

**Testimony of Joan Claybrook  
For Public Citizen  
Before the Senate Committee on Commerce, Science and  
Transportation  
January 24, 2002**

Thank you, Mr. Chairman and members of the Senate Committee on Commerce, Science and Transportation, for the opportunity to testify before you today on the safety implications of raising fuel economy standards for the United States vehicle fleet. My name is Joan Claybrook and I am the President of Public Citizen, a national non-profit public interest organization with 150,000 members nationwide that represents consumer interests through lobbying, litigation, regulatory oversight, research and public education. Public Citizen has a long and successful history of working to improve consumer health and safety. I am also the former Administrator of the National Highway Traffic Safety Administration, where I issued the first U.S. fuel economy standards in 1977.

**I. INTRODUCTION**

*Increasing consumption of fuel and industry manipulation of the CAFE system threaten our safety, security, and the environment*

The Corporate Average Fuel Economy (CAFE) system that was instituted in 1975 is sorely in need of a Congressional upgrade. CAFE, which was crafted in view of the vehicles and technology available at the time, was a smashing success, raising average fuel economy performance for the entire fleet in the U.S. 82 percent between 1978 and

1985.<sup>1</sup> Its primary feature is a 27.5 miles per gallon (mpg) standard for passenger automobiles, set by statute. There is no minimum standard for light trucks, but the National Highway Traffic Safety Administration (NHTSA) is instructed by law to set a standard every year according to what is “maximally feasible.”

CAFE currently saves us 118 million gallons of gasoline every day and 913 million barrels of oil each year, or about the total imported annually from the Persian Gulf.<sup>2</sup> It was a major factor in breaking the stranglehold of the Organization of the Petroleum Exporting Countries (OPEC) on oil prices and cutting rampant U.S. inflation in the early 1980s. Since 1985, no major congressional initiative or agency action has been taken to update CAFE standards to reflect current technology, shifting vehicle use, or the need to address global warming and foreign oil dependency. As SUVs have come to dominate our highways, the American public has recognized that the program is outdated.

One obvious deficiency with the current CAFE system is that it holds so-called “light trucks” – such as minivans, pickups, and SUVs – to a lower fuel economy standard than passenger cars. This distinction may have been valid in 1975, as light trucks were a small portion of the vehicle fleet and were generally used for farming and commercial purposes. However, automakers have since turned this into a loophole in CAFE, shifting their marketing and production of passenger vehicles to push light trucks. At present, nearly 50 percent of personal vehicles sold qualify as light trucks under the present

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<sup>1</sup> Ann Mesnikoff, Testimony before the Senate Committee on Commerce, Science, and Transportation, December 6, 2002, Washington, DC.

<sup>2</sup> National Environmental Trust, *America, Oil, and National Security*, (Washington, DC 2001) 40.

system.<sup>3</sup> The bifurcation of the standard has created huge problems with vehicle compatibility, resulting in countless lost lives and injuries as not-so-light trucks crash with smaller vehicles. This is also a problem that Congress must address.

The problem of global warming is a key reason to improve fuel economy. Human emissions of carbon dioxide through power plants and motor vehicles are the primary sources of this problem, with U.S. motor vehicles generating 5 percent of total global carbon dioxide emissions.<sup>4</sup> The American public recognizes that the future of the earth is at stake when we discuss solutions to this problem, and wants Congress to act to preserve the delicate balance of life on earth for our grandchildren and beyond.

### *A consensus for change*

Americans do want Congress to require improvements in fuel economy, and consumers are willing to pay for such improvements. A poll conducted in July 2001 for Public Citizen by Lou Harris asked Americans whether they would be willing to pay 3 percent (or about \$900 on a \$30,000-vehicle) more for their sport utility vehicles in order to solve emissions problems stemming from their use, and 63 percent of respondents answered yes.<sup>5</sup> In a separate Gallup poll a decade ago, 61 percent of Americans favored increasing the fuel efficiency requirements to 40 miles per gallon (mpg), even if it increased the price of cars.<sup>6</sup> Other Gallup polls conducted over the years support this result. Ninety-

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<sup>3</sup> Earle Eldridge, "Trucks likely edged cars in 2001 sales," *USA Today*, January 2, 2002.

<sup>4</sup> Mesnikoff.

<sup>5</sup> Lou Harris, Conducted by Peter Harris Research Group, July 2001.

<sup>6</sup> Gallup Poll, for CNN/USA Today, September 11-15, 1992.

three percent of Americans believe the United States should require cars to get better gas mileage to reduce our dependence on foreign oil,<sup>7</sup> and 61 percent believe that greater conservation of energy supplies is an important piece of the solution to our energy problems.<sup>8</sup> In the face of such strong and consistent public opinion over the years favoring significant improvements in fuel economy, it would be irresponsible for Congress not to act.

The automakers will not solve the problem on their own. Recent statements, such as the promise by Ford to improve the fuel economy of its SUVs by 25 percent, or the copycat claims made by Daimler-Chrysler and General Motors, should not be interpreted as an industry solution. Despite long being in the best position to improve the efficiency of the vehicle fleet, automakers have long taken the opposite tack. Manufacturers chose to spend dollars and earn profits in the SUV market segment, which lowers safety for all Americans and reduces overall fuel economy, and to advertise these vehicles' powerful engines and speed, making their claims of social consciousness not credible.

The problems with SUVs are no secret to their manufacturers. As reported by Keith Bradsher of *The New York Times*, Ford Motor Company admitted in its "corporate citizenship" report in May 2000 that sports utility vehicles, which generate much of the company's profits, "contributed more than cars to global warming, emitted more smog-causing pollution and endangered other motorists" and that the company faced an

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<sup>7</sup> Gallup Poll, Conducted for Chicago Council on Foreign Relations, October 23-November 15, 1990.

<sup>8</sup> Gallup Poll, May 7-9, 2001 (61 percent result achieved by adding the percentages of those who responded "More conservation" (47 percent) and those who responded "Both/Equally" (14 percent), referring to both "More conservation" and "More production").

”awkward situation” because “its most profitable products do not meet its goals for social responsibility.”<sup>9</sup> However, Ford still has no plans to halt or reduce production of its massive SUV, the Ford Excursion, which gets just 10 mpg in the city and 13 mpg on the highway and weighs as much as two Jeep Grand Cherokees. Congress must set fuel economy goals to be achieved and require manufacturers to change the fuel economy performance of vehicles, or America will continue to suffer the consequences of short-term industry thinking and actions.

### *Missed opportunities*

Twelve years ago, Senator Richard Bryan of Nevada introduced legislation, the Motor Vehicle Fuel Efficiency Act of 1990, that would have raised average fuel economy for the overall vehicle fleet by 40 percent. That legislation accrued 57 votes, not quite enough to defeat a filibuster, and its failure has resulted in a downward trend in fleet fuel economy performance. Had the bill passed, Americans would have saved billions of dollars and today we would have a safer, more environmentally sustainable and less costly vehicle fleet. Congress should seize the opportunity for action now, and enact strong fuel economy standards.

## **II. WHAT SHOULD BE DONE ON FUEL ECONOMY**

- **Close the “light truck loophole:”** Count all passenger vehicles under a single fuel economy standard. Phase light trucks into the CAFE program over time, by

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<sup>9</sup> Keith Bradsher, “Ford is Conceding SUV Drawbacks,” *The New York Times*, May 12, 2000.

requiring that manufacturers include an increasing percentage of their manufactured vehicles when calculating their fleet average for passenger cars.

Increase the maximum weight covered under the standard to 10,000 lbs.

