



CLIENT ALERT

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AUTOMOTIVE

COMMENTS ON NHTSA/EPA'S CLAIM THAT FUEL ECONOMY STANDARDS MUST BE FROZEN TO SAVE LIVES

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In a recent Client Alert, [Will Increasing Fuel Economy Standards Really Make Cars Less Safe? NHTSA and the EPA's Proposal to Freeze Fuel Economy Standards at 2020 Levels](#), I noted that NHTSA and the EPA have proposed freezing fuel economy standards for 2021-2026 at 2020 levels instead of mandating year-over-year increases. I also noted that, the agencies justified the proposed freeze, not on environmental grounds, but on the argument that foregoing further increases would save lives. The Client Alert discussed the three safety arguments the agencies relied on for its claim, namely:

- That auto manufacturers will improve fuel economy by reducing vehicle mass across the board and lighter vehicles are not as safe as heavy vehicles in a crash. (newer lighter vehicles will be less safe)
- That as shown by a new vehicle scrappage model, the adoption of new fuel saving technologies will increase the price of new vehicles to the extent that fewer people will buy new vehicles that are safer and will continue to drive their older vehicles that are less safe. (fewer people will purchase newer safer vehicles)
- That based on the "rebound effect," as fuel economy improves and the cost/mile to operate the car decreases, people will drive more increasing their likelihood of getting into an accident. (driving newer more fuel efficient vehicles more, will be less safe)

The period for submitting public and industry comments on the proposed rule has now ended. A review of comments from academia, environmental advocacy groups, and even one of the two major auto-industry advocacy organizations indicates there are serious problems with many aspects of the agencies' safety-related analysis and conclusions.

On a general level, commenters noted the extent of the agencies' about face on the societal benefits that would result from continuing increases in fuel economy standards.

"For the previous six years, NHTSA and the EPA projected that the final few years of the current Clean Air Standards would provide net societal benefits of approximately \$100 billion – now NHTSA projects that the standards will entail net societal costs of about \$200 billion, or a \$300 billion reversal." Environmental Defense Fund (EDF) Comments Appendix A p.58.

That same commenter noted the irony of the agencies' focus on fatalities from auto accidents while "fail[ing] to include estimates of premature mortality under the rollback due to changes in emissions of criteria pollutants such as particulate matter (PM), nitrogen oxides (NOx) and sulfur dioxide (SO2)." EDF, Appendix A, p.37.

Concerning the increased fatalities claimed as justification for the agencies' reversal, that Commenter noted that NHTSA improperly analyzed fatalities in terms of the total number of fatalities and not fatality rates.

"All programs that increase personal mobility while maintaining fatality rates, even when total fatalities increase due to greater vehicle miles traveled are viewed as positive developments. It is not NHTSA's job to try to convince people to drive less. People will choose how much they need to drive, and however much driving they do. NHTSA's core mission is to decrease the fatality rate per mile." EDF Comment, Appendix A, p.7.

Global Automakers noted more ironies and conflicts in the agencies' three safety arguments.

- The concerns regarding adverse safety effect are discussed in the context of long-term trends of improved safety... Even under the agency's safety analysis, it is extremely likely that vehicle safety will improve during this period.
- The proposal projects adverse safety impact as a result of both consumer cost savings (reduced fuel consumption) and consumer cost increases (new vehicle price increases) which occur simultaneously. Some netting out of these effects would be appropriate.
- The concerns regarding the safety effects of vehicle weight reduction are considered in the context of an underlying trend in which vehicle weight has steadily increased.
- The concern regarding the safety effect associated with new vehicle price increases is made at a time when the Trump Administration has proposed increased tariffs on new vehicles, which would have a price impact many time greater than that which would result from the increased standards. Appendix A, pp.24-25

A US Senator emphasized the EPA's lack of involvement in drafting the proposed rule.

"Numerous reports have indicated that the EPA provided almost no input into this proposal, which was written largely by NHTSA. One recently retired EPA official stated that "EPA staff had basically nothing to do with that entire document and analysis," and another current EPA official asked that EPA's logo be removed from the document to reflect that fact. Not only is this a dramatic departure from past inter-agency processes, it is also likely illegal, as courts have repeatedly ruled that agencies can use external input and advice when writing regulations under their own statutory authorities, but must write the regulations themselves." Comment of Senator Tom Carper, Attachment, para. 9.

