



November 5, 2004

Mr. Chuck Shulock
AB 1493 Draft Adopted Comments
California Air Resources Board
P.O. Box 2815
Sacramento, California 95812

**Comments on the California Air Resources Board's
October 19, 2004, Notice of Public Availability of Modified Text,
Attachment II: Additional Supporting Documents and Information**

Dear Mr. Shulock:

Public Citizen welcomes this opportunity to provide the California Air Resources Board (CARB) with additional comments on the adopted regulations for motor vehicle greenhouse gas (GHG) emissions.

CARB has demonstrated leadership and vision with these new standards. While the federal government has ignored the need to prevent global warming, CARB has carefully formulated a regulatory standard to significantly reduce GHG tailpipe emissions over a reasonable timeframe. We also laud the California legislature for passing the landmark legislation in 2002, AB 1493, on which this regulatory proposal is based, and we hope that Gov. Schwarzenegger stands by his pledge to defend this proposal.

We can provide a unique and highly credible perspective on the vehicle safety implications of the regulation. Public Citizen is a national non-profit public interest organization with over 150,000 members nationwide. We represent consumer interests through lobbying, litigation, regulatory oversight, research, and public education. Under the leadership of our President, former National Highway Traffic Safety Administration (NHTSA) head Joan Claybrook, Public Citizen has worked for decades to improve motor vehicle safety by lobbying Congress to pass critical legislation, monitoring the Department of Transportation to be sure it carries out the will of Congress, conducting public awareness campaigns on critical issues, and participating in lawsuits to force government action when necessary. Often, in our experience, whether the issue is rollover safety or air bags, the auto industry wages what the Supreme Court called in a landmark air bags case, the "regulatory equivalent of war"¹ against improvements in safety standards.

In our comments, we make the following points for CARB's consideration:

- Weight is not a good predictor of a vehicle's safety. As shown by the high death rates in light trucks and their infliction of greater violence upon occupants in other vehicles: greater mass does not result in greater safety, particularly from a societal perspective;
- The wide range in safety outcomes among vehicles of similar type or weight demonstrates the overwhelming significance of differences in safety design for survival rates;
- Unlike the Wenzel and Ross paper, many studies on the issue confound the effects of vehicle weight with vehicle size and safety design. The importance of the 2003 technical report by NHTSA researcher Charles Kahane is greatly diminished by that study's failure to distinguish make/model design differences and its confusion that weight is a correlate to, rather than a cause of, its safety-related outcomes;
- The hypothetical weight reductions studied by Kahane are arbitrary and without an historical basis; and
- The rebound effect that would allegedly occur as a result of the new emissions standard is unlikely to have significant safety implications.

Wenzel and Ross Study Demonstrates that Vehicle Size and Design, Not Weight, Are Critical to Safety

Public Citizen would like to focus specifically on one of the supporting documents listed in Attachment II of the October 19 notice by Tom Wenzel, of Lawrence Berkeley National Laboratory, and Marc Ross, of the University of Michigan, *The Effects of Vehicle Model and Driver Behavior on Risk*.² The paper demonstrates that weight is not a good predictor of a vehicle's safety. Wenzel and Ross indicate that vehicle size and design, not weight, are the critical factors.

In the paper, Wenzel and Ross conclude that their results are robust despite differences in driver behavior and driving conditions. The authors observe: "Much has been made in the past about the high risk of low-mass cars in certain kinds of collisions. We find there are other plausible explanations for this pattern of risk, which suggest that *mass may not be fundamental to safety*."³ (Emphasis added.)

This is important because a myth now in circulation is that the new CARB regulations on vehicle GHG emissions will compel automakers to reduce the weight of the vehicles they produce. This claim has no basis in fact. CARB has laid out clear and extraordinarily comprehensive technology packages for all vehicles, including SUVs and pickups, to meet the proposed standard without adjusting weight, as required by law. The Wenzel and Ross paper indicates that *even if* automakers reduced the weight of vehicles, it would not increase highway fatalities. Were automakers to reduce the weight of their vehicle fleets, it would be most cost-effective for them to take weight out of their largest vehicles — large SUVs and pickups — which would improve safety because these vehicles, as Wenzel and Ross demonstrate, tend to be the most rollover-prone and aggressive vehicles on the road. Wenzel and Ross show a wide variety of safety within vehicle types depending on make model design, and they prove that more

massive vehicles are not inherently safer than less massive vehicles — in fact, heavier vehicles are often more dangerous.

Greater Mass Does Not Improve Safety

Greater vehicle mass clearly does not correspond with superior safety, according to the Wenzel and Ross analysis. In general, driving an SUV poses about the same risk to the driver as driving a passenger car: “[SUVs] are not safer for their drivers than cars, in spite of the popular belief that weight increases safety.”⁴ According to Wenzel’s and Ross’s study, the safest SUVs are still not as safe to their drivers as the safest cars and minivans. Moreover, most compact and one-ton pickups are more risky to drive than the majority of cars and SUVs.⁵

The rollovers are a major source of unnecessary SUV and pickup driver deaths. Most SUVs and all pickups have body-on-frame designs, leaving them with a high center of gravity and narrow track width — a recipe for disaster when it comes to rollover risk. In 2002, an appalling 70 percent of deaths in SUVs in California occurred in rollover crashes, while half of fatalities in pickup trucks involved rollovers. That compares to only a quarter of passenger car fatalities being attributable to rollovers. Light truck rollover fatalities in California total well over 500 deaths annually.⁶

