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National Highway Traffic Safety Administration
Docket Management Facility, M-30
U.S. Department of Transportation
West Building, Ground Floor, Rm. W12-140
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: Proposed Rule for Corporate Average Fuel Economy Standards for Model Year 2024-2026 Passenger Cars and Light Trucks, Docket ID No. NHTSA-2021-0053

Rivian Automotive, LLC (“Rivian”) appreciates the opportunity to comment on the proposed rule for Corporate Average Fuel Economy Standards for Model Year 2024-2026 Passenger Cars and Light Trucks. Our R1T and R1S vehicle models are regulated under this program, the importance of which to the auto industry, the economy, and the environment cannot be overstated. Overall, the proposed rule moves in the right direction, but we urge the agency to select Alternative 3 when it finalizes the regulation—the option with the greatest environmental and economic benefits and the one that will drive the most rapid transition of America’s light-duty vehicles away from fossil fuel use.

Keeping the World Adventurous Forever

Rivian is an independent U.S. company dedicated to keeping the world adventurous forever with our lineup of all-electric adventure vehicles™. Our R1T truck and R1S SUV will be available for sale this year. With features like an electric motor at each wheel, over 300 miles of range on a single charge, 0-60mph times of 3 seconds and the ability to tow up to 11,000 pounds, these products will open a new class of zero emission vehicles to consumers, meeting ever-growing demands for performance and capability while emitting zero tailpipe emissions. In addition to the R1 vehicles, Rivian will also deliver 100,000 all-electric last-mile delivery vans to Amazon in the coming years, reducing greenhouse gas (GHG) emissions from the delivery sector and improving local air quality around logistics hubs, along key travel corridors, and in neighborhoods. These all-electric delivery vans will be produced at the same Normal, Illinois, assembly plant as the R1T and R1S beginning in 2021.

Rivian Welcomes NHTSA's Efforts to Strengthen Corporate Average Fuel Economy (CAFE) Standards but the Proposed Rule Could be Stronger

Rivian's mission to keep the world adventurous forever is made manifest in its commitment to the environment and addressing climate change. We strongly support a program of ambitious fuel economy regulation in the transportation sector as core to our values and vision for the world. Given transportation's role as the country's number one source of GHG emissions at a time when the urgency of the climate crisis has never been clearer, as well as a major source of demand for foreign oil, such a program is also vitally necessary. Rivian applauded NHTSA's decision in early 2021 to review the U.S. fuel economy standards for passenger cars and light trucks and welcomes the strides made in the proposal now subject to public comment. Course-correcting this regulation after recent rollbacks and reversals is no easy task.

NHTSA's proposed rule represents a significant step in the right direction compared to the current standards. Rivian welcomes the increased stringency of the proposal, and we recognize that the agency and the Biden Administration more broadly view this rule as just a steppingstone to a more ambitious regulatory regime for MY 2027 and later.

However, we believe that even greater stringency is feasible now. NHTSA rightly points out that a lot has changed in the country and industry in recent months and years, supporting its fresh look at the standards in this proceeding.¹ For one thing, automakers are making ever bolder commitments to delivering more higher fuel economy and electric models and our own company's product launch this year only underscores that what is considered "maximum feasible" in the auto market continues to advance.

NHTSA now also appropriately accounts for the effect of state-level ZEV mandates in shaping "business as usual" and the baseline fleet. These rules will drive a certain level of fuel economy improvement and help shape—and enhance—what is feasible on a national fleet-average basis in the coming years. However, NHTSA should take the opportunity to update its analysis once more in time for the final rule to reflect both the GHG standards of California and the Section 177 states (and not just the California Framework agreement voluntarily signed by several automakers), as well as the growing number of states adopting ZEV, or "clean cars," regulations. Specifically, the analysis underpinning the NPRM did not yet include Minnesota or Virginia as ZEV states, though both have formally moved to implement Advanced Clean Cars regulations. Nevada has now also adopted the regulation.² To ensure accuracy, NHTSA should be sure to include Minnesota, Nevada, and Virginia as ZEV states in its modeling.

¹ Corporate Average Fuel Economy Standards for Model Years 2024-2026 Passenger Cars and Light Trucks, 86 Fed. Reg. 169, 49,604, (Sep. 3, 2021) (revising 49 C.F.R. Parts 531, 533, 536, and 537).