- **Set realistic but appropriate goals for improvement:** Raise total fleet fuel economy to 40 mpg over ten years beginning with model year 2005, and setting targets to be met every other year thereafter.
- **Tax the major offenders:** Adjust the Gas Guzzler tax with each increase in CAFE so that it affects all vehicles sold with fuel economies 5 mpg or more below that model year's fleet-wide CAFE standard.
- **Require truth in testing:** Require the Environmental Protection Agency (EPA) to adjust its testing procedures in order to narrow the gap between real-world fuel economy performance and tested performance to below a 10 percent margin of error within 5 years of initiation of new CAFE standards and below a 5 percent margin of error by completion of the CAFE program in 2015. Testing accuracy has eroded from 3 percent at the program's inception to 17 percent today.
- **Get rid of bogus credits:** Eliminate the dual-fuel credit program, which extends CAFE credits for the production of dual-fuel vehicles, even though gasoline is almost always used to power these vehicles.
- **Tighten enforcement:** Eliminate the "carryback" provisions in the CAFE credit system, which encourages manipulation and missed targets by manufacturers.
- **Allow states to reward leaders:** Clarify the preemption clause in current CAFE law to allow states to enact "feebate" programs, which reward manufacturers and consumers for fuel economy performance exceeding federal standards.

- **Allocate meaningful funding for NHTSA research:** Congress should immediately appropriate a \$5 million supplemental appropriation for NHTSA and 10 staff positions for research, evaluation and rulemaking for fuel economy standards on cars and light trucks, in order to allow the agency to be prepared for the issuance of new standards. In its rulemaking, NHTSA made it clear that it did not have the staff or funds to issue new light truck standards, as required by law, this spring.
- **Solve safety problems by addressing safety:** Require NHTSA to set new safety standards in the areas of rollover crashworthiness protection and limits on aggressivity. On rollover, Congress should require:
  - A dynamic roof crush standard;
  - Roof energy absorbing protection to reduce injuries from contact with the roof;
  - Safety belt pretensioners that are triggered in a rollover crash;
  - Improved seat structure to keep occupants in position during a roll;
  - Side impact head protection air bags that are triggered in a rollover crash.On vehicle aggressivity, Congress should require a crash safety standard to reduce the damage caused by light truck-type vehicles in crashes with smaller vehicles by 30 percent compared with model year 2000 vehicles.

### **III. THE REAL SAFETY PROBLEM**

#### **A. The Myth of the Safety Tradeoff**

*Industry's claims that fuel economy measures reduce safety are wrong*

The auto industry has argued, time and again, that raising fuel economy standards will adversely impact safety by causing the increased production of smaller vehicles or by reducing vehicle weight. In fact, there is no evidence that establishes a clear correlation between vehicle weight and increased fatalities – some heavier cars are far more dangerous to both their occupants, and to others on the highway, than are lighter ones. Across many measures of crashworthiness, the newest fuel guzzlers – the SUVs – are the worst performers. What matters most for safety are the crashworthiness protections and the compatibility that is designed and built into vehicles, and these must be enhanced as critical parts of any comprehensive highway safety and fuel economy program.

The use of the time-worn safety canard by industry is a cynical attempt to frighten consumers and Congress in an attempt to deflect new requirements, and appears most appallingly hypocritical when we consider that industry has acted to obstruct safety improvements whenever possible. Industry deploys a misleading safety “red herring” only because it hopes that it will offer a modicum of political cover for its unwillingness to act responsibly.

Public Citizen has a long record of working for safer cars – most often in opposition to the powerful efforts of the auto industry to squelch or resist them – the analysis we

present today shows that raising fuel economy standards, if accompanied by appropriate and reasonable safety measures, will not hurt highway safety and in fact will even save lives by creating a more compatible vehicle fleet. It is important to note that NHTSA administers both the safety and fuel economy programs, so it can coordinate this work, as I did as NHTSA Administrator in the 1970s.

The following points will, I believe, put the industry's hypocritical arguments to rest at last.

*Historically, the auto industry and the National Academy of Sciences (NAS) are wrong that CAFE standards reduced vehicle weight and endangered motorists*

*“[CAFE standards] would require a Ford product line consisting of either all sub-Pinto sized vehicles or some mix of vehicles ranging from a sub-sub-compact to perhaps a Maverick.” - Ford Motor Company, 1974<sup>10</sup>*

Some members of the panel that published the July 2001 NAS report on fuel economy contend that raising CAFE standards would increase occupant fatalities in crashes due to a connection between vehicle weight and fatality crash rates. As a strong NAS panel dissent by David Greene and Maryann Keller and other critics have pointed out, this conclusion is problematic because the panel was:

- **Using outmoded data on crashworthiness:** The data used by NAS is from 1993 and before, and therefore fails to account for recent advances in occupant protection from new government standards, such as dynamic side impact protections, dual air bags, and head injury protections. In holding crashworthiness constant, the panel overlooked crucial, compensating safety improvements that are possible in the areas of rollover and aggressivity, thus overstating the negative safety effects. This oversight is particularly troubling given the high survivability of rollover crashes and the panel's reliance on data from the study for NHTSA by Kahane. Kahane hypothesized that the largest increase in fatalities by CAFE would come from deaths in small

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<sup>10</sup> Sen. John Kerry, Congressional Record, Sept. 25, 1990, at S13696 (citing Ford).

vehicle rollover crashes, deaths which would be avoidable with proper crash protections;

- **Perpetuating cause-correlation confusion in vehicle size and weight as factors:** The changes in fuel economy standards will not result in a fleetwide, uniform reduction of vehicle weights; postulating that a possible weight-fatality correlation is not the same as demonstrating that improving the average fuel economy of vehicles will actually cause increased fatalities. In fact, history shows that weight reductions will occur only in the largest vehicles, where it is most cost-effective. Also, there was no attempt by the majority panel to account for confounding factors such as vehicle size and driver characteristics;
- **Overlooking harm from the light truck loophole:** The panel ignored some implications of the main study by Kahane that it prominently cited, which suggested that *proportional changes in both cars and trucks causing the down-weighting of the entire vehicle fleet would have zero safety impact*, because relative weight, rather than absolute weight, is the crucial factor. Kahane's figures actually bear this out, although in drawing his conclusions Kahane changed the weight of cars while keeping weights for light trucks and other vehicles unaltered, and vice versa, producing confused results;
- **Understating the risks of incompatibility:** The panel overlooked the results from several studies which suggest that *disparities* among vehicle weight are the cause of devastating crashes, thus suggesting that instead of causing harm, any convergence effect on vehicle weights from CAFE standards would actually yield safety benefits.

In fact, the link between CAFE standards and reductions in vehicle weight at the low end of the vehicle weight range simply does not exist: while the heaviest vehicles were put on a diet and lost a thousand pounds, the lightest vehicles today are considerably heavier than their pre-CAFE counterparts. As was pointed out in the December 6, 2001, testimony of Clarence Ditlow of the Center for Auto Safety, the original passage of CAFE standards did not result in light cars becoming lighter or less safe. In fact, the Honda Civic gained 800 pounds and went from failing NHTSA crash tests to receiving the best possible rating for crashworthiness – 5 stars. Moreover, the Ford Pinto and

Chevrolet Chevette, notably unsafe vehicles, were replaced by the safer models of the Ford Escort and Chevrolet Nova.<sup>11</sup>

Looking at the CAFE-weight relationship more broadly, as fleet fuel economy increased over time, vehicle weights did not move in any one direction. In 1975, cars weighing less than 2,500 pounds made up 10.8 percent of the new-car fleet, but only 2.6 percent in 2000. By contrast, cars in the over 4,500 pound weight class made up 50 percent of the new-car fleet in 1975 but only 0.9 percent in 2000. These data show that CAFE standards did not cause a uniform reduction in vehicle weight at the light vehicle level (although CAFE may have caused a reduction in average weight, as more cars were built in the 2,500-4,500 pound category).<sup>12</sup> Because automakers could get proportionally more fuel savings from reducing the weight of the heaviest class of cars, those were the first targets for fuel economy improvements, and production numbers for cars in the lightest class actually decreased.