Commenters also took direct aim at each of the agencies' three safety arguments. As to the first argument, the alleged negative effects of

vehicle light-weighting on safety, the EDF simply noted, "NHTSA assumes that the industry will ignore fleetwide safety in its application of mass reduction technology." Appendix A, p.37. Others noted that light-weighting will be directed to heavier trucks not small cars thereby avoiding any negative safety impacts.

Many comments criticized the agencies' rebound effect safety argument (people will drive more fuel-efficient vehicles more, increasing their exposure to accidents). Global Automakers said of the rebound effect:

"The proposal describes the rebound effect and cites potential safety consequences. Ultimately this factor is not attributed by the agencies to the standards but rather to human choice.... the rebound effect should not serve as a basis for keeping the standards flat." Global Automakers. Appendix A. p.23.

This point is reiterated in the joint comments of the Center for Biological Diversity, et al. at p.39.

"EPA impermissibly counts as safety defects of the rule – and uses as justification for rolling back the standards – additional fatalities that are attributed to people voluntarily choosing to drive more....The additional fatalities projected via the proposal's (deeply flawed) new analysis stem from voluntary choices by individuals to drive more – not the "operation or function" of the technologies at issue."

Several academicians submitted comments accusing the agencies of misusing their papers in the context of their rebound effect argument. Antonio Bento, Professor of Public Policy and Economics, USC, wrote

"The purpose of this paper was to measure how consumers adjust their vehicle purchasing, as well as mileage decisions, in response to increases in the federal level of the gasoline tax. The paper should not be used to infer the magnitude of the rebound effect. In fact, I was surprised this paper was cited in the context of rebound effect."

Kenneth A. Small, Professor Emeritus, University of California – Irvine wrote

"The proposed rule (p.43103) cites my papers with Kurt Dender and Kent Hymel (2007, 2010, 2015) as estimating a rebound effect that was 11% for 1997-2011 in the first study, 13% for 2001-04 in the second, and 18% for 2000-2009 in the last. [NHTSA increased the value used in its 2018 analysis from 10% to 20%]

A better characterization of the most recent study would be that it finds a long-run rebound effect of 18% under a simpler model but 4.0 percent or 4.2 percent under two more realistic models that are supported by the data.

The main thrust of all three papers mentioned above is that *the rebound effect declines with income and increases with fuel prices. Under most scenarios the impact of income dominates and therefore we expect the rebound effect to decline significantly....*

....what we found was that the effect of fuel price is clearly measured [in our studies], but that of fuel economy [NHTSA's focus] is statistically indistinguishable from zero....."

Jeremy J. Michalek, Professor of Engineering and Public Policy and Kate S. Whitefoot, Assistant Professor of Engineering and Public Policy, Carnegie Mellon University said this about NHTSA's choice of the 20% rebound effect value.

"[NHTSA's] analysis ignores more recent studies that suggest a smaller rebound effect, it ignores the difference between aggregate rebound and per vehicle rebound, and it ignores that most studies estimate rebound in response to changes in gasoline prices, whereas rebound in response to changes in vehicle efficiency is likely to be less salient to consumers and result in a smaller effect. The analysis also ignores the effect of changing other costs of driving besides fuel cost – cars that are more expensive also have higher insurance and depreciation costs per mile that effect the cost of driving beyond fuel price. Considering these effects and recent estimates of rebound suggest a smaller rebound effect than assumed in the analysis." p.8

The agencies' scrappage rate analysis supporting its safety argument that fewer people will buy newer safer vehicles received similar scrutiny. The Institute for Policy Integrity's comments noted:

"[W]hen fuel efficiency improves, that increases demand for new vehicles, which reduces demand for used vehicles, reduces the price of used vehicles, and ultimately, increases (replacement) scrappage. Fuel efficiency would not cause the fleet size to increase [as it did in NHTSA's analysis]. Like new vehicle price, changes in fuel efficiency should not lead to a change in total fleet size, but only a relative change in the proportion of new and used vehicles.....

