Consumer Federation of America

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THE SENATE COMMERCE COMMITTEE BILL IS MUCH BETTER FOR CONSUMERS AND THE NATION THAN THE AUTOMOBILE INDUSTRY PROPOSAL

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Over the past two years, the Consumer Federation of America has issued a series of analyses examining the consumer pocketbook impact and national cost-benefit of various approaches to increasing fuel economy of the light duty vehicle fleet (cars, pick-ups, SUVs and vans).[1] With specific proposals now before the Senate, this research note adapts those prior analyses to the specific choices on which the Senate will soon vote.

ESTIMATING THE COST AND BENEFIT OF ALTERNATIVE CAFE INCREASES

The core of the Senate Energy Bill (H.R. 6) is a compromise proposal reported out the Commerce Committee bill to increase fuel economy by ten miles-per-gallon in ten years ("10-in-10"). The amendment that is being promoted by the automobile industry would lower the target and go much slower – taking five years longer to achieve about a 25 percent less increase in fuel economy.

For comparison purposes, CFA has relied on the National Highway Traffic Safety Administration (NHTSA) preliminary study of various increases in CAFE standards because it provides a good base of physical quantities for analysis for the period until 2017.[2] By physical

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[1] *50 by 2030: Why $3.00 Gasoline Makes the 50 Miles Per Gallon Car Feasible, Affordable, and Economic* (May 2006), available at:
http://www.consumerfed.org/pdfs/50_by_2030.pdf
A Blueprint For Energy Security: Addressing Consumer Concerns About Gasoline Prices and Supplies by Reducing Consumption and Imports (May 2006), available at:
http://www.consumerfed.org/pdfs/Energy_Blueprint.pdf
A Consumer Pocketbook and National Cost-Benefit Analysis of "10 in 10:" Increasing CAFE Standards 10 Miles Per Gallon Over Ten Years Will Save Consumers Money and Help Cure the Nation's Oil Addiction (May 2007), available at:
http://www.consumerfed.org/pdfs/CFA_Cost-Benefit_Analysis_of_10_in_10,_June_07.pdf
Rural Households Benefit More From Increases In Fuel Economy (June 2007), available at:
http://www.consumerfed.org/pdfs/Rural_Benefits_of_CAFE.pdf

[2] National Highway Traffic Safety Administration, *CAFE Compliance and Effects Modeling System,* Documentation (Draft, 5/26/06).

quantities, we mean the number of dollars that would have to be invested and the resulting gallons of gasoline that would be saved. Modeling mandatory percentage increases in fuel economy – at 1%, 2%, 3%, 4%, and 5%, NHTSA identified the least-cost technologies necessary to achieve the target increase and calculated the total investment necessary to accomplish that goal. This is the physical cost of increased fuel efficiency. Estimated gasoline savings can be derived directly from the increase in fuel economy, with one exception. NHTSA assumed that people would drive a lot more because of the greater fuel economy of their vehicles. CFA's estimate is that NHTSA assumed such a "rebound effect" that is twice as large as it should be. However, for this analysis we accept NHTSA's estimate of gasoline savings.

NHTSA's real mischief comes when it values gasoline savings. NHTSA assumed a gasoline price of $1.50 per gallon, which is absurdly low. It added a social cost of only $.11 per gallon for externalities, like national security and global warming, which is irresponsibly low. It used a 7 percent discount rate, which is debatable. When NHTSA is in charge of setting standards, these assumptions are catastrophic. By severely undervaluing fuel savings, NHTSA concludes that only low standards are cost-justified. That is why CFA has argued that Congress should take away NHTSA's discretion to do a cost-benefit analysis, or at least give guidance on these economic assumptions.

However, because NHTSA's CAFE modeling exercise was driven by *mandated* percentage savings, these unreasonable assumptions did not affect the physical quantities. NHTSA had to find the least-cost technologies to accomplish the goal. Its cost-benefit calculations were distorted by the unreasonable assumptions, not its physical analysis. Once we have these physical quantities, we can value them in a reasonable manner. For the purpose of our analysis, we used NHTSA's capital costs and gasoline savings, but we valued the gasoline savings at $3 per gallon.

Unlike the NHTSA analyses, the alternatives being considered by the Senate are not simple percentage improvements. The Senate Commerce Committee draft targets a 10 mile-per-gallon improvement in 10 years. The automobile industry proposal specifies mileage targets – 36 for cars by 2022, 30 for trucks by 2025. To assess these alternatives, we have interpolated the NHTSA results to approximate the policy alternatives being debated. .

For example, the policy of "10 in 10" falls between a 3 percent annual reduction and a 4 percent annual reduction. While it could be argued that NHTSA would use a different cost-benefit analysis for a "10-in-10" mandate, we believe that NHTSA's current analysis brackets the likely strategies auto manufacturers would follow.

