

Cruel Hoax Played On American Public Concerning Helmets

Helmets Attributed To Many Injuries and Deaths

By Tony "Pan" Sanfelipo

Ever since the Safety Act of 1966, birthplace of many so-called safety initiatives for motor vehicles, the American public has been deluged with rhetoric about the safety aspects of motorcycle helmets. One of the main problems we as anti-helmet law advocates faced was the common sense theory, that being it stood to reason that any covering of the cranial surface would be better than no protection at all. Independent thinkers should know that common sense and science are at odds all the time.

Other theorems have been offered, such as the infamous "missile hazard" theory, and the "public burden" theory. The key words here are theory. To date, no substantial evidence has ever been offered to show overwhelmingly that these theories hold any water at all. Sure, there are public costs associated with motorcycle related injuries, and perhaps a stone could be thrown up and cause a cyclist to lose control of his motorcycle, thereby endangering other highway users. In the same respect, a comet could fall from the heavens and cause mayhem on the roadways, so we should consider building covered arches spanning from shoulder to shoulder to protect all highway users.

After the defeating the federal government's plan to coerce mandatory helmet laws on the states, the repeal of existing helmet laws will be fought in the independent representative state's legislatures. The problems the motorcycle rights groups are facing are, among other things, a dissention among cyclists themselves surrounding the utility of helmets, and the problem of being faced with compromising some of the "helmets hurt" arguments by allowing amended language to be added to repeal bills calling for helmets for a certain group, usually the under 21 years old riders.

THE PROBLEM WITH COMPROMISE

In today's legislative arena, the biker's rights activists have learned to play the political game well. (Maybe too well). In sharpening the skills needed to be effective, many leaders have lost focus over the years of what the helmet repeal was all about. In the beginning, it wasn't a safety issue, unless you recognize that many of us were concerned with our safety if we were forced to wear a helmet. It wasn't really even a choice issue, unless you realize that our choice, collectively, was we didn't want to wear one. Those who did probably already were wearing one.

Right from the beginning, we used the "helmets hurt" argument, bolstered by the very few reports we were able to find that backed this argument up. It wasn't because the statement was untrue, just that the powers that be (those backed by grant money or government agencies) spent all their resources reporting and documenting the positive aspects of helmets, never making public any negative findings. In fact, the very standards proposed to regulate the motorcycle helmet industry were and still are so weak and broad, they offer very little in the way of a *real* safety standard. If NHTSA was so concerned

about the "missile hazard" theory, then why not require the cycle manufacturer to install a windshield? Legislatures constantly looked to the manufacturer to provide safety devices, not place mandates on the consumer.

The public burden theory washes thin also when looked at from a distance. The much quoted Harborview Medical Center study states that injured motorcyclists relied on public funds for their care 63.4% of the time. That would seem to be a disproportionate use of public monies by injured riders until you examine what others cost society. It turns out that 67% of the general population relied on public funding for hospital bills over the same period of time.

ARE MOTORCYCLE HELMETS REALLY SAFER?

This debate will probably go on forever. There is a wide range of thought even among motorcyclists themselves. Some riders believe the studies and data supporting helmet use. The American Motorcyclist Association (AMA), which represents more cyc lists than any other organization, published a report entitled *In Support of Voluntary Helmet Use*. Other organizations have published articles and reports denouncing helmets as ineffective at speeds over 13mph. herein lies our greatest problem. We disagree about the fundamental effectiveness of helmets. In order to maintain the path of least resistance, and defray in fighting or disagreement among the various organizations and groups, the battle cry over the years has become "Let Those Who Ride Decide". The dangers or inadequacies of helmets have been dismissed as an argument in place of the credo that all we want is a chance to choose whether or not to wear a helmet. As a casual observer, this would seem to solve the problem. If one believed in helmets, then, buying one and wearing it would be a viable option. If there was distrust in the effectiveness, the freedom not to wear a helmet would be there also.

The problem arises when legislators are willing to submit a repeal bill but have problems with a total repeal. Often times, the natural compromise is to require helmets for those under 21 years of age. It seems like a small price to pay for freedom. But is it really that small a price? By allowing this type of compromise, what we are saying is that some of us believe helmets work; some believe that they are ineffective or dangerous in certain circumstances. But we will compromise and possibly only endanger a small segment of our riders, those under 21. Works fine if you're over 21, or under 21 and never in an accident. But what if you are under 21, forced to wear a helmet, and end up with a broken neck due to the helmet rotating and crushing your fourth cervical vertebrae, and severing your spinal cord?

