

Introduction

The federal Corporate Average Fuel Economy (CAFE) standards were originally imposed in the mid-1970s as a way to save oil. They turned out to be an incredibly expensive and ineffective way to achieve this questionable goal. In recent years the justification for CAFE has shifted – today, it is supposedly a way to save the environment. But CAFE has little, if any impact on auto emissions. Indeed, by raising new car prices and decreasing the cost of additional driving, CAFE may increase the retention rate for older cars, which have higher emissions, and it may actually increase the amount of miles driven – factors that undermine air quality goals. However, CAFE has succeeded in one important, and deadly way. By causing cars to be downsized, CAFE has killed thousands of people each year.

CAFE works by requiring automakers to ensure that the average fuel economy of each year's fleet of passenger cars meet the standard, currently 27.5 miles per gallon for passenger cars (sport utility vehicles and minivans fall under a different standard). The most dramatic effect of this law has been a downsizing of cars over the past twenty years. During this time, the average fuel economy of new cars has doubled, and the average weight of a new car has dropped by about 1000 pounds. Half of this downsizing is due to the car market's response to higher fuel prices in the early 1980s, but the other half is due to CAFE.

Decades of auto research have demonstrated that, in every crash mode, smaller cars are less safe than larger cars. Even with safety improvements such as airbags, a large car with an airbag is safer than small car with an airbag. A 1989 Harvard-Brookings study estimated that CAFE causes a 14-27% increase in traffic deaths due to passenger car downsizing.ⁱ

This study applies these findings to traffic fatality figures for 1996. It concludes that, of the 22,000 passenger car occupant deaths that occurred this past year, 2700 to 4700 were the result of CAFE's downsizing effect.

Despite the evidence of its deadly effects, the federal government and various advocates not only have denied any safety effect from this government mandate, but have taken pains to hide it. As a federal appeals court ruled in 1992, NHTSA, the agency which administers CAFE, has used a combination of "fudged analysis," "statistical sleight of hand" and "bureaucratic mumbo-jumbo" to illegally avoid confronting CAFE's lethal effects.ⁱⁱ Indeed, today there are proposals to make CAFE even more stringent by raising it to 40 miles per gallon or higher.

CEI's study attempts to quantify the additional highway deaths that such more stringent CAFE standards would have. John Graham, a co-author of the Harvard-Brookings study, estimates that an increase to a 40-mpg CAFE standard would result in an additional 5.5% increase in highway deaths.ⁱⁱⁱ By our estimates, once such a standard took effect throughout the entire on-the-road fleet, CAFE would be responsible for 3,800 to 5,800 fatalities annually.

In short, CAFE is a "blood-for-oil" war being waged on American civilians. If proposals to raise CAFE are adopted, it will become even deadlier.

Julie C. DeFalco
Policy Analyst

ⁱ Crandall, R. and J. Graham. "The Effect of Fuel Economy on Auto Safety," *Journal of Law and Economics*, April, 1989, p. 111.

ⁱⁱ *CEI vs. NHTSA*, 956 F.2nd 321 (D.C. Cir. 1992).

ⁱⁱⁱ Graham, John. "The Safety Risks of Proposed Fuel Economy Legislation," *RISK – Issues in Health & Safety*, Spring, 1992, p. 125.

Methodology for Determining Highway Fatalities Attributable to CAFE

All state-by-state passenger car fatalities for 1996 were calculated using the fatality figures from preliminary data of the National Highway Traffic Safety Administration.¹

Traffic Deaths Currently Caused by 27.5mpg CAFE Standard

Column One is a state-by state breakdown of passenger car traffic fatalities derived from NHTSA data.

The original preliminary NHTSA data presented only a state-by-state breakdown for all traffic fatalities (i.e., all types of motor vehicles, plus pedestrians and cyclists). NHTSA did not break down the number of passenger car occupant fatalities by state, but rather only on a nationwide basis. This number comprises 53% of all traffic fatalities. Thus, the estimate of 583 passenger car fatalities for Alabama was calculated as follows:

$$\text{Column One} = (0.53) \times (1,100)^2$$

According to the 1989 Harvard-Brookings CAFE study, the downsizing induced by the 27.5 mpg fuel economy standard has resulted in a 14-27 percent increase in occupant fatalities.³ The range of CAFE's effects is shown on a state-by-state basis in Columns Two and Three of the table. For example, the lower estimate of 71 deaths in Alabama (Column Two) was calculated as follows:

$$\text{Column Two} = (\text{Column One}) \text{ minus } (\text{Column One}/1.14)$$

The higher estimate of 123 deaths for Alabama (Column Three) was calculated similarly:

$$\text{Column Three} = (\text{Column One}) \text{ minus } (\text{Column One}/1.27).$$

What Would Happen Under a 40mpg CAFE Standard?

There are a number of proposals to make CAFE even more stringent. This would result in still more passenger car occupant fatalities.