² U.S. Department of Transportation, National Highway Traffic Safety Administration, *Technical Support Document: Proposed Rulemaking for Model Years 2024-2026 Light-Duty Vehicle Corporate Average Fuel Economy Standards* (2021), 104, footnote 71 available at <https://www.nhtsa.gov/sites/nhtsa.gov/files/2021-08/CAFE-NHTSA-2127-AM34-TSD-Complete-web-tag.pdf>; Minnesota Pollution Control Agency, *Clean Cars Minnesota*, <https://www.pca.state.mn.us/air/clean-cars-minnesota> (last visited Oct. 15, 2021); IHS Markit, *EVs on the Rise as Virginia Adopts California Vehicle Standards* (Mar. 22, 2021), available at <https://ihsmarket.com/research-analysis/evs-on-the-rise-as-virginia-adopts-california-vehicle-standards.html>; Nevada Clean Cars, *Nevada Becomes 16th Clean Cars State* (Oct. 22, 2021), available at <https://nevadacleancars.org/nevada-becomes-16th-clean-cars-state/>.

This all supports a simple conclusion. The market is ready for maximally ambitious regulation that advances U.S. energy security, reduces emissions, and drives EV sales. And yet our analysis of the proposed rule identified several provisions that appear likely to soften the regulation's impact and result in delays to the stated goals of this administration. A simpler and more stringent regulatory framework aligned with the auto industry's recent investments in vehicle technologies that will improve fuel economy will make the proposed rule even stronger.

To Maximize Fuel Economy, NHTSA Should Select and Finalize Alternative 3 and Take Additional Steps to Strengthen the Rule and its Analysis

Agency staff detailed the results of an extensive cost-benefit analysis performed as part of its deliberations in the documents introducing and accompanying the proposed rule. NHTSA's own calculations show that Alternative 3 will avoid the most gasoline consumption and deliver the greatest net benefits to Americans through 2050.³ Importantly, this alternative would also result in total lifetime fuel savings from vehicles produced during MY 2021-2029 similar to total lifetime savings that would have occurred under the standards originally finalized in 2012 for MY 2021-2025 (plus an additional year of like stringency in MY 2026).⁴ Therefore, Alternative 3 represents a pathway for the country to reclaim the full benefits of the 2012 rule despite the rollback finalized in 2020.

Despite these clear findings, NHTSA elected to propose a less beneficial alternative and failed to adequately justify that decision. This is inconsistent with both the Biden Administration's stated goals and priorities and, perhaps most significantly, with the directive of Executive Order 12866, later reaffirmed by Executive Order 13563, that "in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits..."⁵ Accordingly, Rivian believes NHTSA should, and in fact is obligated to, select Alternative 3 in its final determination. Finalizing another alternative would not be justifiable on cost-benefit grounds.

The agency has also concluded that pursuing this final rule meets feasibility tests. In fact, "NHTSA is certain that sufficient technology exists to meet the standards—even for the most stringent regulatory alternative."⁶ Therefore, at a minimum Rivian encourages NHTSA to issue a final determination that reflects these findings, but we see scope for taking additional steps to strengthen the agency's approach to fuel economy regulation in support of even more beneficial rules.

Do Not Revive Incentives for "Strong Hybrid" Trucks

NHTSA previously offered a compliance incentive for hybrid electric (HEV) pick-up trucks or trucks that overperformed their target by 20 percent. It now proposes to continue offering these credits through MY 2025. Rivian believes the agency made the right decision sunsetting this credit and it fails to adequately support its decision to reverse course in this proposal. Moreover, NHTSA proposes to offer the incentives

³ Corporate Average Fuel Economy Standards for Model Years 2024-2026 Passenger Cars and Light Trucks, 86 Fed. Reg. 169, 49,607, (Sep. 3, 2021) (revising 49 C.F.R. Parts 531, 533, 536, and 537).

⁴ *Id.* at 49,754.

⁵ Exec. Order No. 12,866, 58 Fed. Reg. 190 (Oct. 4, 1993); Exec. Order No. 13,563, 76 Fed. Reg. 14 (Jan. 21, 2011).