Given that the current new vehicle fleet averages about 25 miles per gallon, a one mile per gallon increase represents a 4 percent improvement. As the average of the fleet rises, a one mile per gallon increase declines on a percentage basis. By the tenth year, it is slightly less than a 3 percent improvement. Exhibit 1 shows that "10-in-10" falls squarely between a 3% and 4% annual improvement. To interpolate a "10-in-10" scenario, we scaled both the physical costs and physical benefits up from 3 percent and down from 4 percent and took the average of the two.

Exhibit 1:

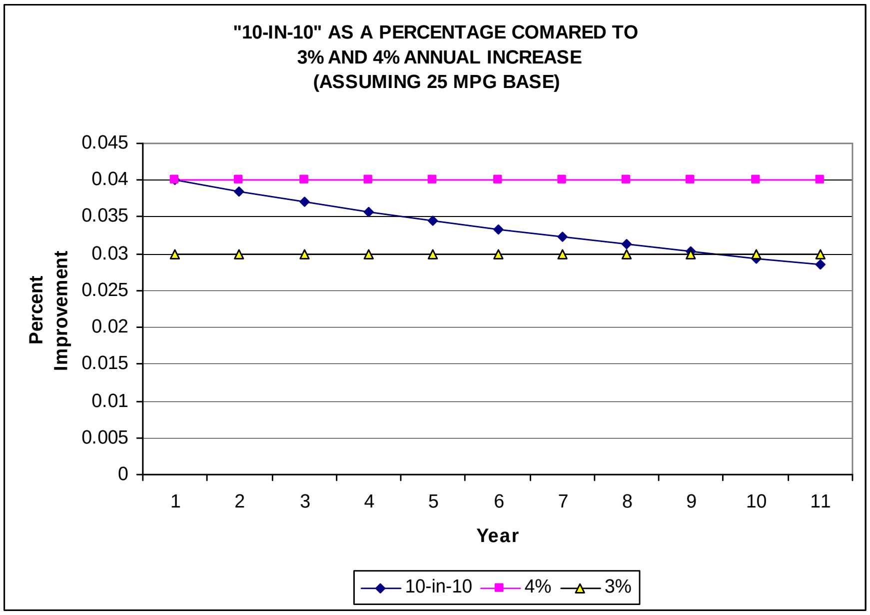
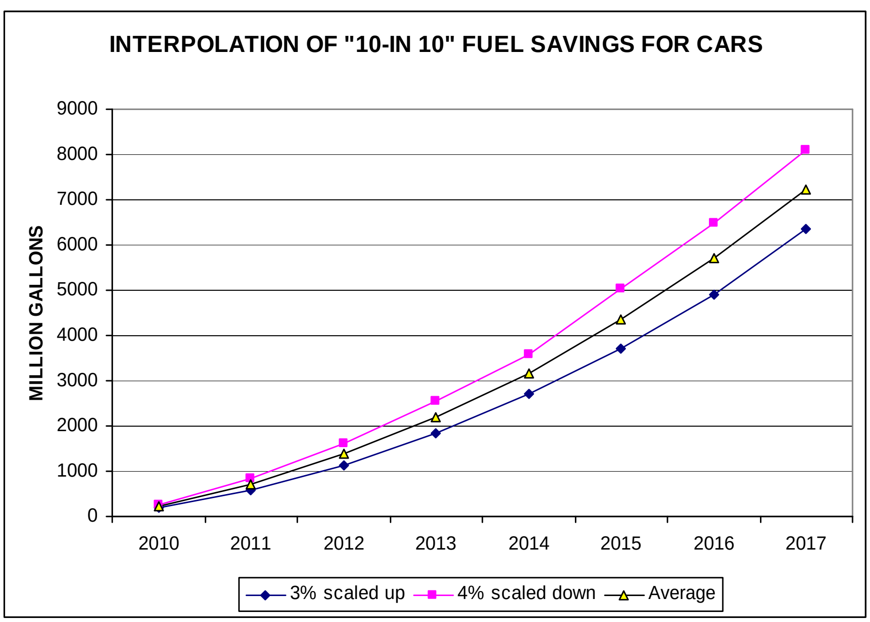


Exhibit 2 presents an example of the interpolation, showing the fuel savings results for cars, which had the largest difference between the two scaling scenarios. Still, the results are quite close. We believe they would be a good representation of the technology scenarios that would be chosen. Therefore, for purposes of examining the "10-in-10" scenario we estimate the cost and benefit as the average of the scaled results.

