3. AUTOMOBILE CRASHWORTHINESS: REGULATING MANUFACTURES AND INFORMING CONSUMERS

3 1 The Role of the Federal Government

The effects of vehicle weight disparities upon total crash losses and upon individual risk illustrate quite well the difficulty of many of the

problems faced by the National Highway Traffic Safety Administration (NHTSA) in carrying out its mission to reduce the overall losses from highway crashes. A prerequisite to action is to understand and describe the problem. It is not easy to isolate the effects of weight and size, in part because of the large number of factors that can work to raise or lower the crash and injury rates for any vehicle type, and in part because of the difficulty and expense of collecting and processing the necessary quantity and quality of data. Nevertheless, we do have a quantitative description, a mathematical model based upon accident data, that reveals some rather large effects, and for that reason may be adequate to support some decisions.

After obtaining a useful description and understanding of the problem, NHTSA must determine the actions that may diminish the problem and attempt to implement those that meet the criteria of cost and effectiveness. An additional very heavy constraint, as many programs to increase safety belt usage have shown, is acceptability to the driving public. In most cases, NHTSA's response to a perceived major safety problem will consist of one or more of the following:

(1) disseminate consumer information (a) so that vehicle users can act to reduce their own risks, and (b) to use the power of publicity to bring pressure on manufacturers, (legislators, officials responsible for roads, traffic control, driver licensing, etc.) to take helpful actions;

(2) issue mandatory regulations or directives requiring present or future action by the recipients, e.g., motor vehicle safety standards, recalls, etc. The desired results of these actions are changes in human behavior and/or engineering changes in vehicles or in the road and traffic control systems.

3.2 Concern about Light Cars

Interest in the safety effects of car size arose from two principal concerns. First, since the early 60s many persons believed that publishing safety statistics such as accident and injury rates for each make and model of passenger car could force manufacturers to pay more attention to design for safety as a result of market pressure from informed consumers. The latest published NHTSA annual report reaffirms this belief:

> The Consumer Information Regulations require motor vehicle manufacturers to submit to the agency, and make available to first and prospective automobile purchasers, information on stopping distance, uniform tire quality grading, and truck camper loading. This information is an outgrowth of the Congressional mandate under the National Traffic Motor Vehicle Safety Act of 1966, and the agency's belief that an informed marketplace is the key to improving safety and performance of various domestic and foreign automobiles. (U.S. DOT, 1985)

Today, thousands of people buy the privately published successor to The Car Book (published under the same name and in similar format) which includes vehicle fatality rates, and the Highway Loss Data Institute continues to publish statistical compendia showing the incidence of collision and injury claims and expenses by make and model for most passenger cars and utility vehicles. Since basic physical considerations show that vehicle size and weight have large effects on these rates, it was desirable to get some quantitative description of these effects in order to ensure fair comparisons.

Most published compendia of make-model comparisons have grouped the vehicles by weight class, although other criteria such as wheelbase serve a similar purpose. This reduces, but does not completely eliminate, the distorting effects of differences in weight and size. For example, Joksch (1983) indicates that the probability of fatal injury in a crash for vehicle occupants in two-car collisions increases about 7 percent with each 100 pound decrease in vehicle weight. Hence, if one groups together vehicles within an interval of 600 pounds, the probability of fatal injury in a two car crash should be about 50 percent greater for occupants of the lightest vehicles in the range than it is for occupants of the heaviest vehicles in the range, and the fatality rates for the vehicles should vary accordingly. In single-vehicle crashes, were weight is a less important factor, the difference is 13 percent. So, if there are equal numbers of occupants exposed to single-vehicle and two-car crashes, the maximum variation in the 600-pound interval would be (50+13)/2=31 percent. (This ignores, however, the effects in crashes involving an automobile and a larger vehicle such as a truck, bus or van.)

The preceding comment raises immediately the question of fairness in comparisons. The weight variations within a class are probably not the principal source of variation in injury rates. Most analysts would agree that vehicle exposure (e.g., who drives the vehicle, when, where and how far, under what road and traffic conditions) is the most important determinant of accident and injury rates. How much of the differences among various make and models within a weight class can be accounted for by weight and exposure differences among the vehicle groups? What are the consequences of erroneous information to consumers and for the manufacturers?