Any improvement in the CAFE standards made today will likely have a similarly small impact on the weight or production levels of the smallest cars. It is not cost-effective to reduce their weights by very much, given the limited fuel economy improvement from doing so and the relatively higher cost of vehicle redesign.

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<sup>11</sup> Clarence Ditlow, Testimony before the Senate Committee on Commerce, Science, and Transportation, December 6, 2002, Washington, DC.

<sup>12</sup> Union of Concerned Scientists, *Drilling in Detroit*, (Cambridge, MA:UCS Publications June 2001) 51, 53.

*Major improvements in fuel economy are possible using currently available technology without any reduction in safety protection*

A Department of Energy (DOE) study found that 85 percent of the fuel economy gains made following the 1975 CAFE law were from improvements in vehicle technology rather than weight reduction.<sup>13</sup> The evidence strongly suggests that similar technological leaps are currently available or just around the corner, and that the recent stagnation and even backsliding in overall fuel economy is a trend that must be stopped.

The Union of Concerned Scientists (UCS) pointed out in a report released in 2001 that today's vehicles could become more fuel efficient at a price that would easily be made up in savings on fuel costs, and the necessary changes would have no negative impact on safety. Technologies currently used in portions of today's fleet, if adopted fleetwide, could make vehicles more streamlined, less fuel intensive, and more efficient. A partial list of these technologies includes the following:

- **Aerodynamic improvements** – reducing vehicle drag by reducing their profiles;
- **Rolling resistance improvements** - changing tread designs and rubber quality on tires;
- **Safety enhancing mass reduction** – increasing the use of plastics, aluminum and high strength steel;
- **Accessory load reduction** – using more energy efficient electric accessories that draw less power from the battery;
- **Variable valve control engines** – used in Honda VTEC engine, allowing valves to be adjusted for better engine performance;
- **Stoichiometric burn gasoline direct injection engines** – introducing fuel directly to the engine cylinder;
- **Integrated starter generators** – allowing engines to turn off rather than idling when the car is not in use;
- **5- and 6- speed automatic transmissions** – increasing opportunities for engines to run at their efficiency “sweet spot;”

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<sup>13</sup> Mesnikoff.

- **5-speed motorized gearshift transmissions** – mimics the performance of a manual with the ease of an automatic;
- **Optimized shift schedules** – using electronics and sensors to improve automatic transmission performance;
- **Continuously variable transmissions** – providing complete control over the relationship between engine speed and vehicle speed.<sup>14</sup>

The UCS has not limited their research to the hypothetical realm. With technologies currently used in mass production by at least one company, and basing their design on the current Ford Explorer, the UCS designed a new vehicle that increased the real world fuel economy of the Explorer by 50 percent while improving zero to sixty performance by 1.7 seconds and saving 4 percent (\$1,577 in gasoline costs) over the lifetime cost of the unimproved vehicle (See Table 1). Adding technologies currently entering the market to their design, they were able to improve fuel economy by 75 percent, creating a vehicle that would test at 34.1 mpg and save 6 percent (\$2,163) over the lifetime cost.<sup>15</sup>

	<b>Ford Explorer</b>	<b>UCS Exemplar</b>	<b>UCS Exemplar Plus</b>
Curb Weight (lbs)	4146	3525	3525
0-60 Performance (secs)	12.4	10.7	12.2
Fuel Economy (mpg)	19.3	28.4	34.1
Vehicle Price	\$ 28,830	\$ 29,545	\$ 29,765
Lifetime Fuel costs	\$ 7,253	\$ 4,961	\$ 4,155
<b>Total Cost</b>	<b>\$ 36,083</b>	<b>\$ 34,506</b>	<b>\$ 33,920</b>

**Table 1: Union of Concerned Scientists’ Greener SUV**

Ford’s Explorer currently fails to meet the very modest 20.7 mpg CAFE standard for light trucks, getting just 19 mpg. With the improvements implemented by the UCS using

<sup>14</sup> Union of Concerned Scientists, *Drilling in Detroit* 18, Appendix B.

<sup>15</sup> Union of Concerned Scientists, “Greener SUVs: A Blueprint for Cleaner, More Efficient Light Trucks,” Summary available on the World Wide Web at <http://www.ucsusa.org/vehicles/greener.SUVs.html>

currently available technology, the same vehicle surpassed the current 27 mpg CAFE standard for passenger cars. Given the challenge of a higher CAFE standard to meet, auto manufacturers, with their considerably larger resources, could certainly far surpass the 34.1 mpg performance achieved by UCS within a ten year time-frame.

As a final point, it is clear both historically and legally that the Motor Vehicle Information and Cost Savings Act, like the National Traffic and Motor Vehicle Safety Act, is technology-forcing. It requires the Secretary of DOT to set the “maximum feasible” standard while considering, among other factors, the energy needs of the nation.<sup>16</sup> Any sensitive consideration of our energy needs would lead one to conclude that reducing our dependency on foreign oil is a high national priority.

## **B. The Real Story on Safety**

*Vehicle size and design, not weight, are the critical factors for safety*

None of the research that attempts to establish the industry argument has thus far sufficiently isolated the confounded effects of vehicle size and vehicle weight in terms of safety implications for occupants or other motorists. Even the landmark study by Charles Kahane for NHTSA did not isolate the different implications of shifts in vehicle size and weight,<sup>17</sup> a problem which the recent NAS study literally glosses over in their attribution of overblown fatality figures to CAFE.

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<sup>16</sup> See Motor Vehicle Information and Cost Savings Act, Sec. 502 (3)(A).

<sup>17</sup> Charles J. Kahane, “Relationships Between Vehicle Size and Fatality Risk in Model Year 1985-1993 Passenger Cars and Light Trucks,” (1997).

However, vehicle size, design and relative crashworthiness are the crucial factors in safety outcomes, for several reasons. While increases in weight irrefutably export an externality of threat to other motorists, increases in size and improvements in design and crashworthiness have the potential to save lives, both as net impacts and for the drivers of larger vehicles. Vehicle size, as distinct from weight, is pertinent to safety, and confounds the analysis of fuel economy effects for several reasons. Larger vehicles provide additional room for occupants' torsos and limbs to avoid contact with the area of crash impact, and there is space to design the vehicle frames of large vehicles to better absorb crash forces, so that occupants' bodies do not.

The real solution to CAFE may be to emphasize the use of innovative and lightweight crash materials, such as those employed in the Research Safety Vehicle designed by Don Friedman of Minicars for NHTSA in the 1970s. For another example, while the UCS in the above experiment involving the retrofitted Explorer did remove weight from the vehicle to improve fuel economy, the size of the vehicle and all of its safety features were left intact.

Honda has emphasized this point in a letter sent December 19, 2001, to the Committee, which I urge Members to closely read. In the letter, Honda demonstrates that many of its most fuel efficient vehicles are extremely good performers on safety as well, thereby answering the misleading arguments put forward by Ford at a prior hearing December 6.

### **C. The SUV Safety Myth**

*Many factors affect safety, creating hazards for drivers of SUVs*

The prevailing concept of the connection between light trucks and safety is wrong. Light trucks are more dangerous to other drivers than their passenger car counterparts, but are not necessarily any more safe for their own occupants. The Chevrolet Blazer, for example, has a per million vehicle year driver death rate that is more than three times higher than the Honda Civic's death rate.<sup>18</sup> The chart of driver death rates compiled by the Insurance Institute for Highway Safety is proof that crashworthiness and crash survival vary widely within vehicle classes. Other research by David Greene, a dissenter on the NAS panel, has pointed out that there is no correlation between vehicle weight for passenger cars, for example, and a car's crashworthiness crash test ratings in the New Car Assessment Program administered by NHTSA.<sup>19</sup>

Another insight from Greene is that SUVs and heavier vehicles may face particular safety obstacles, including longer braking distances on both wet and dry pavement.<sup>20</sup> Ford has admitted that many drivers of SUVs alarm company engineers by failing to adjust their driving habits to the different handling characteristics of SUVs, including a propensity to rollover in emergency maneuvers. Ford has thus begun contracting with a national driving school to teach special safety skills to drivers of their SUVs.<sup>21</sup> Because Ford's own marketing data show that drivers behind the wheel of an SUV operate under a false

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<sup>18</sup> Insurance Institute for Highway Safety, "Driver Death Rates," *Status Report Vol. 35, No. 7* (August 19, 2000) 4-5.

