

I request permission to reproduce this article for my MSF students.

Richard Wojciechowski  
rtwojski@earthlink.net

*Richard, you have our permission. See Wendy's response at the end of the letters regarding her study.*

I'd like to commend Wendy Moon on her excellent article. In the late-90s I took a hiatus from motorcycling that lasted several years. When I returned in 2000, I felt that I was more at-risk than in the early 1990s. (This was in Los Angeles.) Indeed, a personal survey, and later professional studies, have proven this to be true. At the time, I had felt that there were two major factors that perhaps contributed to this phenomenon. One was the proliferation of cell phone use and the other, the proliferation of SUVs. Moon's article does a good job analyzing the latter but just glances the first. Studies by both government entities and the insurance industry have proven a correlation between cell phone usage and vehicular accidents.

Not only is it time to address SUV (or LTV) design, but high time for legislation limiting (or banning) cell phone usage while driving.

Thanks for fighting the good fight.

Michael Yee  
michael@foodstudies.net  
Washington, D.C.

**...And Con**

I'm always disturbed when I see "studies" in which the author starts with the "conclusion" and then attempts to justify it. Such was the case with "Fatal Design...". Far from revealing a "shocking relationship" between SUV sales and rider fatalities, it reveals a common sense relationship between crashes and rider fatalities, hardly shocking. If I read Figure 1 of the study correctly, and allowing for some error margin in interpreting the not-especially-clear plotting, I would deduce that total crashes were up about 40% between 1998 and 2001. From Figure 2, which is plotted somewhat differently, I would deduce that fatalities were up about 37%. (Having the raw data would permit this to be done more accurately, but the approximate equivalency is quite clear.)

Now it doesn't take a genius to assert that increased crashes will likely result in increased fatalities. It is certainly true that colliding with larger objects, generally speaking, is likely to give more serious injuries than colliding with smaller objects. But the indictment of SUV's as it appears in the study simply can't be justified from

the information presented. And statements in the article like "Since 1990, the light truck vehicle (LTV) market (which includes SUVs) has increased 200 times..." is ridiculous. Light trucks were the largest selling vehicle models in 1990, as they still are, and while I don't know the precise number, there were certainly in excess of 1 million sold in 1990, and there were nowhere near 200 million sold in 2001. The author may mean that sales increased 200% (in other words, tripled) but that is a far cry from increasing 200 times. Similarly, assertions like, "an LTV's "aggressivity" increases with speed, whether the speed is from the object colliding with the LTV or the LTV colliding with the object. Aggressivity is the extent to which one vehicle transfers the force of the collision to the other vehicle rather than absorbing it...etc." is just nonsense. Ignoring the fact that "aggressivity" isn't even a word, if a motorcycle collides with a stopped LTV, the LTV is scarcely going to transfer a "force of collision." The operative parameters here are impact orientation, crush resistance, and possibly some secondary geometric factors.

This article might be right at home in the *National Enquirer*, but readers of MCN deserve better. What can we expect next, a shocking correlation between motorcycle fatalities and triple-strength latte sales from a tea drinker? Lending space to authors such as this is likely to lead to articles such as "Increasing Motorcycle Sales Lead to a Shocking Increase in Birth Defects" or some other such stupidity which we, as cyclists, might find a great deal more objectionable. Please, no more amateur muckrakers.

Mike Stephenson  
smanda@comcast.net

The analysis is disappointing on a number of levels, and far more dogmatic than I've come to expect from MCN. I'm guessing the author has strongly held her opinion for quite some time before she researched this article.

SUV's, as well as pickups, vans and other light trucks, have been around in huge numbers for a lot longer than since 1998. The article's Figure 4 clearly shows moto-fatalities dropping from 1991 to 1997 even though LTV registrations doubled during the same period.

The real change in traffic conditions since 1997 has been the tidal wave of cellular phones, yet that isn't mentioned. My experience is that drivers in all types of vehicles do stupid things, but the common thread is cell-phone usage.

Nor do I think such a study would be fair without some analysis of a rider's level of

training and experience on their motorcycle. There are a lot of new riders on powerful and/or heavy bikes, often in situations that are driven more by social concerns than safety. These tend to be the riders I read about in the newspaper.