It is my firm belief that the freedom to choose whether or not to wear a helmet must be universally equal across the board. If choice is the issue, then give everybody a choice. To do less is ridiculous. It sends a message out that only some should be allowed to choose, or live. The federal governments own numbers indicate that people would possibly be better off not wearing a helmet. In 1992, more fatalities were attributed to riders wearing helmets than not. The same reports showed that the lowest rates of fatalities per 100 accidents were in states without a mandatory helmet law.

In view of the recent victory over the oppressive tactics of the federal government, we should unite in a single voice stating **END THE HELMET HOAX!**

Maybe, just maybe, if 20 years ago we would have stuck to our original purpose, the total defeat of mandatory helmet laws, and continued our concerns over the effectiveness of helmets we wouldn't be

revisited by protectionist type legislators who believe it is in their realm to control our private lives. We relaxed our steadfast argument against helmets in order to accommodate the varied beliefs among our own members. That single decision could be the reason we may be arguing for our freedom from mandated helmet laws 20 years from now. We must not only tell legislators and others we want the right to choose, we must tell them why we want the right. The preservation of individual rights and freedoms is something most legislators are deaf to. After all, they take away rights and freedoms every day in the performance of their jobs. I believe in the Constitution and in individual rights. I also believe that is one of the weakest arguments we can put forward unless backed by other, more compelling argument. Legislators, as well as rights leaders need to be educated about the shortcomings and dangers of helmets. I hope common sense does not outweigh scientific fact when scrutinizing the utility of the motorcycle helmet (*the prefix safety purposely omitted*).

End.

NHTSA'S SAFETY STANDARDS ARE SHOWN BE ANYTHING BUT SAFE

THE TRUTH ABOUT "SAFETY" HELMETS REVEALS A MYRIAD OF HAZARDS -- MOST OF THEM FATAL

It was on a flawless spring morning, May 5, 1985, that Larry McAfee, a 29-year-old mechanical engineer, decided, on an impulse, to take his motorcycle for a ride with friends on the mountain roads north of his suburban Atlanta home. Hours later, traveling no more than 10 m.p.h., he hit a curve, fell, and as his head snapped back, the base of his helmet crushed his top two vertebrae (as in Figure #2).

"There was not another mark on him," says Larry's mother, Amelia.

Yet in that split second, the 6'6", 240-lb. McAfee, an avid outdoorsman, hunter and fledgling parachutist, had sustained what the medical profession calls a "complete injury," one that would leave him permanently paralyzed from the neck down -- unable to walk, eat or even breathe again unaided.

This introduction was taken from a People Magazine article describing the court victory of McAfee to obtain the legal right to terminate the application of the respirator which he relies on for every breath. As far as we know, McAfee is still not exercised that right; however, that is not the point of this particular article.

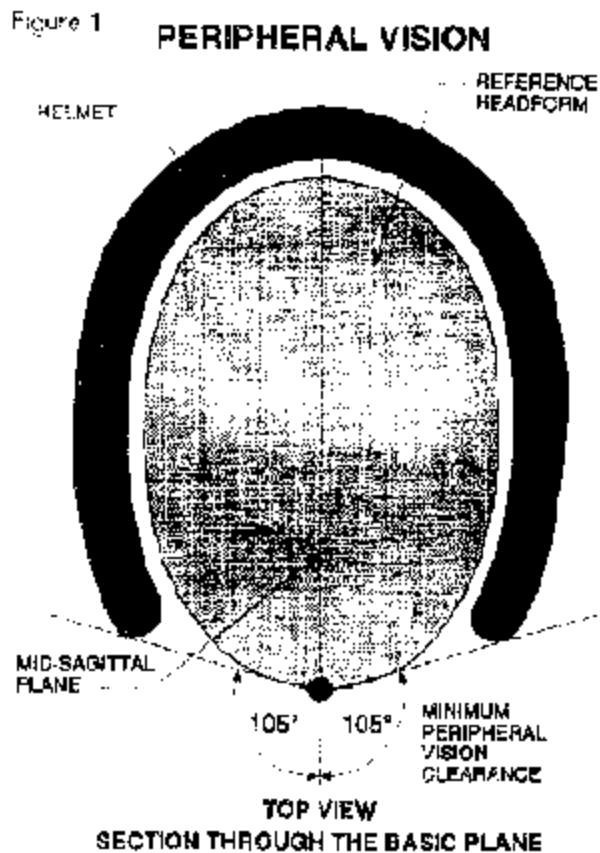
The point of this writing is to establish the need for a long hard look at the opinion expressed by the National Highway Traffic Safety Administration (NHTSA) indicating that the use of so-called motorcycle safety helmets -- built to pass their safety standard criteria, Federal Motor Vehicle Safety Standard #218 (FMVSS 218) -- notably protects a motorcyclist involved in a collision from death or other major injury.