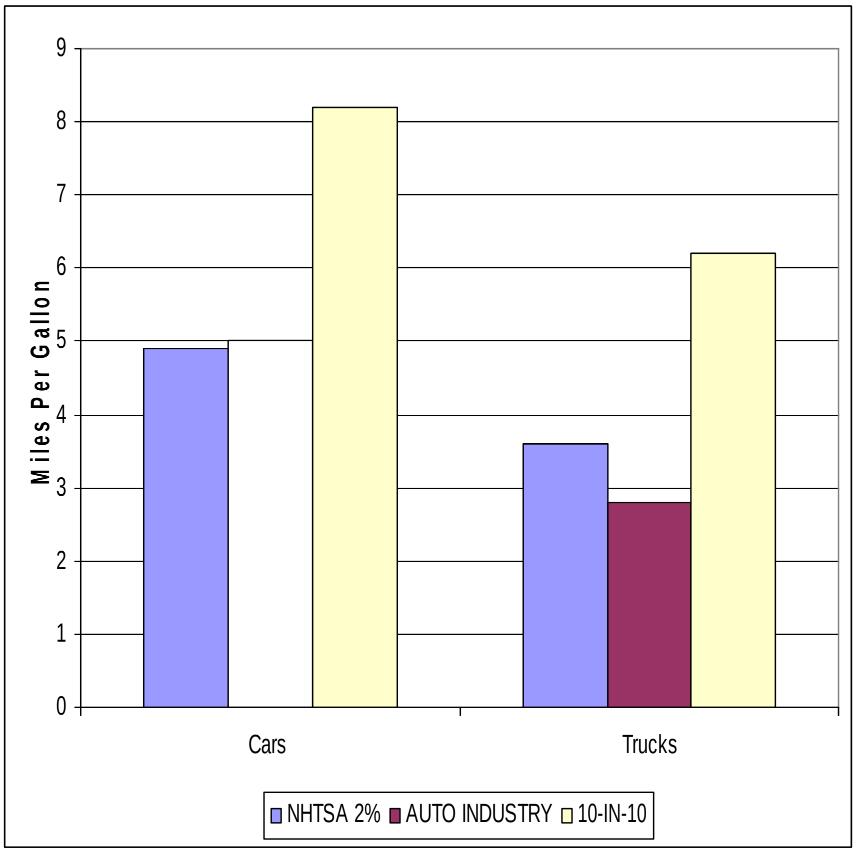
Exhibit 2



Source: See text for derivation of estimates.

The automobile industry alternative provides benchmarks for fuel economy over a decade and a half. The industry strategy is to go low and slow – to pick a much smaller improvement and take a lot longer to reach the goal. In the context of the NHTSA analysis, the 2 percent scenario appears to be quite close to the automobile industry proposal (see Exhibit 3). In the automobile manufacturers' approach cars are slightly above the NHTSA scenario, while trucks are below it. "10-in-10" requires much larger improvements. We use NHTSA's 2 percent scenario as a generous approximation of the automobile industry proposal for 2017.

Exhibit 3: Comparing Improvements in Fuel Economy: 2017



Source: See text for derivation of estimates.

NHTSA's 2 percent analysis does not take into account the extension of the flexible fuel vehicle (FFV) loophole, which allows automakers to meet up to 1.2 mpg of their fuel economy requirements with FFVs under the assumption that they run on alternative fuels half the time, when, in fact, they rarely do. The automobile industry proposal gives incentives for FFVs. The actual increase in mileage under the automobile industry proposal could be 10% to 20% lower, when the FFV loophole is taken into account.

These analyses accept the targets that each of the bills adopts for the near term. For the longer term beyond the NHTSA analysis, we use the explicit and implicit growth rates in the alternative proposals. The Commerce Committee bill, as reported to the floor, specifies 4 percent per year increases in fuel economy after the initial "10-in-10." The automobile industry alternative does not. For analysis out to 2025, we assume that the Commerce Committee targets are achieved and the automobile industry alternative continues to achieve the same rate of progress as its initial period for cars.

RESULTS

Consumer Pocketbook Analysis of "10-in-10"

We have specifically analyzed the "10-in-10" approach and find that the increase in the cost of vehicles – the monthly loan payment – is less than the fuel savings consumers enjoy. Moreover, consumers in rural areas will derive an even bigger benefit because

- They are more likely to have a vehicle.[3]
- They drive 15% more miles (28,397 v. 24,674).[4]
- They get 6% fewer miles per gallon (19.70 v. 20.91).[5]
- They consume 21% more gasoline per year (1,437 v. 1,180).[6]
- They spend 20% more on gasoline ($2,683 v. $2,239).[7]
- In spite of the popularity of SUVs, rural households still are more likely to own vehicles that fall into the category of pick-ups, SUVs and vans (as shown in Exhibit 4).
- Trucks get 30% fewer miles per gallon (16.2 v. 22).[8]
- Trucks are kept on the road 11% longer (10.1 years v. 9 years).[9]
- Over three-quarter of all pick-ups, SUVs and vans are used for personal transportation.[10]