SUV and Pickup Aggressivity Is a Major Source of Highway Carnage

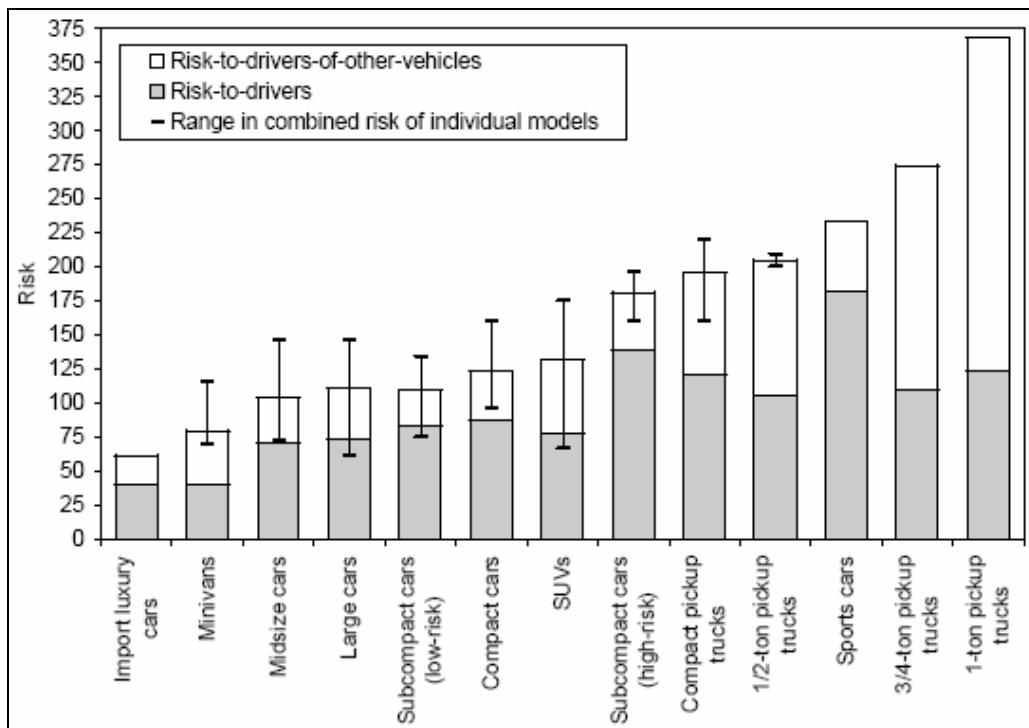
Not only are more massive vehicles like SUVs and pickup trucks not safer than passenger cars, but they are exceptionally destructive in crashes with other vehicles. The high bumper, stiff frame and steel-panel construction of light trucks override crash protections of other vehicles, and the steel-beam truck chassis can puncture struck passenger cars like fork tines. Manufacturers have for years unblinkingly faced the carnage inflicted on other motorists from light trucks’ high bumpers and rigid frames, building ever-more heavy and terrible SUVs over time and marketing them militaristically, such as with ads calling the Lincoln Navigator an “urban assault vehicle.” In fact General Motors’ new Hummer is a direct adaptation of a military vehicle.

SUVs and pickups were never designed to be as safe as cars. Cars are designed as one frame, a “unibody,” or steel lattice that is lightweight, yet safe, for occupants and others on the road. The form crushes inward in a predictable manner, absorbing energy so that occupants and others are saved from the gravitational forces expended in a crash. In contrast, the body-on-frame construction used for most SUVs and all pickup trucks uses long, stiff, steel rails which act as battering rams in a crash and do not absorb energy well. For every Ford Explorer driver saved in a two-vehicle crash because that driver chose an Explorer over a large car, five drivers are killed in vehicles hit by Explorers.⁷

Wenzel’s and Ross’s analysis indicates that the most popular SUVs are almost twice as deadly in two-vehicle crashes as passenger cars. Moreover, heavy pickup trucks are far and away the most harmful passenger vehicles on the road. And risk to other drivers only increases as pickup truck weight increases.⁸ In fact, Wenzel and Ross found, shockingly, that the average 1-ton pickup truck kills ten times more people in other vehicles than an average Camry. When

the risk light trucks pose to others on the road is added to their already at-best average level of risk to their own drivers, SUVs and pickup trucks stack up poorly in comparison to most passenger cars (*see Figure A*). Moreover, the aggressivity of light trucks compromises the safety of passenger vehicles and makes cars appear less safe than they would be in a vehicle fleet less populated with SUVs and pickups. Wenzel and Ross conclude that, just among cars, “models driven in the U.S. exhibit widely different levels of risk-to-driver, ranging over a factor of five, and of risk-to-others, ranging over a factor of two.”⁹

Figure A: Combined Risk-to-Drivers and Risk-to-Drivers-of-Other-Vehicles, by Vehicle Type



Source: Wenzel and Ross, at 32.

