely even lower. NHTSA should revise its Proposal to utilize a rebound value no greater than 10%. Errors in rebound value estimates lead to the miscalculation of several other aspects of NHTSA's analysis.

NHTSA has previously provided substantial evidence that 10% is the best estimate of rebound, including in the 2010 and 2012 Final Rules and the 2016 Midterm Evaluation Draft TAR. *See* 2010 Final Rule, 75 Fed. Reg. 25,324, 25,517 (May 7, 2010); 2012 Final Rule, 77 Fed. Reg. 62,624, 62,716 (Oct. 15, 2012); EPA & NHTSA, Draft Technical Assessment Report, Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025, at 10-19 to 10-20 (July 2016) ("2016 Draft TAR").

In the Proposal, NHTSA has not adequately justified why 15% is the proper rebound effect rather than the 10% rebound on which it previously relied. NHTSA does recognize that there is a wide range of estimates and that some studies are more relevant due to the time period and geography studied. It also recognizes that when studies are ranked by relevance, "the rebound effect is likely in the range from 5-15 percent and is more likely to lie toward the lower end of that range." *Id*. NHTSA should therefore focus its analysis on the most relevant studies and adopt the rebound range indicated by that data. In its proposed standards, EPA defined the factors that made studies relevant and based on those factors determined that a 10% rebound was appropriate. NHTSA should follow a similar approach.

NHTSA should also more carefully review the studies it evaluates and use the authors' best estimate, rather than any ranges provided since those ranges often include levels that the authors themselves indicate are not realistic or probable.

Based on our review of the relevant studies and the evidence indicating that the rebound effect declines as income increases, 10% is the maximum estimate; in fact, the evidence leads to the conclusion that a lower rebound rate is appropriate.

B. NHTSA's safety analysis is flawed and likely overstates any safety impacts.

1. *NHTSA incorrectly focuses on total fatalities rather than fatality rate, and should not consider fatalities that occur as a result of increased driving in its safety analysis.*

NHTSA historically focused on fatalities-per-mile as the metric through which to evaluate vehicle safety. *See*, 2012 Final Rule, 77 Fed. Reg. at 62,740 n.313; 2016 Draft TAR at 8-1 n.A. In the 2020 Final Rule, NHTSA decided to abandon this historic approach and emphasized total fatalities. This total fatality approach creates the false impression that NHTSA's proposed standard would be responsible for increases in fatalities due to greater driving even if fatalities per mile did not change. This is a mistaken impression. If car owners decide to drive more due to the lower operating cost of their vehicles, those drivers are themselves weighing the risks and benefits of driving and any increase in fatalities is not appropriately attributed to NHTSA's action in raising fuel economy standards. As NHTSA notes, "[r]ebound miles are not imposed on consumers by regulation," but are "a freely chosen activity resulting from reduced vehicle operational costs." PRIA at 118. In this situation, the appropriate approach is to evaluate the fatality rate, and NHTSA's standards likely would have no meaningful impact on that rate.

2. *NHTSA's analysis overstates safety impacts from more stringent standards.*

NHTSA's safety impacts analysis is also in error for several additional reasons. First, as discussed above, NHTSA assumes an excessive rebound effect and thus projects too much additional driving. Second, NHTSA exaggerates the degree to which a standard will change new vehicle sales, using a price elasticity of demand of -1. Using a more reasonable estimate, such as within the range of -0.2 and -0.4, or perhaps even lower in magnitude, would decrease the projected safety impacts from the model's fleet turnover estimates. *See also* State and Local

Government Petitioners' Brief at 55-57. In addition, a more accurate assessment of consumer valuation of fuel savings would further diminish any negative safety impacts of the standards from fleet turnover effects. Finally, NHTSA should not rely on an analysis of the projected fatalities from mass reduction in vehicles, as NHTSA itself acknowledges that it is based on differences that are not statistically significant. Proposal, 86 Fed. Reg. at 49,721. Indeed, as NHTSA explains, even with the flaws in its models, changes in "vehicle safety effects are relatively minor under all action alternatives, and thus not dispositive." *Id.* at 49,810.

C. NHTSA's energy security benefit values are derived from inaccurate oil security premiums used in the 2020 Final Rule, and should be recalculated.

1. *Energy security remains an important consideration with respect to U.S. oil consumption.*

Reducing U.S. reliance on oil enhances U.S. energy security, and—with energy security in mind—Congress has specifically directed the U.S., and NHTSA in particular, to conserve energy. Energy Policy and Conservation Act of 1975, 42 U.S.C. § 32902(f). NHTSA must continue to consider the energy security impacts of standards. First, U.S. refineries continue to import heavy crude oil from potentially unstable regions of the world. Second, the United States remains vulnerable to oil exporting nations' intentional withholding of supply and accompanying price shocks.

