

**Before the  
Environmental Protection Agency  
Department of Transportation**

|   |   |                                      |
|---|---|--------------------------------------|
| <b>In the Matter of</b>                       | ) |                                      |
| <b>Notice of Upcoming Joint Rulemaking to</b> | ) | <b>Docket ID No. EPA-HQ-OAR-0799</b> |
| <b>Establish 2017 and Later Model Year</b>    | ) |                                      |
| <b>Light Duty Vehicle GHG Emissions and</b>   | ) | <b>Docket ID No. NHTSA-2010-0131</b> |
| <b>CAFE Standards</b>                         | ) |                                      |

**COMMENTS OF THE CONSUMER FEDERATION OF AMERICA**

**Mark Cooper  
Director of Research  
1620 Eye St., NW – Suite 200  
Washington, D.C. 20006**

**October 29, 2010**

**Setting a High Standard is in the Consumer and Public Interest**

The publication of the Notice of Intent in this proceeding marks another major landmark in the reform of standard setting for the U.S. vehicle fleet. For the first time ever, three agencies that regulate key elements of light duty vehicles in the U.S. are coordinating a long-term trajectory for increased fuel economy and reduced emissions of pollutants. The importance of getting the standards right cannot be overemphasized, as a matter of economic and environmental policy.

- Gasoline is one of the largest expenditures in the budgets of American households.<sup>1</sup>
- Gasoline is a critical component of U.S. oil addiction and the global energy problems, since one out of every nine barrels of oil consumed in the world on a daily basis is consumed as gasoline in the U.S.<sup>2</sup>
- Gasoline is a major contributor to environmental pollution and climate change.<sup>3</sup>
- The automobile industry is a critical component of the national economy.<sup>4</sup>

---

<sup>1</sup> Bureau of Labor Statistics, Consumer Expenditure Survey, 2008.

<sup>2</sup> Energy Information Administration, [http://www.eia.gov/dnav/pet/pet\\_cons\\_psup\\_dc\\_nus\\_mbbldpd\\_a.htm](http://www.eia.gov/dnav/pet/pet_cons_psup_dc_nus_mbbldpd_a.htm); [http://www.eia.doe.gov/oil\\_gas/petroleum/info\\_glance/petroleum.html](http://www.eia.doe.gov/oil_gas/petroleum/info_glance/petroleum.html), t21

<sup>3</sup> Carbon Dioxide account for 80% of U.S. greenhouse gas emissions and transportation accounts for one-third of carbon dioxide emissions. <http://www.eia.doe.gov/oiaf/1605/ggrpt/#ercde>

Setting standards at a level that achieves large consumer savings, reduces U.S. oil dependence and lowers pollution, without undermining the auto industry is a difficult, but critically important challenge.

The Notice of Intent lays out a range of possible scenarios for increases in fuel economy and decreases in greenhouse gas emissions that goes from a 3 percent per year improvement to a 6 percent per year improvement over a fifteen year period. Thus, starting from the level of the standard that had previously been set for 2016 at 35 miles per gallon, EPA and NHTSA identified alternatives that carry the fleet to 47 miles per gallon in 2025, at 3% per year improvement, and to 62 miles per gallon at 6% per year improvement.

The wide range of possible standards may be judicious as a first step in a Notice of Intent, but the economic analysis shows that the standard should be set at the highest level considered. If the 17 million vehicles sold in 2025 meet the standard that results from the 6% improvement scenario, as opposed to the 3% improvement scenario, over the life of those vehicles,

- the owners of those vehicles will enjoy over \$37 billion dollars more in net savings if the automakers pursue the least cost approach to meet the standard and \$13 billion, if the automakers pursue the most expensive approach;
- the nation will consume 25 billion gallons less gasoline; and
- the fleet will emit as much as 250 million tons less of carbon dioxide, the most important greenhouse gas.

Simply put, setting the standard at the level achieved by a 6 percent per year rate of improvement is a win-win-win for consumers, the nation and the environment.

The long time horizon for setting the standard is necessary to allow the auto industry to incorporate the necessary technology into the vehicle fleet. The NHTSA-EPA analysis shows that the 62 miles per gallon standard can be achieved in the following ways:

- Automakers can incorporate packages of dozens of technologies that improve the efficiency of the ignition system, engine, transmission, and vehicle design, which are either in use today or can readily penetrate the vehicle fleet in the next decade and a half;
- with virtually no reduction in vehicle size (-1 %) or the number of cylinders (-2% for cars and -4% for trucks);
- reliance on high strength, lighter weight components that reduces the weight of cars and trucks modestly (15 to 25 percent); and
- hybrids playing a larger role (ranging from 25% to 71% of sales for cars and 57% to 88% for trucks).