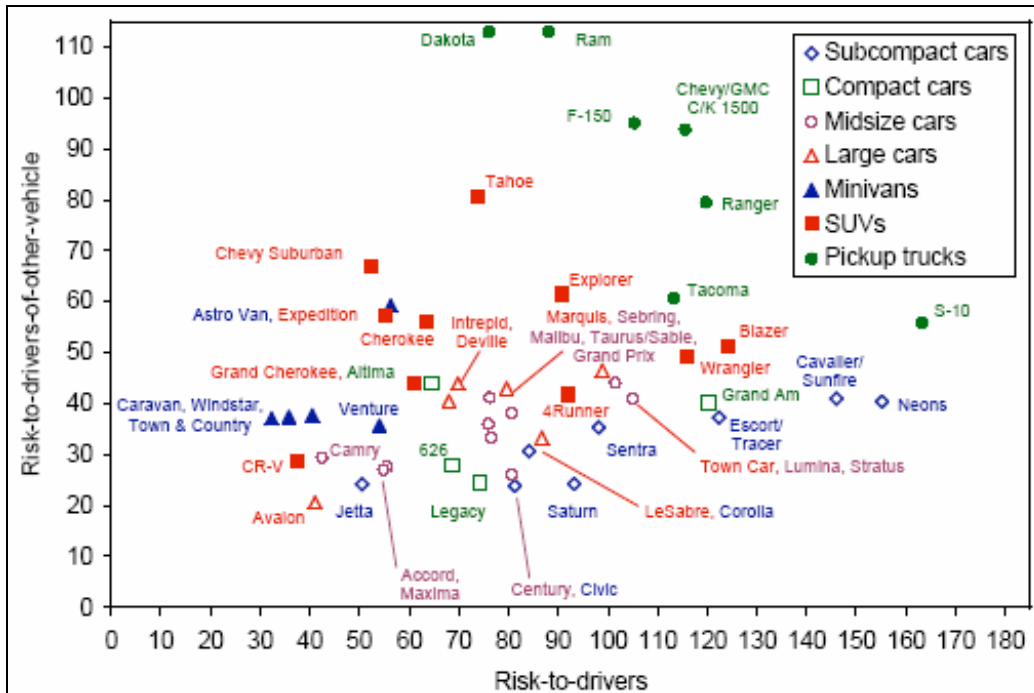
The Wide Range in Safety among Vehicles of Similar Type or Weight Demonstrates the Significance of Differences in Make/Model Safety Design

Not only does the Wenzel and Ross paper show that more vehicle mass does not mean greater safety, but the analysis is even more precise and shows that within broad vehicle categories — SUV, minivan, midsize car, compact pickup, etc. — there is a wide variety of risk, both in terms of the vehicle driver’s safety and the safety of other drivers in the case of a two-vehicle crash (*see Figure B*).

For example, some of the most dangerous SUVs, like the heavy Chevy Blazer, allow about the same amount of risk to their drivers as high-risk subcompact cars like the Dodge Neon, while other SUVs, like the small Honda CR-V, are comparable in safety to the safest minivans and cars. Likewise, while Neon’s are among the riskiest vehicles to drive, another subcompact, the Volkswagen Jetta, is one of the safest. There is also an enormous range in aggressivity

among different make models: SUVs like the CR-V or even the Jeep Grand Cherokee, have kill rates in two-vehicle crashes of half or less than those of the most aggressive SUVs, like the Chevy Tahoe.¹⁰ This strongly suggests that differences in the design between make/models have a significant impact on safety, and that less vehicle mass does not necessarily correspond with less safety. As Wenzel and Ross point out, “The figures suggest that there are difference vehicle characteristics that are both relatively good and plausible in predicting risk; mass may not be fundamentally associated with the risk-to-driver in all types of crashes.”¹¹

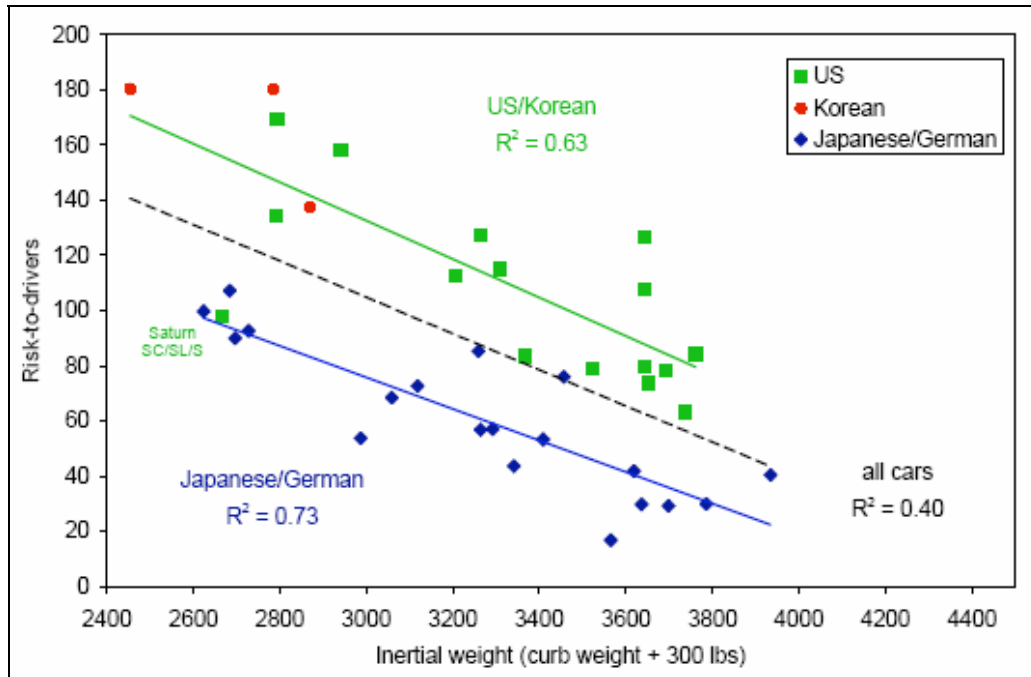
Figure B: Wide Variety in Risks Among the Most Popular Vehicle Models, Including Wide Range within Vehicle Type and Vehicles of Similar Weight



Source: Wenzel and Ross, at 33.

Wenzel and Ross show that similarly weighted vehicles can have highly disparate safety effects for both their own occupants and the occupants of other vehicles on the road.¹² For example, they found a striking difference in safety between similarly weighted Japanese/German passenger cars and U.S./Korean cars. On average, a Japanese/German car of a certain weight is just as safe as the average U.S./Korean car about 1,000 lbs. heavier (*See Figure C*).¹³ In other words, safety design quality easily overwhelms 100-lbs. projected changes in vehicle weights.

Figure C: Relationship between Risk-to-drivers of Cars and Weight, by Car Manufacturer and Model.



Source: Wenzel and Ross, at 36.