2. NHTSA's oil import and refining assumptions that underlie the energy security benefits do not accurately reflect current realities.

In previous rulemakings, including the 2020 Final Rule, NHTSA assumed that 50% of the change in domestic fuel consumption as a result of the regulations would lead to a change in imports of refined fuel, and of the remaining 50% refined domestically, 90% would come from imported crude. NHTSA uses these same oil import and refining values in the Proposal. But these assumptions are inaccurate. Today only a small portion of U.S. gasoline demand is supplied by foreign-refined oil. NHTSA should recognize that most of the change in demand would show up in the domestic refining supply and update its oil import reduction factor.

NHTSA should also revise its estimated oil security premium and return to its use of the well-established Oak Ridge National Laboratory methodology for estimating oil security premiums. Finally, NHTSA should evaluate whether it can quantify the military and monopsony benefits of reduced oil demand and, if it cannot quantify these benefits, it should recognize that its oil security estimates will be understatements of the benefits of reducing petroleum demand.

D. NHTSA has improved estimated benefits of PM2.5 reductions but continues to understate other air quality benefits.

NHTSA has improved the monetization of PM2.5 reductions attributable to fuel economy standards. Specifically, NHTSA utilizes a more accurate benefit per ton estimate from Wolfe et al. (2019). In addition, NHTSA has improved the resolution of the upstream emission impacts by separately quantifying and monetizing five upstream sectors. But NHTSA has not quantified the benefits from reductions in ozone and air toxics. NHTSA should work to improve its ability to assess the benefits from reductions in the pollutants that cause ozone and air toxics. If it cannot do so, it should, again, state that its benefits' calculations are underestimates.

E. NHTSA's assessment of consumer impacts likely understates benefits to consumers, and the agency should consider refining its assessment to provide more insight into the implications of stronger fuel economy regulations.

NHTSA should improve its evaluation of consumer impacts in the following ways.

First, it is important to recognize that NHTSA's proposed standards benefit consumers even as currently analyzed. As NHTSA indicates, "[o]n balance, consumers of new cars and light trucks produced during the model years subject to this proposed action will experience significant economic benefits." 86 Fed. Reg. at 49,721.

Second, NHTSA should analyze vehicle costs spread over the lifetime of the vehicle. This will help illustrate how the multiple owners of vehicles may benefit from the standards and help reveal the equity implications of the proposed standards. For example, NHTSA can consider the impact of the standards over 5-year periods, as EPA did in the proposal to revise its greenhouse gas standards.

Third, NHTSA should consider the benefit of reduced fuel prices that result from stronger fuel economy standards. The substantial reduction in petroleum demand attributable to the standards will undoubtedly have an appreciable impact on fuel prices and NHTSA's analysis should account for this consumer benefit.

F. NHTSA's employment analysis of more stringent fuel economy standards shows positive growth.

NHTSA finds that the Proposal will result in overall increases in employment when compared to the 2020 Final Rule. 86 Fed. Reg. at 49,736; PRIA at 152-53. NHTSA's analysis "shows that the increased labor from production of new technologies used to meet the preferred alternative will outweigh any decreases attributable to the change in new vehicle sales." 86 Fed. Reg. at 49,736. Moreover, NHTSA's model uses a price elasticity of demand of -1.0, which is arbitrarily high. A more reasonable (lower in magnitude) price elasticity of demand would likely lead to even greater projected increases in employment.

G. NHTSA overstates the impact of stronger fuel economy standards on vehicle sales – leading to an overestimate of the costs and underestimate of the benefits of more stringent standards.

First, NHTSA should correct its estimate of the elasticity of demand for new vehicles. Short-run price elasticity will be different from long-run price elasticity because over the long run people must replace older vehicles. *See* 2012 Final Rule, 77 Fed. Reg. at 63,102 n.1300. Because the standards will extend into the future, NHTSA should use a long-run price elasticity.

Second, the -1.0 price elasticity value used in the Proposal is wholly unsupported and should not be used. In the Proposal to the 2020 Rule, NHTSA presented an analysis indicating an elasticity in the range of -0.2 to -0.3. 83 Fed. Reg. at 43,075. NHTSA did not adequately explain why, in the 2020 Final Rule, it had raised the elasticity more than threefold. Moreover, numerous experts have advised NHTSA that -1.0 is not an appropriate number for price elasticity for vehicle sales. In addition, the literature relied on by NHTSA to support the -1.0 price elasticity does not actually support even a short-run elasticity of -1.0. And more recent literature supports a long-run price elasticity value well below -1.0 in magnitude, and likely even lower in magnitude than -0.4.

H. NHTSA's assumption in the sales and scrappage models that consumers value only the first 2.5-years of fuel savings is unfounded and inconsistent with the agency's current and past statements.