Mike Holt, President of American Eagle Engineering, Ltd., and President of Riders for Justice, of Loveland, Colorado, has been at odds with NHTSA over this contention, and with their so-called safety standard, for well over a decade now. It is Holt's expert testimony on the subject of the dangers of helmet use which has been instrumental in removing, or preventing passage of, helmet laws in Colorado (28 times), Wyoming, Utah, and other states.

Holt has reported on virtually every aspect of these dangers in a report entitled "Ineffectiveness of Helmets and Detrimental Effects of Helmet Use" which, to our knowledge, is the most comprehensive objective study on the subject in existence today.

The bulk of this article will be drawn from Holt's work. This and his various other collections of data constitute just a small portion of the types of information he presents when called on to testify against the helmet hoax.

The areas of the detrimental effects of helmet use will be presented by first covering the aspects of



helmet use which attribute to, or are actually known to cause, motorcycle collisions; then we will turn to the aspects of helmets which actually cripple or kill the user at the time a collision occurs.

HELMETS CAUSE ACCIDENTS

Helmets Meeting Federal Standards Reduce Hearing Ability:

Again, except in the half-helmets that NHTSA has demonstrated a dedication to eliminating from the market, the other helmet designs which do come down over the ears undeniably diminish a rider's hearing.

When survival on the streets is contingent to the full capacity of all senses, the fact that FMVSS 218 does not prohibit a helmet from covering the ears, or diverting airflow or engine noise in such a way as to disrupt clear hearing, is yet another failure in the standard.

For these first two reasons alone Canada has rejected the so-called safety benefits of full-face helmets in most situations.

Helmet Weight Tires The Rider: The effect of the weight of a helmet on the ability of a rider to maintain a high level of movement to insure their safety with regard to other traffic is to make even that act more difficult. With nothing in the standard to support the contention, NHTSA claims in their literature that a helmet must weigh at least three pounds to meet their standard. The fact of the

deterrent of such additional weight on the rider's neck was acknowledged when California passed legislation to exempt government employees from helmet use in three-wheel vehicles.

HELMETS MEETING FMVSS 218 IMPAIR PERIPHERAL VISION:

The peripheral vision requirements of FMVSS 218 call for only 105 degrees per side (see Figure #1). This falls so short of the defensive driving needs of a motorcyclist that in 1974 the California Highway Patrol initiated an amendment action against the standard (in the absence of anything more than voluntary usage) arguing in favor of a greater 120 degrees per side requirement. NHTSA denied the request by the CHP virtually without consideration.

As you look at Figure #1, notice that the angle of "minimum peripheral vision clearance" is measured from the center of the forehead -- which would apply only to those riders with three eyes, or to the mythical Cyclops. No one we have ever met has one eye in the middle of their forehead.

The actual amount of peripheral vision from the eyes themselves, then, is considerably less than the 105 degrees per side indicated in the drawing. It is not unreasonable to conclude from this drawing (and a little common sense) that the FMVSS 218 standard creates a side-vision impairment just slightly less than that of horse-blinders.

HEAT BUILD-UP INSIDE A HELMET ENDANGERS A RIDER:

In the warmer climates, the inability of the body to dissipate heat through the top of the head -- as is mother nature's plan -- can cause faint or dizzy spells which can result in loss of control over a motorcycle where nature's cooling system would not.

HELMETS ACT AS A TRAP FOR FLYING/STINGING INSECTS:

One of the less frequent, but nonetheless reasonable, ways that helmets can actually cause an accident comes in the form of the manner in which flying insects are captured, aggravated, and held inside the helmet by its design. Even with full face helmets; bees, wasps, and other stinging insects can be trapped by the helmet, even around the neck area of the riders, and deliver a fatally distracting sting.