The fuel shortages in 1973-4 and 1979 were the other major factor that created interest in the safety effects of car size. One way of improve fuel economy is to reduce the vehicle weights. In the absence of some countervailing effects, this will result in higher injury rates for occupants of the down-sized vehicles. So this became a matter of some concern to NHTSA and was the incentive for additional work on the problem (Mela, 1974). The empirical relationship arrived at between the injury probabilities for drivers in two-car crashes and the vehicle weights implied that the weight disparities among the passenger cars at that time raised the overall fatality rate in two-car crashes by about 6 percent (Joksch, 1974) over the rate that might be expected in an automobile population, all of whose cars had the same weight as the average weight in the actual car population (Mela, 1975). This 6 percent increase is about the same as would be expected to result from a 200-pound decrease in the average car weight.

Thus, if we consider the major problem to be increases in the overall risk level, then the major contributor is the large reduction in average vehicle weight that has been taking place. Weight disparities, on the other hand, primarily reallocate the risks among the vehicle users. Because one person's purchase of a heavy car can reduce his risk of serious injury in a two-car crash, while increasing the risk for the occupants of the other car, the overall effect in two-car crashes is second order; the net increase in risk is a different between an increase for one group of persons and a decrease for others. Therefore, the ethical implications of the weight disparities assume more importance.

The best way to put this in perspective is to compare the changes in risk levels due to differences in vehicle size with those that result from other factors affecting risk. For example, safetybelt wearers reduce their probability of fatal injury in a crash by about 50 percent. To put

it more dramatically, the non-belt wearer has increased his risk by a factor of 2. The same increases in risk would result from weight changes of 950 pounds in two car crashes and 3400 pounds in single vehicle crashes. So, for most car buyers, the decision to wear or not to wear a belt is likely to have more effect on their risk of injury than the decision to "step up" to the next larger and heavier size class of cars. However, for seatbelt users--and seatbelt use is increasing with the passing of seatbelt laws--car weight remains the factor most strongly influencing fatality rate.

3.3 The Protection of Others

The Federal Motor Vehicle Standards are intended to enhance the safety of occupants of the vehicles to which they apply, although, to the extent that the standards effect a reduction in multi-vehicle crashes, they can also add to the safety of other road users. All crash-prevention standards (series 100 of the Federal Motor Vehicle Safety Standards) fall into this category. The crash-phase injury prevention standards (series 200) protect with one exception[3] the occupants of the vehicles to which they apply. Rear-underride guards for heavy trucks to protect occupants of cars colliding with trucks have been considered, but truckers objected because of the additional weight and consequent fuel consumption. None of the standards have a negative effect upon the occupants of other vehicles with one possible exception: the third high-mounted brake light. It has been established that vehicles equipped with this configuration of rear lights are less likely to be struck from the rear by a following vehicle. But, under some circumstances, it appears that the following vehicle will be more likely itself to be struck from the rear, particularly if the following vehicle is not equipped with the high-mounted tail lamp.

Concerning consumer information, the original edition of The Car Book might well have had a negative effect on the occupants of light cars. The Car Book clearly advertised the merits of heavier cars without mentioning their effect on the occupants of lighter cars. Should government encourage those who can afford it to buy heavy cars? The authors of The Car Book apparently thought so. The government has an alternative, which is implemented in the New Car Assessment Program. This program tests new cars occupied by instrumented dummies in barrier crashes. These correspond roughly to collisions with a car of the same weight. The results of these tests reveal the purely protective characteristics of a car design without the effect of its weight; thus, the results are not biased toward heavier cars. On the other hand, the results of these crash tests are of limited usefulness for assessing the fatality risk in real world crashes: a light car which compares well with other light cars can still have a higher fatality risk than a heavier car which ranks only average.

4. AUTOMOBILE OCCUPANT DATALITY RISKS: THE ETHICAL IMPLICATIONS

4.1 Motor Vehicle Fatalities: The Ethical Issues

The conceptual world of technological, environmental, and risk assessment and analysis, though heavily dependent upon the sophisticated theories of the various decision sciences is, nevertheless, inhabited by additional, yet unacknowledged, theoretical ghosts. One of the central dimensions of philosphical reflection is ethical analysis; indeed, some unacknowledged theoretical ghosts (with practical bearings of their own)

are the often presumed and assumed ethical justifications for various practices which affect us all in our daily lives. Furthermore, in our time, philosophy has itself become "applied," given the attention that moral philosophy has given to the science and practice of medicine, for example. But ethical analyses of other actions beyond the multi-faceted health-care context are also warranted these days.