## Comparing the Results

Our analysis of increases in the standard published over the past several months is consistent with the NHTSA EPA analysis. We concluded that a standard set at 60 miles per gallon is technically feasible and will have a substantial positive impact on consumer pocketbooks (see Appendix A) and

---

<sup>4</sup> [http://www.cargroup.org/pdfs/association\\_paper.pdf](http://www.cargroup.org/pdfs/association_paper.pdf)

enjoy broad public support (see Appendix B). Those earlier analysis are attached for inclusion in the record. These comments will examine where there are similarities and differences in the results of the analysis and what the implications are for standard setting.

CFA developed its analysis by examining the efficiency technology cost curves from three sources – the National Academy of Sciences, MIT and NHTSA-EPA. We pointed out that the 2009 NHTSA-EPA analysis had incorporated very low levels of efficiency technology and left a great deal of economically valuable energy savings unrealized because the level was set to achieve the goals set by the California Air Resources Board (CARB) in 2003. The shortfall in energy savings could be justified because of the need to coordinate between the National Highway Transportation Safety Board (NHTSA), the Environmental Protection Agency (EPA) and the CARB. We urged the federal agencies to rectify that situation as quickly as possible and set standards at a level that was consistent with the economic analysis.<sup>5</sup>

There are two steps necessary to arrive at a better standard. The first step is to update the underlying technology costs curves. The second step is to select the appropriate level on the cost curve. The Notice of Intent addresses the first step. It offers new technology cost curves as shown in Exhibit 1 and 2.

Exhibit 1 shows the shift in the cost curve that has resulted from the NHTSA-EPA technical analysis since the publication of the order that set the standard for 2016. NHTSA-EPA find higher fuel economy at every level of cost for both cars and trucks.

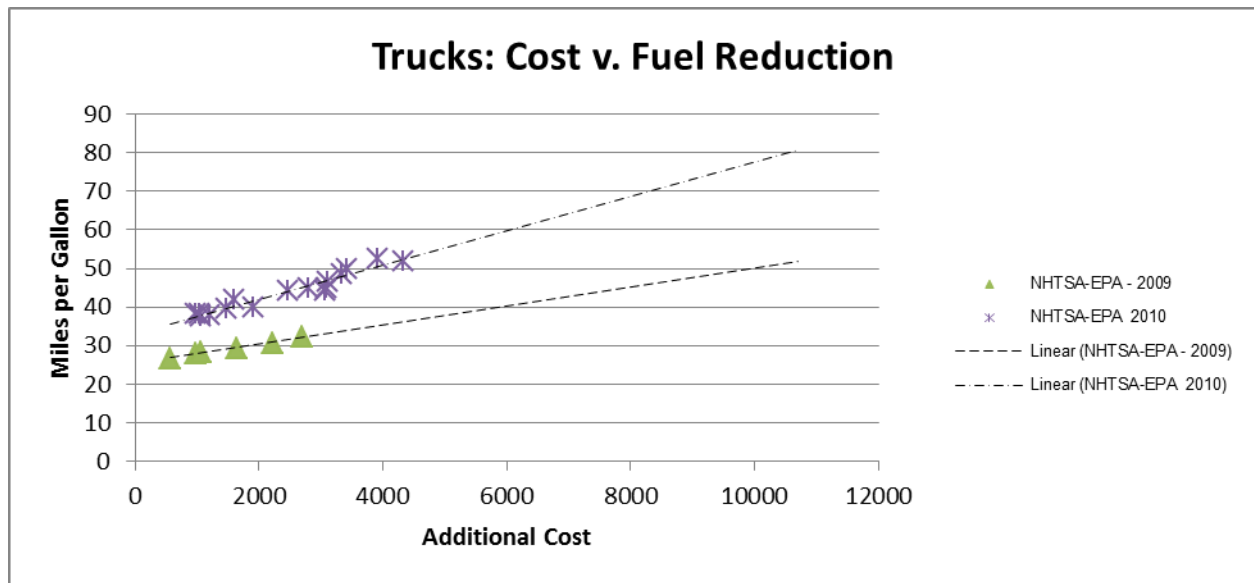
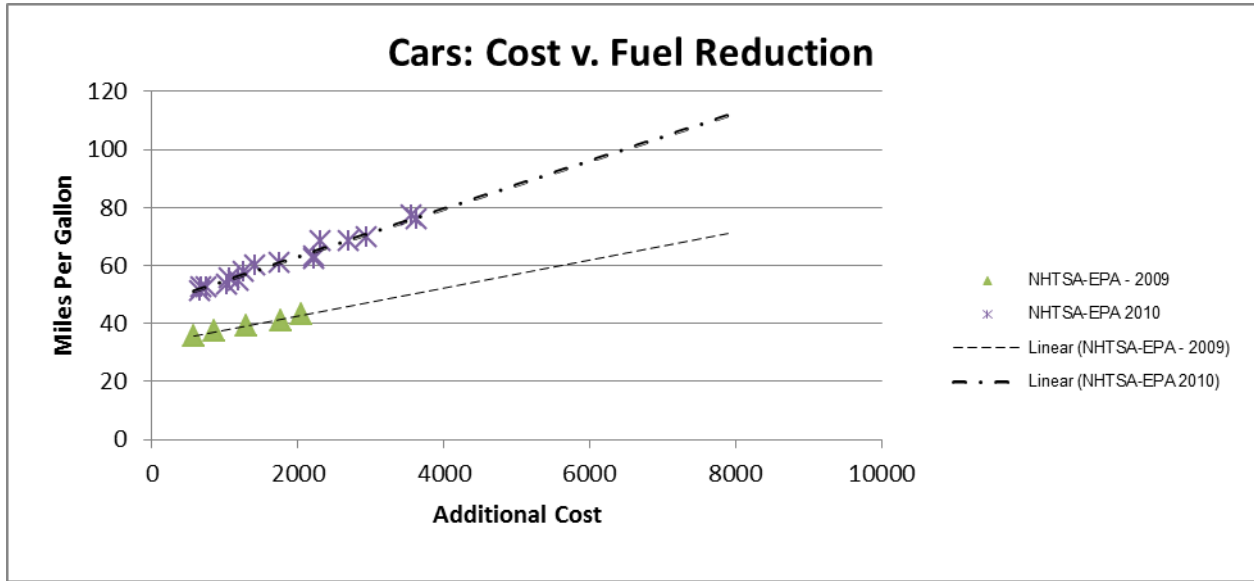
Exhibit 2 shows that the 2010 NHTSA-EPA technology cost curve for cars is much closer to the cost curves from the National Academy of Science and MIT than the 2009 curve. For trucks, the NHTSA-EPA technology cost curve projects more savings than the prior analysis.