As NHTSA indicates, there is significant uncertainty regarding the level at which consumers value future fuel savings when purchasing a vehicle, and that "[r]ecent econometric research remains divided between studies that conclude . . . that consumers may value most, if not all of potential fuel savings, and those that conclude that consumers significantly undervalue fuel savings." 86 Fed. Reg. at 49,710 n. 301. Despite this, NHTSA selected 2.5 years (30 months) of fuel savings in the NPRM, which represents about one fourth of the expected future fuel savings. The agency bases this estimate on manufacturers' statements, despite recognized risks with this approach. NHTSA further ignores its previous position that consumers' willingness to pay ("WTP") for fuel economy will generally be greater than manufacturers' perception of consumers' WTP for fuel economy. NHTSA also recognizes that consumer WTP for fuel economy may be very high where fuel economy improves as the result of fuel economy regulations, yet continues to rely on the 30-month valuation. . NHTSA describes its 30-month estimate as "conservative," but in the context of NHTSA's analysis, that is not true - a lower WTP leads to slower fleet turnover, which increases projected safety impacts and decreases emissions reductions from more stringent standards. Even a small change to this estimate has large impacts on the analysis. Accordingly, NHTSA should reevaluate this unreasonable underestimation of consumer WTP.

I. NHTSA's projections for VMT reductions due to COVID-19 do not match real-world trends and understate the fuel savings from more stringent standards.

Real-world data indicates that, following the reductions in miles traveled during the COVID-19 pandemic, vehicle miles traveled have rebounded much faster than NHTSA projected in the proposal. According to the FWHA's monthly Traffic Volume Trends report, every month since March 2021 has shown an increase in vehicle miles traveled as compared with that same month the previous year. NHTSA should update its analysis to incorporate the most recent data, which shows that vehicle miles traveled has rebounded to pre-pandemic levels far faster than the agency expected.

J. NHTSA's assumptions and modeling of high compression ratio technologies overly restricts these technologies, improperly increasing the costs of more stringent standards.

In the compliance modeling for the Proposal, NHTSA arbitrarily blocks high compression ratio (HCR) technology from adoption in the fleet, improperly inflating the compliance costs of the standards and the projected purchase price increases for new vehicles. NHTSA also made what appear to be coding errors in modeling the application of these technologies, further restricting their adoption even beyond what the agency intended. NHTSA must correct these errors.

IV. NHTSA need not finalize its fuel-economy standards at the same time as EPA finalizes its revised GHG emission standards.

Commenters urge NHTSA to finalize its rulemaking as soon as possible, and certainly before April 2022. Commenters recognize that given the agencies' current pace, EPA may finalize its revised light duty vehicle greenhouse gas emission standards before NHTSA finalizes this rulemaking. This serial approach is acceptable as nothing compels the agencies to proceed in tandem.

V. NHTSA should eliminate the proposed full-sized pickup truck incentives and eliminate, or at minimum, reduce and reform, the off-cycle credits program.

Because the full-sized pickup truck credits and the additional off-cycle credits NHTSA proposes erode its standards' real-world results without concomitant gains, Commenters urge NHTSA not to promulgate them. NHTSA should also either end the off-cycle credit program altogether, or, at a minimum, fundamentally reform it so that any credits bestowed actually equal the real-world fuel economy improvement they claim to achieve.

A. NHTSA should not reinstate full-size pickup truck incentives.

Since 2012, NHTSA has allowed credits intended to incentivize the application of mild or strong hybrid technologies to full-sized pickup trucks if manufacturers meet minimum production thresholds or if the vehicles achieved 15 or 20 percent better performance than similar internal combustion pickup trucks. Proposal, 86 Fed. Reg. at 49,831-32. These "phantom" credits come in addition to the actual fuel efficiency improvements in these trucks' performance.

NHTSA proposes to reinstate this lapsed program. But NHTSA fails to show that manufacturers would not install the technology absent the extra incentives. In fact, the evidence shows that changes are coming to this segment of the market absent regulation, making extra incentives unnecessary. As NHTSA acknowledges, 86 Fed. Reg. at 49,833, full electrification has already penetrated the light duty truck segment, with extremely positive consumer uptake, and manufacturers already plan the introduction of hybrid technology. Given the strong response to new products in the truck market, there is no need to sacrifice overall fuel economy gains by awarding phantom credits to encourage adoption of hybrids in this segment of the market.

B. NHTSA should not increase the cap for off-cycle credits and should instead reduce and reform the off-cycle program.

NHTSA should not expand the cap on off-cycle credits. The quantity of credits that can be claimed under this program should be restricted given the substantial difficulties in adequately testing and verifying the performance of the claimed off-cycle fuel economy features. NHTSA itself recognizes these uncertainties. 86 Fed. Reg. 49,837. In the Proposal, NHTSA also acknowledges that the program is plagued by late and retroactive off-cycle applications. 86 Fed. Reg. at 49,836. Given the inherent uncertainty in the performance of off-cycle features and the severe challenges in administering the program, NHTSA should reject the proposed off-cycle cap increase. In addition, NHTSA should consider eliminating the program or, at a minimum, require the submission of much more comprehensive testing results to assure their real-world effectiveness, particularly for menu credit applications to vehicles in which the technology has not been tested and when credits are simply "summed" without proof of additionality.