The agencies agree that increasing fuel efficiency without changing vehicle prices should increase scrappage. But when the agencies control for price in the scrappage model, the model provides the opposite result: an increase in fuel efficiency leads to both decreased scrappage and increased fleet size. This is evidence of grave error." (Appendix p.74)

Here too, academicians weighed in. Dr. M.R. Jacobson, Associate Professor, Department of Economics, University of California and Dr. A.A. van Benthem, Assistant Professor, Dept. of Business Economics and Public Policy, the Wharton School, University of Pennsylvania also accused NHTSA of misusing one of their papers.

"[I]n particular the NPRM and PRIA conclude that a rollback of

the standards will result in a substantially smaller vehicle fleet and a significant reduction in miles driven, leading to fewer fatalities and lower external costs and damages. The purpose of this letter is to explain why we consider this to be at odds with basic economic logic and intuition.

....We find that used vehicles are scrapped at lower rates as their resale values increase. We do not estimate the effect of fuel-economy standards on total fleet size and our research should not be interpreted as such."

Various aspects of the agencies computer modelling also came under criticism. The State of California, in joint comments on behalf of several states had this to say.

"[T]he new CAFÉ model (which has not been peer reviewed and was unveiled for the first time with this rulemaking proposal), together with the assumptions and other model inputs on which the Agencies rely, suffers from profound errors..... For example, the new CAFÉ model estimates that the existing standards would lead to 9 million more cars on the road by 2035 than under the Proposed Rollback, even though it also predicts fewer new car sales under the existing standards as compared to the Proposed Rollback. The new CAFÉ model also predicts that total vehicle miles traveled would rise substantially under the existing standards – based not on an increased need for transportation, but by inexplicably inflating the number of older cars on the road and the number of miles driven in new cars. The results are contrary to peer-reviewed studies and empirical data and when corrected for, virtually erase or even flip into the negative column the Agencies' purported safety and economic benefits." P.5.

Three university professors (Harvard and Yale) observed that the modelling suffered from a "simple calculation error" that when corrected would reduce the increased prices and lost sales NHTSA claims would result from the augural standards by approximately 70%. In addition they said the modelling relies on overly restrictive assumptions that are not consistent with standard economic practice. Comments of James H. Stock, Kenneth Gillingham and Wade Davis.

Those criticisms were also directed to the agencies' new scrappage rate model. Global Automakers offered the following observations:

- The Dynamic Scrappage (DS) module is the newest addition to the Volpe model. It attempts to assess the impact of the various Alternatives [including the favored rollback] on vehicle fatalities and the associated societal cost. In fact, our view of the data shows that the results of the DS module provide the overwhelming majority of the net benefits associated with each of the Alternatives.
- [A]lmost all of the net benefits associated with the various Alternatives result directly from the use of the DS module.
- The modeled safety (fatality and non-fatal crash) benefits are only

apparent if the DS module is turned "ON." In the case that the DS module is disabled or "OFF", the non-rebound fatality costs and non-fatal crash costs are higher in Preferred Alternative [2020 freeze] as compared to the augural standards.

- Global Automakers technical modeling shows that [NHTSA's modeled results] are not consistent with reality [and] should be removed from the Volpe model at this time. Appendix A, p.24-25

American Honda also criticized that modelling. After noting that "[t]he key element in the scrappage model is vehicle miles traveled (VMT)" it went on to say (pp 16-17):

"In the case of higher stringency and more expensive new cars, the scrappage model should shift VMT from new cars to older cars. However, data from published model outputs includes an unexplained increase in VMT. This appears to be an accounting error that requires correction.

This phantom VMT (either disappearing in one scenario or appearing in another, depending on the point of reference) is troubling. We believe it is an artifact of a new, insufficiently matured model that needs further refinement and validation."

The EDF summed up the criticism of NHTSA's modelling this way:

"In a spectacular modeling error, NHTSA assumes that American drivers who own older vehicles unaffected by the standards, by changes in new sales, or by a new vehicle rebound effect, will voluntarily "stay home" and drive about 900 billion fewer miles under the rollback than they would under the current Clean Air Standards." Appendix A, p.29.

Cumulatively, these comments paint an unflattering picture of the agencies' claim that lives will be saved by not increasing fuel economy standards. To be sure, there were other comments that supported the fuel-economy freeze outcome and/or the agencies' safety arguments. But, the diverse nature of the commenters that were critical of one or more aspects of the agencies' efforts reveals pretty fundamental problems with the proposal and its underpinnings. The agencies have not positioned themselves well for future negotiations on the standards.

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