Kahane Study, Unlike Wenzel and Ross Paper, Confounds Vehicle Weight and Design

The work of Wenzel and Ross adds to a record of research going back thirty years or more that consistently demonstrates that weight and design — or more specifically, size — while closely associated in the data, actually have a divergent effect on safety. For example, two of the major themes of the 1974 Third International Congress on Automotive Safety were “Big Car/Small Car Interactions,” and “Future Vehicle Mix and Automotive Safety.” At the conference, several researchers — including first Administrator of NHTSA William Haddon Jr., M.D., and future Insurance Institute for Highway Safety president Brian O’Neill — noted in the paper “Relationship Between Car Size, Car Weight, and Crash Injuries in Car-to-Car Crashes” that:

For vehicles using the same roads these relationships suggest a crashworthiness design concept for intervehicular crashes that regards increases in vehicle *size* as *primarily protective*, and increases in vehicle *weight* as *primarily hostile*, indicating the desirability of relatively sizeable but not heavy vehicles (emphasis added).¹⁴

While Wenzel and Ross distinguish the influence on safety of vehicle design, such as vehicle size, independent of vehicle weight, many studies have confounded the relationship. One of the most problematic of such studies is the 2003 National Highway Traffic Safety Administration (NHTSA) technical report by researcher Charles Kahane, *Vehicle Weight, Fatality Risk and Crash Compatibility of Model Year 1991-99 Passenger and Light Trucks*, a

revision of an earlier 1997 NHTSA report, also by Kahane. This study, like the previous one, examined the effects of purely hypothetical changes in vehicle weight upon fatalities.

In his 1997 study, Kahane went through three steps to reach his conclusion. Using linear regression analysis to measure the relationship between curb weight (including a reduction in wheelbase and track width) and fatality rates, the study:

1. Held light truck weights constant and reduced cars by 100 lbs. (with accompanying reductions in wheelbase and track width);
2. Held car weight constant and reduced light trucks by 100 lbs. (with accompanying reductions in wheelbase and track width);
3. Added the results.

While slimming down cars by 100 lbs. showed a considerable increase in fatalities (302 overall, mainly from increased rollover and impacts between cars and light trucks), the second step went a small way in the other direction, showing a small savings of life from reducing light trucks by 100 lbs. (40, the majority of the lives were saved in impacts with passenger cars).

The 2003 study replicates the same flaws, but in a slightly new way. Within vehicle categories, researchers compared fatality rates in vehicles of a certain weight with other vehicles in that category with those weighing 100 lbs. less. This approach changes the equation somewhat, but still fails to distinguish the confounding effects of size and weight. It also utterly washes out the effect of safety design. For example, if the Honda Civic or Toyota Camry, both extremely and popular safe cars, are part of the sample in the initial category, but the comparison group is comprised of another make/model that weighs 100 lbs. less, the safety outcomes would be dramatically downgraded.

Yet the change in outcome is far more the result of better safety design in the Civic and the Camry than the effect of a 100-lbs. reduction in weight. As Wenzel and Ross note, “[W]hile presentation of results by vehicle type is appealingly simple, classification by vehicle type may be misleading because the results can be strongly influenced by subjective decisions to include or omit certain vehicle models in different categories.”¹⁵

The most critical flaw of the 2003 Kahane study is its confusion of size and weight, a confusion embedded in the study’s design and methodology. Throughout, the report uses size terminology to describe vehicles of varying weights, and no attempt is made to analyze the influence of weight changes *independent* of vehicle size. Because of this, Kahane’s conclusions regarding vehicle weight reductions and increased highway fatalities show only a mere correlation, and not causation, as the study claims in several places.

Vehicle Size and Design, Not Weight, Is Critical to Safety

Research by Dynamic Research, Inc. (DRI), sponsored by Honda, using data and logistic regression methods identical to those in Kahane’s most recent study, shows that when vehicle weight is reduced while vehicle size is kept constant, *fatalities decline* — just the opposite of Kahane’s conclusions about the effects of vehicle weight. DRI demonstrates that reductions in

wheel-base and track-width — both metrics of vehicle *size* — have the overall effect of increasing fatalities. DRI concludes that while a fleet-wide, 100-lb. average reduction in vehicle weight would reduce annual fatalities by about 800, the corresponding track-width and wheel-base reductions that accompany weight reductions, in the Kahane study results in an increase in fatalities of 839.¹⁶

Automakers can actually improve safety by taking weight out of their vehicles so long as they implement smart, safe designs that do not reduce vehicle stability and maintain appropriate occupant survival space. Vehicle size, for which wheel-base and track-width are metrics, has historically correlated with vehicle weight; in general, lighter vehicles have tended to also be shorter and narrower than heavier vehicles. But, as DRI and the research by Wenzel and Ross demonstrate, *this correlation is not inherent*.

Just as the new technologies have redefined the possibilities for vehicle emissions control, the advent of improved vehicle designs — including smaller engines; light, high strength steel and composites, and other innovations — is redefining the relationship between vehicle weight and size. As Wenzel and Ross observe, “[V]ehicle size has been strongly correlated with vehicle mass, although this relationship may be changing with the introduction of new mass reduction technologies.”¹⁷

While Wenzel and Ross specifically consider the design in their paper, Kahane fails to adequately consider highly significant differences in the quality of safety design. For example, Kahane’s study does not examine the influence of vehicle manufacturer (“nameplate”) and new vehicle price on the fatality rates of pedestrians, bicyclists and motorcyclists. Kahane found many of the nameplate variables were statistically significant, “indicating large differences between nameplates in pedestrian fatality rates.”¹⁸ These variables, however, did not appear to be dependent on vehicle weight, at least for crashes with pedestrians, bicyclists, and motorcycles, because factoring in these variables did not change the coefficient on weight.¹⁹