Rather than take the second step in the Notice of Intent, NHTSA-EPA have offered a range of scenarios. Comparing their scenarios to our earlier analysis, we find that the 60 miles per gallon target that we concluded is justified is close to their 6% scenario, as shown in Exhibit 3. We projected mileage for cars a little above the NHTSA-EPA 6% scenario and trucks slightly below, so the combined fleet is almost identical. The NHTSA-EPA least cost 6% scenario arrives at a combined average fuel economy of 62.2 miles per gallon at an average cost per vehicle of \$2,833. Using the NHTSA-EPA vehicle mix, the CFA analysis results in a combined average fuel economy of 59.7 miles per gallon at a cost of \$2,839 per vehicle (see Appendix A). The difference in the results can be attributed to the fact that NHTSA-EPA have updated the underlying analysis to reflect the changing reality of the auto market. As technology develops and is implemented, costs tend to decline. There has also been a secular increase in miles driven per vehicle. Thus, the differences between the 2009 and 2010 analysis are accounted for by the somewhat lower technology cost curves in the new NHTSA-EPA analysis and the fact that NHTSA-EPA assume higher vehicle miles traveled (6.5% for cars and 8% for trucks) which produce higher savings.

---

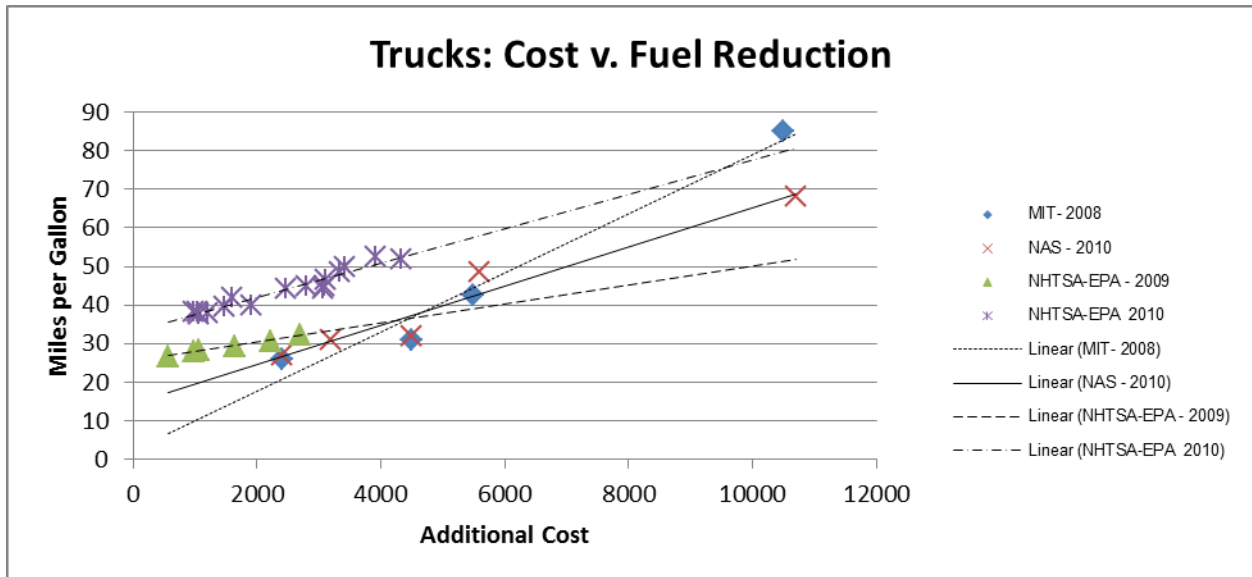
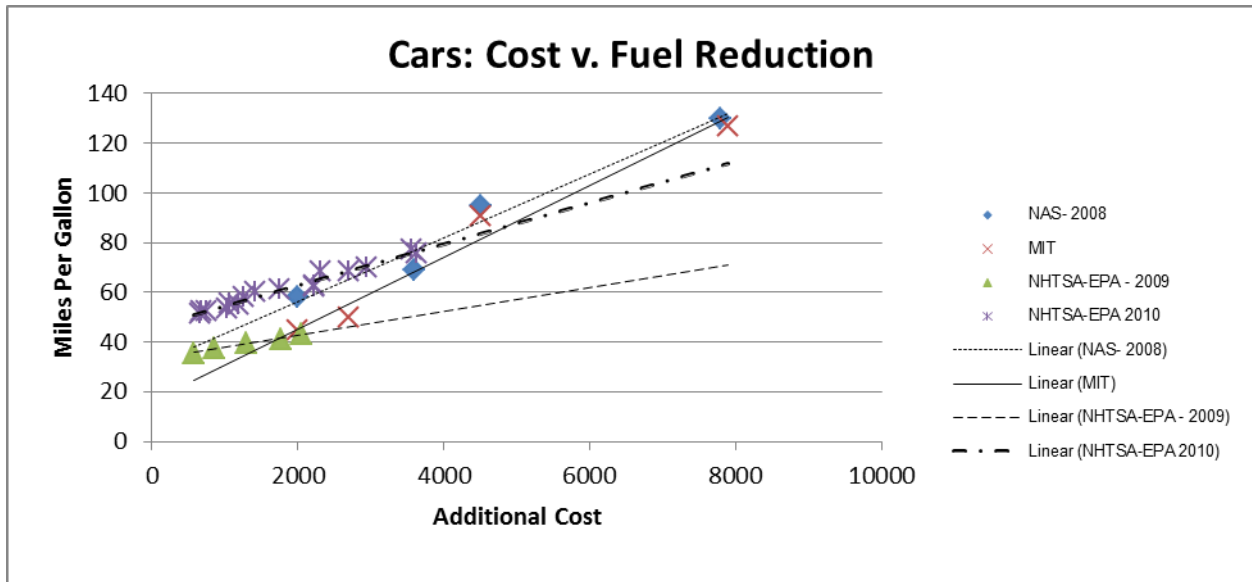
<sup>5</sup> Comments of the Consumer Federation of America, Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, Environmental Protection Agency 40 CFR Parts 86 and 600, Department of Transportation, 49 CFR Parts 531,633, 537, et al.

