

ICCT Statement at the October 21, 2009 Hearing on EPA/NHTSA NPRM on 2012-16 Vehicle CAFE/GHG Standards

Introduction

My name is John German and I am a Senior Fellow and Program Director at the International Council on Clean Transportation. I am happy to present comments on the proposed vehicle standards on behalf of ICCT. At the risk of sounding pompous, ICCT is the preeminent worldwide organization on transportation emissions and efficiency. We have broad expertise in all transportation areas and we exist to help regulatory agencies worldwide reduce air quality pollutants and greenhouse gas emissions.

Overview

While the US has consistently been the world's leader in reducing CO, HC, NO_x and PM from all categories of vehicles, U.S. policies on transportation fuel efficiency and greenhouse emissions have been rather embarrassing. Our fuel taxes are amongst the lowest in the world and we have greatly lagged Europe and Japan in establishing efficiency standards. This proposed rule takes a giant step towards catching up and will enhance U.S. credibility worldwide. We applaud EPA and NHTSA, along with California, the Administration, and the vehicle manufacturers, for taking the first steps along the road to a sustainable transportation system.

Of course, it is essential to continue this progress in the future. Long-term goals need to be set, so that manufacturers have consistent, long-term signals to help them develop future technologies and product plans. This is especially important in the context of the recession, with companies reorganizing and investment dollars in short supply.

I offer several comments here on the proposed program structure, vehicle safety, and suggested program improvements.

Program Structure and Stringency

The technical analyses conducted by EPA and NHTSA are sound and demonstrate that the proposed standards are feasible and the benefits of the rule far outweigh the costs. The analytical framework also provides a good base for further reductions in fuel consumption and greenhouse gas emissions beyond 2016.

We commend EPA and NHTSA for proposing a footprint-based adjustment to the CAFE standards instead of weight-based adjustments. Footprint-based adjustments fully encourage manufacturers to introduce lightweight materials, which can improve vehicle efficiency by 20% or more in the long run. Lightweight materials also extend the electric drive range of electric and plug-in vehicles by a similar amount. This is one area where the U.S. is ahead of the rest of the world. Japan, Europe, and China have all adopted standards with weight-based adjustments that

effectively discourage the use of lightweight materials. NHTSA pioneered the footprint concept with the 2011 light truck rule and we urge EPA and NHTSA to continue its use in the future.

We also support the proposed change to the shape of the footprint adjustments. The target standards versus vehicle footprint provide consistent signals to improve efficiency for most vehicles, while preserving incentives to make the largest vehicles smaller.

Safety

ICCT is concerned that the safety impacts of lightweight materials are not being properly analyzed in the rulemaking. The 2003 Kahane study relied upon by NHTSA for its safety analysis was an excellent study. However, it explicitly assumed that size and weight are inseparable. Thus, it did not analyze weight effects, but rather the effect of weight and all correlated size effects.

The footprint basis for this regulation encourages lighter vehicle construction, but not smaller vehicles. The Kahane study is a great tool for evaluating the safety impacts of downsized vehicles, but does not even attempt to analyze the safety impact of lighter vehicles of the same size. It is simply the wrong tool for assessing the safety impacts of lightweight materials.

Fortunately, there are existing studies that have addressed the independent effects of size and weight on fatalities. Dynamics Research Inc., or DRI, has done 3 major state-of-the-art reports on the separate effects of size and weight. The reports cover multiple scenarios using different model year vehicles, different vehicle types, and different statistical formulations. While the magnitude of the size and weight effects varied, in every single case DRI found that reducing vehicle weight while holding footprint constant *reduced fatalities*. Let me say that again – reducing weight while holding footprint constant reduced fatalities. These results are supported by theory, as the use of lightweight materials reduces crash forces while maintaining crush space and interior room. Lighter vehicles also brake and handle slightly better, possibly reducing the number and severity of crashes.

Assessing the independent effects of size and weight is not easy, as both size and weight actually have minor effects on fatalities compared to driver behavior, road conditions, vehicle safety design, and vehicle compatibility. Thus, it is appropriate to critique DRI's work and to suggest ways to improve their analyses. But at least DRI applied the proper analytical structure.

We need to focus on doing the best analysis possible of the safety impacts of lightweight materials in a footprint-based system. This means dismissing models that do not separate size and weight effects, addressing any possible shortcomings in the DRI work, and conducting new analyses of the independent effects of size and weight.

Suggested Improvements

Of course, like all great unfinished works, improvements can always be made. ICCT has three suggestions for ways to improve the effectiveness of the rules.

First, the proposed rule maintains separate footprint curves for cars and light trucks. This subjects light trucks with the same footprint to much less stringent standards and gives manufacturers a tremendous incentive to reclassify cars as light trucks. In the past this has brought us such notable trucks as the Subaru Outback, Chrysler PT Cruiser, Dodge Magnum, Mazda 5, Chevrolet HHR, Porsche Cayenne, and BMW X6, which BMW describes as a Sports Activity Coupe. In the future it is likely to cause manufacturers to drop many 2wd versions of their small SUVs and make less efficient 4wd versions standard; so that they can be classified as light trucks instead of cars. Each car-to-truck sales shift results in easier compliance for manufacturers, but higher in-use fuel consumption and greenhouse gas emissions. EPA recognized the importance of this issue when it established a single Tier 2 emission standard for all cars and light trucks. It is time to do the same for fuel efficiency and greenhouse gas emissions and end this artificial distinction. A single footprint function will still give larger trucks a less stringent target to meet, while avoiding vehicle classification games.

Second, the proposed provision to assign zero carbon emissions to electric-only operation distorts the compliance system. ICCT was founded around the Bellagio Principles, which were set forth by principal regulators around the world in 2001. This was a consensus document on preferred government policies for shaping the future of motor vehicle technology and transportation fuels worldwide. The second Bellagio principle states: "Base policies solely on performance compared to societal objectives, and not give special consideration to specific fuels, technologies, or vehicle types." In keeping with this principle, we request that the best estimate of national average carbon emissions from powerplants be used for calculation of carbon emissions from vehicle electrification.

Our final suggestion is for the rule to include all greenhouse gas emissions from vehicles. Specifically, the greenhouse gas standards should also include non-CO2 climate forcing agents, such as black carbon. Black carbon is a powerful radiative forcer and reducing its emissions can provide fast climate response, due to its short lifetime of days to weeks. Response to CO2 reduction, while essential, is much more sluggish due to its long atmospheric lifetime.

Closing

In closing, the ultimate goal is to create a sustainable transportation system, for clean air, for energy and for global warming. Although this will take decades to accomplish, NHTSA and EPA have taken a major first step in addressing the latter two concerns. ICCT looks forward to working with everyone involved, including federal and state agencies and vehicle manufacturers, to help shape the best policies and programs to meet our clean air, energy security and climate change objectives.