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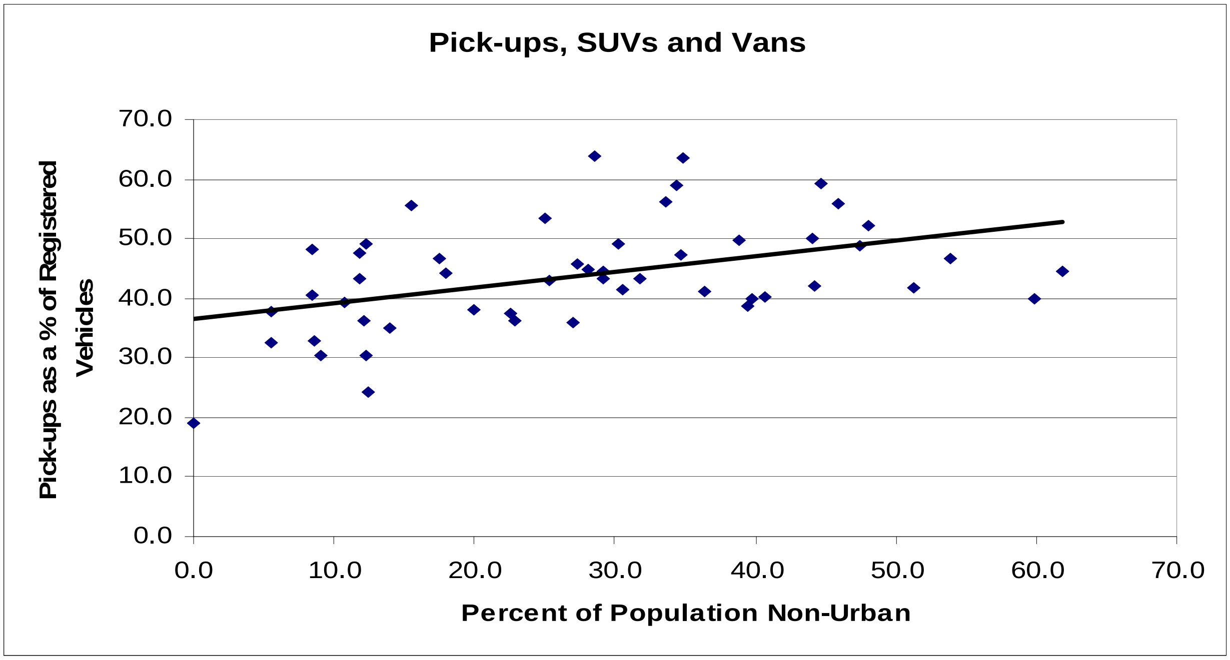
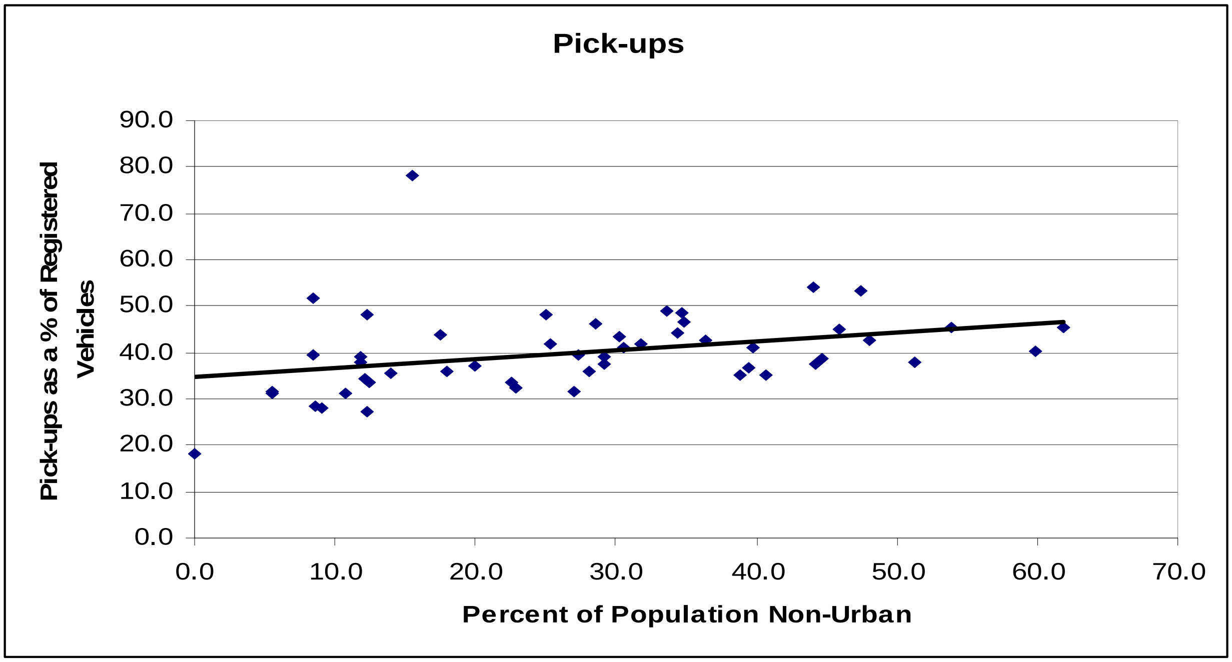
[3] *Summary of Travel Trends: 2001 National Household Travel Survey*, December 2004, p. 36.
[4] Economic Research Service, U.S. Department of Agriculture, *Amber Waves of Grain,* April 2006.
[5] Id.
[6] Id.
[7] U.S. Bureau of Labor Statistics, Consumer *Expenditure Survey,* various years, 2005 adjusted to 2006 with Energy Information Administration, Gasoline Price database.
[8] Energy Information Administration, *Monthly Energy Review, April 2007.*
[9] Office of Highway Policy Information, U.S. Department of Transportation, *Attributes of the U.S. Vehicle Fleet.*
[10] US Census Bureau, 2002 Economic Census: Vehicle Inventory and Use Survey (December 2004) Table a.