Exhibit 1: NHTSA-EPA Technology Cost Curves, 2009 & 2010



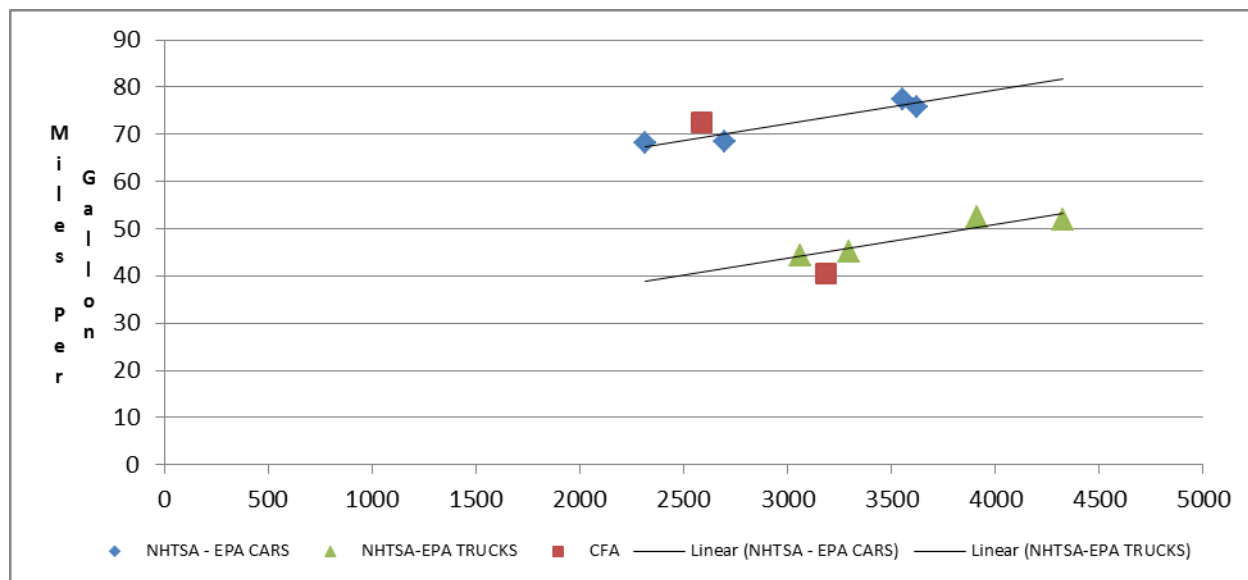
Sources: Environmental Protection Agency, Department of Transportation; Notice of Upcoming Joint Rulemaking to Establish 2017 and Later Model Year Light Duty Vehicle GHG Emissions and CAFE Standards, Docket ID No. EPA-HQ-OAR-0799, Docket ID No. NHTSA-2010-0131, October 2010, Tables 6.5.4, 6.5.6, 6.5.8, 6.5.10; NHTSA-EPA, 2009; National Highway Traffic Safety Administration, Corporate Average Fuel Economy for MY 2012-MY 2016 Passenger Cars and Light Trucks, Preliminary Regulatory Analysis (Washington, D.C.: August, 2009), Tables 1b, 2, 3, 4, 5, 6, 7.

Exhibit 2: TECHNOLOGY COST CURVES, VARIOUS SOURCES



Sources: NHTSA-EPA, 2010, Notice of Upcoming Joint Rulemaking to Establish 2017 and Later Model Year Light Duty Vehicle GHG Emissions and CAFE Standards, Docket ID No. EPA-HQ-OAR-0799, Docket ID No. NHTSA-2010-0131, October 2010, Tables 6.5.4, 6.5.6, 6.5.8, 6.5.10; NHTSA-EPA, 2009; National Highway Traffic Safety Administration, *Corporate Average Fuel Economy for MY 2012-MY 2016 Passenger Cars and Light Trucks, Preliminary Regulatory Analysis* (Washington, D.C.: August, 2009), Tables 1b, 2, 3, 4, 5, 6, 7. NAS, 2010; National Research Council of the National Academy of Science, *America's Energy Future* (Washington, D.C.: 2009), Tables 4.3, 4.4; MIT, 2007; Laboratory of Energy and the Environment, *On the Road in 2035: Reducing Transportation's Petroleum Consumption and GHG Emissions* Cambridge: July, 2008), Tables 7 and 8.

### EXHIBIT 3: NHTSA-EPA 6% COST CURVES AND CFA ESTIMATE



Sources: Environmental Protection Agency, Department of Transportation; Notice of Upcoming Joint Rulemaking to Establish 2017 and Later Model Year Light Duty Vehicle GHG Emissions and CAFE Standards, Docket ID No. EPA-HQ-OAR-0799, Docket ID No. NHTSA-2010-0131, October 2010, Tables 6.5.4, 6.5.6, 6.5.8, 6.5.10; Mark Cooper, Issue Brief: Setting the Next Round of Fuel Economy Standards: Consumers Benefit at 60 Miles Per Gallon (or More) (Washington, D.C., August 2010).

