INDIANA UNIVERSITY
SCHOOL OF PUBLIC AND
ENVIRONMENTAL AFFAIRS

May 3, 2018

Administrator Scott Pruitt
Environmental Protection Agency
Mail Code: 1101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dear Administrator Pruitt:

Re: EPA. Mid-Term Evaluation of Greenhouse Gas Emission Standards for Model Year 2022-2025 Light-Duty Vehicles. Federal Register. 83(72). April 13, 2018, 16077-16087.

In EPA's recent notice, a determination was made that the 2022-2025 GHG standards for light-duty vehicles are based on outdated information. EPA is therefore working with NHTSA on a new notice and comment rulemaking for those model years.

In reading this notice, we were pleased that our recent study, "A Macroeconomic Study of Federal and State Automotive Regulations" (School of Public and Environmental Affairs, Indiana University) was helpful to agency staff and was cited with respect to Factors 1, 2 and 5 in the notice. The purpose of this communication is to clarify what the findings of our study were, why our specific numerical results may not be relevant to the forthcoming proposed rulemaking, and why harmonization is needed between the federal programs and the state zero-emission vehicle programs. Please note that the comments in this communication should be attributed to the study co-authors (Drs. John D. Graham, Sanya Carley, Denvil Duncan, Nikos Zirogiannis and Saba Siddiki). The comments do not necessarily reflect the views of Indiana University or the sponsor of our study (the Alliance of Automobile Manufacturers).

Summary of Findings

Our study examined how several federal and state regulatory programs are likely to impact the U.S. economy over the 2017 to 2035 period. We analyzed the combined impact of EPA's GHG standards for motor vehicles (model years 2017-2025), NHTSA's Corporate Average Fuel Economy standards (2017-2022, plus the goals set through 2025), and state-level requirements (2018-2025) for zero-emission vehicles (ZEVs). We examined four economic indicators: GDP, employment years, disposable income, and volume of new vehicle sales. The first three indicators were analyzed in a modeling platform called REMI; the impacts on new vehicle sales were analyzed separately with a total cost of ownership (TCO) model that is similar in structure to what federal agencies have used in previous rulemakings. To illustrate how conditions have changed since the 2012 EPA rulemaking, we analyzed impacts using inputs from a "2012 Perspective" and an updated "2016 Perspective."

Office of the Dean 1315 E. Tenth Street Bloomington, IN 47405-1701 (812) 855-1432 (812) 855-5058 fax (812) 855-6234

Our results are somewhat complicated to explain. With the REMI modeling we found negative effects on the US economy in the short-run (due to the adverse effects of higher vehicle prices) but much larger, positive effects in the long run (due to the stimulus of the automotive supply chain and consumer savings in expenditures on gasoline). We did not study the environmental or safety impacts of the regulatory programs.

Clarification of Findings and Comments as Described in EPA's April 13, 2018 notice

We would like to bring the following clarifications of findings and comments to your attention.

1. Discussion of New Vehicle Sales under Factor 1c ("The Acceptance of the Necessary Technologies by Consumers")

On p. 16083 of the notice, the results of our TCO modeling are summarized correctly: impacts on the volume of new vehicle sales were generally positive using the 2012 inputs but negative using the 2016 inputs. However, we wish to clarify that our results do not isolate the impacts of the federal (EPA/NHTSA) programs. They include the effects of the California ZEV program and the ZEV programs of ten allied states, which contribute significantly to the vehicle price premium in our study. Also, our results do not isolate the impacts of the 2022-2025 standards.

2. Discussion of Access to Car Loans under Factor 2 ("The Cost on the Producers of New Motor Vehicles or New Motor Vehicle Engines")

On p. 16084 of the notice an accurate reference is made to Dr. Graham's public comment as to why it may be more difficult to obtain a car loan in the 2017-2025 period than it has been since the Great Recession of 2007-9. From a historical perspective, the recent years of recovery from the Great Recession have been very favorable for new vehicle sales in the US due to unusually low interest rates, low gasoline prices, and rising levels of household income and wealth, especially at the upper end of the income/wealth distribution. If there were any modest positive or negative effects of the 2012-2016 EPA/NHTSA standards on the volume of new vehicle sales, it would be difficult to detect them given the highly favorable conditions for new vehicle sales that prevailed during the 2012-2016 period.

3. Discussion of Factor 5 ("The Impact of the Standards on the Automobile Industry")

On p. 16086 of the notice, the results of our REMI modeling are summarized, including an accurate reference to the adverse near-term effects and beneficial long-term effects on US economic indicators. However, the summary does not indicate that the long-run positive effects are much larger in magnitude than the near-term negative effects, using both 2012 and 2016 inputs. Moreover, the delay in experiencing positive effects (to 2025 or later) is a result for the combined impacts of the state and federal programs. We did not isolate the impact of the federal programs. Moreover, the results apply to the 2017-2025 period and are not focused on model years 2022-2025.

Please also note that these results are for the US economy as a whole. For insight into impacts on the automobile industry, we encourage agency analysts to examine the breakdown of our

results into the nine Census regions. Although the "East North Central Region" bears the brunt of the adverse effects of higher vehicle prices (Figure 8.6, 94), this auto-sensitive region also experiences substantial benefits from supply chain innovation (Figure 8.7, p. 95) and consumer savings on gasoline expenditures (Figure 8.10, p. 97). Considering all of the three causal effects that we modeled, it is only the oil-dependent "West South Central Region" that experiences unfavorable impacts for the entire study period (2017-2035) (Figures 8.19 and 8.21, pp. 103-104). All of the other Census regions eventually experience robust economic gains, although the process of recovery is slower for the East North Central Region than for the other seven Census regions that experienced favorable results in the long run.

We close by underscoring the need for coordination of the federal and state programs. While much of the public debate concerns how to appropriately coordinate the California GHG program with the federal programs, less attention is given to the state zero-emission vehicle programs. Indeed, the notice does not even mention the state ZEV programs. A key point we make in our study is that the state ZEV programs add significantly to the vehicle price premium without producing significant fuel savings or GHG reductions prior to 2025 (due to the corporate averaging provisions in the federal programs). We encourage federal agencies to consider some of the policy options that we suggested that might foster better coordination between the state ZEV programs and the federal programs.

Sincerely,

John D. Graham, Ph.D.
Dean

Sanya Carley, Ph.D.
Associate Professor

Denvil Duncan, Ph.D.
Asspociate Professor

Saba Siddiki, Ph.D.
Assistant Professor

Nikos Zirogiannis, Ph.D.
Assistant Scientist

cc: Secretary Elaine L. Chao
US Dept of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590