



**Dwayne Owen** is a certified accident reconstructionist with experience in reconstructing crashes involving vehicles ranging from motorcycles to tractor-trailers. As an experienced motorcyclist, Mr. Owen understands the vehicle dynamics specific to motorcycles and their unique handling characteristics. He has investigated and reconstructed hundreds of motorcycle crashes during his career. He has also instructed over 100 students through the Motorcycle Safety Foundation RiderCourse.

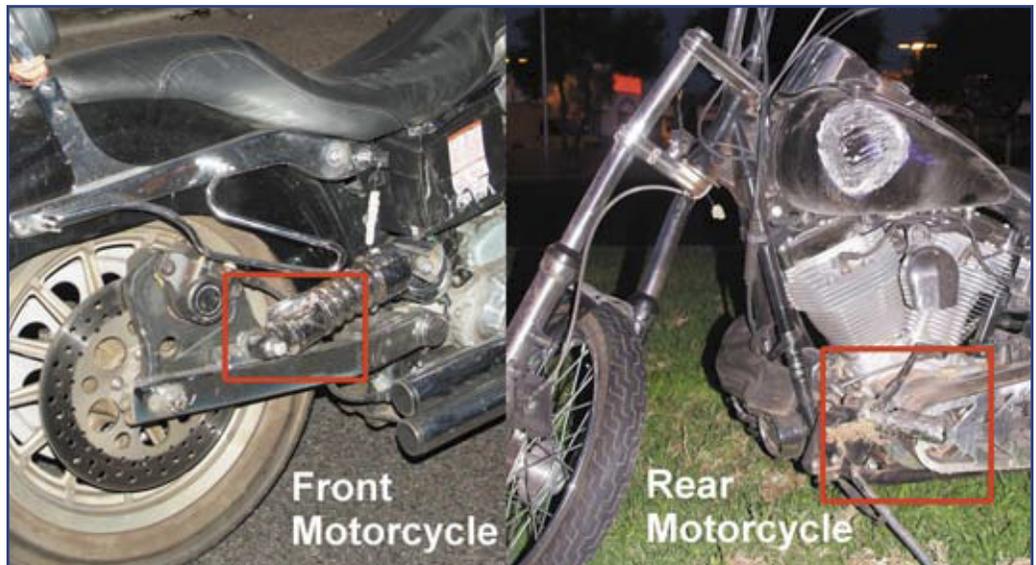
As a retired Deputy Chief of the Freeport Police Department, Mr. Owen's training and twenty years of police experience involved all phases of police work; he has investigated in excess of 6000 motor vehicle crashes. He is co-author of the book, *Vehicle Accident Investigation: A Guide for Risk Managers and Claims Personnel* and a contributing author to both *Truck Accident Litigation, Second and Third Edition* published by the American Bar Association. He was also an invited presenter at the European Accident Reconstruction Conference in 2009 at Wildhaus, Switzerland.

Mr. Owen also holds a commercial driver's license, is a board certified forensic examiner, and a professional evidence photographer.

# MOTORCYCLE CRASHES:

## UNDERSTANDING THE COMPLEXITY OF YOUR CASE

In the world of motor vehicles, motorcycles are unique in many ways. Unlike a car or truck with four wheels, the two wheeled motorcycle has inherent stability issues, and also requires different steering techniques depending on speed. A motorcycle rider also has to independently control the front and rear brakes. In a motorcycle crash, both pre and post-impact events will likely leave unique evidence, which can easily be misinterpreted by even a trained investigator unfamiliar with motorcycles.



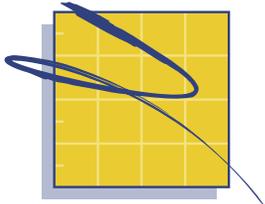
*Close examination of the shock absorber of the front bike and the foot peg of the rear bike showed that the crash was not the result of any action taken by the front motorcyclist as was suggested. It was caused by the rear motorcyclist attempting to pass him on the right.*

Four wheeled vehicles are inherently more stable. An oil slick, railroad crossing, loose gravel, or worn, wet and uneven pavement are all hazards to a motorcyclist while usually causing little concern to a car or truck driver. A motorcycle rider needs to identify these hazards and use good riding techniques to overcome the obstacle.