THE WAYS HELMETS WHICH MEET FEDERAL STANDARDS ACTUALLY KILL RATHER THAN PROTECT RIDERS

Getting a straight answer from NHTSA as to how their standard was developed is much the same as a straight answer from them on any other subject -- good luck!

However, we have been able to ascertain that they have never conducted any crash tests involving testing dummies (designed from human cadaver) to establish their standard. As near as we can tell, they adopted the testing procedures used by the Bell Helmet Company (their pet manufacturer) pretty much as they existed at the time the standard was made. The testing has to do with the use of a headform -- without the neck or body being considered -- and seem to consist of protecting this headform without regard to the actual application of the helmet on a human head. Therefore, it is not

unreasonable that their standard created products which kill motorcyclists in a myriad of ways that have to do with neck (and other) injury.

HELMETS OFTEN KILL RIDERS

HELMETS BREAK NECKS IN AT LEAST THREE WAYS:

1. THE HANGMAN'S NOOSE ANALOGY -- A case report by the Naval Safety Center introduced this analogy in the early 1970's in a report entitled "The Cervicocranium and the Aviator's Protective Helmet."

The report reads: "The inferior edge of the helmet, when visualized as part of the continuous circle completed by the nape strap and the chin strap, forms a loop that can be likened to a hangman's noose. The analogy might be further extended to include the lesions made about the neck by the straps or the edge of the helmet, paralleling the abrasions and contusions that might be associated with a rope having encircled the same structures. When the knot is situated at the side of the head, such a hangman's noose produces fractures of the base of the skull, tending to extend bi-temporally through the basisphenoid."

Referencing a specific case, they continued, "One interesting and compelling aircraft accident investigated by the Naval Safety Center, Norfolk, Va., served to emphasize the practical application of their theoretical exercise. A Navy A-4 jet aircraft experienced difficulties in flight which caused the pilot to eject at an altitude, attitude, and air speed that were within the operating envelope of the ejection seat. Supported by a fully blossomed functioning parachute, however, the pilot reached the ground severely injured and died shortly after the accident, as a result of a transverse laceration of the cervical spinal cord."

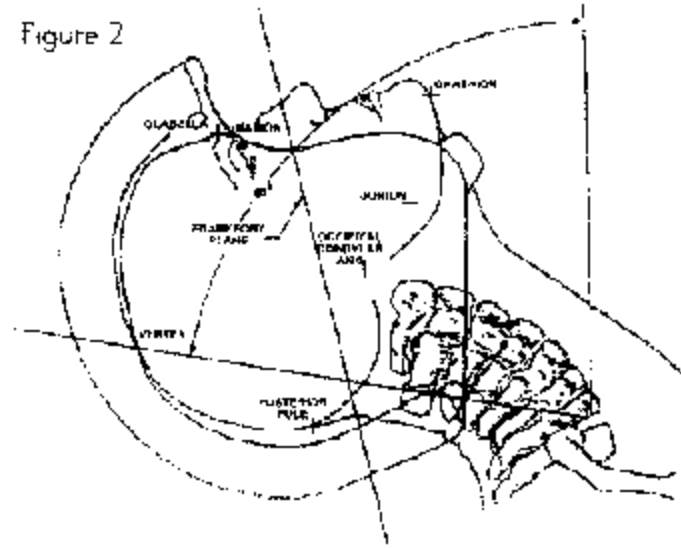
"The details of the investigation established that the energy responsible for the fatal lesion was transmitted through the helmet and its inferior edge, into the neck. A vertebral dislocation resulted, which in turn severed the spinal cord."

This is undoubtedly what happened to McAfee. A blow to the side of the helmet, mild as it may have been, was just enough to have broken his neck and damaged his spinal cord sufficiently to have left him helplessly crippled. It is interesting to note that the very same type of impact was survived by Gary Bussy, who now claims that helmets save lives. It is interesting to consider that had Bussy been wearing a helmet when his head hit the curb, the combination of chin strap and helmet may have left him crippled for life, or even dead, rather than just mildly (relative to fatally) injured -- with only questionable brain damage as the end result.

2. THE "HELMET FULCRUM" SCENARIO -- This study is another in Holt's bag of helmet facts.

In this study, the principles of engineering are studied as opposed to NHTSA's obsession with "head count" figures -- figures that will ultimately say whatever NHTSA wants them to say.

