COMPETITIVE ENTERPRISE INSTITUTE

COMMENTS OF
THE COMPETITIVE ENTERPRISE INSTITUTE AND CONSUMER ALERT
TO THE UNITED STATES DEPARTMENT OF TRANSPORTATION,
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION,
CONCERNING ITS TECHNICAL REPORT ON VEHICLE WEIGHT, FATALITY RISK AND CRASH COMPATIBILITY

Docket No. NHTSA-2003-16318
68 FR 66,153 (Nov. 25, 2003)

The Competitive Enterprise Institute (CEI) and Consumer Alert hereby submit these comments on NHTSA's new technical report by Charles J. Kahane, *Vehicle Weight, Fatality Risk and Crash Compatibility of MY 1991-99 Passenger Cars and Light Trucks* (Oct. 2003).

BACKGROUND OF CEI AND CONSUMER ALERT

CEI is a non-profit research and advocacy organization dedicated to reducing government overregulation. Consumer Alert is a membership organization involved in protecting and expanding consumer choice in the marketplace. Both of these organizations have long been involved in CAFE and related issues. In 1989-95 they undertook a series of court challenges to NHTSA's treatment of the CAFE-safety issue. The holdings in those case are highly critical of NHTSA's treatment of the CAFE-safety issue.

CEI and Consumer Alert file these comments in light of calls by some organizations and individuals for more stringent CAFE standards and for heightened regulation of SUVs. In our view, such action is unwarranted; in fact, the new Kahane study provides support for actually *reducing* CAFE standards.

THE KAHANE REPORT PROVIDES NO BASIS FOR INCREASED REGULATION OF SUVS; IF ANYTHING, IT SUPPORTS THE OPPOSITE

There have been a number of demands for heightened regulation of SUVs, and in particular of larger SUVs, based on their alleged safety threat to passenger car occupants and others. But as NHTSA's own Federal Register announcement notes in summarizing the Kahane report, it found no significant association between overall crash fatality rates and vehicle weight for heavier LTVs. At the same time, both for lighter LTVs and for cars, fatality rates increased with reductions in weight. 68 FR 66,154. For this reason, any additional regulation-induced downsizing of either SUVs alone, or of vehicles in general, would have no beneficial safety effects. In fact, the most likely effect would be negative.

The report contained other findings that contradict SUV critics:

- It found some "surprising" safety risks for small cars, including both a "strong increase in pedestrian fatalities" and the possibility of induced risk-taking by drivers. P. x. It notes that "NHTSA research suggests that the geometry of small cars might, in fact, have

increased the risk of serious injury pedestrians (shorter hoods, more head impacts with the windshield frame)." It points out that the supposed maneuverability of small cars "might even have induced drivers to weave in traffic or take other risks they would ordinarily have avoided in a larger vehicle." Id. While the lower crashworthiness of small cars is recognized to some extent by the public, these new risks are not. In fact, for anyone who has followed media coverage of the alleged risks of large SUVs, this news about small cars is astounding;

- While SUV critics frequently claim that large SUVs are operated aggressively, the report found no such evidence. In its words, "light and heavy 4-door cars, pickup trucks and SUVs all have remarkably similar incidence of imprudent driving behavior …." P. 5.

The new Kahane report approvingly cites a number of studies by Dr. Leonard Evans on the relationship between crashworthiness and vehicle size and weight. It is noteworthy that, in a forthcoming book, Dr. Evans effectively debunks the claim that the rising popularity of SUVs has created some significant new risk to passenger car occupants. As Dr. Evans notes, if this were the case, then there would have been a increase in the proportion of fatally injured car drivers killed in two-car crashes as compared to those who died in one-car crashes. In fact, the data from 1994 onward show that this has *not* happened. In Dr. Evans' words,

> "No such trend occurred. Indeed, if there is a trend, it is in the opposite direction. The most plausible interpretation of the data … is that the SUVs posed about as high a risk to car drivers as did the cars that they replaced. In any event, the data are *inconsistent* with a large national fatality increase from SUVs killing large numbers of car drivers who would not have been killed if the SUVs had been, say, cars."