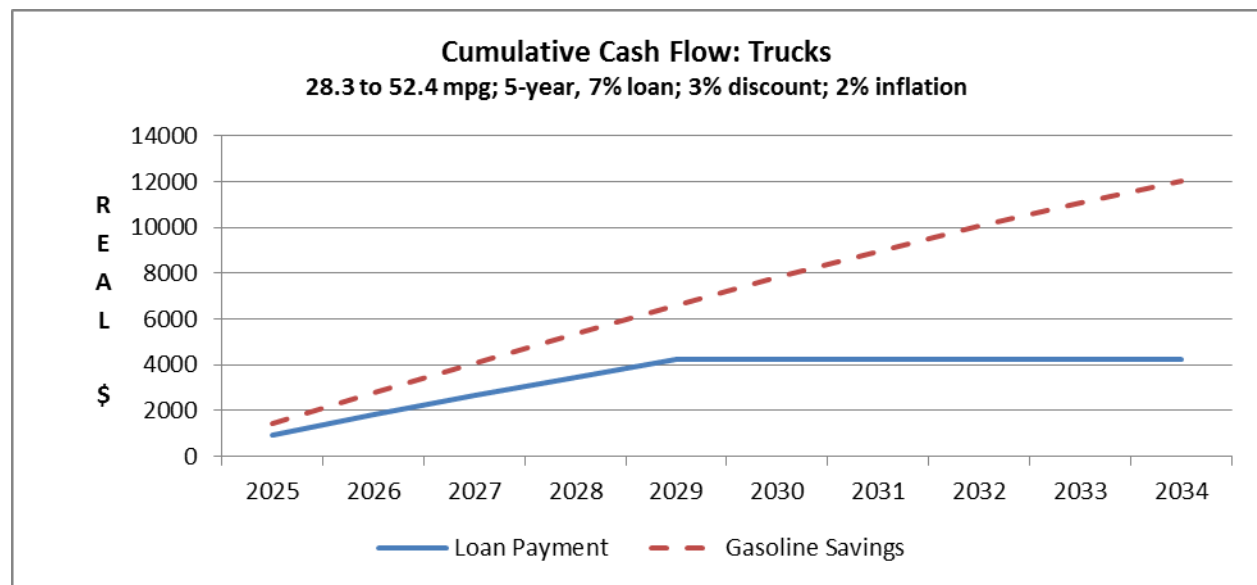
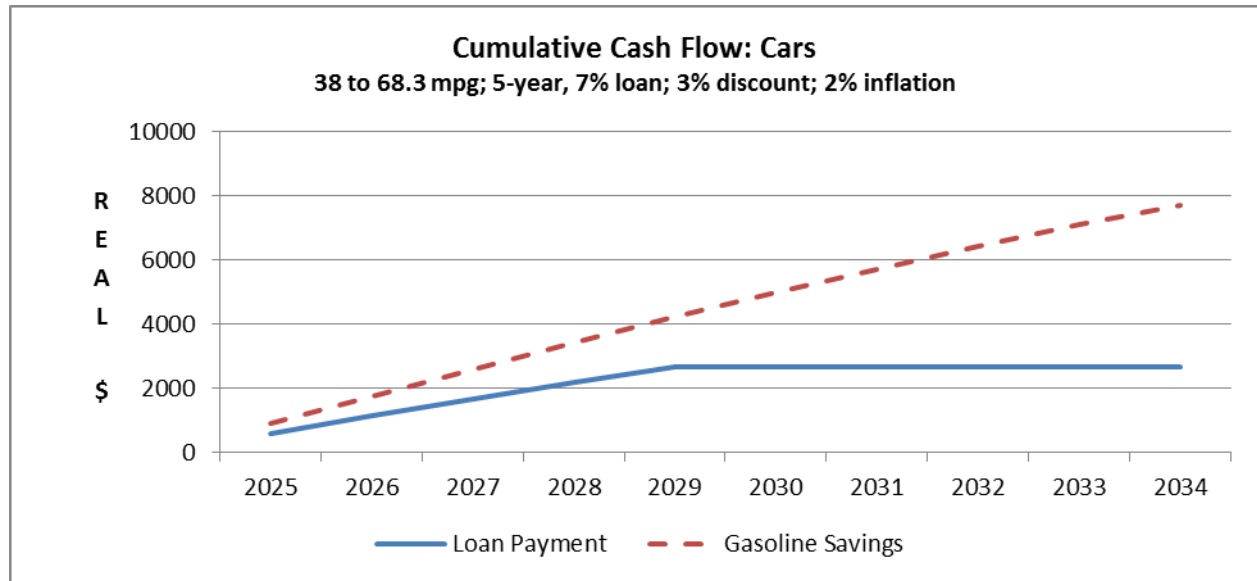
### Consumer Benefit Analysis

NHTSA-EPA conducted a preliminary economic analysis in the Notice of Intent, ignoring societal benefits and applying a 3% discount rate. They find a large positive net lifetime owner savings in the 6% scenario of \$5,700 to \$7,400 with a payback period of 3.1 to 4.2 years. These are large benefits and the payback is well within the period that consumers said was acceptable in our most recent survey (see Appendix B).

