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Statement of Janet Bahouth, D.Sc.

Injury Biomechanics and Transportation Safety Engineering, Impact Research

In Opposition

to Senate Bill 0745 Senate Judicial Proceedings Committee Maryland General Assembly

March 15, 2022

Good afternoon. My name is Dr. Janet Bahouth. I am the co-owner of Impact Research – a transportation safety research and engineering firm in Columbia, Maryland. Impact Research is crash data analysis and transportation safety research that informs decisions about motor vehicle safety, roadway and traffic safety, and occupant protection. I hold a Doctor of Science degree in Transportation Safety Engineering and I am clinically trained in injury biomechanics.

First let me tell you - I agree with some principals held by the supporters of this bill. I understand the love of riding – the sense of freedom, relishing the fresh air, and the associated cool factor. But ask any rider, and if they're being honest, they'll tell you it's not a matter of IF they crash, but when.

With the Maryland Department of Transportation's Highway Safety Office and the Maryland State Police Motor Unit, I direct research and a review of Maryland motorcycle crashes that were fatal or caused serious injury to the rider. This is a comprehensive look at the circumstances from pre-crash, during the crash itself, and post-crash. Our goal aligns with ABATE's principal that risks can be mitigated through rider and driver education. Our goal is to identify those motorcycle safety concepts that, as evidenced by these riders' fatal and serious injury outcomes, need more focus and attention in rider and driver education, safety courses and licensing so that the outcome of these crash could be different.

The review team has in-depth discussions about the hazards surrounding the riders in these tragic crashes. These circumstances include target fixation, perception reaction time, motion perception, being predictable, low-siding as an alternative to a catastrophic crash, tunnel vision, anticipating others' actions, group riding with someone experienced in the lead and riding staggered, avoid lane changes at intersections, be familiar with the route and roadways, understand the limits of the bike, more importantly the limits of the rider on the bike, and absolutely, in every case and for every rider, stay focused and continually find an escape path. Understanding these concepts protects oneself but none of them mean anything without the proper gear, including a helmet. As A.B.A.T.E's principal states, and as our team of experts is proving, Maryland riders would certainly benefit from this kind of education. But for those who already know, understand and remember these safety concepts – perhaps like many of the ladies and gentlemen participating in this hearing, unfortunately, sometimes knowledge is just not enough when a crash occurs.

I think you'd be surprised to know that a typical crash lasts 350 milliseconds. That's 1/3 of a second and is faster than the blink of an eye. The forces sustained during only a fraction of a second either ends a life, drastically changes it, or isn't enough to compromise the body due to safeguards – like seat belts, airbags, or helmets. These safe guards actually extend the time and limit the force that is inflicted on a body – the longer the force is applied, and the more force absorbed by the safeguard, the better your chances of walking away. That's the physics we can't ignore.

So, how does head injury happen? There are 3 events: 1st - the impact itself – possibly causing a fracture - followed by the brain's acceleration and impact with the skull. This leads to concussion, bleeding, or worse, and finally - the rotational force that twists the brain causing tiny little shears in the brain matter. When this happens, there is guaranteed injury.

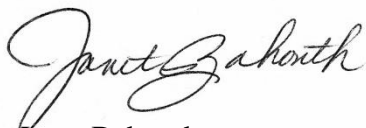
Our research has shown that there are copious number of crashes involving only a motorcycle that go unreported in Maryland. No one knows how many there are – because they go unreported. Why? Because the rider gets up. Dusts himself off and goes on his way. Remember, he was in Maryland and he was wearing a helmet. Take the helmet out of that scenario and it's simple physics that fosters injury or death.

The supporters of this bill have implied that no one but the rider gets hurt. Actually, the taxpayers economy and societal costs are hurt when we foot the 12 million dollar bill for each death on our roads. And I'm not sure the driver of the car who killed the motorcyclist would agree that he's not hurt. Being hurt in some way - that's simply inherent with causing someone's death.

I'll conclude with this: By changing the all-rider helmet law, you are KNOWINGLY facilitating a rise in deaths that otherwise would not be. I urge you to oppose Senate Bill 745.

Thank you for the opportunity to share my perspective.

Kind Regards,

A handwritten signature in black ink that reads "Janet Bahouth". The signature is written in a cursive, flowing style.

Dr. Janet Bahouth