For a long time, attention to automobile accidents and death had been concentrated on the driver and his or her role in accident causation. In the early 1960s, popular and governmental attention was refocused on the automobile and its role in the causation of injury and death. This led to the establishment of the National Highway Traffic Safety Administration, which had the authority to regulate automobile characteristics. Special emphasis was placed not only on preventing motor vehicle accidents, but also reducing the risks of injury and death in these accidents.

More recently the formation of local grass-roots organizations reflects continuing concern over motor vehicle deaths. They again emphasize changing driver behavior and competence by way of legal and educational approaches. Organizations like Mothers Against Drunk Driving (MADD) have been formed with at the very least symbolically reinforce the value of life-saving goals and the urgency of saving lives. Many of MADD's members had a young person killed by a drunk driver and thus their efforts are directed to the saving of lives and to reducing injuries to automobile occupants. All too often attempts at preventive measures have merely symbolic significance. This has led many to conclude that our society does not place a very high value on human life. Is this state of affairs a true reflection of the way citizens in our society dis-value life? We think not.

There are, of course, standard reasons for inferring that we do not value lives as such: (1) by saving lives through improvement of automobiles and/or road conditions, we do not know ahead of time whose lives will be saved; in a sense they remain anonymous; (2) lives lost in actual automobile accidents are usually strangers--although a particular death affects us when we know the persons involved, are touched by the loss of someone dearest to us, or perhaps have been at the scene. Generally, of course, we read about strangers; statistically, we hear the annual or holiday-weekend death tally. Apparently, we are not too moved by such generalizations, statistical and otherwise, and thus we are in danger of a loss of motivation to see the facts for what they are, and to effect changes that would reduce the number of automobile fatalities. We have had only two choices: change individual driving behavior or change the highway system. Since the establishment of the National Highway Traffic Safety Administration, modification of the vehicle has become a third option. Whereas prior strategies emphasized the prevention of accidents, the regulation of vehicles emphasized even more the reduction of the risk of injury or death in accidents, not from accidents. However, they are aimed at protecting the occupants of vehicles to which they apply; they do not provide protection to occupants of other vehicles. That heavy or stiff vehicles increase the risk for the occupants of other vehicles has been recognized in the technical literature; however, publications such as those noted in our Introduction which implicitly recommend heavier vehicles ignore this aspect.

The most obvious effects of structural differences are that heavier and larger cars have lower occupant injury and fatality risks than smaller and lighter cars. However, heavier cars also increase the injury and fatality risks in cars with which they collide.

Thanks to the careful research efforts of many persons, we today are in a much better position to formulate the principal ethical issues raised by the distribution of car-occupant driver injuries and fatalities.

Having reviewed the empirical conditions, we shall now direct our attention to three independent yet related ethical issues which arise on the basis of the general significant disequities which are implicit in the present automobile fleet.

Before turning our attention to the three ethical issues raised by our present practices, it may be useful to mention the three principal characters on our stage: buyers are free to select from a wide range of automobiles, including a wide variation of weight and wheelbase on the new and used car market; manufactures can produce a wide range of cars, domestic and foreign, and advertise their characteristics; and the government can regulate certain aspects of the automobiles through the Federal Motor Vehicle Safety Standards and the Corporate Average Fuel Economy standards. The insurance industry, of course, is a major influence in the context of automobile accident compensation for injuries to persons and property. By setting premiums it can encourage or discourage the choice of certain automobiles. We shall not explore this influence here, however.

4.2 The First Question: Consumer Conduct

The first question, then, is both ethical and legal, since we can ask whether our society should allow this citizens to drive automobiles that are so heavy compared to the lighter and medium-weight cars, that they place the drivers of the lighter cars at a significantly higher risk of fatality than the drivers of the heavier cars. The question is legal in the sense that it can be read as: "Should it remain legal to drive very heavy cars which place others in the lighter cars at serious risk of fatality in car-car accidents?" It is fair to read the question in legal terms, since driving automobiles and other vehicles is already legally governed. Moreover, we need not dwell here on licensure, registration, or safety standards for vehicles on U.S. roads, except to say that (1) the driver's "right" (privilege?) to drive is strongly regulated under police powers, which permit a state to restrict licensing; (2) the right to use a given vehicle is also subject to licensing regulations. Again, (3) there is no right to drive a particular vehicle; only those satisfying state and federal requirements may be used on public roads.