Our approach to the consumer pocketbook analysis is slightly different from the NHTSA-EPA approach. We model the impact on the cost of driving based on a typical auto loan and typical driving. We assume a five year auto loan at an interest rate of 7 percent, which is the long term average, although it is well below current rates. We include the effects of auto loans being repaid in current dollars, and use real gasoline prices.

As shown in Exhibit 4, we find that for both cars and trucks in the NHTSA-EPA 6% scenario the savings on gasoline expenditures are higher than the increase in the auto loan payment, from the first month; i.e. they are cash flow positive from the date of purchase of the vehicle. By the end of the auto loan payment, the consumer will have saved about \$2,000 in the case of cars and trucks. By the 10<sup>th</sup> year, car owners are ahead \$5,000 and truck owners \$8,000.

**EXHIBIT 4: NHTSA-EPA 2010 6% CASH FLOW ANALYSIS**



Sources: Environmental Protection Agency, Department of Transportation; Notice of Upcoming Joint Rulemaking to Establish 2017 and Later Model Year Light Duty Vehicle GHG Emissions and CAFE Standards, Docket ID No. EPA-HQ-OAR-0799, Docket ID No. NHTSA-2010-0131, October 2010, Tables 6.5.4, 6.5.6, 6.5.8, 6.5.10.

**Recommendations**

Beyond demonstrating that a standard of 60 miles per gallon is technically feasible and economically beneficial, this analysis provides an important context for dealing with several important issues that the agencies flag in the Notice of Intent.

- In considering a wider range of possible standards, NHTSA-EPA should consider the point at which all of the technologies that are deemed technically feasible penetrate fully into the vehicle fleet. This “technology exhaust” scenario was considered in the Notice of Proposed Rulemaking in 2008. It is an important data point for decision making, particularly where EPA is concerned.
- With an expanded range of levels being considered, NHTSA-EPA should examine the ability of individual automakers to comply with the standard. NHTSA conducted such an analysis in the 2008 rulemaking.
- NHTSA-EPA should continue to include consumer welfare gains in their analysis and use the range of discount factors – 3% to 7% -- which reflects the consumer reality and has been utilized for decades.
- The California Air Resources Board should consider setting its emissions standards at levels that are consistent with the highest level considered by NHTSA-EPA, or higher.

### Higher Levels of Standards

Third, at page 20, the agencies note that

the assessment presented in this Joint Notice does not preclude the agencies from considering standards outside of this range for the upcoming rulemaking. The future Joint NPRM will consider a number of alternative levels of stringency, including an alternative which is estimated to maximize net benefits.

The agency should consider a wider range, but maximum net benefits must be carefully examined. The preliminary economic analysis indicates that even at the 6% scenario level there are substantial economic benefits left on the table. Therefore, the agency should consider setting the standard at higher levels.

We argued in the 2008 and 2009 proceedings that both agencies must consider not only a maximum net economic benefit scenario (which can be defined as the point where marginal benefits equal marginal cost) but they should also consider an enhanced environmental benefit scenario (which can be defined as total benefit equals marginal cost).<sup>6</sup> The latter is particularly important from EPA’s point of view, since it is the point at which the level of environmental benefits achieved come at no net economic cost to society. The range between maximum net economic benefit and enhanced environmental benefit are economically reasonable under both statutes. In order to arrive at a choice within the range of reasonableness, the agencies must know both end points of the range. We believe it is also important to the project to point of technology exhaustion – i.e. the point where all potential technologies included in the analysis have been added to the fleet. This helps to

---

<sup>6</sup>Comments of the Consumer Federation of America on National Highway Traffic Safety Administration Notice of Proposed Rulemaking; Docket No. NHTSA 2008-0089, RIN 2127-AK29; Average Fuel Economy Standards, Passenger Cars and Light Trucks; Model Years 2011-2015; Id.



locate the range of reasonable economic outcomes within the broader range of technologically feasible outcomes.<sup>7</sup>

Because the technical and economic analysis indicates that a much higher level of fuel economy standards is justified, we believe it is important to also conduct a “compliance” analysis that identifies which automakers will have difficulty reaching the standard and which will not. This analysis is necessary because the standards cannot be written to protect the worst performing members of the industry. The primary constraint on fuel economy has always been industry opposition. The agencies have taken important step to break their dependence on industry data and plans. The fifteen year time frame should also help to escape from the tyranny of the short-term product plans. In order to ensure that standards are no longer held hostage to underperforming members of the industry, the agency should conduct a careful analysis of the ability of automakers to comply.