L. Evans, *Traffic Safety* (forthcoming in 2004), from ch. 4, subsection titled "Do more SUVs mean more car drivers killed in two-vehicle crashes?" (excerpt and chart below) (emphasis added).

THE NEW REPORT INDICATES THAT PREVIOUS ESTIMATES OF CAFE'S LETHAL EFFECTS HAVE BEEN TOO LOW

In its 2001 report on CAFE, the National Academy of Sciences concluded that CAFE's downsizing effect had contributed to "an additional 1,300 to 2,600 traffic fatalities in 1993." National Research Council, *Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards* at p. 3. This estimate was largely based on a 1997 NHTSA study, which had examined weight reductions in the period 1976 to 1993. NRC Report, pp. 26-27. The year 1993, however, was not unique, but rather was representative of that time period. For this reason, the Academy's fatality estimate likely holds true, at least roughly, for much of the last two decades under CAFE. In short, the cumulative death toll attributable to CAFE is likely in the tens of thousands.

The new Kahane report, however, indicates that this estimate is itself too low. It states: "This study estimates a substantially larger fatality increase per 100-pound weight reduction than NHTSA's 1997 report." P. xii. It finds that the earlier report had "flaws in the calibration procedure leading to a systematic underestimate of the size-safety effect in every crash mode, for both LTVs and cars." Id. Contrary to the earlier report, the new data "shows fatality risk in car-to-car crashes increased as car weight decreased, consistent with intuition and most of the literature. The lighter cars had higher crash involvement rates and higher fatality risk, given a crash, for their own occupants. That more than offset the reduction in fatality risk of occupants in the 'other' car." Id.

The new report even notes that NHTSA's mindset prevented it from discovering the problems in the earlier report. "NHTSA was already conditioned to believe that the effect of weight reductions on car-to-car crash fatalities might be negligible, because its pre-1997 analyses, due to biases or data flaws of their own, produced similar results." P.7.

Interestingly, both the 1992 and 1995 court rulings in our CAFE litigation found a similar bias by the agency against the evidence of CAFE's lethal effects. The 1992 ruling characterized NHTSA as "attempt[ing] to paper over the need to make a call" and engaging in "mere decisional evasion." *CEI & Consumer Alert v. NHTSA,* 956 F.2d 321, 323 (D.C. Cir. 1992). In harsh language, the court found that NHTSA had "fudged the analysis ... and, with the help of statistical legerdemain, made conclusory assertions that its decision had no safety cost at all. ... The people petitioners represent, consumers who do not want to be priced out of the market for larger, safer cars, deserve better from their government." Id. at 324.

The court concluded with these words:

> "When the government regulates in a way that prices many of its citizens out of access to large-car safety, it owes them reasonable candor. If it provides that, the affected citizens at least know that the government has faced up to the meaning of its choice. The requirement of reasoned decisionmaking ensures this result and prevents officials from cowering behind bureaucratic mumbo-jumbo." Id. at 327.

In 1995 another appellate panel upheld NHTSA's contention, after remand, that CAFE posed no concrete safety threat. Nonetheless, that court pointed out that the agency's approach to CAFE's safety was still "troubling". *CEI and Consumer Alert v. NHTSA,* 45 F.3d 481, 486 (D.C. Cir. 1995).

In short, given these repeated findings of NHTSA bias, from sources both inside and outside the agency, it is questionable whether NHTSA is capable of dealing fairly with CAFE's safety implications.

CONCLUSION

The most important policy implication to be drawn from the Kahane study is that CAFE, through its downsizing effect, is even more lethal than has previously been recognized. This is an issue that NHTSA has never adequately addressed in the past. We urge it to do so now.

Respectfully submitted,
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March 24, 2004

ATTACHMENT

From L. Evans, *Traffic Safety* (forthcoming in 2004), excerpted from chapter 4, "Vehicle Weight and Size". This is in draft form, with certain phrases and citations omitted, but according to the author Fig. 4-13 is probably in final form.

