

For reasons discussed below, we have estimated the incremental costs associated either with increasing CAFE from an average fuel economy standard of 20.7 mpg, or from the manufacturer's baseline, if over 20.7 mpg, to the newly established standard. We have accounted for incremental benefits the same way, and thereby have treated the incremental costs and the incremental benefits in the same manner.

5. Survival Rates by Age of Vehicle; Vehicle Miles Traveled

The Alliance and Ford commented that the agency should recalculate costs using only a 25-year useful life, rather than a 30-year useful life. Ford stated that the assumed vehicle miles travel (VMT) growth rate of 1.8 percent is too high in comparison to recent experience and claimed that VMT instead has remained stable. Public interest groups criticized the agency for its use of a VMT baseline that they asserted was too low. Union of Concerned Scientists argued that NHTSA's estimate of VMT is low compared with other studies and underestimates the consumer benefits of fuel economy improvements. Union of Concerned Scientists cited survey data and stated that first year travel is over 15,000 miles and does not lower to 12,000 miles for several years.

The agency's analysis in the NPRM used a 25-year useful life. Data reflecting a previous assumption of a 30-year lifetime was inadvertently included in a spreadsheet placed in the docket, but these data were not used in the agency's calculations. We have decided to calculate VMT based on the Update of Fleet Characterization Data for Use in EPA's MOBILE6 program, EPA's most recent mobile source emission model.

6. Value of Externalities

Citing various studies, the Alliance and General Motors asserted that NHTSA should not include any monopsony or supply disruption externality in its benefit analysis. The Alliance argued that the agency failed to address other externalities associated with an increase in the CAFE standard, such as increased congestion and highway fatalities. The Mercatus Center commented that the link between energy security and fuel economy is not well known, but suggested that it is likely close to zero.

General Motors commented that increased travel resulting from the rebound effect would result in increased traffic crashes, injuries, and fatalities. Lutter and Kravitz commented that the economic analysis should include the external costs of increased accidents caused by additional driving due to the

rebound effect and stated that estimates of marginal external accident costs range from 6 to 20 cents per vehicle mile.

The Alliance, General Motors, and Lutter and Kravitz commented that the agency's economic analysis should include the external costs of increased congestion caused by additional driving due to the rebound effect. Lutter and Kravitz stated that the economic analysis should use estimates of congestion costs ranging from at least 6 to 10 cents per vehicle-mile.

As discussed below, we have added costs attributable to increased congestion, noise and crashes resulting from the additional exposure associated with the rebound effect. We have also monetized the benefits associated with the time savings gained from the increase in the intervals between vehicle refuelings. We have otherwise determined that our values were consistent with the applicable literature.

7. Impact of Safety Standards on Vehicle Weight

Comments from the Alliance, General Motors, and Ford claimed that NHTSA did not consider and/or underestimated the impact of several proposed safety standards. General Motors argued that to meet future safety standards and to voluntarily implement new safety features, manufacturers might be forced to reduce vehicle weight elsewhere on the vehicle to comply with the proposed CAFE standard. As discussed below, we have considered these concerns but do not agree that companies will be forced to limit safety related systems to comply with these CAFE standards.

8. Rebound Effect

The Alliance, General Motors, and Ford urged the agency to use a value of 35 percent rather than 15 percent, with a sensitivity analysis of 20 percent to 50 percent. These commenters each based this recommendation on a recent survey article, Greening, Greene, and Difiglio (Energy Policy 28 (2000) 389–401) and on the agreement of participants in "Car Talk," a Clinton Administration dialogue on fuel economy among the auto industry, environmental organizations, think tanks, and government organizations. DaimlerChrysler seemed also to recommend a value of about 35 percent, stating, "the commonly accepted price elasticity of VMT is a negative 3.5 percent, which means that a 10 percent reduction in per mile vehicle fuel consumption actually only reduces fuel consumption by 7 percent."

The American Council for an Energy-Efficient Economy stated that it believes

that a 15 percent rebound factor might be too high, based on the agency's statement that increasing fuel economy by 10 percent will produce an estimated 8–9 percent reduction in fuel use. According to that organization, this implies an assumption that the rebound effect is between 1 percent and 12 percent.

In consideration of these comments, we have revised the estimate of the fuel economy rebound effect for light trucks used in this analysis from 15 percent to 20 percent. We recognize that the magnitude of the assumed rebound effect and the implications of any rebound effect are complex issues. NHTSA will continue to monitor relevant research for use in future CAFE rulemakings.

9. Present Value of Benefits (Including 7 Percent Discount Factor)

Both Lutter and Kravitz and the Mercatus Center argued for discount rates higher than 7 percent. Lutter and Kravitz stated that the agency should have used a rate ranging from 7.6–10 percent, the average new car finance rate during 1984–95. The Mercatus Center argued that the discount rate should be much higher (14 percent–28 percent), since fuel economy should be treated as an irreversible investment. For reasons discussed below, we have decided to use the proposed discount rate of 7 percent.

10. Impact of Higher Prices on Sales

General Motors commented that an increase in light truck prices, due to fuel economy initiatives, above competitive pricing levels would be met by a disproportionate loss in unit sales to its competition. Honda stated that most customers would be willing to pay a little extra to buy a car with higher fuel economy but would not trade fuel economy for desired features. Public Citizen and 20/20 Vision commented that surveys illustrate that consumers are willing to pay more for vehicles that have a higher fuel economy.

In response to comments, the agency has added to its analysis a discussion of impacts of higher prices of sales using a price elasticity of 1.0. The agency believes that higher light truck prices could shift some new vehicle sales from light trucks to automobiles and might also delay retirement and replacement of used vehicles. These issues are discussed more fully in the FEA.

11. Market Efficiency and Consumer Rationality

The Alliance and General Motors commented that NHTSA has consistently overestimated consumer