According to a 1992 study by John Graham of Harvard University (one of the co-authors of the 1989 CAFE study), the likely result of an increase to 40mpg would be an estimated 1650 additional fatalities annually – about a 5.5% increase over current occupant fatalities.⁴ The total deaths due to a 40mpg CAFE standard (that is, the previous estimates plus the 5.5% increase) are presented on this page. For example, the low estimate of 103 CAFE-induced deaths in Alabama with a 40mpg standard was calculated as follows:

$$\text{Column One} = (583 \text{ passenger car fatalities}) \times (0.055) + (71 \text{ deaths due to } 27.5 \text{ mpg CAFE})$$

The high estimate of 155 CAFE-induced deaths in Alabama was calculated similarly:

$$\text{Column Two} = (583 \text{ passenger car fatalities}) \times (0.055) + (123 \text{ deaths due to } 27.5 \text{ mpg CAFE}).$$

¹ "1996 Traffic Crashes, Injuries, and Fatalities – Preliminary Report," NHTSA, March, 1997, pp. 7, 14.

² Because of rounding-off error, the total of Column One is slightly less than NHTSA's figure of 22,000 fatalities.

³ Crandall, R. and J. Graham. "The Effect of Fuel Economy on Auto Safety," *Journal of Law and Economics*, April, 1989, p. 111.

⁴ Graham, John. "The Safety Risks of Proposed Fuel Economy Legislation," *RISK – Issues in Health & Safety*, Spring 1992, p. 125.

Traffic Deaths Currently Caused by 27.5 mpg CAFE Standard

Deaths Due to CAFE

STATE	<i>1996 Car Fatalities*</i>	<i>Low Estimate</i>	<i>High Estimate</i>
Alabama	583	71	123
Alaska	39	4	8
Arizona	514	63	109
Arkansas	333	40	70
California	2141	262	455
Colorado	328	40	69
Connecticut	164	20	34
Delaware	66	8	14
D.C.	34	4	7
Florida	1486	182	315
Georgia	824	101	175
Hawaii	76	9	16
Idaho	137	16	29
Illinois	757	92	160
Indiana	535	65	113
Iowa	243	29	51
Kansas	254	31	54
Kentucky	439	53	93
Louisiana	418	51	88
Maine	90	11	19
Maryland	318	39	67
Massachusetts	214	26	45
Michigan	802	98	170
Minnesota	304	37	64
Mississippi	365	44	77
Missouri	614	75	130
Montana	108	13	22
Nebraska	159	19	33
Nevada	185	22	39
New Hampshire	71	8	15
New Jersey	429	52	91
New Mexico	257	31	54
New York	771	94	163
North Carolina	792	97	168
North Dakota	45	5	9
Ohio	691	84	146
Oklahoma	408	50	86
Oregon	283	34	60
Pennsylvania	757	92	160
Rhode Island	37	4	7
South Carolina	498	61	105
South Dakota	95	11	20
Tennessee	659	80	140
Texas	1923	236	408
Utah	172	21	36
Vermont	47	5	9
Virginia	463	56	98
Washington	373	45	79
West Virginia	185	22	39
Wisconsin	408	50	86
Wyoming	76	9	16
U.S. Total	21970	2698	4670

*Passenger car occupant deaths only.

Source: "1996 Traffic Crashes, Injuries, and Fatalities - Preliminary Report," NHTSA, March 1997

What Would Happen Under a 40mpg CAFE Standard?

Predicted Deaths Due to CAFE*

STATE	<i>Low Estimate</i>	<i>High Estimate</i>
Alabama	103	155
Alaska	6	10
Arizona	91	137
Arkansas	58	88
California	379	572
Colorado	58	87
Connecticut	29	43
Delaware	11	17
D.C.	5	8
Florida	263	396
Georgia	146	220
Hawaii	13	20
Idaho	23	36
Illinois	133	201
Indiana	94	142
Iowa	42	64
Kansas	44	67
Kentucky	77	117
Louisiana	73	110
Maine	15	23
Maryland	56	84
Massachusetts	37	56
Michigan	142	214
Minnesota	53	80
Mississippi	64	97
Missouri	108	163
Montana	18	27
Nebraska	27	41
Nevada	32	49
New Hampshire	11	18
New Jersey	75	114
New Mexico	45	68
New York	136	205
North Carolina	140	211
North Dakota	7	11
Ohio	122	184
Oklahoma	72	108
Oregon	49	75
Pennsylvania	133	201
Rhode Island	6	9
South Carolina	88	132
South Dakota	16	25
Tennessee	116	176
Texas	341	513
Utah	30	45
Vermont	7	11
Virginia	81	123
Washington	65	99
West Virginia	32	49
Wisconsin	72	108
Wyoming	13	20
U.S. Total	3857	5829

*Passenger car occupant deaths only.

Source: "1996 Traffic Crashes, Injuries, and Fatalities - Preliminary Report," NHTSA, March 1997

ⁱ Crandall, R. and J. Graham. “The Effect of Fuel Economy on Auto Safety,” *Journal of Law and Economics*, April, 1989, p. 111.

ⁱⁱ CEI vs. NHTSA, 956 F.2nd 321 (D.C. Cir. 1992).

ⁱⁱⁱ Graham, John. “The Safety Risks of Proposed Fuel Economy Legislation,” *RISK – Issues in Health & Safety*, Spring, 1992, p. 125.