<sup>19</sup> Greene, David L., "Fuel Economy, Weight and Safety: Its What You Think You Know That Just Isn't So," for Oak Ridge National Laboratory, presentation at the Automotive Composites Conference, Society of Plastics Engineers, Sept. 19, 2001.

<sup>20</sup> *Id.*

impression of enhanced safety and drive more aggressively than they otherwise would, accounting for such differences in the safety data used to study the implications of fuel economy is crucial. The NAS majority and Kahane were unable to do so.

*SUVs have a high propensity to roll over and poor crashworthiness for rollovers*

The 2001 Blazer received only one star on NHTSA's rollover resistance rating system, while the 2001 Toyota Corolla, a small car, received a high score of four stars, and the mid-sized Chrysler Sebring received five stars.<sup>22</sup> Based on these ratings, the Blazer is four times or more as likely to roll over in an emergency maneuver than is the Sebring. Sixty percent of deaths in light trucks (vans, pick-ups and sports utility vehicles) occur in rollover crashes.<sup>23</sup> The good news is that rollover crashes are among the most survivable type of crash.

The Ford Explorer is a case in point for lessons in the importance of crashworthiness.<sup>24</sup> Post-hoc accounting showed that while tread separations for the Firestone tire used on Explorers were extraordinarily common, most of the fatalities which occurred following a tread separation were directly attributable to a rollover of the vehicle. Subsequent tests of the Explorer's rollover crashworthiness undertaken in preparation for litigation by safety expert and engineer Don Friedman show that the Explorer was equipped with an

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<sup>21</sup> Keith Bradsher, "Ford Wants to Send Drivers of Sport Utility Vehicles Back To School," *New York Times*, July 4, 2001.

<sup>22</sup> National Highway Traffic Safety Administration Crash Testing Website:  
<http://www.nhtsa.dot.gov/cars/testing/NCAP>

<sup>23</sup> According to 1999 DOT statistics, 19.7% of all fatal crashes had a rollover.

<sup>24</sup> Keith Bradsher, "Risky Decision: A Special Report. Study of Ford Explorer's Design Reveals a Series of Compromises," *The New York Times*, December 7, 2000.

extremely flimsy roof which is incapable of bearing up under the weight of the rolling vehicle after the windshield is broken. Because a vehicle's windshield typically shatters after one roll, the Explorer's occupants were basically left unprotected from roof crush injuries, which are often devastating or fatal.

To address this safety problem, then, improvements are needed not only to the vehicle's tire and rollover propensity, but also to its roof strength and rollover crashworthiness in general. The point is that the human suffering caused by a failure to design a safe vehicle was entirely unnecessary given the survivability of rollover crashes. The high cost to Ford's economic well-being and reputation for safety that were caused by over 200 fatalities and 700 serious injuries appears particularly unfortunate when we consider that most of them could have been avoided by a safer design.

The NAS majority reached its conclusion by holding vehicle fatalities constant, ignoring the lifesaving possibility contained in measures such as rollover protections. But the main data relied on by the NAS, the 1997 Kahane study, found that single vehicle rollover crashes involving the greater number of small cars predicted to enter the highway under CAFE were the swing factor in producing net increases in fatalities. As we argue below, however, to fix this problem we should, as a policy matter, address rollover crashworthiness first, last and foremost. In so doing, we can wipe out the auto industry argument that fuel economy threatens safety.

## **D. Solving the Rollover Problem**

### *The need for rollover crashworthiness standards*

The auto industry should begin their campaign for safety by addressing vehicle rollover. Rollovers now kill more than 10,000 people each year, a sum that is fully one-third of all vehicle deaths, yet the causes of death in such a crash are largely preventable. The forces exerted in a rollover crash are small, less than 10 mph in many cases. Like professional race car drivers that survive such crashes, if vehicle occupants are sufficiently protected from the hazards of a rollover crash they can escape death or serious injury.

The auto industry has been so laggard over the years, causing thousands of needless deaths and injuries, that federal motor vehicle crashworthiness standards are needed. One of the primary elements of protecting occupants in a rollover crash is a roof that is resistant to crushing as the vehicle rolls. Currently, roof crush standards do not adequately measure the way a roof is likely to respond in a real world rollover crash because:

- The test used by NHTSA is static rather than dynamic
- The force measured for passage is less than that actually experienced in a rollover
- The windshield, which breaks on the first roll in an actual crash, is left in place for the test and supplies about one-third of the measured strength of the roof in the test NHTSA uses

With protections, rollovers are highly survivable crashes with low gravitational forces.

The following measures will provide basic occupant protection:

- A dynamic roof crush standard, which measures roof crush without the windshield in place;
- Safety belt pretensioners which trigger in a rollover crash;

- Improved seat structure to keep occupants in position during a roll, including seat belt anchors on the seat structure;
- Side impact head protection air bags which are triggered in a rollover crash and reduce the ejection of occupants;
- Roof injury protection to protect occupants in the event of contact with the roof structure
- Improved door locks and hinges to keep doors from becoming ejection portals in a rollover.

## **E. Improving Compatibility and Reducing Fatalities from Aggressive Vehicles**

### *Fixing CAFE to reduce fatalities*

The current structure of CAFE contributes to highway deaths not because vehicles are too light, but because of the dual standard created for cars and light trucks, including SUVs.

The current system of CAFE standards pretends that there are two vehicle fleets: cars, which must meet a statutorily required 27.5 mpg standard, and “light trucks” and their progeny which meet the 20.7 mpg standard set by NHTSA. The safety consequences of the bifurcation of the standard have been disastrous as manufacturers have marketed heavier and heavier SUVs as family vehicles.

The erosion of CAFE will continue as manufacturers keep ramping up SUV size to produce truly massive passenger vehicles in the absence of new fuel economy standards. For just the latest example, in February 2001, DaimlerChrysler announced that the company would be marketing a new mega-vehicle, named the “Unimog,” that will be 20 feet long and nearly two feet wider than a typical car, weigh 12,500 lbs., and get 10 mpg on diesel fuel.<sup>25</sup>

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<sup>25</sup> Keith Bradsher, “For the Megagrowth Family, Daimler to Offer a Bigger-Than-SUV,” Feb. 21, 2001.

*Light trucks, particularly SUVs, are very dangerous for other drivers on the highway*

Study after study shows that heavier vehicles, and especially SUVs, are a threat to other drivers in vehicles they hit, especially in their heaviest and most aggressive versions. A 1998 report by Hans Joksch for the Department of Transportation (DOT) showed: 1) that the risks imposed by heavier cars on lighter car occupants *outweigh the safety benefits to the heavier car occupant across the entire vehicle fleet on the highway* and 2) that greater variability in the distribution of weights increases fatalities.<sup>26</sup> A paper by Alexandra Kuchar of the DOT's Volpe Institute concluded that shifting the fleet from cars to light trucks – at each increment of the shift – increases serious injuries and fatalities, partly because of the greater stiffness of light trucks.<sup>27</sup>

Despite the perception that light trucks are safer for the occupant, total highway safety is made worse by the presence and weight of these vehicles. Over 11,000 light truck-type vehicle occupants were killed in crashes in 1999, and crashes involving light trucks killed another 4,896 people, for a ratio of .44 non-truck occupant fatalities for every 1 occupant fatality. This should be contrasted with passenger cars, which killed just .08 non-occupants in crashes for each passenger car occupant killed.<sup>28</sup> The NAS report last year concluded that a reduction in the mass of the light truck fleet would result in a net

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<sup>26</sup> Hans Joksch, *Vehicle Aggressivity: Fleet Characterization Using Traffic Collision Data* (Ann Arbor, MI: University of Michigan Transportation Research Institute, February 1998)

<sup>27</sup> Alexandra Kuchar, *A Systems Modeling Methodology for Estimation of Harm in the Automotive Crash Environment* (Cambridge, MA: Volpe National Transportation Systems Center, 2001) 10.