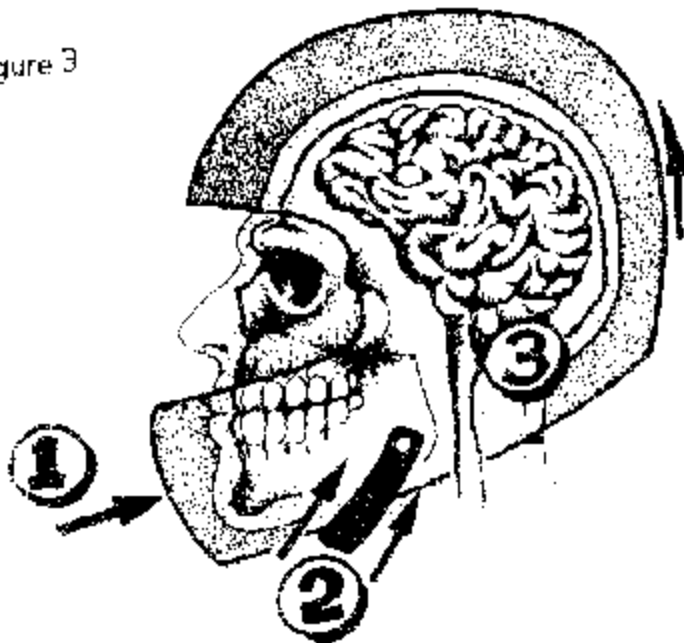
Figure 2



acts as a fulcrum to resist or oppose the force of translation of the head relative to the thorax.

This translation of the "helmet fulcrum" scenario means as force is applied to the front of the helmet and the head is forced back, the victim's neck is either sheered severing the spinal cord and instantly killing the victim, or the spine is hyper-extended and the chances of total paralysis and lingering death are certain in most instances.

Figure 3



almost long enough that one would think NHTSA would have seen it and done something about it by now -- if their concern were truly rider safety.

The "head count" method of evaluating helmet safety used primarily by NHTSA to support their standard has no place in the professional practice of safety engineering. There is no need for accidents to occur in order to establish foreseeability so that corrective action may be taken.

The "helmet fulcrum" investigation was initiated by preparing an illustrative drawing (Figure 2). An average man was drawn showing extension of the articular assembly, which constitutes the head-neck assembly. It can be seen that even in normal extension the helmet has met the cervical column at the third and fourth vertical vertebrae and

In general, helmet design emphasis has been placed on cranial impact protection together with product appearance and cost factors -- particularly in relation to the FMVSS 218 standard which we have already described as being formed virtually by the Bell Helmet Company, and merely adopted to suit their needs by NHTSA's engineers.

No one we have contacted, especially Holt, has been able to confirm that this "helmet fulcrum" scenario has ever been considered, much less plausibly rejected, by the NHTSA safety engineers.

3. DAMAGE TO THE BRAIN STEM FROM THE CHIN-BAR ON THE FULL-FACE HELMET -- This illustration (Figure 3) has been around for a while,

As the figure indicates, a blow to the chin-bar translates into yet one more way to hyperextend the spinal cord and bring about instant paralysis or death.

In most instances helmets used for sporting activities provide the use with cranial impact protection and have reduced injuries and associated deaths caused by these same helmets. A review of the maximum amplitude and velocity of movement of the head to thorax linkage for extension/hyperextension, as related to helmet design, revealed serious design deficiencies in helmets which readily comply with NHTSA's so-called safety standard. It is evident that protection should prevent injuries, not cause them, and **protection of one part of the body at the expense of another is not an acceptable design philosophy**. In other words, FMVSS 218 sucks!

When asked, "Will you guarantee that a helmet meeting these standards will protect a rider in a collision?" NHTSA will answer something along the lines of, "A helmet which passes our performance standards is considered in compliance with the provisions of FMVSS 218, and therefore in compliance with the law." and nothing more.

If the issue of whether or not motorcycle helmets are safe ever again comes before the California Legislature, the one person NHTSA does not want to testify on the issue will be Mike Holt.

What better reason could there be for all riders interested in ridding themselves of this helmet law to remember the name and location of: Mike Holt, President, Riders for Justice, Loveland, Colorado.

NHTSA ADOPTED THEIR DON'T ASK, DON'T TELL POLICY OVER 20 YEARS AGO

We have found a yet another player in the game, yet another federal agency involved in the issue of motorcycle safety -- the National Transportation Safety Board (NTSB).