Motorcyclists need to lean in order to swerve in a crash avoidance maneuver or even to negotiate a simple curve. At low speeds, a rider must turn the handlebars to lean, but at higher speeds the rider must perform counter-steering to initiate the lean. At a higher speed and/or sharper turn, did the rider "press" on the handgrip properly to control the lean? In a crash avoidance maneuver, was the rider's swerve direction intentional, or a result of improper steering technique? Does the rider, or

even yourself, understand counter-steering? In order to maintain stability on a two-wheeled motorcycle, the rider should separate steering from braking. In a pre-crash maneuver, did the rider attempt to steer while braking, causing a loss of control? Should the rider have only braked or swerved in the crash avoidance maneuver?

Depending on the year, make and model of the motorcycle, the front and rear brakes may be operated independently or be integrated with each other. The braking system may also be integrated with stability and/or traction control devices. Was the motorcycle's loss of control due to the rider fully applying the front brake too rapidly, or attempting to swerve while applying the rear brake? Do any of the tire treads show "feathering" from heavy braking or evidence of a locked wheel?



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Please feel free to call us with any questions that you may have and we will direct you to the appropriate individual within our firm.

## MOTORCYCLE CRASHES CONTINUED



*Motorcycle tire evidence, such as feathering, may be the only source of information on pre-crash maneuvers.*

The stopping ability of a motorcycle is not only dependent on the braking system but also on the rider's skill level and knowledge of his own motorcycle's braking system. The deceleration rate of the motorcycle pre-crash is dependent on the rider's use of both the front and rear brakes. Did the rider "squeeze" or "grab" the front brake? Is there evidence on the roadway and/or tires that document proper or improper braking? Was there any lean angle of the motorcycle pre-impact?

Post-impact, the motorcycle's deceleration rate is dependent on the amount of fiberglass surrounding the motorcycle, such as a fairing and side luggage. An on-off road motorcycle decelerates differently post-impact than a touring style motorcycle.

A four wheeled vehicle usually drives down the center of a traffic lane, while a motorcycle, because of its size, will only take up approximately one-third of the lane width. A motorcyclist will make use of different locations within the same lane to enhance his visibility, assist with cornering, or give an extra "space cushion" from the surrounding traffic. Did the motorcyclist use proper lane positioning leading up to the crash? What did the rider do to make himself the most visible? Would a different lane location or following distance have increased his visibility? Did the rider

wear reflective clothing or have a headlight modulator to make himself more visible?

A large number of years riding does not always equate to a skilled rider. Some riders learn bad habits from riding alongside others or listening to bad advice from others, such as "laying it down" to avoid a crash. A rider who "laid it down" to avoid a crash is often unaware that his improper braking or steering technique caused the motorcycle to lose stability; the motorcycle was going down regardless of his intention. During skills testing at motorcycle safety training classes, it is not unusual for a "novice" rider to out-perform an "experienced" rider, as they are not fighting years of bad habits.



*Contact damage to only the left side of the motorcycle is inconsistent with the witness' testimony that the motorcycle "flipped and tumbled after it was hit."*

Was the crash avoidable in your motorcycle case? Did the police properly identify / interpret the evidence? Is the speed analysis correct? If your case involves a motorcycle, it is imperative that you consult with an experienced and knowledgeable motorcycle expert in order to properly analyze the merits of your case.

For more information on this topic, please contact Mr. Owen at [dgowen@ruhl.com](mailto:dgowen@ruhl.com) or by calling the Champaign office at (800) 355-7800. More information is available on the web at [www.ruhl.com](http://www.ruhl.com).