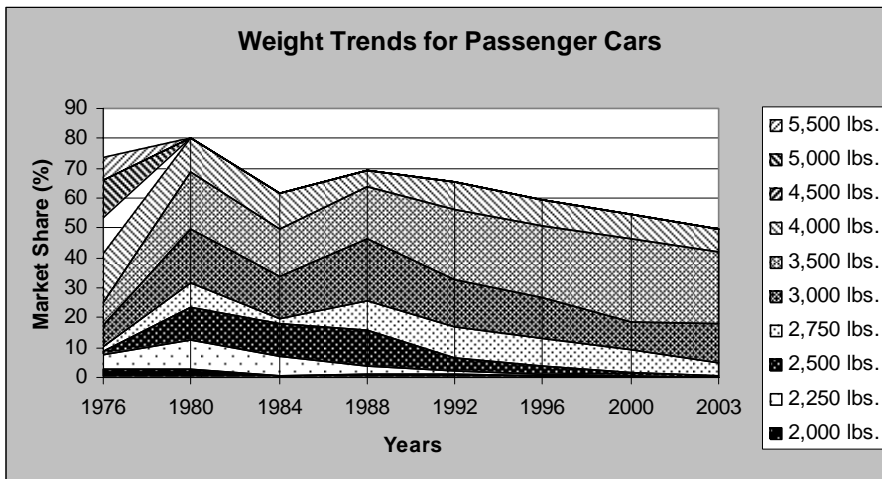
However, Kahane inexplicably fails to analyze the influence of the vehicle nameplate on fatality rates in crashes with other vehicles, immobile objects, etc. Such an omission casts doubt on the credibility of the study’s results, especially in the face of studies such as the Wenzel and Ross paper, which suggest a very important link between vehicle design quality and safety outcomes. If Kahane found statistically significant nameplate variables for certain types of crashes, *why did he not include these variables in the analyses of all crash types?* Why did he not use these variables in the analyses of vehicle-to-vehicle crashes, vehicle-to-immobile object crashes, etc.? Perhaps the reason is that the influence of these variables, which do not appear to depend on vehicle weight, would seriously undermine the study’s positive correlation between weight and safety.

Kahane Studies Hypothetical Weight Changes that Are Arbitrary and Without Historical Basis

In addition to erroneous assertions regarding vehicle weight and safety, there is no connection between the assumptions in the Kahane study and the historical record. The 100-lb. weight reductions that Kahane tries to study in his hypothetical formula are *completely arbitrary, and not based on historical changes in fleet weight averages*.

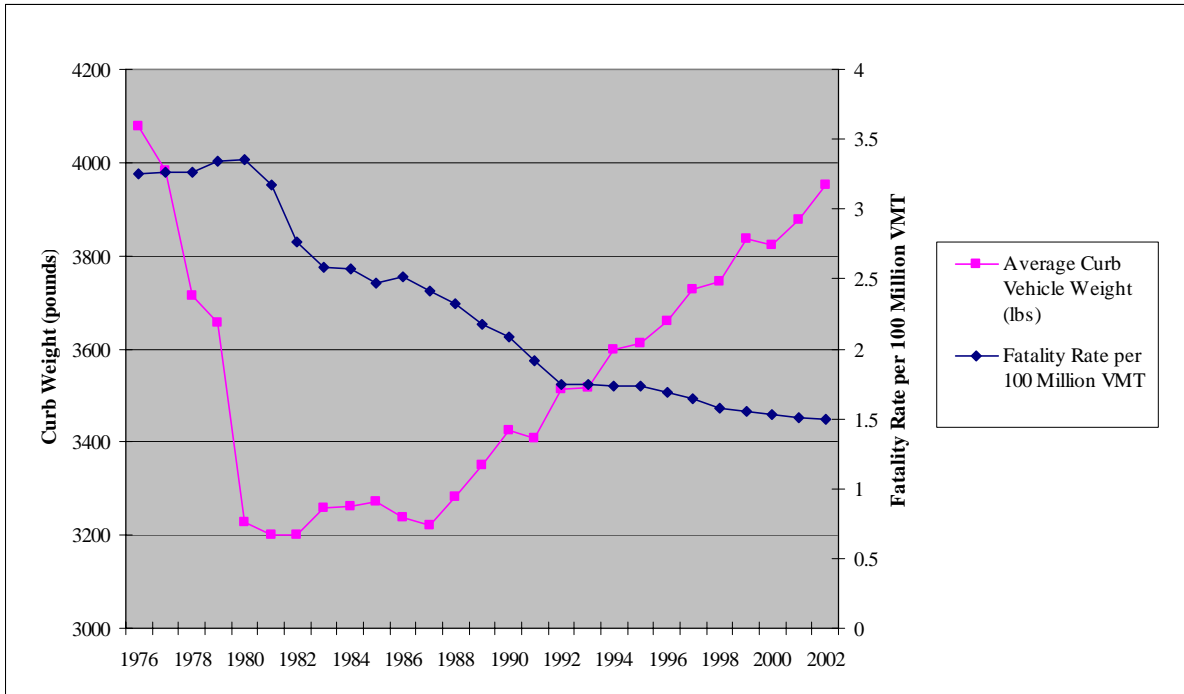
Real-world examples demonstrate that the interaction between vehicle weight and safety is far more complex than Kahane's study suggests. *As an analogy only*, automakers and their apologists may argue that fuel economy regulation has reduced safety, yet real-world analysis of vehicle fleet weight changes and safety outcomes under fuel economy regulation belie this claim (see **Figure D**). Automakers initially re-designed their heaviest cars to reduce their weight when fuel economy regulation began in the late 1970s, but there was no correlating increase in vehicle fatality rates (see **Figure E**), in part because the predicted proliferation in tiny vehicles never occurred²⁰ Instead, there was a convergence of weight in the vehicle fleet around mid-size vehicles.