### **California Air Resources Board**

The CARB will be taking an independent look at standard setting and it should heed the outcome of this analysis. Although CARB regulates tailpipe emissions, there is a direct relationship between gasoline consumption and emissions of greenhouse gases, as shown in Exhibit 5. The fact that the economic analysis supports a much higher fuel economy standard should be viewed as supporting a level of emission reduction consistent with the 6% scenario.

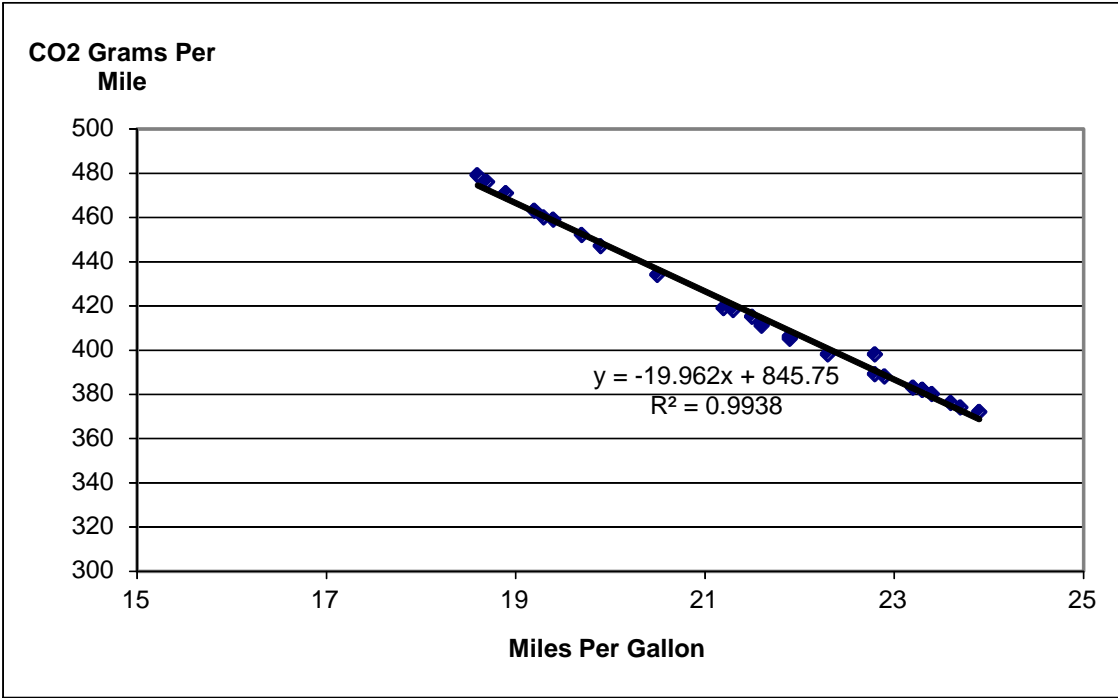
### **Conclusion**

The release of the Notice of Intent, with a longer time horizon and contemplation of a much higher level of fuel economy, is a critical step to ensure that fuel economy standards promote the consumer and national interest to the greatest extent possible. The agencies have laid the ground work to accomplish the most important change in U.S. energy policy in decades. By coordinating federal and state, energy and environmental policymaking, and setting the standard at a level that cuts the gasoline consumption of the light duty vehicle fleet almost in half in a decade and a half, the agencies can deliver a huge benefit to consumers, dramatically improve national energy security and reduce greenhouse gas emissions, while providing the auto industry with an environment in which fuel economy is a secure path to follow by establishing the fuel economy levels that all vehicles must meet.

---

<sup>7</sup> We have also demonstrated that the huge consumer welfare gains should be the focal point of the NHTSA-EPA analysis in our comments in the August 2009 proceeding. We provided an extensive literature review and analysis of market imperfections in the light duty vehicle market that can readily account for the failure of the market to deliver the efficient level of fuel economy.<sup>7</sup> Those imperfections have afflicted the auto market for decades, and they have not disappeared in the past year. The economic analysis prepared by the agencies is sound, and it makes a compelling case for much higher fuel economy standards. At page 18 of the Notice of Intent the agencies appear to reintroduce a debate over consumer welfare gains that was disposed of. “Because these benefits will show up as direct savings to consumers who buy these vehicles, the question arises whether the private markets will provide these technologies or other whether there may be unidentified additional costs associated with these technologies or other economic assumptions not included in the analysis.”

**Exhibit 5: The Relationship between Gasoline Consumption and Greenhouse Gas Emissions in Light Duty Vehicles**



Source: Environmental Protection Agency, *Light Duty Automotive Technology: Carbon Dioxide Emission, and Fuel Economy Trends: 1975 Through 2009* November 2009, p. vii.