But we are not here asking the legal form of the question; we are asking the moral one: given the facts before use, is it morally justified for us to continue to allow the wide disparity of automobile weights which we currently experience on our roads? Again, is it ethical to purchase a new or used car of heavy weight, which in fact means that the purchaser--selecting from manufacturers' offerings to the public--not only purchases additional personal safety, but, in addition, "purchases additional personal safety, but, in addition, "purchases" a greater likelihood that he or she will kill occupant drivers of lighter cars in car-car accidents? Here it is important that we be clear. We are not suggesting that we blame drivers, manufacturers, or sellers of heavy automobiles; we are simply raising the ethical issue of obligation or non-obligation, given the fact that by respecifying what weight range of automobiles we permit on our roads, we would reduce the disparities in occupant fatality risks and possibly even the number of deaths of occupants of car-car accidents. But first we must determine whether a new obligation exists; only then can we rationally discuss where the obligation, if it exists,

lies. Even if this empirical evidence becomes available to the public, and is repetitively announced via the popular media, would new automobile purchasers avoid buying heavy automobiles? As long as there are heavy cars on the road, and others are buying heavier new cars, a rational buyer will buy the heaviest car he can afford for his own protection. There are, of course, other possible scenarios--e.g., the petroleum fuel crisis of a few years ago where, clearly, lighter cars were preferable. We should keep one fact in mind--that although new, heavy cars are generally more expensive than lighter cars, persons of modest and limited means can and do often purchase heavy automobiles; they usually buy used cars and the oldest used cars are generally quite heavy. So the issue of the heavier automobile owner's advantage in contrast to the lighter automobile driver's disadvantage is not equivalent to the rich taking undue advantage of the indigent. In the future, however, the situation will change--heavier cars will be driven by the well-to-do, except if they opt for light, more expensive specialty cars. Disequities can be engendered without casting one socio-economic group over or against another--the rich over or against the indigent. In fact, this makes our current problem even more interesting, for it tends to equalize responsibility among automobile owners, whatever their means. For if we can show that the problem lies with the range of choices of car purchasers in general, then any solution--e.g., change of purchasers' behavior, manufacturers' decisionmaking, or sales promotion--will find everyone equally responsible. We should keep in mind, of course, that sellers of automobiles and automobile manufactures and workers also are occupant drivers--indeed, a greater percentage of these groups are drivers than are, for example, minors below legal driving age, the elderly infirm, and the handicapped.

Unfortunately, if we agree that we ought to equalize the risk that occupant drivers take with regard to their lives, the consequences are as serious as they are various. For example, we may decide it is morally proper to continue to allow persons to purchase lighter automobiles so that they assume any additional risk they take on a voluntary basis, "voluntary" in the best sense of the term--they are informed, competent, uncoerced, and freely elect to purchase these smaller, lighter cars. In so doing, if things remain as they are, those drivers can remain free to take a greater risk of death in car-car accidents. But should we continue to allow persons of whatever means to purchase heavier automobiles and by so doing purchase a powerful instrument to radically increase their changes of participating in the killing of those drivers in the smaller vehicles? One answer could be as follows: "Yes, if you allow the purchase of greater-risk-of-death smaller vehicles, then it is consistent to allow the purchase of heavier vehicles by those who prefer them. This is how things stand today. On the other hand, one might argue that though it is morally permissible to allow persons to take greater risks with their lives, retaining a democratic and libertarian ideal, it is not morally permissible to allow persons to purchase a greater likelihood of killing others than being killed: The distinction is one between freely taking a risk with one's own life and freely buying a decisive advantage over others to further secure one's own life. The problem is virtually without analogy, since the interaction of both light and heavy car owners is almost unique in our social intercourse and commerce. It is almost impossible to discover a context analogous to automobile/occupant interactions in which there is virtually no escape from each other in very risky situations. The two groups are on common turf. This common turf--"the commons" as it was dubbed by political philosophers--should begin to signal to us that we might have obligations to each other, and that present disparities in purchases of various car weights should not be permitted to continue: for those who drive the heavier automobiles put the

lighter-automobile drivers at great disadvantage, but by purchasing less diverse cars we can significantly reduce discrepancies between the fatality risks of occupants and drivers of different cars.