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Total safety, vehicle type, vehicle mass

The shift from cars to light trucks was not due entirely to CAFE – many consumers liked such vehicles, especially SUVs. Quantifying how changes in the types and sizes of vehicles affect net safety is a problem of high complexity. Even if the fleet consisted only of cars, all driven identical distances in identical ways by identical drivers, the task of estimating overall effects from knowledge of outcomes for single and multiple crashes would not be trivial. The mix of single- and multiple-vehicle crashes is affected by rollover risk, which is related to car mass, thus making the mix of single-vehicle to multiple-vehicle crashes dependent on car mass. Cars of different masses are used in different ways, are driven differently, and attract different types of drivers. Even the same driver pursuing the same strategy may unknowingly drive cars of different mass in different ways (Fig. 8-1).

When other vehicles are included, complexity and uncertainty increase. There is no analytical model of SUVs crashing into SUVs comparable to Eqn. …. What is more critical, there is no model of outcomes when cars and light trucks crash into each other. Simple risk ratios indicate that the car driver is 5 times as likely to die as the SUV driver when an SUVs and a cars crash into each other … When the comparison is restricted to vehicles of equal mass, the car driver is about twice as likely to die as the SUV driver …. However, these are risk ratios and accordingly do not, by themselves, prove that a car to SUV crash poses more risk than a car-to-car crash. There are structural considerations that indicate that this is likely, by no quantification from field data.

The SUV, with a higher center of gravity than a car, has a greater tendency to overturn (see Figs 3-11 and 3-12). However, belt wearing in fatal rollover crashes is even lower for drivers of light trucks than for drivers of cars. This indicates higher risk-taking and law-violation by drivers of light-trucks, which would increase the overall fatality rates for these vehicles without regard to the properties of the vehicles.

Whether widespread substitution of cars by SUVs has increased or decreased the total number of US fatalities is difficult to answer. Cars and light trucks are driven different distances in different places by drivers with different characteristics. By far the best study on this subject incorporated a host of confounding factors, including the age and gender of drivers of the different vehicle types, urban versus rural use, speed limit, and night versus day. The distances driven by different vehicles were estimated from odometer readings in the NASS file (light trucks travel further than cars), with additional methods also used. The report, with over 300 pages, contains a wealth of information and insights relevant to many aspects of traffic safety. To compliment such completeness the author comments

> *The analysis is not a "controlled experiment" but a cross-sectional look at the actual fatality rates of MY 1991-99 vehicles, from the heaviest to the lightest. Since most people are free to pick whatever car or LTV they wish (limited only by their budget constraints), owner characteristics and vehicle use patterns can and do vary by vehicle weight and type. This study tries, when possible, to quantify and adjust for characteristics such as age/gender or urban/rural, and at least to give an assessment of uncertainty associated with the less tangible characteristics such as "driver quality." But, ultimately, we can never be sure that a 30-year-old male operating a large LTV on an urban road at 2:00 p.m. in a Western State drives the same way as a 30-year-old male operating a smaller LTV/light car/heavy car on an urban road at 2:00 p.m. in a Western State. We can gauge the uncertainty in the results, but unlike some controlled experiments, there is not necessarily a single, "correct" way to estimate it…[2003 Kahane Study, p.13]…*

The main findings were that decreasing the masses of cars or masses of the lighter categories of light trucks led to net increases in fatalities (fatalities to occupants of the vehicle plus fatalities to other road users). No clear difference in net fatalities resulted from decreasing the masses of the heaviest light trucks.

Pick-up trucks and SUVs, had, on the average, higher fatality rates than MY 1996-99 passenger cars or minivans of comparable weight.

The finding that pick-up trucks and SUVs higher fatality rates than cars of the same weight does not necessarily mean that a person switching from a car to a SUV would increase net fatality risk. A car would typically be replaced by an SUV of greater weight.

Another study including considerable detail confirms that driver factors, vehicle mass, and whether the vehicle is a car or a light truck have a clear influence on risk.[i] Various studies have made claims that SUVs have produced dramatic increases in total deaths. Such studies have not taken into account the many factors used in Ref. … that can influence results by large amounts. For example, the simple measure of deaths per thousand registered vehicles is elevated for light trucks because they are driven further, and in higher speed rural driving, than cars.

Do more SUVs mean more car drivers killed in two-vehicle crashes?