⁶ Corporate Average Fuel Economy Standards for Model Years 2024-2026 Passenger Cars and Light Trucks, 86 Fed. Reg. 169, 49,792, (Sep. 3, 2021) (revising 49 C.F.R. Parts 531, 533, 536, and 537).

in the very near term and in model years not covered by the newly stringent proposed standards—namely MY 2022 and 2023. Presumably this decision aims to accelerate early technology deployment but, in the context of current market offerings (elaborated upon below) and with insufficient lead time to reorient product portfolios for MY 2022 or 2023, the likely result is simply a credit windfall for manufacturers with qualifying vehicles already in development.

The agency describes this credit as one that will “encourage” the application of technology.⁷ However, Rivian’s own product offerings, as well as those pending from several other manufacturers, prove that such incentives are no longer needed. Electric pick-up trucks are on the market today. At the same time, encouraging hybridization of pick-up trucks is a technological dead end. While incrementally better than a conventional ICE, they fail to excite the driving public and are insufficient to the task of substantially reducing energy consumption and fossil fuel use in the transportation sector. Only fully electric models will rise to the challenge while providing customers with a superior ownership experience. Ultimately, Rivian believes the timing of the proposed credits and the trade-offs inherently involved in such a provision might have been worthwhile at one time and for true “end game” solutions such as BEVs, but it is no longer necessary, worthwhile, or beneficial.

Maintain Current Cap on Off-Cycle Credits

Rivian questions the wisdom of mirroring EPA’s proposed expansion of the off-cycle credit program in a regulation that aims to quickly improve fuel economy in the light-duty vehicle fleet. (Rivian expressed concerns about EPA’s parallel proposal in comments to that agency in September 2021.) Fundamentally, analysts have raised concerns about the efficacy and environmental integrity of the off-cycle credit program. As ICCT has noted, one of the “most disconcerting findings” of its examination of off-cycle crediting is that the credited technologies “are still largely without validated real-world benefits.”⁸ For this reason, among others, the Union of Concerned Scientists opposed a provision in the “California Framework” to raise the off-cycle credit cap in a manner identical to that proposed by EPA and now serving as the foundation of this provision in NHTSA’s proposal.⁹ Evidence suggests that not only are the real-world benefits of many off-cycle technologies less significant than claimed by automakers but, since its inception, the provision has failed to ensure “additionality,” often creating windfalls by awarding credits to automakers for technologies that were already installed. Limiting the compliance value of off-cycle technologies will ensure automakers invest to the greatest extent possible in fundamental improvements to the vehicle that will deliver step-function increases in fuel economy—such as vehicle electrification—rather than marginal benefits more typical of off-cycle technologies.

Clarify How the Proposed Rule Matches the Stringency of EPA’s Proposed GHG Standards

In previous rulemakings governing fuel economy, NHTSA issued a joint proposal with EPA covering both CAFE and GHG standards. In this instance, the agencies issued separate proposals. Nonetheless, NHTSA

⁷ *Id.* at 49,815.

⁸ Nic Lutsey and Aaron Isenstadt, The International Council on Clean Transportation, *How Will Off-Cycle Credits Impact U.S. 2025 Efficiency Standards?* (2018), available at https://theicct.org/sites/default/files/publications/Off-Cycle-Credits_ICCT-White-Paper_vF_20180327.pdf.

⁹ Union of Concerned Scientists, *Rolling Back the Rollback: Strong Near-Term Standards to Set Up a Cleaner Future* (2021), available at <https://ucs-documents.s3.amazonaws.com/clean-vehicles/ucs-memo-rolling-back-the-rollback-2021-04-09.pdf>.

states that the two agencies coordinated their efforts and that the parallel rules converge to become “roughly equivalent” in stringency by MY 2026.¹⁰ Rivian seeks clarity on this point. As presented in the NPRM it appears that the requirements under the CAFE proposal fall short of the stringency required by EPA. In grams-per-mile (g/mi) terms, NHTSA expects its proposed alternative to require fleet average emissions of 185 g/mi in MY 2026 compared with an estimated fleet average compliance target of 171 g/mi under EPA’s GHG standards.¹¹ NHTSA should mitigate any potential confusion and explicitly compare the stringency of the two rules.