Exhibit 4: Place of Residence and Ownership of Pick-ups, SUVs and Vans





Sources: US Census Bureau, *Statistical Abstract of the United States: 2004-2005*, Tables 25 and 1082 and *2002 Economic Census: Vehicle Inventory and Use Survey* (December 2004) Table a.

Savings for rural households as a result of increased fuel economy are likely to be twice as large as those for urban households. The longer the household holds onto the car, the greater the savings – another factor that is likely to benefit rural households more (see Exhibit 5).

Exhibit 5:
Consumer Analysis of 35 mpg Vehicles: Rural Households Save Twice as Much

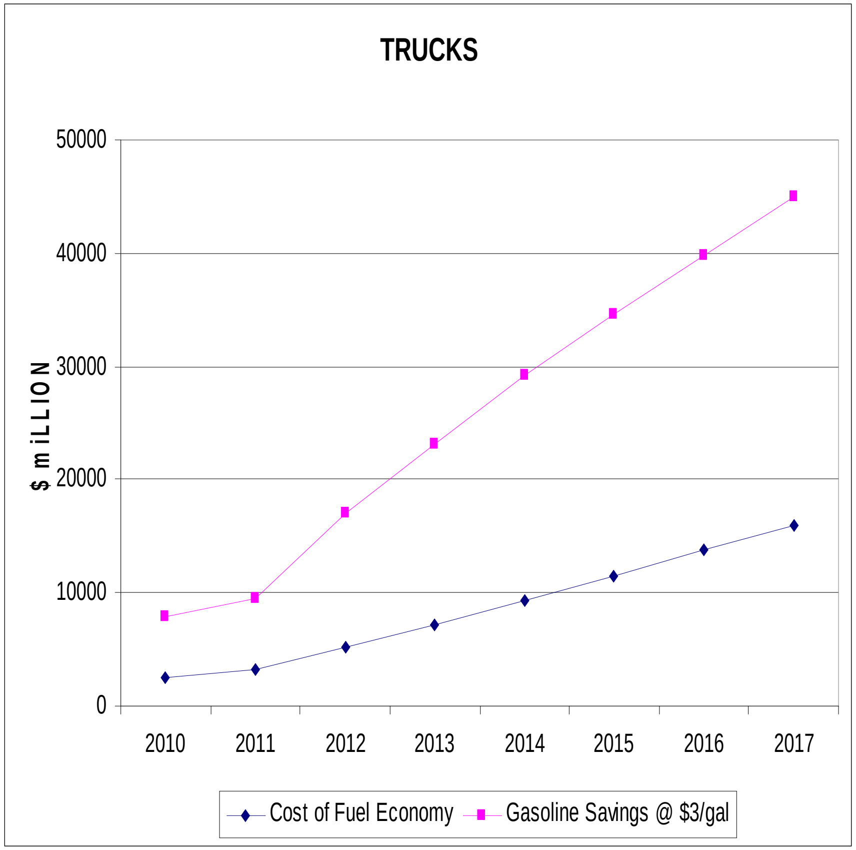
	All Households	**Rural Households**
Loan Payment Increase	$1,909	$1,909
Life of Loan (5 years)		
Fuel Cost Savings	$2,487	$2,984
Net Savings	$578	$1,075
Life of Vehicle (10 years)		
Fuel Cost Savings	$3,480	$4,176
Net Savings	$991	$2,267