One common claim is that SUVs sharply increase total fatalities by increasing fatalities in the cars into which they crash. Such a possibility is inconsistent with Fig 4-13. The number of car drivers killed in single-car crashes does not depend on SUVs. From 1994 to 2002 the number of cars on US roads remained relatively constant while the total truck population increased by more than 30%, mostly due to growth in light trucks.[ii] If the growth in SUVs led to large increases in fatality risk to drivers from car-SUV crashes, the number of car drivers killed in two vehicle crashes would increase relative to the number killed in single car crashes, leading to an increasing trend in the ratio of car drivers killed in two-vehicle crashes to the number killed in single-car crashes. No such trend occurred. Indeed, if there is a trend, it is in the opposite direction. The most plausible interpretation of the data in Fig 4-13 is that the SUVs posed about as high a risk to car drivers as did the cars that they replaced. In any event, the data are inconsistent with a large national fatality increase from SUVs killing large numbers of car drivers who would not have been killed if the SUVs had been, say, cars.

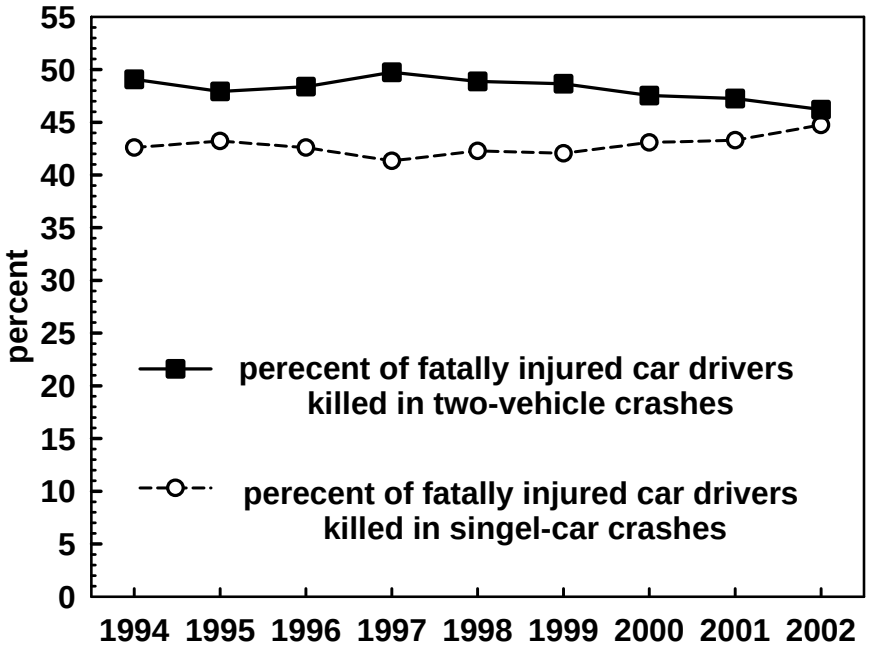

Figure 4-13. The percent of fatally injured drivers who were killed in single-car crashes and in two-vehicle crashes in which the other vehicle is of any type. The percents do not total to 100% because about 9% of car drivers are killed in crashes involving three or more vehicles.

What is effect of changing composition of fleet?

We are forced to an unsatisfying conclusion. Overall, the evidence suggests, that the widespread substitution of cars by SUVs increased net fatalities, but not by much. However, the uncertainties are so great that the effect could be in the opposite direction. For example, the SUVs may have siphoned off riskier drivers, thus giving their vehicles higher fatality rates and cars lower rates.

The question of how the composition of the fleet affects safety is almost exclusively a question of changes in risk, given that crashes occur. In the aggregate, it is difficult to conclude even the direction of the effect. However, one can be confident that it is not one of the largest factors influencing safety. The earlier noted finding that the reductions in mass from CAFE increased US fatalities by 1,300 to 2,600 in 1993, say about 2,000 per year. While of great importance, the effect on 2002 fatalities of the absence of an increase from such a source would reduce fatalities from 42,815 to 40,815. Important though such an effect is, we show in later chapters much larger and more clearly established effects associated with driver factors.

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