<sup>28</sup> National Highway Traffic Safety Administration, *Traffic Safety Facts 1999* (Washington DC: Government Printing Office 2000) 107-108.

reduction in the number of fatalities on our highways, because the reduced-mass light trucks would kill fewer of the occupants of the vehicles into which they crash.<sup>29</sup>

All the research points to conclusions that are precisely the opposite of the myths promoted by manufacturers about CAFE and safety. As David Greene has argued, the risk to other drivers posed by SUVs and other larger vehicles is a way of “exporting” risk as a market externality that should be corrected by government action. Given the high societal costs of automobile crashes, the increased fatalities and injuries that result are costs that all of us bear. Closing the light truck loophole and new requirements under CAFE would likely have the happy consequence, as did those passed in 1975, of increasing the number of mid-sized vehicles in the fleet and bringing about greater convergence in vehicle weight across the fleet.

#### **F. The Need for Aggressivity Standards**

Sports utility vehicles now constitute 50 percent of new vehicle sales, yet SUVs are almost three times as likely as cars to kill the other driver in a collision. The scope of the problem is well-known. Even some manufacturers, such as Toyota, Nissan and Renault, have called for regulations to make all passenger vehicles more compatible in crashes.<sup>30</sup> In a corporate report, Ford has admitted that SUVs are an anti-social vehicle type, and this is certainly the case from a vehicle dynamics standpoint.

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<sup>29</sup> National Research Council, *Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards*, (Washington, DC: National Academy Press, 2001) 2-24.

Light trucks tend to have higher bumpers and structures, which can override the body of a smaller car and fail to engage the crash protections built into both vehicles. Light trucks are also typically built with stiffer frames that fail to absorb crash forces, causing damage to other vehicles as well as their own occupants. Finally, most light trucks are substantially heavier than passenger cars, thus exerting more mass in a crash with a lighter vehicle.

NHTSA has begun studying the problem of vehicle aggressivity, and their results have suggested some major areas for improvement. Vehicle aggressivity, as presently understood, relates generally to three factors: vehicle weight, structural stiffness of the vehicle, and height of center of force. This last factor shows the importance of vehicle design factors — the height of a vehicle’s “center of force” reflects the design distribution of its mass and is a primary indicator of the amount of damage that will be inflicted on another vehicle during a collision.<sup>31</sup>

All things being equal, a heavy vehicle will be more aggressive than a lighter one. When weight is controlled for, however, other factors relating to vehicle design become important. Small pick-ups and mid-sized cars have approximately the same curb weight (3,000 lbs.), yet a NHTSA study found that small pick-ups caused roughly 50 percent

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<sup>30</sup> Keith Bradsher, “Carmakers to Alter SUVs to Reduce Risk to Other Autos,” *The New York Times*, March 21, 2001.

<sup>31</sup> See, e.g., Keith Bradsher, “High Fatality Rate Found in Cars That Crash with Explorers,” *The New York Times*, Feb. 14, 2001 (documenting that Explorers, due to their force distribution, killed 10 car drivers for every 1,000 crashes between Explorers and cars, in comparison with other midsize SUVs that kill five to seven drivers per 1,000 crashes, and with cars, which inflict six-tenth of a death per 1,000 crashes with other cars); Keith Bradsher, “Study Says Height Makes SUVs Dangerous in Collisions,” *The New York Times*, May 16, 2001 (documenting new, but insufficient, aggressivity modifications in some newer SUVs).

more fatalities to occupants of other vehicles than did mid-sized cars on a per-vehicle basis.<sup>32</sup>

NHTSA should be directed to issue an aggressivity reduction standard as a top priority given the rapidly increasing population of light trucks mixing with cars on our highways.<sup>33</sup> By raising CAFE standards, Congress would encourage automakers to take weight out of the aggressive vehicles at the high end of the fleet weight range – saving both fuel and human life. By requiring NHTSA to issue standards that reduce the likelihood of struck driver death in an accident, Congress can dramatically reduce the harm caused by our largest vehicles.

#### **G. Believe What Industry Does, Not What It Says**

*The industry's solicitude for safety in the context of the fuel economy debate is disingenuous and should not mislead Congress or the public*

The concern for safety expressed by automakers in the fuel economy debate is a red herring. Historically, the auto industry has protested one safety requirement after another for 35 years, using Congress, the courts and its administrative access to avoid costs associated with vehicle redesign while the safety of the public suffers. Among many other battles over safety measures, the industry:

- Fought efforts to place seat belts and shoulder harnesses in all vehicles;

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<sup>32</sup> William Hollowell and Hampton Gabler, "NHTSA's Vehicle Aggressivity and Compatibility Research Program," Paper No. 96-S4-0-01.

<sup>33</sup> This body of research exists: NHTSA has collected vehicle aggressivity information as crash test profiles on its crash barriers as part of its testing for the New Car Assessment Program.

- Remained silent in the debate over raising the speed limit – increased speeds in states which raised their speed limits cause over 500 deaths per year;<sup>34</sup>
- Fought mandatory air bags on cost grounds;
- Fought side impact and fuel system standards;
- Currently is battling to prevent effective dynamic rollover tests and an improved roof crush standard;
- And now are also fighting new requirements for a dashboard tire pressure monitoring system on cost grounds, which saves fuel economy and improves safety.

In addition, it is well documented that the industry resisted any attempt by NHTSA to publish rollover resistance ratings for years, until the Ford/Firestone disaster forced them to back away from their public opposition to ratings.<sup>35</sup> The cumulative death toll from these delays and the continuing battles far exceeds even the industry's claims about the so-called risks resulting from fuel economy standards.

As another one example of industry relentlessness in pursuit of profit, I cite the epic struggle over air bags. With the exception of General Motors in the early 1970's under its president Ed Cole and Mercedes in the 1980's, the manufacturers generally opposed a federal standard requiring air bags from 1969 until it finally took effect in 1988. In 1983, the Supreme Court ruled that the Reagan administration had improperly revoked the rule. Justice White, writing for the Court, stated that the industry had waged "war" on air bag regulation and that NHTSA's regulatory actions under the Safety Act could be "technology forcing:"

The automobile industry has opted for the passive belt over the airbag, but surely it is not enough that the regulated industry has eschewed a given safety device. *For nearly a decade, the automobile industry waged the regulatory equivalent of war against the airbag and lost* – the inflatable restraint was proven sufficiently effective. Now the automobile industry has decided to employ a seatbelt system

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<sup>34</sup> Insurance Institute for Highway Safety, "Limits up, speeds up, deaths up" *Status Report Vol. 32, No. 8* (October 11, 1997) 1.

<sup>35</sup> Keith Bradsher, "Auto Industry May Ease Safety-Ratings Stance," *New York Times*, Sept. 19, 2000.

which will not meet the safety objectives of Standard 208. This hardly constitutes cause to revoke the standard itself. *Indeed, the Motor Vehicle Safety Act was necessary because the industry was not sufficiently responsive to safety concerns. The Act intended that safety standards not depend on current technology and could be "technology-forcing" in the sense of inducing the development of superior safety design.*<sup>36</sup>

*Industry advertising sells speed and demonstrates a lack of concern for safety*

Fuel economy levels, like our larger economy, are in recession. Despite their potential for tremendous impact on our environment and safety, more fuel efficient vehicles may never come to market unless Congress acts. Why? Because automakers have chosen to focus on the production of generation after generation of larger and powerful, faster vehicles, despite their knowledge that these are just the vehicle features which increase fatalities.