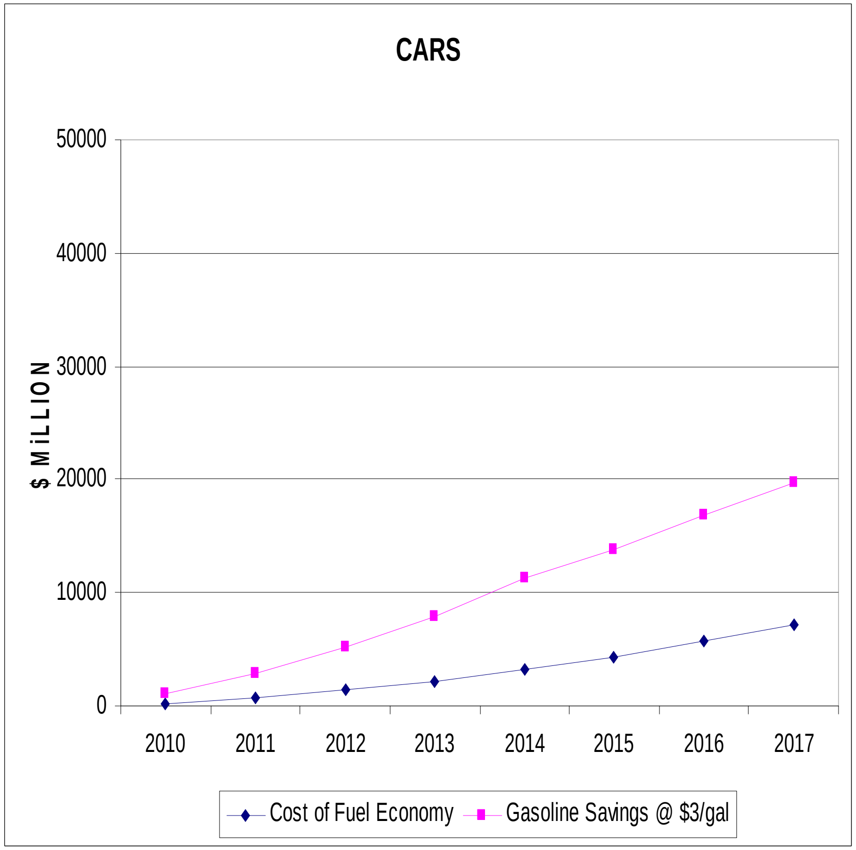
Consumer Federation of America, *A Consumer Pocketbook and National Cost-Benefit Analysis of "10 in 10."* Assumptions: $3 per gallon, constant real dollars; 5-year, 7% loan; an average $1,600 per vehicle to achieve 35 mpg. Rural household gasoline expenditures exceed urban households by 20%.

Cars and Trucks in "10 in 10"

We have also analyzed improvements in cars and trucks. We find that both the costs and benefits for trucks are higher. The benefit of increasing fuel efficiency for trucks is about two and a half times as large (see Exhibit 6).

Exhibit 6: Cost-Benefit of Cars and Trucks in "10-in-10"





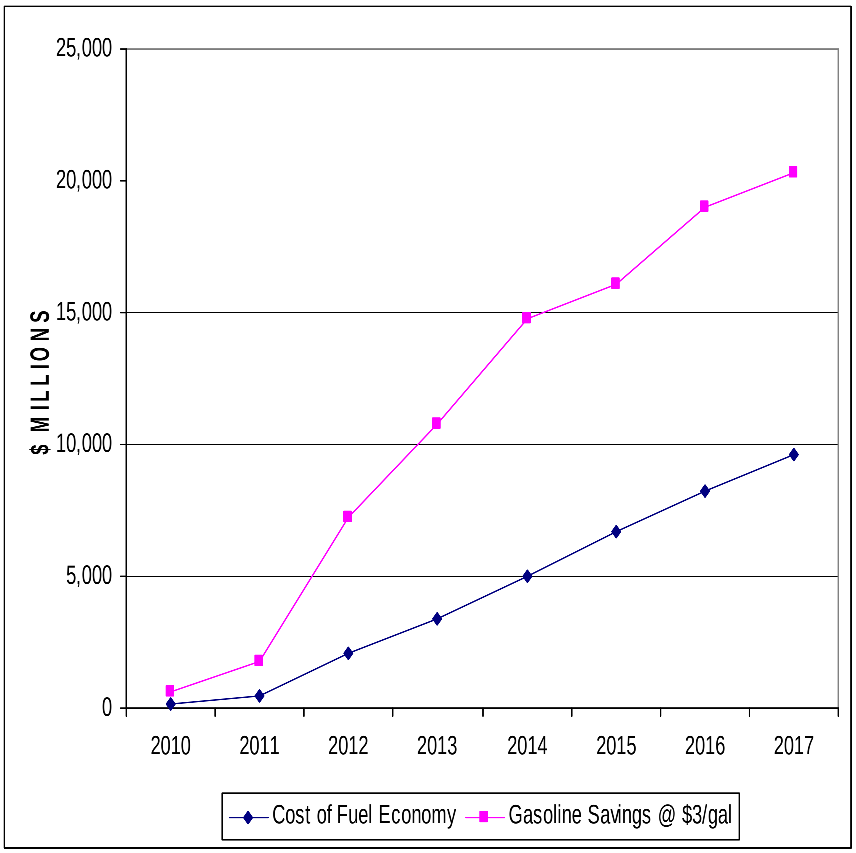
Sources: National Highway Traffic Safety Administration, CAFE Compliance and Effects Modeling System, Documentation (Draft, 5/26/06). Calculated as the number of gallons saved multiplied by $3/gallon. The number of gallons saved includes NHTSA's excessively large rebound effect, which assumes that 20 percent of the simple savings are consumed by increased driving. "10 in 10" results are interpolated from NHTSA's 4% and 3%.