4.3 The Second Question: Manufacturer's Conduct

Do all automobile manufacturers whose automobiles operate on U.S. roads (including all manufacturers of imported foreign automobiles) have an obligation to protect drivers in automobiles other than the automobiles each manufacturer produces? Is there an obligation for each manufacturer to be critical of the weight of cars made by other manufactures? Why, after all, does each automobile manufacturer invest in improving the safety and life-reserving features of its own particular make or makes? It appears from the fact that all automobile manufacturers conduct safety studies and continue to redesign their automobiles, that they tacitly endorse the goal of reducing fatality risks to occupant drivers. It does not appear that they would benefit from further lectures on their obligations to the public. Moreover, there is no obvious evidence that manufacturers feel obliged to extend safety considerations to the occupants of other cars. At least the General Motors advertisements can be interpreted to the contrary. For they contrast the low risk in heavy cars (primarily GM products) with the high risk in lighter cars (primarily Japanese imports) without mentioning that the high risk for light cars is to some extent due to the presence of its own heavy cars on the road.

On the positive side, it makes little difference what automobile manufacturers and suppliers intend so long as the purchasers on the demand side insist on reducing their risk of a fatal accident. Moreover, a great deal of money is already expended on the part of automobile manufacturers to influence the purchase of their own products. We are convinced that a dramatic difference in fatality risks could alter purchasers' behavior, if purchasers were deeply convinced that fatal accidents can happen to them. However, most drivers tend to believe (albeit unjustifiably) that they can avoid fatal accidents; they tend to weigh crashworthiness relatively lightly and other factors like economic, engineering and aesthetic ones more heavily. Nevertheless, the fatality risk plays a role at least in some buyers' decisions. The most dramatic differences are between the heaviest and the lightest cars, and it is therefore easier for manufacturers to advertise the advantages of heavier cars than to demonstrate any differences between more comparable cars. Considering this, no manufacturer has a motive to reduce the weights of his cars in order to reduce the occupant fatality risk for other manufacturers' cars (though other considerations, such as price or fuel economy, may motivate the manufacturer to do this). Indeed, making his cars lighter will make them less attractive to some safety-conscious buyers.

Thus, as long as there is no assurance that other manufactures will not reduce the weights of their cars, a manufacturer will fare best if he keeps his cars as heavy as possible, considering the other effects of weight. Only cooperation among manufactures could eliminate the competitive obstacle to reducing car weights insofar as this would reduce their "aggressivity" attitude toward other cars. Cooperation among manufacturers, however, may be difficult, since anti-trust regulations are complex. Here, in all likelihood, government intervention might be needed.

By working with one another and legally responding to the intent of the anti-trust laws, all automobile manufacturers can take a further step in the direction of fulfilling already-stated obligations to the public, who purchase and drive their vehicles. Before you warn us of the Federal

anti-trust laws which prohibit conspiracy among manufacturers, consider the moral point first. After all, if it is clearly for the public good that such an agreement is to be suggested to government by all manufacturers, then there may well be a way--given that no manufacturer is to take financial and market advantage of the others--to create a new range of automobile weights that would, in the end, decrease discrepancies in automobile occupant fatality risks.)

4.4 The Third Question: The Role of Government

This leads us to or last question: Should the U.S. government regulate the weight range of all vehicles used for domestic, non-commercial purposes?

When regulating car weight, the government has to consider obvious concerns. Cars for more occupants have to be heavier than those for fewer persons. Also, there are trucks on the road, where weight cannot be much reduced without affecting the trucks' main purpose. Thus, instead of regulating weight directly, compensatory regulations may be preferable: if a heavy vehicle has a "less aggressive" (or, positively states, "more forgiving") structure, it may have the same effect as a light vehicle on others. Another qualification for regulation might be to require much higher qualifications for licensing drivers of heavy vehicles; though they still increase the fatality risk of other vehicle occupants (given that an accident occurred), a lower accident risk may serve to compensate this.

There already exists implicit government regulation of car weight. Weight is an important factor in automotive fuel economy, and the Corporate Average Fuel Economy Standard tends to decrease the average weight of a manufacture's car models. However, it does nothing to decrease discrepancies: one manufacturer's models may be of similar weights, another manufacturer may produce very light and very heavy models, thus achieving the same average.