Recent motor vehicle television ads have begun to once again resemble the “speed ads” of the early 1990s, which persisted until safety advocates shamed the auto industry into a temporary ceasefire. The Insurance Institute for Highway Safety has pointed out the marketing strategy that accompanies this approach, citing commercials that “either ignore safety or undermine it by obscuring the fact that driving fast or aggressively increases motorists’ crash risk.”<sup>37</sup> While automakers build ever faster and more powerful vehicles, they waste the opportunity and resources to make passenger vehicles that are safe and socially responsible.

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<sup>36</sup> See *Motor Vehicle Manufacturers Association of U.S., Inc. v. State Farm Mutual Auto Insurance Company*, 463 U.S. 29, 49, 103 S.Ct. 2856, 2870 (1983) [emphasis added].

#### **IV. FIXING THE CAFE SYSTEM WILL SAVE BOTH LIVES AND FUEL**

##### **A. The existing structure of the CAFE system should be used to produce more fuel economy gains**

Despite the manufacturers' outcry about technological limitations when CAFE was initially introduced as part of the Energy Policy and Conservation Act in 1975, fuel economy performance rose substantially in the seven years after the legislation took effect. Manufacturers retooled their engines and drivetrains, adjusted the mixture of their fleets, took advantage of unused technological advances, and resized or eliminated their most fuel-thirsty vehicles to produce cars that were more socially responsible. This period of change, and the exciting directions in which it took the auto industry, were summed up in a 1977 speech made by Robert B. Alexander, then Vice President of the Car Product Development Group at Ford. His response to the challenges of posed by the new fuel economy standards and emissions standards of that period was to declare the era "the age of the engineer – and I, for one, couldn't be happier."<sup>38</sup>

Even some in the auto industry agree that the CAFE system has been effective in meeting its goals. In his testimony of December 6, 2001, Bernard Robertson, Senior Vice President of Engineering Technologies and Regulatory Affairs for DaimlerChrysler stated that "the industry achieved significant gains during the past twenty-five years" and said that alternatives to the CAFE system are "either politically unacceptable or have significant 'unknowns' or problems." Jaime Auffenberg, chairman of the American

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<sup>37</sup> Insurance Institute for Highway Safety, "Car Ads," *Status Report Vol. 35, No. 8* (September 30, 2000) 2.

<sup>38</sup> Robert B. Alexander, speech before the Management Briefing Seminars sponsored by the Michigan Chamber of Commerce and the University of Michigan (Traverse City, MI) August 4, 1977.

International Auto Dealers Association recently said that “we are going to have to find ways to improve fuel efficiency...I think there’s opportunity to improve CAFE numbers, and we need to be responsible and address them.”<sup>39</sup> While some in the industry may quibble about the specifics of the CAFE system, none of them has advocated a viable replacement.

Because of CAFE requirements, the United States has saved 3 billion barrels of oil a day and saved consumers more than \$20 billion each year. At the same time, we have avoided sending billions of dollars overseas to pay for oil, and prevented the release of tons of greenhouse carbon dioxide into the atmosphere. The program, however, has stagnated and must be updated to account for technological changes, energy concerns and environmental imperatives. While Public Citizen does not recommend significant changes in the overall structure of the system, a few critical modifications must be made.

### **B. Close the light truck loophole**

As currently structured, the CAFE system has separate targets for cars and light trucks. The standard for cars, set by statute, is 27.5 mpg. The standard for light trucks, which NHTSA is responsible for adjusting each year to account for improvements in what is the maximum feasible, is set at 20.7 mpg and has not been adjusted for 7 years. Since 1994, appropriations riders have prevented NHTSA from expending any funds to adjust of the standard, a provision secured by the auto industry that has detrimentally affected safety, gasoline expenditures, and our environment.

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“AIADA will focus on funding,” *Automotive News*, 21 January 2002, 32i.

As a result, NHTSA has had no money for staff research on CAFE. Moreover, the Gas Guzzler tax, which penalizes manufacturers for selling vehicles that fall extremely far below the CAFE standard, shockingly only applies to cars as it is currently drafted, and provides a weak penalty that today is out-of-date. One CAFE standard and one Gas Guzzler tax system should be applied to all light duty passenger vehicles in a manufacturer's fleet.

In 1975, when the distinction between light trucks and passenger cars was adopted and favored by the auto industry, light trucks accounted for just 20 percent of the vehicle fleet, and were largely used for off-road and commercial purposes.<sup>40</sup> Light trucks were also not redesigned as frequently and often used older technologies. Thus, Congress felt it could not anticipate the minimum mpg numbers for these vehicles and asked NHTSA to set the standard by regulation.

However, a separate standard makes no sense in a world where SUVs carry millions of Americans back and forth to work each day. SUVs and other light trucks are simply not used as Congress anticipated in 1975, and there is no basis for maintaining their status as a special part of the vehicle fleet. Moreover, many manufacturers have introduced crossover models built on a car chassis but have a truck body or other features, and are therefore counted under the truck CAFE standard. One particularly egregious example of this is Chrysler's PT Cruiser, which is counted as a truck for CAFE purposes simply because the back seats are removable and it has a hatchback trunk. The PT Cruiser

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<sup>40</sup> Congressional Budget Office, "President Carter's Energy Proposals: A Perspective," Staff Working Paper (Washington, DC: Government Printing Office June 1977) 55.

cannot be used off-road due to its low (6.5”) ground clearance, has a towing capacity of only 1,000 lbs., and lacks 4-wheel drive. Yet the current CAFE system counts it as a light truck, raising Chrysler’s overall truck fleet fuel economy average and enabling the production of other extremely inefficient vehicles. The ability of manufacturers to play this game of “light truck” qualification makes the higher CAFE standard for cars far less meaningful.

In addition, the safety implications of the two fleet split are obvious to anyone who has ever stared up at the massive grill, high bumper, and heavy, stiff body of one of the largest SUVs. Two standards means two fleets – one of which is hazardous to the other. By closing the “light truck loophole,” which has become big enough to drive the 19-foot Ford Excursion through, Congress would force manufacturers to reduce the size and aggressivity of their largest vehicles, rendering them less of a hazard to other drivers and improving fleetwide fuel economy.

NHTSA just issued its rulemaking on the light truck standard (Docket No. NHTSA-2001-11048) for 2004 and announced their plans to leave the 20.7 mpg standard unchanged. The agency explains in its rulemaking that the Congressional appropriations riders which froze adjustment of this standard from 1995 to 2001 left NHTSA unable “to lay the factual or analytical foundation necessary to develop a proposed standard other than the

one at 20.7 mpg.”<sup>41</sup> This embarrassing situation must be corrected by the same Congress that imposed it on NHTSA every year since 1994.

Closing the light-truck loophole will require a phase-in of some sort, so as not to cause undue disruption in the auto industry by allowing adequate planning lead time for design adjustments. Manufacturers should be required to count an additional 20 percent of their vehicles under a combined standard every two years, until all of their vehicle fleet is counted under a single standard after 10 years.

### **C. Other Important Changes to CAFE Are Justified and Necessary**

*Fleet fuel economy should be raised to 40 mpg over ten years, starting in model year (MY) 2005*

At the same time as light trucks are being phased into the vehicle fleet, Congress should set targets to increase overall fleet fuel economy. Model year 2001 total fleet fuel economy is just 24.5 mpg, a 6.5 percent decline from the high of 26.2 mpg achieved in 1987. Manufacturers were able to improve fleet fuel economy by 80 percent from 1978 to 1987, and they have had 15 years to develop new technologies that could achieve a similar improvement given enough lead time and appropriate penalties for failing to comply with the standard. While manufacturers may argue that the opportunities for technological improvement are exhausted, the work of the UCS explained above and the emergence of the hybrid engine prove these arguments wrong.