Ensure the Continued Relevance and Impact of CAFE with a New Approach to Setting Standards

In establishing the CAFE regulatory program in law, Congress statutorily prohibited NHTSA from considering the fuel economy benefits of dedicated alternative fuel vehicles, such as EVs, in determining and setting maximum feasible CAFE standards.¹² Yet, as the agency itself notes, market conditions have changed dramatically in recent years. Most manufacturers are now investing heavily in EV technology and selling a rapidly growing number of EVs as their unique benefits become clear to consumers.

This poses two interrelated problems. Most fundamentally, the CAFE program risks becoming irrelevant soon if, in setting stringency, it cannot consider a quickly growing and inevitable technological transition among manufacturers. Secondly, absent a change that allows NHTSA to account for EVs in its feasibility analysis, the agency will also struggle to coordinate with and mirror the rules proposed by EPA for GHG emissions, leading to a divergence in the programs that undermines the agency’s ability to meet its fuel savings and energy security goals. Given the growth rate in EV sales and hundreds of billions of dollars of industry investment in electrification already bearing fruit, the risk of divergence and an inability for NHTSA to set meaningful levels of stringency appears substantial as we look ahead to a post-MY 2027 rulemaking.

NHTSA itself raised its existing vehicle footprint-based approach to setting the CAFE standard in the NPRM and sought comment on possible changes.¹³ Rivian broadly supports a recommendation proposed by the National Academy of Sciences (NAS) that, absent congressional action, the agency use its existing authority to set standards as a multi-attribute function. Specifically, NAS suggests that NHTSA could consider the market share of ZEVs as a second attribute and define a mathematical function that will increase the standards as the share of ZEVs on-road rises.¹⁴ NHTSA separately explores the concept of an attribute that assesses the share of work done by electric motors over the test cycle and considers how to operationalize

¹⁰ Corporate Average Fuel Economy Standards for Model Years 2024-2026 Passenger Cars and Light Trucks, 86 Fed. Reg. 169, 49,622, (Sep. 3, 2021) (revising 49 C.F.R. Parts 531, 533, 536, and 537).

¹¹ Corporate Average Fuel Economy Standards for Model Years 2024-2026 Passenger Cars and Light Trucks, 86 Fed. Reg. 169, 49,614 (Sep. 3, 2021) (revising 49 C.F.R. Parts 531, 533, 536, and 537); Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards, 86 Fed. Reg. 151, 43,732 (Aug. 10, 2021) (revising 40 C.F.R. Parts 86 and 600).

¹² 42 U.S.C. § 32.902(h)(1).

¹³ Corporate Average Fuel Economy Standards for Model Years 2024-2026 Passenger Cars and Light Trucks, 86 Fed. Reg. 169, 49,631 (Sep. 3, 2021) (revising 49 C.F.R. Parts 531, 533, 536, and 537).

¹⁴ National Academy of Sciences, Engineering, and Medicine, *Assessment of Technologies for Improving Light-Duty Vehicle Fuel Economy 2025-2035* (2021), 13-415.

a three-dimensional function.¹⁵ Approaches such as these merit further study and eventual implementation. It is likely infeasible and inappropriate to implement such a change in time for any of the model years subject to this rulemaking, but Rivian believes development, review, and implementation of a newly conceived multi-attribute function could take effect in the second half of the decade, coinciding with a post-MY 2027 rule, and provide industry with appropriate lead-time given typical product development lifecycles.

Reconsider Customer Valuation of Fuel Economy Technologies in the Context of Electric Vehicles

Historically, automakers and economists have found that consumers undervalue the monetized lifetime fuel savings that accrue due to vehicle technologies that improve fuel economy. This phenomenon directly affects the cost-benefit assessment of fuel economy standards. Indeed, traditional automakers have long pointed to this consumer tendency as grounds for limiting the stringency of fuel economy standards.