Figure D: The Market Share of the Smallest and Largest New Passenger Cars Dwindled Away as Passenger Cars Consolidated around the 3,000-3,500 lbs. Weight²¹



While historical vehicle weight changes and death rates clearly do not correlate, the heaviest vehicles are among those with the highest levels of risk, as cited above.

Figure E: No Correlation: Passenger Vehicle Fleet Average Weights and Fatality Rates per 100 Million Vehicle Miles Traveled, 1976-2002



Sources: U.S. EPA, *Light-Duty Automobile Technology and Fuel Economy Trends: 1975 Through 2004*; NHTSA, *Traffic Safety Facts 2002*, at 15.

Over the past two decades, despite the risks associated with greater vehicle weight, the vehicle fleet has gotten heavier and heavier. Detailed EPA data on vehicle trends and weight changes, covering more than a decade, show a considerable up-weighting in vehicles, particularly in the light truck fleet. This year’s fleet is essentially the heaviest fleet in American history, largely because new light trucks are the heaviest ever, averaging a heavy 4,700 lbs.²²

Although all vehicles got heavier between 1985 and 2003, the bulk of the recent gains in weight were concentrated in the light truck fleet. In 1975, the difference in average weight between cars and light trucks was 3 lbs. In 2003, it was 1,185 lbs (*see Figure E*).²³ The widening weight gap serves to exacerbate light truck aggressivity, degrading the safety of all drivers on the road but particularly those in passenger cars.

Figure F: Vehicle Fleet Divergence 1975, 1988, 1990, 2001, 2003

Year	Light Truck Inertial Weight Average (lbs.)	Car Inertial Weight Average (lbs.)	Difference in Average Weight of Cars and Light Trucks (lbs.)
1975	4072	4075	3
1988	3841	3092	749
1990	4005	3175	830
2001	4462	3379	1083
2003	4595	3410	1185

Any Alleged Rebound Effect Is Unlikely To Have Significant Safety Implications

Public Citizen would also like to comment briefly on the safety implications of the “rebound effect” cited in the Board’s new greenhouse gas regulation. The rebound effect is alleged to occur when increased fleet fuel efficiency induces drivers to drive more, which cuts into the overall fuel savings. While it could be argued that increases in driving would increase highway fatalities because it would result in increased exposure, this effect could easily be overemphasized.

We agree with CARB in its estimate that the rebound effect would be very minor — an estimate supported by California’s higher-than-average income (diluting the value of the savings), greater congestion, and higher cost of gasoline in comparison to the national average. California’s serious traffic congestion makes additional driving very unlikely, as several pennies of savings per mile is not going to encourage most California drivers to increase above their current needs. In particular, any rebound effect is tiny in comparison to the predictions by the California Department of Transportation, which has estimated an increase in vehicle miles traveled of 55 percent by 2020 and a population increase of 31 percent.²⁴ Another report, by the California Association of Bay Area Governments, predicts a 150 percent increase in aggregate traffic congestion in the bay area by 2020.²⁵

Therefore, the slight potential increase in vehicle miles traveled would have a negligible effect on highway fatalities, particularly since vehicle deaths rates per 100 million vehicle miles traveled have been steadily declining for decades — dropping 15 percent over just the past ten years — and this alone would significantly reduce the safety impact of any rebound effect.²⁶

Moreover, important current and future rulemakings by NHTSA could make additional major reductions in annual fatalities. For example, NHTSA estimates that its recently proposed side impact safety standard would save 700 to 1,000 lives a year. It seems clear that the rule will be implemented. NHTSA Administrator Jeffrey Runge has called it “the most life-saving rule [in which] we will participate in my tenure,” and that “there is absolutely nothing higher on my rule-making agenda.”²⁷

In addition, recent studies have indicated that the standardization of vehicle electronic stability control systems could reduce annual highway fatalities by as much as 7,000. Runge has said that if further studies continue to support the huge benefits of stability systems — which automakers have been slow to install in American vehicles — he could consider mandating their installation through regulation.²⁸ With 33,471 passenger vehicle occupant deaths in 2003, the standardization of stability control systems would have reduced occupant deaths last year by a staggering 20 percent.²⁹

In addition, the rebound effect can actually work to improve safety. The increased driving would wear vehicles out more quickly, and the replacement of the older vehicles with newer vehicle models would be a safety benefit because newer vehicles are more likely to have improved safety designs and safety technologies, such as side impact air bags.

The Currently Available Mix of Vehicle Attributes Does Not Accurately Reflect Consumer Choice

In a 2001 poll by Lou Harris, sixty-three percent of Americans polled said they would be willing to pay 3 percent (or nearly \$900 on a \$30,000-vehicle) more for their sport utility vehicles in order to solve emissions problems stemming from their use.³⁰ Automakers have asserted that CARB's consideration of what is "economical" to consumers under the statute must include an evaluation of "foregone" attributes, such as safety and aesthetics. Yet automakers invest billions of dollars in advertising their constrained set of consumer options, while paying little attention to consist poll and survey results which reflect that Americans are deeply concerned about the environmental and climate change impacts of the limited choices for transportation made available to them. There is in fact a massive market failure to address this disconnect.