While a collision with an SUV is obviously a very serious event, the suggestion that a motorcyclist won't be badly hurt or killed if colliding with just a car is irresponsible. So is suggesting blood-alcohol-content is a risk factor only if it exceeds the local legal limit.

In all of the complexity and ambiguity, however, I am confident of one thing: when the hysterical masses whip Congress into an unsafe-vehicle-class witch hunt, the first class of vehicles to go are going to be motorcycles.

Thank you for your consideration and efforts; I continue to be a loyal reader.

Jett Anderson,  
jettand11@cox.net  
Scottsdale, AZ

P.S. Yes, I'm the owner of an apparently murderous Toyota 4Runner. Also, where did the "200 times" sales statistic come from? Were light truck sales really only 1/4% of the U.S. market in 1990? And for that matter, according to the NHTSA, moto-fatalities went from 2160 in 1997 to 3265 in 2001. Is it accurate to call that "doubling?"

**Wendy's Response:**

*I am certainly sympathetic and understand many of the concerns these readers raise. Some of them simply are a result of the inability of an article to be a book, and some were included, but the readers failed to note them, and there were valid and helpful notations. However, there are a couple things that need to be addressed:*

*I would like to say, straight off, that contrary to their suspicions, it took me almost a year into the research to even suspect LTV-involvement, and then that the design was part of the problem. Up until then, I saw LTVs as merely visual obstructions. Secondly, I never said this was the answer to all fatalities. I tried very hard to put in qualifiers all along the way—"may be," "suggests," and so forth, with calls for further study. It's disappointing that it failed to be effective with some readers. Finally, yes, my belief that the design and numbers are responsible for part of the increase is very clear, nor is there any reason why a motorcycle magazine should pretend to be unbiased in terms of motorcycle issues. It is not our role to defend the honor of LTVs. What is presented is fair to the truth, as it appears so far, without a definitive study.*

*So, now some of the specific concerns: The '200 times' was taken from another source—and it is, you're right, an error. It should have been presented as a percentage—though the source would have still been wrong, as subsequent research has shown. As percentages, SUVs weighing 6,000 lbs. and under increased 250% and those 6,000–10,000 lbs. increased 500%. I'm not sure, though, how that would make the design any less deadly, which was the suggestion that the rest of the article makes.*

*I also discovered after a reader raised the issue, that the Figure 3 has the wrong caption—my error. The original graph included motorcycle registrations, but when I converted it to a two-axis, the motorcycle registrations were deleted and I failed to change the caption. As to the information listed in the resources, I just checked them yet again and cannot understand why the reader took issue—they are accurate, though some of the titles of the documents have been shortened. I apologize for any distress that the magazine format caused the reader, however, enough information is included that they can easily find the document in question.*

*As to Jett's issue with the doubling, it comes from misreading what was written, and perhaps I could have worded it more clearly. Although fatalities had gone down almost half by 1997, that advantage had more than disappeared by 2002—hence the additional numbers of riders killed each year doubled (or more), so the wording is accurate.*

*In absolute numbers, comparing '97 to 2001 shows that 1,105 additional riders died, an increase of 66%, not 100%, from a decrease in each previous year (though, by 1997, the decrease was down to -16). Afterward, there were huge increases: +74 deaths in '98, another +198 in '99, a whopping +443 increase in 2000, and a further jump of +290 in 2001. Any way you word it, those are extremely serious numbers. Compare this to the -447 drop between 1990 and 1991, the -390 the next year—even as riders increased on the roads.*

*While you may take issue with my wording, the fact remains: If the fatality rate was dropping by those kinds of numbers per year early in the 90s, and then ten years later are going up by the same sorts of numbers, there's a serious problem that needs to be addressed.*

*Now, on to helmets, BAC, high-cc engines and cell phones. Let me first say that I never said they weren't valid issues, just that they weren't definitive answers. But let me stress this: For years, we've been led to believe these are the answers, so, if we ride sober, wearing helmets and on smaller bikes, we may have been led to*