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<sup>41</sup> National Highway Traffic Safety Administration, Notice of Proposed Rulemaking, “Light Truck Average Fuel Economy Standard, Model Year 2004,” <http://www.nhtsa.dot.gov/cars/rules/rulings/Cafe/LightTruck/NPRM.html>

The NAS report did not advocate any fleetwide fuel economy number as the appropriate one, but its Path 2 and 3 calculations and assumptions suggest that a fleetwide fuel economy of 37 mpg by 2015 is achievable using only conventional gas engines.<sup>42</sup> Their original report estimated much higher achievable mileages, but they revised these estimates downward after receiving pressure from the auto industry in two waves, once before the official publication of the report, and in another round after the auto industry privately appealed to the NAS and a subsequent public hearing.<sup>43</sup> The NAS also failed to account in their estimates for the potential of hybrid engines to raise fleetwide fuel economy.

Moreover, the NAS analysis did not project what was possible over the long run or cost-effective from an environmental or societal viewpoint, and instead focused only on what was next-dollar “efficient” in narrow, consumer-defined economic terms. Many vehicles that were considerably more fuel efficient than those considered optimal by the NAS panel would still be cheaper, over the life of the vehicle, than the vehicles in today’s fleet they would replace.<sup>44</sup> Phasing in a new fleet fuel economy of 40 mpg would save an estimated 2 million barrels a day by 2012, or more oil than we currently import from both

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<sup>42</sup> National Research Council, 3-24.

<sup>43</sup> Compare Bradsher, Keith, “A Panel Backed by Bush Urges Higher Fuel Efficiency For Cars,” *The New York Times*, July 17, 2001 with Bradsher, Keith, “Panel Tones Down Report on Fuel Economy Increases,” *The New York Times*, July 27, 2001; Bradsher, Keith, “Report on Fuel Economy is Less Optimistic in Final Form,” *The New York Times*, July 31, 2001; and Jeffrey Ball, “Estimates Are Cut for SUV, Truck Fuel Efficiency,” *Wall Street Journal*, January 17, 2002. My letter protesting the NAS revisions of their report in response to this industry pressure is attached to this testimony.

<sup>44</sup> David Friedman, Union of Concerned Scientists Testimony before the Senate Committee on Commerce, Science, and Transportation, December 6, 2002, Washington, DC. Vehicles where an additional dollar spent on the sticker price did not result in an additional dollar of gasoline savings were excluded from consideration by the NAS. The UCS rejects this approach in favor of one which includes all vehicles that are cheaper over their lifetimes than the vehicles they replace.

Saudi Arabia and Kuwait. America would take a giant step toward untying our hands on foreign policy and enriching our environmental future by implementing this standard.

*Testing procedures must be made more accurate*

When CAFE was first implemented in 1978, the testing procedures used by the Environmental Protection Agency (EPA) predicted real world fuel economy performance within a margin of 3 percent. Currently, the tests predict performance within a 17 percent margin of error.<sup>45</sup> This is unacceptable. The overstated values that emerge from these tests are used to calculate a manufacturer's fleetwide fuel economy to determine whether or not they are meeting the CAFE target. Congress should require the EPA to issue a rulemaking that adjusts its testing procedures in order to narrow the gap between real-world fuel economy performance and tested performance to below a 10 percent margin of error within five years after the initiation of new CAFE standards, and below a 5 percent margin of error after 10 years. Adjusting these procedures would improve real world fuel economy, because companies would be performing to the standard, rather than to 83 percent of the requirement. It would also give Americans an accurate yardstick by which to judge our progress against our fuel reduction goals.

*End the dual-fuel credit program*

The dual fuel credit program is an embarrassing waste of taxpayer dollars and is a prime example of corporate welfare. It should be eliminated. Under this program, manufacturers are rewarded for building vehicles that could theoretically run on an

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<sup>45</sup> Friedman 8.

alternative fuel (including, but not limited to, ethanol and other alcohol-based fuels), though only 1 percent of the miles driven in these vehicles are ever powered by such a fuel.<sup>46</sup> Consequently, manufacturers are able to build vehicles that emit more carbon dioxide than they otherwise would, simply by making cheap modifications to their engines that subsequently go unutilized. The result: US gasoline consumption increased by 473 million gallons in 2000 because of this program.<sup>47</sup> The cost of building an infrastructure to support alternative fuels would far outstrip the tiny benefits in emissions reduction we could achieve through its use.

Tellingly, H.R. 4, introduced by Billy Tauzin (R-LA), which extends the dual-fuel credit program, also extends by four years the deadline by which the Secretary of Transportation must report on the effectiveness of the program.<sup>48</sup> No manufacturer even attempted to offer a reasonable defense of this program in their testimony of December 6<sup>th</sup>, 2001, suggesting that even its beneficiaries understand they are getting something for nothing. The NAS condemned the program as having had “a negative effect on fuel economy.”<sup>49</sup>

*Eliminate the carryback provision in the CAFE credits system*

Today, if a manufacturer fails to meet its CAFE requirement, it can submit a plan for improving vehicle fleet efficiency in three future years and then earn credits in those years that will negate the earlier year’s delinquency. This loophole, the so-called

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<sup>46</sup> Ethanol is sold in only 108 of the nation’s 178,000 service stations. Keith Bradsher, “With Loophole, Carmakers Post Mileage Gain,” *The New York Times*, June 2, 2000.

<sup>47</sup> Keith Bradsher, “Ethanol Plan Fails to Reduce Use of Gasoline,” *New York Times*, June 21, 2001, A1.

<sup>48</sup> HR 4, “Securing America’s Future Energy Act of 2001,” Section 203.

“carryback” provision, invites abuse and dishonesty by the manufacturers by effectively delaying the deadline by which they must meet their fuel economy targets.

Consequently, domestic manufacturers never pay any fines, and it is difficult to tell from year to year which companies are actually in compliance. In fact, no member of the Big Three domestic manufacturer group has ever paid a fine under the CAFE system, though foreign manufacturers have paid fines of as much as \$26 million.<sup>50</sup>

In order to simplify this system, Congress should amend 49 USC 32903(a)(1) to eliminate the carryback provisions. Retaining the “carryforward” provisions at 49 USC 32903(a)(2) is desirable. These provisions allow manufacturers to apply credits earned in the present year to any of the three following years, rewarding them for exceeding their mandated CAFE performance.

*The preemption provision in the CAFE regulations should be clarified so it does not preclude state-run “feebate” programs*

There is some evidence, as expressed in the NAS report, that a feebate program, wherein manufacturers (and consumers) are rewarded for selling cars that are more fuel efficient than CAFE requires, would produce benefits beyond a straightforward CAFE system.

While Public Citizen does not advocate implementing this program on a national level due to the large number of unknowns involved, we believe there is enough potential merit in such a system that states should be allowed to experiment with it. Currently, the preemption clause at 49 USC 32919 rules out this possibility, thereby preventing useful experimentation. Congress should pass language that specifically excludes these

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<sup>49</sup> National Research Council, 6-2.

programs from preemption, so long as the program only rewards manufacturers for selling vehicles with tested fuel economies at or above the applicable CAFE standard in the year they are manufactured.

## **V. REAPING THE BENEFITS OF SOLID ENERGY, SAFETY AND ENVIRONMENTAL PLANNING**

### *Improving fuel economy benefits the American economy in both the short and long run*

Automobile manufacturers have argued that improving fuel economy will cripple their ability to do business by preventing them from giving the customer what she wants.

They argue, further, that because the automobile industry is so critical to the health of the American economy it would be destructive to the economy as a whole if Congress were to prescribe new fuel economy standards. Their conclusion shortchanges their own talented engineers and runs contrary to economic history.