Senate Commerce Compared to the Automobile Industry Proposal

Comparing the automobile manufacturer proposal (modeled as NHTSA's 2 percent scenario) to the "10-in-10" proposal, we find that the larger improvements in fuel economy in the Commerce Committee bill are highly cost justified (see Exhibit 7). The automobile manufacturers' proposal leaves about 30 billion gallons of oil on the table, with a value of $90 billion, at $3 per gallon, at an investment cost of about $35 billion. Taking the FFV loophole into account, the amount of savings foregone would be 10 to 20 billion gallons. Failure to capture 30 to 50 billion gallons of gasoline savings at a cost of $35 billion is imprudent from the consumer point of view and irresponsible from the national point of view.

Exhibit 7: The Additional Cost and Savings of "10-in 10" and

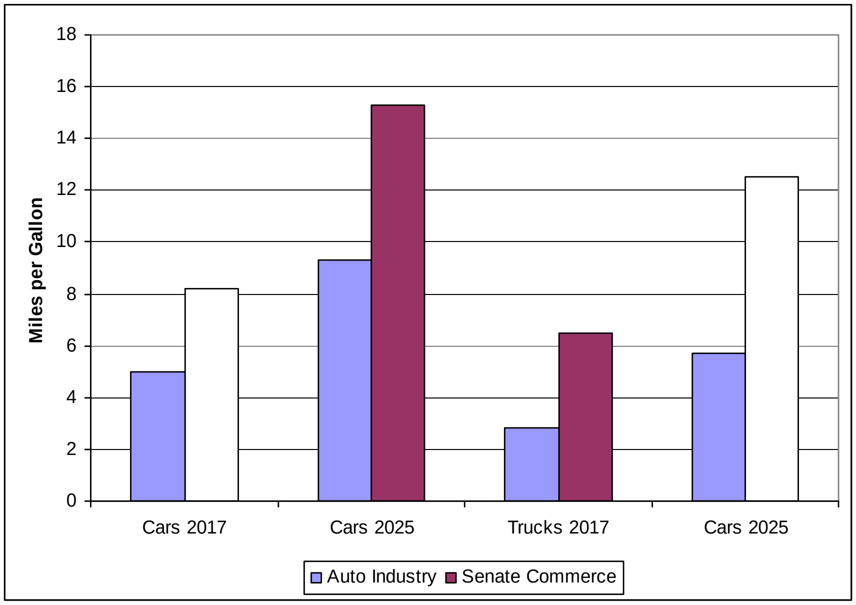
the Automobile Industry Proposal



Source: See text for derivation of estimates.

The "low and slow" approach of the automobile industry takes an increasing toll on fuel economy improvements over time (see Exhibit 8). By 2025, we conclude that the automobile industry approach would achieve less than half of the gasoline savings of the Senate Commerce Committee bill.

Exhibit 8: Senate Commerce Compared to Automobile Industry Proposal: Long Term with FFV Loophole Included



Source: See text for derivation of estimates.