*believe we are safer than we are—and that, I strongly believe, is a massive injustice to riders. For example, over 60% of motorcyclists killed are stone-cold sober, speed wasn't involved in 62% of the fatalities, and over 50% were wearing helmets. Those seem to be pretty significant numbers—and we should be demanding NHTSA find the answers before Congress takes our freedoms away. In fact, I feel it's incumbent on the motorcycling community to discover why—and if anyone doesn't like this partial explanation—I encourage them to find and prove something else, so we can deal with the causes effectively.*

*Specifically:*

*I looked extensively at the helmet vs. non-helmeted rider fatalities. As the article says, the helmeted state fatalities are higher according to NHTSA. We can't get around that no matter how strongly we may believe in helmets. For example, in Florida, a "helmet-free" state, there's no relevant statistical difference in the numbers of helmeted and unhelmeted who die. Also, I examined the timing of helmet law repeals, and it did not yield a strong correlation to the jump in fatalities since 1997. We simply must get beyond the idea that simply wearing a helmet is a sinecure for anything—particularly if an LTV connection exists, because it may demand changes in construction so that they are more effective.*

*As to single-vehicle crashes, that is another long article in itself—and this was long enough. I also fail to see how the single-vehicle crash figures are relevant to this multi-vehicle crashes discussion, so I'm unable to address this further.*

*Related to inexperience and high-powered bikes, the UK and other European countries have a study underway regarding the high-capacity bikes and so far, once age, gender and experience are accounted for, there appears to be no relation to increased fatalities and bigger bikes. However, there is a relationship (it appears at this point), between inexperience and motorcycles of any size. The problem, then, isn't the bike, but the rider—and the UK is moving towards increasing rider education and limiting the ability of new riders to ride unrestricted large-capacity machines to respond to the problem.*

*While motorcyclist fatalities were still dropping as LTV registrations were increasing, I'm sorry that two readers missed the part of the article that explained that even as the drop in fatalities was still occurring, it was slowing down in inverse relation to the rise in SUV sales, but not in terms of motorcycle sales. In fact, NHTSA, in their 2003 Early Assessment, doesn't link the rise of motorcycle fatalities to increased motorcycle registration. It states*

*that, "In most of these years, the rate of increase of Motorcycle rider fatalities has been higher than the rate of increase in Motorcycle registrations" (p. 52).*

*I do mention cell phones, but there is no hard data regarding cell phone-involvement in motorcycle fatalities. So while we suspect that there's a correlation, there is no evidence to base it on. If there ever is, you can be assured that MCN will be all over it, asap.*

*I never suggested that the rider wouldn't be badly hurt or killed in a collision with a passenger car—in fact, I state the opposite statistics. What I do point out—which no one had previously—is that LTVs are responsible for more than their amount—and that does seem evident from the absolute numbers. Whether it's 1.9 times (based on incomplete data) or 2.4 times, it's still there.*

*I also never said that only high BAC kills, I said the relationship is "not so simple or clear-cut." I feel that as meritorious as it is to concentrate on getting all riders sober, it won't solve the problem.*

*I must say that not one of these responses offer any evidence that the LTV design is no more lethal than the passenger car. If so, I encourage them to prove that's the case, as my sole interest here is to keep riders alive and I would be more than happy to write about that.*

*As to the reader who admitted he drove an SUV: I am sure, if you are a motorcyclist, you already drive much more carefully than the average driver since UK research has found motorcyclists, even when driving a car, have higher hazard perception awareness. Nor does this article insist that anyone must ride differently around LTVs—you're certainly free to do what you want, but I hardly think it would harm anyone to drive more carefully around them.*

—Wendy Moon

**Re: The Numbers Game**

Dave, your suspicions are, of course, correct. I remember reading a story about a gentleman employed by the British branch of one of the Japanese Big Four. Every magazine demo bike that came over was completely stripped, and then re-assembled with every effort made toward making sure the bike was the smoothest single model ever built.

I know that few, if any, magazines would have the budget for it, but I would like to see bikes tested by buying random models off of actual dealer's showroom floors. This would certainly ensure fair testing, and maybe even better build quality.

Mike Powell  
mikep@dri-eaz.com