Again, should all importers and U.S. manufacturers/sellers be required to change their automobile designs, given that auto weight is related to many other automobile features, including safety features? For those persons of libertarian persuasion, of course, the answer is "No, regulation by government intervention is intrusion," they retort, "and such action should be viewed with disdain--since it inhibits the liberty of buyers and sellers to choose among auto vehicles according to their own personal preferences." Even if one decides that the government should not regulate automobile weight, a related question remains: Should manufactures be allowed to publicize and advertise the safety record of heavier cars without also publicizing the fact that much of the safety is gained with a reduction of safety to others.

This ethical and political question is not new, of course. It is the age-old problem of attempting to construct a moral theory of welfare, which on the one hand reduces the de facto risks to people who drive on U.S. roads, while at the same time it does not advocate coercing citizens by instituting additional regulations which restrict their free choice. Can risks, like the risk of death incurred by auto travel in car-car collisions, be redistributed and/or reduced without affecting the freedom of individuals? If we wish to advocate and maintain a so-called "minimal state," how are we to "manage" or "control" risks like the risk of fatality to occupant drivers? Moreover, if we agree to work to equalize the taking of risks on our roads, who will monitor this behavior? Who will provide protection to those in clear need of and with a right to such protection?

In seeking a reconstruction of the requirements which directly bear on the range of automobile weights and wheelbases, we have little confidence that the public at large will sacrifice and restrict their preferences; further, we do not think that auto manufacturers, domestic and foreign, will take the initiative, either. It seems that one purpose of government in a democratic polity--perhaps the most essential end--is that it offer its citizens protection from non-trivial risks and dangerous forces, both foreign and domestic.

5. SUMMARY

The basic facts are well established: occupants of heavier cars face a lower injury and fatality risk in accidents than occupants of lighter cars. However, this advantage is to a large extent due to the fact that, in car-car collisions, they primarily collide with lighter cars. In these collisions, the occupants of heavier cars are better off than in collisions with cars of the same weight, and occupants of lighter cars are worse off than in collisions with cars of the same weight. In a first approximation, the advantage of heavy and the disadvantage of light cars is just redistributing the same total number of deaths among the occupants of different car classes.

In a second approximation, however, the total number of deaths will vary with the composition of car fleet. If the presence of heavier cars reduces the total number of deaths, it can be argued that this makes the uneven distribution of deaths among car classes acceptable. However, it is possible, depending upon the exact composition of the vehicle fleet, that the presence of heavier cars increases the total number of deaths.

Buyers selecting cars under safety aspects will buy the heaviest cars they can afford, thus trading off their fatality risk against that of buyers who can afford only lighter cars.

If manufacturers tried to appeal to safety-conscious buyers, they would offer the heaviest cars compatible with market price and fuel economy standards, thus enabling buyers to select heavier cars, thereby perpetuating the uneven distribution of traffic deaths.

In reality, the situation is not that extreme: safety is only one of many considerations when buying a car. Buyers who cannot afford the heaviest car on the market and who use seatbelts have no other way to protect themselves against the higher fatality risk caused by heavier cars.

The only entity able to change this distribution is the federal government (and to a lesser extent, state governments, by taxing vehicles and requiring special driver licenses). The most direct approach would be to set standards for automobile weight. This might narrow the range of weights; however, a sizeable range may remain, depending on legitimate car characteristics. Indirect approaches might involve standards requiring features which compensate for the effects of greater weight, or by state governments imposing more stringent licensing standards for drivers of heavier cars, which might reduce the accident involvement risk and thereby reduce total fatalities which result from collisions with heavier cars.

Depending on the current composition of the fleet, and the exact relations between fatality risk and automobile weight, reducing weight

discrepancies could even have the additional effect of reducing total fatalities.

Given the banality and emptiness of ideals that govern daily life on our roads, can any death realized in such a way be anything more than senseless, undeserved, and without redemption?

NOTES

1. Actually, these publications present the injury or fatality risk per-car-year (without regard to how much the car is used during a year) not the risks per-crash-involvement
2. A point we owe to Paul Milvy, Ph.D., which he made during the discussion.
3. See FMVSS-211, which prohibits "winged projections" on wheelnuts, wheelcovers and hubcaps to preven injury to pedestrians and bicyclists.

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