On August 9, 1973, the NTSB issued "Safety Recommendation H-73-30" which reads, in part, as follows:

"Data which have recently come to our attention raise a question whether motorcyclists who wear the present standard safety helmets which reduce severe or serious injuries to the head and face, may suffer some degree of counter balancing increase in fatal neck injuries . . . Whereas the finding is not conclusive, the implication is sufficiently strong that the Board believes the subject should be further investigated without delay."

"The study in question, made by Raeder and Negri of the New York State Department of Motor Vehicles in 1969, compared motorcycle accident and injury data for a years 1966 and 1967 in order to detect possible effects of the mandatory helmet law which became effective January 1, 1967. The study showed, first, a decrease of 39 percent in total number of accidents which were reported - - from 5184 to 3161." (This observation is, as usual, irrelevant in that nothing about the purported attributes of a helmet has ever been credited with reducing the likelihood of an accident; so, it must always be concluded that this type of decrease is unrelated to helmet performance.)

The report continues: "The distributions of severity in these cases were nearly identical. Thus far, the data shows no effect of the helmet; the proportion of fatality among all accidents is unchanged."

"However, . . . a comparison of the head and neck injuries among fatalities for the two years showed . . . that wearing a helmet is associated with greatly reduced fatal head injury (39%), but greatly increased fatal neck injury" -- an increase from just under 6% to close to 38% of all fatalities resulting from broken neck injuries. The report continued, "And the differences in percentages could be larger than appear here because, while nearly all of the cyclists in the 1967 figures wore helmets, some of those in 1966 also wore helmets before the law required it."

"The indication is very plausible in light of some physical characteristics of the helmet. A standard helmet weighs about two to three pounds. If the motorcyclist's body is suddenly stopped, this helmet weight adds appreciably to the momentum of the moving head and puts additional strain on the neck. Furthermore, the helmet is highly rigid. If the helmeted head strikes a barrier while the body continues in motion, the impact is transmitted almost entirely to the neck. Possible remedies would include a reduction in helmet weight and rigidity, if this can be done while still affording major protection to the head. The entire approach may need reexamination . . . "

In conclusion, NTSB stated, "The net effect of the wearing of helmets needs to be reexamined in light of the New York analyses. The data from that study do show reduced fatal head injuries associated with helmet-wearing; but these benefits may have been offset by the increased incidence of fatal neck injuries. Further, the results of that study raise the question of net benefit from helmets shown in other studies, which did not analyze for fatal neck injuries in connection with helmet-wearing."

"The conclusion of the New York State report, favorable to helmet-wearing, does not mention the factor of fatal neck injuries; only careful study of the report brings the implication of the data to light."

"The Safety Board recommends that: NHTSA take immediate steps to confirm or disconfirm the implications of the New York State report that the wearing of helmets, as currently designed, increases the number of fatal neck injuries."

NHTSA'S RESPONSE TO THE INQUIRY/RECOMMENDATION:

Apparently the NTSB keeps track of their recommendations; at least they kept track of this one.

According to their log report, on February 21, 1974, "NHTSA stated verbally that the NHTSA Research Institute has been requested to comply with this recommendation and that the necessary data collection from the States is underway. This recommendation will be complied with as soon as possible."

The next entry was dated August 1, 1994, and reads: "NHTSA letter responded by saying that, in an effort to determine the effect of motorcycle helmet usage on the incidence of neck injuries, seven relevant available data files have been analyzed. The results of the analyses in each case clearly showed a large reduction in fatalities due to head injury as a result of helmet use. However, the analyses were inconclusive with respect to neck injuries, and the implication of increased neck injuries

by helmet users, expressed in the NTSB review of New York State data, can neither be refuted nor supported."

The last log entry reporting NHTSA's response to the NTSB inquiry was made on September 18, 1974, and reads: "NHTSA letter reports that it has completed a preliminary analysis of all available statistical data and their findings have been published in NHTSA Technical Report DOT HS-801-137, 'A Motorcycle Safety Helmet Study.' The study indicates that helmet usage does not adversely affect the neck to a significant extent during accidents, but it does not prove this true beyond all doubt. The NHTSA plans as soon as possible to initiate clinical research to resolve the question fully."

It appears that NHTSA has subscribed to the philosophy which says if you ignore a problem, it will just go away. It is now nearly 20 years since this report was sent to NHTSA, and as of this date, we have been unable to confirm any definitive action by NHTSA on the request from the National Transportation Safety Board.