The Auto Industry Spends Billions of Dollars to Advertise SUVs, By Far Their Most Profitable Product

During the last decade, automakers and their dealers spent over \$9 billion advertising SUVs. This ever-increasing expenditure rose nine-fold during that time, from \$172.5 million in 1990 to \$1.5 billion in 2000 – a rise that exceeds, in percentage, the growth of SUVs over the same period.³¹ Moreover, the auto industry spends more per year on advertising than any other industry in the United States – more than the next three biggest spenders (financial services, telecommunications, and national restaurant chains) combined.³² For total advertising spending in 2001, the Big Three American automakers ranked #1 (General Motors), #3 (Ford), and #6 (DaimlerChrysler) among all corporate spenders.³³ And per advertising dollar spent, the Big 3 have three times the revenue of the other top ten spenders, averaging \$42.30 for every ad dollar spent, compared with \$13.67 for the other seven companies.³⁴

Manufacturers Are Deeply Invested in the Attempt to Persuade Consumers to purchase SUVs Because These Vehicles are so Highly Profitable

Cut-rate designs based on pickup truck chassis and low fuel economy requirements for SUVs generate very high profit margins for the "cash cows" of Detroit. While manufacturers make only a 3 percent profit on cars, they make 15 to 20 percent profit on SUVs.³⁵ SUV and pickup truck sales account for nearly all of the profits of the Big Three auto companies.³⁶

In 2002, General Motors generated 90 percent of its profits from SUVs and pickups.³⁷ Domestic manufacturers were protected until the mid-1990s by a tariff which imposed costs on foreign manufacturers, discouraging the importation of SUVs and helping to create crucial leverage for Detroit in that market sector. The largest SUVs receive special breaks on key safety laws, helping to generate more profit. SUVs over 8,500 lbs. are held to a less protective side impact standard than applies to cars and need not meet any roof strength standard. In addition, the largest SUVs need not install new anchorage systems to accommodate child restraints.

Information Gaps: Automakers Oppose Point-of-Sale Labeling that would Give Consumers Information about Vehicle Safety And Allow Informed Decisions

Currently consumers are provided, at the point of sale, with labels that explain the highway and city fuel economy estimates for each vehicle. Consumers are not, however, given point-of-sale, in-depth information about the safety hazards of the vehicles that they plan on purchasing even though that information is routinely gathered by both the National Highway Traffic Safety Administration (NHTSA) and manufacturers and NHTSA has authority to require them.

Consumers savvy enough to navigate NHTSA's on-line information in the New Car Assessment Program (NCAP) are able to view some safety information on the select vehicle models tested each year by the agency. But many consumers have no access to the Internet or are unaware that the information exists. NHTSA's own research shows that only about 1.5 percent of consumers would consider researching auto safety issues by contacting a federal agency, while about half would think to request safety information from auto dealers, where there is no independent test information available.³⁸

Special Tax Breaks for Small Businesses Have Allowed Huge Write-off's for SUVs, Further Distorting the Market and Artificially Inflating Consumer Demand

A 2002 federal tax cut allowed small businesses purchasing an SUV (or other light truck) over 6,000 lbs. to immediately deduct up to \$100,000 dollars from their taxable income, yet did not preclude businesses from taking the standard 20 percent deduction annually over five years. That tax loophole was recently brought back down to its initial size of \$25,000 by a 2004 Congressional tax bill. Yet estimates of this SUV tax break, which prior to 2002 had capped initial deduction at \$25,000, show that it cost the federal government between \$840 million and \$987 million yearly, making it one of the biggest tax breaks, per capita, in the U.S. tax code.³⁹

Deceptive Advertising About SUVs Drives their Popularity and Misleads Consumers On Safety

Despite being marketed to consumers as rugged, go-anywhere vehicles, only 1 to 10 percent of SUV owners use their vehicles for off-road driving or towing.⁴⁰ Jeep Grand Cherokees, for example, were marketed with ads calling the vehicles "Still the best insurance policy ever" and touting their existence as "one of the safest 4x4s out there" with a "legendary four-wheel drive [that] shows no fear in the face of a blizzard [and a] braking system [that] helps you stop even when the rain or sleet or snow hasn't."

Similar ad campaigns have been launched to hype most SUVs.⁴¹ But J.C. Collins, Ford's top marketing manager for SUVs said "[t]he only time those SUVs are going to be off-road is when they miss the driveway at 3 a.m."⁴² Csaba Csere, the editor in chief for Car and Driver magazine said in interviews that "the bottom line is that, in every measurement of dynamic ability on pavement, cars outperform trucks," effectively denying the myth that SUVs handle better than cars in the most common hazardous conditions.⁴³

In April 2003, 40 state Attorneys General called on SUV manufacturers to immediately stop their misleading advertisements claiming that SUVs have the same handling as passenger

cars, or that SUVs can handle emergency procedures safely at fast speeds. The letter was one result of a \$51.5 million settlement with Ford over deceptive advertising of its Explorer.⁴⁴

Choices by Elected Officials Are a Powerful and Necessary Reflection of Consumer Choice, and Reflect a Shared Societal Judgment about the Real Net Welfare of Californians

A decision by the elected officials in California's legislature to require the internalization of some additional environmental consequences of vehicles and to influence the market to provide more environmentally sensitive vehicle choices represents a particularly compelling form of the California public's "revealed choice" and its values.

Indeed, the special interest group critique of democracy, which predicts that narrowly interested industry and other groups will often defeat the far more diffuse self-interest of the public, means that any measure which survives this process may in fact represent a form of societal super-consensus. Of course, polls and surveys also provide ample evidence of general agreement among the public on the need to address the consequences of our dependence on automotive transportation.

As described above, there is ample evidence that the current vehicle fleet is both overpowered and overweight, as compared to real need. Society as a whole pays considerably for this excess capacity, in both environmental and safety terms. We are deeply grateful that CARB has taken up this task, and deeply regret that automakers have decided to oppose its action rather than demonstrate their shared responsibility as environmental stewards and as corporate citizens.