In the NPRM's supporting documentation, NHTSA describes potential reasons for the undervaluation including a commonly understood bias privileging near-term costs over long-term savings, and complex trade-offs involved in vehicle purchasing. The latter reasoning holds that while consumers might value fuel savings, they also value vehicles with greater utility such as towing capacity, size, or other attributes that might work against fuel economy. In the vehicle purchase decision, the preferences for certain attributes other than fuel economy might win out and send a signal to manufacturers to prioritize applications of the same technology that could deliver fuel savings for increases in vehicle power, weight, and so on, instead.¹⁶

The growing diversity of EVs in the market, including performance pick-ups and SUVs, could complicate this conventional assessment. Fuel economy technology no longer necessarily comes at the expense of vehicle performance or capability. In fact, a new generation of EVs can tow and haul and deliver superior acceleration and handling performance all while saving fuel. In this context, Rivian encourages NHTSA to embark upon a fresh review of consumer behavior and valuation tendencies. How do consumers value a powertrain technology that both saves fuel while also delivering a variety of vehicle ownership and performance benefits? What does the rise of a full range of EV offerings, including trucks and SUVs, mean for consumer behavior in the auto market? How does this affect aggregate cost-benefit calculations when evaluating fuel economy standards? Rivian believes this could be a valuable avenue of inquiry as the agency prepares for subsequent rulemakings to the industry into an increasingly electrified future.

Rivian Believes the MY 2026 Standard Should be More Stringent

In the NPRM, NHTSA sought comment specifically on the appropriateness of a MY 2026 standard 2 percentage points more stringent than proposed in Alternative 2.¹⁷ Rivian believes the agency has already marshaled evidence to support this. Elsewhere in their supporting documents, staff correctly cite a

¹⁵ U.S. Department of Transportation, National Highway Traffic Safety Administration, *Technical Support Document: Proposed Rulemaking for Model Years 2024-2026 Light-Duty Vehicle Corporate Average Fuel Economy Standards* (2021), available at <https://www.nhtsa.gov/sites/nhtsa.gov/files/2021-08/CAFE-NHTSA-2127-AM34-TSD-Complete-web-tag.pdf>.

¹⁶ Corporate Average Fuel Economy Standards for Model Years 2024-2026 Passenger Cars and Light Trucks, 86 Fed. Reg. 169, 49,710-49,711 (Sep. 3, 2021) (revising 49 C.F.R. Parts 531, 533, 536, and 537).

¹⁷ *Id.* at 49,753-49,754.

growing list of bold commitments to vehicle electrification by traditional automakers, voluntary compliance with the California Framework, and other market signals that demonstrate the feasibility of more stringent standards. The relatively greater lead time for the out-year is another reason why a more stringent standard is warranted and achievable by industry.

Recent sales data only strengthen the case. NHTSA projects that Alternative 2 as proposed would result in a fleetwide EV penetration rate by MY 2026 of 6 percent.¹⁸ However, the current EV sales trajectory suggests that the auto industry is likely to far outpace that.¹⁹ And as the launch of Rivian’s own vehicles shows, the EV market is poised for rapid growth in all vehicle segments sooner than many analysts expected. With greater EV sales comes greater potential for industry to meet a higher bar by the second half of the decade. The industry is ready to meet new challenges, and this is a moment for doubling down on the ambition of our fuel economy standards. Coupled with the other actions Rivian recommends above, we believe it is appropriate to finalize the rule with the more stringent requirement illustrated for MY 2026 under any alternative.

Finalize Alternative 3 without Flexibilities for the Strongest Rule Possible

While some stakeholders are advocating for flexibility and less stringent standards in the short-term, the rollback of the standards under the previous administration mean that we can ill afford to adopt anything less than the most ambitious standards possible. Doing so would delay the realization of the regulation’s economic, national security, and environmental benefits and let other markets around the world take the lead in developing highly efficient advanced vehicles. NHTSA should continue driving improvements in fuel economy and job creation in the U.S. by building on what the auto industry has already committed to in the coming years.

Rivian urges NHTSA to explore a new approach to setting its standards that reflects quickly changing market conditions while adopting Alternative 3, without additional flexibilities and with a stringency “bump-up” in MY 2026, to ensure American competitiveness, accelerate vehicle electrification, and maximize the environmental and economic benefits of the rule.

We thank the agency again for the opportunity to comment and look forward to the remainder of the rulemaking process.

Sincerely,



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¹⁸ *Id.* at 49,761.

¹⁹ Bengt Halvorson, Green Car Reports, *U.S. EV Sales Have Been Record-Breaking So Far in 2021, Despite Supply Chain Issues* (Aug. 6, 2021), available at https://www.greencarreports.com/news/1133143_us-ev-sales-have-been-record-breaking-so-far-in-2021-despite-supply-chain-issues.