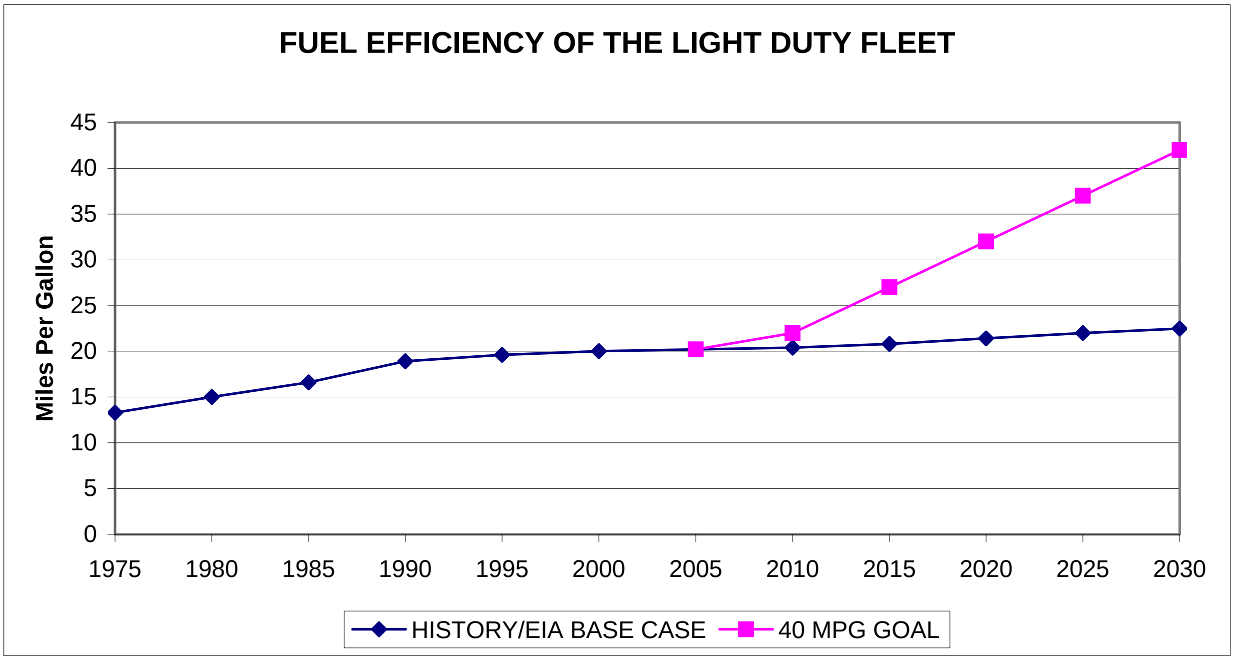
CONCLUSION

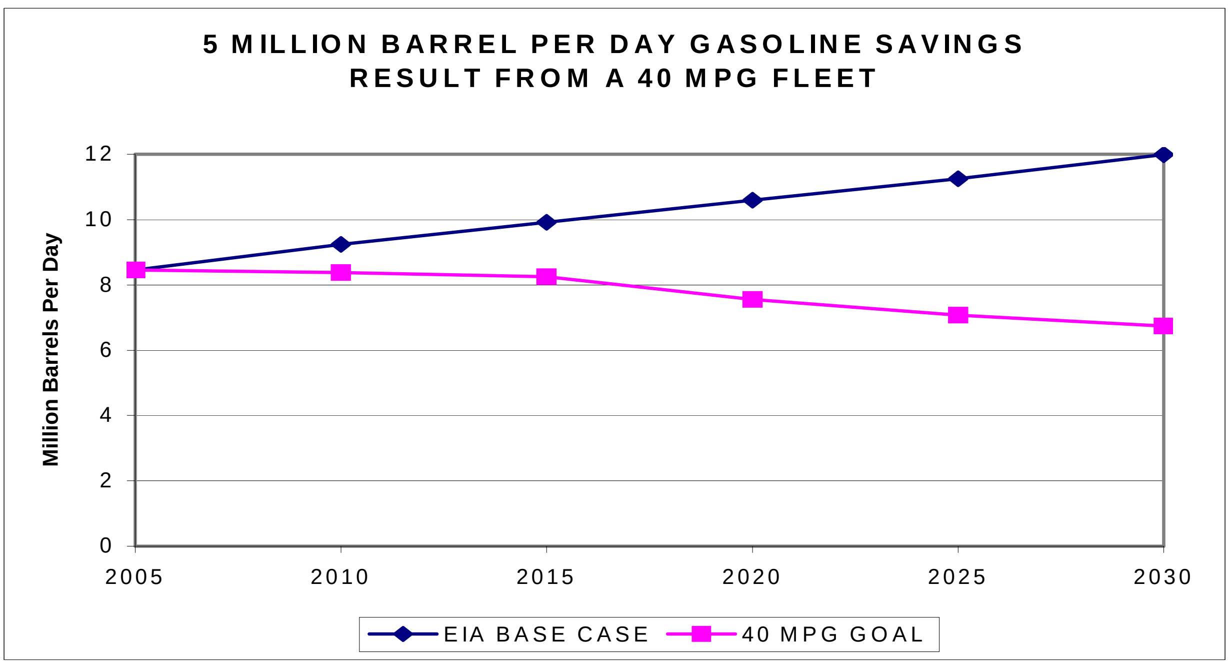
The failure to achieve these savings hurts consumers and the nation. Our analysis shows that promoting significantly greater fuel economy passes both a consumer pocketbook and a national cost-benefit test with flying colors.

We have also analyzed the costs and benefits of continuing on the Commerce Committee path to increased fuel economy. We analyzed achieving 50 mpg for new vehicles by 2030, which is close to the path that the Senate Commerce bill charts. While new cars rise to 50 mpg, the overall fleet average (new and used cars) would rise to 40 mpg, just about double where we are today. The resulting reduction in gasoline consumption of well over 5 million barrels a day would have a profound effect on our nation's oil and import dependence (see Exhibit 9). "This is a reduction of just under 20 percent of total consumption and over 30 percent of imports."[11] This is the type of aggressive yet responsible policy we need to seriously address the nation's oil addiction. Anything less does a disservice to consumers and the nation.

[11] *50 by 2030: Why $3.00 Gasoline Makes the 50 Miles Per Gallon Car Feasible, Affordable, and Economic* (May 2006), p. 18

Exhibit 9: The Impact of a 40+ MPG Increase in Total Fleet Fuel Economy





Source: *50 by 2030: Why $3.00 Gasoline Makes the 50 Miles Per Gallon Car Feasible, Affordable, and Economic* (May 2006), p. 19.