VI. NHTSA should work with the Department of Energy to ensure the equivalent petroleum-based fuel economy values imputed to EVs do not undermine the CAFE program.

Current Department of Energy (DOE) regulations impute an artificially high fuel economy value to electric vehicles (EVs) for use in CAFE compliance calculations. These imputed values are not directly relevant to the determination of what standards are maximum feasible in the current rulemaking because of the statutory limitation on "consider[ing] the fuel economy of [EVs]" in making that determination. *See* 49 U.S.C. §§ 32901(a)(1), (8), § 32902(h).

But these imputed values are relevant to the effect the standards have in the real world. Because CAFE is a fleet average standard, an artificial increase in EV fuel economy far above the fuel economy standard means that automakers can, through a relatively small number of EV sales, dramatically reduce the needed improvement in the fuel efficiency of their internal combustion vehicles compared to the level NHTSA assumes when it sets those standards. This means that the drivers of those internal combustion vehicles are stuck paying more at the gas pump and the objective of conserving fuel is frustrated. Some Commenters here have submitted a petition to DOE to update its EV equivalency regulations. NHTSA should work with DOE to ensure that any updates to DOE's regulations further the goals of the CAFE program.

VII. NHTSA has unlawfully adjusted the Minimum Domestic Passenger Car Standard.

As it did in the 2020 Final Rule, NHTSA has again unlawfully weakened the Minimum Domestic Passenger Car Standard (MDPCS) by "adjusting" the projected total passenger car fleet fuel economy from the central analysis. 86 Fed. Reg. at 49,789. NHTSA does not provide a lawful or reasonable basis for altering a statutorily defined standard. NHTSA needs to reconcile its position and rely on a single projection of future passenger car footprints and fuel economy for the central analysis and for setting the MDPCS.

VIII. More stringent standards promote environmental justice and equity.

NHTSA appropriately recognizes that environmental justice communities are disproportionately affected by climate change and pollution impacts from light duty vehicles and upstream emissions. First, reducing climate harm as an indirect consequence of improving light duty vehicle fuel economy will benefit environmental justice communities because, as NHTSA has aptly described, climate change disproportionately affects these communities. Proposal, 86 Fed. Reg. at 49,795. As NHTSA's analysis indicates, Alternative 3 will result in the greatest reduction in greenhouse gas pollution. In addition to resulting in significant GHG reductions, NHTSA's Proposal will also reduce other pollutant emissions from vehicles and from refineries, SEIS at 7-16, both of which will benefit environmental justice communities. *Id.* at 7-11 – 7-12. As NHTSA notes, a 2003 study found that 56 percent of people living within three miles of oil refineries in the United States are minorities, nearly double the national average. SEIS at 7-11 (citing O'Rourke & Connolly (2003)). By reducing gasoline consumption, NHTSA's proposal is expected to decrease refinery emissions, benefiting nearby communities.

IX. NHTSA should Consider Adopting a Mix-shift Backstop.

As NHTSA has long recognized, the fuel economy benefits of its standards are dependent on the mix of vehicles purchased because the standards vary depending on vehicle types and footprint. For that reason, commenters have urged NHTSA to set a "backstop," or minimum standard below which actual performance of the fleet may not fall. For example, in MY 2019, the most recent year for which information is available, the fleet mix of sedans and station wagons had shifted to only 33 percent of the fleet, compared to 80 percent in MY 1975.

As a result of mix shift changes like this, real-world fuel economy has been lower than NHTSA has previously projected. NHTSA should explain why it failed to propose a backstop in this rulemaking and should commit to doing so in its next rulemaking.

Conclusion

Commenters respectfully urge NHTSA to adopt Alternative 3 and to make the corrections noted above. Additional evidence supporting Commenters' positions can be found in the attached appendix.

Respectfully submitted,

Scott Hochberg
The Center for Biological Diversity

Alison Prost
Chesapeake Bay Foundation

Emily Green
Conservation Law Foundation

Paul Cort
Earthjustice

Ann Jaworski
Environmental Law & Policy Center

Luke Tonachel
Benjamin Longstreth
Natural Resources Defense Council

Scott L. Nelson
Public Citizen Litigation Group
Counsel for Public Citizen, Inc.

Vera P. Pardee
Law Office of Vera Pardee
Andrea Issod
Joshua Berman
Counsel for Sierra Club

Jessica Anne Morton
Michael Ceja Martinez
Democracy Forward Foundation
Counsel for Union of Concerned Scientists