### *Reducing dependence on oil will protect our economic stability and growth*

Unstable oil and gas prices destabilize the American economy. Each of the three major oil price spikes of the last 30 years (1973-74, 1979-80, and 1990-91) was followed by an economic recession in the United States. Because so much of our oil must be imported, we are at the mercy of OPEC and foreign governments should they choose to act to rapidly raise oil prices as they did two years ago. Our economy, as it is currently structured, requires the importation of over \$100 billion dollars of crude oil and petroleum products each year, which accounts for 29 percent of our trade deficit and

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<sup>50</sup> National Highway Traffic Safety Administration, "Summary of CAFE Fines Collected," Jan. 18, 2002.

totals \$378 for every man, woman, and child in the U.S.<sup>51</sup> American spending on gasoline consumption - \$186 billion dollars in 2000 – renders consumers vulnerable to sudden price spikes over which they have no control.<sup>52</sup>

The economic cost of U.S. oil dependence over the past 30 years has been estimated at \$7 trillion dollars of present value<sup>53</sup> – an amount approximately equal to the combined 2000 Gross Domestic Product (GDP) of France, the United Kingdom, Germany and India.<sup>54</sup> If we were to reduce our use of oil substantially, this wealth would remain within the United States and we would have greater control over economic growth.

*Economic health and environmental health are closely linked*

The long-run economic health of the United States depends on the stability of our climate. Our contributions to global warming through vehicle use are substantial. Vehicle carbon dioxide emissions account for nearly a quarter of total U.S. emissions, and are a whopping 5 percent of the global total. The catastrophic environmental effects of continued warming have been well documented – I will cite just a few. If our carbon dioxide use continues unabated, we can expect:

- Epidemics of tropical diseases like malaria and encephalitis in the United States;
- Extreme heat waves that will kill hundreds and devastate agriculture;
- Uncontrolled flooding of our coastal cities;
- Extreme weather patterns, resulting in massive property damage and insurance costs.<sup>55</sup>

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<sup>51</sup> Natural Resources Defense Council and Union of Concerned Scientists, *Dangerous Addiction* (New York, NY 2002) 10.

<sup>52</sup> Union of Concerned Scientists, *Drilling in Detroit*, Table 1.

<sup>53</sup> David Greene and Nataliya Tishchishyna, “Costs of Oil Dependence: A 2000 Update,” (Oak Ridge, TN: Oak Ridge national Laboratory May 2000) 21.

<sup>54</sup> CIA World Factbook: <http://www.cia.gov/cia/publications/factbook>.

<sup>55</sup> Sierra Club, “Global Warming Impacts,” <http://www.sierraclub.org/globalwarming/health/disease.asp>

We must treat global warming as a threat to our long-term security and wealth. The actions we can take now to reduce emissions will have positive impacts for generations to come.

*Weak fuel economy standards hamper U.S. competitiveness*

While some foreign auto manufacturers invested considerable money and human capital and built safe, affordable, fuel-efficient vehicles of all sizes, domestic auto manufacturers secured appropriations riders barring increases in fuel economy for the last seven years. By stifling fuel economy improvements, U.S. manufacturers looked to Congress to protect them from competing, rather than using their resources to build socially responsible vehicles.

Each year that goes by without an increase in CAFE standards represents another year of backsliding by the Big Three. As just one manifestation of this trend, Honda and Toyota released vehicles powered by hybrid engines in the United States in 1999 and 2000 respectively, while Detroit (led by Ford) will not release its first hybrid vehicle until 2003.<sup>56</sup> If U.S. auto companies are to remain competitive, they must have the blinders of environmental and economic reality removed and join the rest of the globe in producing fuel efficient and safe vehicles.

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<sup>56</sup> Frank Swoboda and Dina ElBoghdady, "U.S. Backs Fuel-Cell Cars," *Washington Post*, 10 January 2002, E1.

*Beware the auto industry tactic of promoting future “SuperCars” to avoid new CAFE standards now*

The Bush Administration recently announced that it plans to abandon the Clinton-initiated Partnership for a New Generation of Vehicles (PNGV) program, on which \$1.5 billion was spent over 8 years. This program was the excuse for failing to increase fuel economy in the early Clinton years. Now, in league with the auto industry, President Bush is vowing to commit large sums of federal money, spaced out over a decade, to research fuel-cell powered automobiles, for another long-term project that will, it is hoped by industry, supplant feasible fuel economy standards today.

Fuel cell cars would theoretically produce no carbon dioxide emissions from the exhaust system of the car (though manufacturing their fuel would still require upstream emissions).<sup>57</sup> While fuel cells hold tremendous potential for improving the environmental impact of America’s vehicle fleet, the timing and political impact of this recent announcement should be understood as yet another industry delay tactic.

Although the PNGV program was flawed, there is little evidence that these flaws are being corrected in the proposed design for the proposed Bush administration fuel cell program, so this new program may also have limited impact on advances in the vehicle fleet. Similar risks attend this new program as plagued the old: the PNGV program was overly controlled by the auto industry itself; it shut innovative suppliers out of the process; it focused on long-term goals rather than achievable improvements; it relied on competitors sharing research with one another, inherently limiting its usefulness; and it

failed to set any mid-point goals so that the program could be evaluated. It is not coincidental that President Bush is scuttling the program just two years before its only goal (an 80-mpg passenger vehicle) was to have been achieved.

The recently announced program to fund fuel cell research is based on the same premises as the PNGV program. The proposed program will do nothing to improve fuel economy in the short run, and may do very little to improve it in the long run. Mass production of fuel cell powered vehicles is many years away.<sup>58</sup> There are a number of technical hurdles that must be cleared before fuel cells are powerful, safe, and compact enough to be used in passenger vehicles. There is also a strong possibility that this program will be dominated by the manufacturers and their interests in the way that the PNGV program was, and therefore fail to make much material progress. Most importantly, without a federal mandate for the auto industry to improve fuel economy, there is no guarantee that manufacturers will implement any of the developed technology. This program is clearly not a substitute for raising CAFE requirements, although its long-term research potential is certainly important.

*In many ways, the car of the future was built in 1978*

If automakers truly cared about producing socially responsible vehicles they need look no further than the Research Safety Vehicle (RSV), designed and assembled between 1975 and 1978, for ideas on how to improve both safety and fuel economy. The RSV was built in the late 1970s under a NHTSA contract with Don Friedman, a former GM engineer

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<sup>57</sup> Id.

<sup>58</sup> Union of Concerned Scientists, *Dangerous Addiction*, 26.

who won a competition for the contract against much larger companies. The finished vehicle weighed 2,450 lbs., got 32 miles to the gallon in 1978, and safely protected its occupant in crash tests.<sup>59</sup> The vehicle was able to protect its occupants in a full frontal barrier impact at 50 miles per hour (mph), and in side impact and rollover crashes at 40 mph, without significant risk of occupant injury. Current statements from Friedman indicate that, if equipped with the hybrid engine technology currently being used in the Honda Insight, this vehicle would achieve a fuel economy today of between 50 and 60 mpg.

**VI. CONCLUSION: UPGRADING FUEL ECONOMY IS A WIN-WIN FOR CONGRESS, PUBLIC SAFETY AND THE ECONOMY**

At this moment, Congress has an historic opportunity to require a more socially responsible vehicle. Public opinion strongly supports higher fuel efficiency, and our environment, national, and economic security demand it. Improvements in fuel economy, vehicle rollover crashworthiness, and reductions in vehicle aggressivity will save both gas and human life. Congress should jump at this win-win opportunity with a definitive schedule for the phase-in of vehicle fuel economy standards up to 40 mpg for a combined fleet of cars and trucks.

Thank you so much for the opportunity to speak with you today. I look forward answering any questions you may have.

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<sup>59</sup> Minicars Inc, Research Safety Vehicle promotional material (Santa Barbara, CA 1978).