Endnotes

- ¹ Justice Byron White, 1983, See “NHTSA Timeline: 1965-2002,” Special Report: Deadly Driving: Safety Agency Puts Motorists at Risk, *Detroit News*, March 3, 2002.
- ² Wenzel, T. and Ross, M., *The Effects of Vehicle Model and Driver Behavior on Risk*, draft accepted for publication in *Accident Analysis and Prevention*.
- ³ Wenzel at 1.
- ⁴ Wenzel at 8.
- ⁵ Wenzel at 8, 9.
- ⁶ National Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Passenger Vehicle Occupant Fatalities, 1982-2002, by State, Rollover Occurrence, and Vehicle Type, Fatality Analysis Reporting System (FARS) – ARF*, Washington, DC: NHTSA, 2003.
- ⁷ Bradsher. at 449, fn. 13 (Leaving aside SUVs and considering just the number of drivers killed per 5,000 crashes, in which a large car hits another car of any size, an average of 2.2 drivers die in large cars and 5.5 drivers die in the other cars that were truck. Together these numbers render a total of 7.7 deaths per 5,000 crashes. Because the large cars are heavier than most of the cars they hit, the drivers of the large cars tend to fare better. When looking at the crashes involving Explorers, on average only 1.2 Explorer drivers die when involved in the same number of collisions with cars. Compared to the 2.2 drivers who died in the large cars, the Explorers actually save a life. However, this is misleading because, doubling to 11 deaths. Therefore, on average 5.5 extra driver deaths occur in the struck cars. The combined death rate for drivers on both sides of the collision has now risen to 12.2 for collisions involving Explorers, compared with 7.7 when there were just large cars hitting the other cars.)
- ⁸ Wenzel at 8, 9.
- ⁹ Wenzel at 18.
- ¹⁰ Wenzel at 33.
- ¹¹ Wenzel at 10.
- ¹² Ross, Marc and Tom Wenzel, “An Analysis of Traffic Deaths by Vehicle Type and Model,” U.S. Department of Energy (LBNL-49675) Washington, DC, Mar. 2002.
- ¹³ Wenzel at 9.
- ¹⁴ Haddon, William, Brian O’Neill, Hans Joksch. *Relationship Between Car Size, Car Weight, and Crash Injuries in Car-to-Car Crashes*, Third International Congress on Automotive Safety, San Francisco, July 1974.
- ¹⁵ Wenzel at 5.
- ¹⁶ Van Auken, R.M., and J.W. Zellner. *A Further Assessment of the Effects of Vehicle Weight and Size Parameters on Fatality Risk in Model Year 1985-98 Passenger Cars and 1985-97 Light Trucks* (DRI-TR-03-01) Torrance: Dynamic Research, Inc., Jan. 2003. 3
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³¹ Bradsher, Keith, *High and Mighty: SUVs- The World’s Most Dangerous Vehicles and How They Got That Way*, 2002, at 112.

³² *Id.* 112.

³³ AdvertisingAge’s 100 Leading National Advertisers: 47th Annual Report, June 24, 2002, at 3.

³⁴ *Top Ten Advertisers of 2001 and Revenue per Advertising Dollar Expenditure*

2001 Rank	Advertiser	2001 Spending	Revenue per Advertising Dollar Expenditure
1	General Motors	\$3,374,000,000	\$39.20
2	Proctor & Gamble Co.	\$2,541,000,000	\$8.00
3	Ford Motor Co.	\$2,408,000,000	\$44.97
4	PepsiCo	\$2,210,000,000	\$8.20
5	Pfizer	\$2,189,000,000	\$9.10
6	DaimlerChrysler	\$1,985,000,000	\$36.60
7	AOL Time Warner	\$1,885,000,000	\$17.30
8	Phillip Morris	\$1,816,000,000	\$28.70
9	Walt Disney Co.	\$1,757,000,000	\$11.90
10	Johnson & Johnson	\$1,618,000,000	\$12.50

AdvertisingAge’s Revenue Per Advertising Dollar Expenditure at <http://www.adage.com/page.cms?pageId=915>, visited February 19, 2003.

³⁵ Hakim, Danny “Whether a Hummer or a Hybrid, the Big Complaint Is Fuel Use,” *The New York Times*, May 7, 2003. Citation attributed to Michael Flynn, director of the University of Michigan Office for the Study of Automotive Transportation.

³⁶ Hakim, Danny, “Ford Will Phase Out the Taurus and Replace It With 3 Vehicles,” *The New York Times*, April 16, 2003.

³⁷ Welch, David, “The Sun is Setting on ‘Truckish’ Sport-Utes,” *BusinessWeek*, Monday, May 5, 2003.

³⁸ NHTSA, *Status Report for Rollover Prevention and Injury Mitigation*, Docket No. 91-68, 11 (May 1996). The report indicates that a 1995 Customer Satisfaction Survey reflected that less than 50 percent of the people surveyed would go to the auto dealer for information. Seventy-six percent of the people polled considered safety to be an important factor. However, less than 50 percent of the total population polled said they would request information from the dealer. Only 60 out of 4,000 people said they would contact a federal agency for auto safety information.

³⁹ See Hakim, Danny, “Generous Tax Breaks for Some SUV Buyers Upset Environmental Groups,” *The New York Times*, Dec. 20, 2002.

⁴⁰ See Bradsher, Keith, *High and Mighty: SUVs- The World’s Most Dangerous Vehicles and How They Got That Way*, 2002, at 112-113, and see Hakim, Danny “Whether a Hummer or a Hybrid, the Big Complaint Is Fuel Use,” *The New York Times*, May 7, 2003.

⁴¹ *Id.* at 127.

⁴² Bradsher, Keith, *High and Mighty: SUVs- The World’s Most Dangerous Vehicles and How They Got That Way*, 2002, at 113.

⁴³ *Id.* at 142.

⁴⁴ <http://myfloridalegal.com/newsrel.nsf/newsreleases/4997F73518725EF685256D110059DC01?OpenDocument>