

Ralph's Accident Reconstruction Newsletter

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The largest difference in the visual environments of the night pedestrian and the night driver is due to the basic structure of the eye's retina. The retina is composed of rods and cones. The cones are capable of discerning colors and provide sharp, detailed vision, but they require a significant amount of light to function—typically, 3 lux or more. There is a spot on the retina where cones are concentrated to provide very sharp vision; the fovea. As we move our eyes, the fovea can look at one narrow region and see excellent detail, while the peripheral vision sees color and generalities. (Hold this newsletter directly in front of you; you have no trouble reading it. Hold it to one side while looking straight ahead; you can see that there is an object to the side, but you can't read the text unless you turn your eyes to it or bring it back in front of your eyes. There's your fovea and other cones in action.) The rods, on the other hand, need very little light to function, but they cannot see color or fine detail. (Try to read a newspaper by starlight.) The rods allow people to move and function in very dimly lit situations, but they have their limitations. A pedestrian walking along an unlighted road at night is probably operating purely on vision from rods but thinking, "I can see well." The driver of a motor vehicle relying on his headlights to see, however, is using both his rods and his cones, and he is probably also thinking, "I can see well." But he probably won't see that pedestrian in his path until just a moment before impact, perhaps just long enough for him to realize that he's struck a human pedestrian but not long enough to initiate any useful pre-impact steering or braking response. Those are simply normal limitations of human performance, often called human factors.

In April of this year, I attended the week-long Special Problems in Traffic Crash Reconstruction seminar at I.P.T.M. in Jacksonville, Florida. Primary session topics included a presentation on an effective traffic safety program, another presentation on the science involved in defining safe roads and intersections, and a third presentation on state-of-the-art equations and data for collisions with wooden utility poles; there has recently been a significant quantity of research into that topic, including staged collisions. On Tuesday, we adjourned to a local field to witness crash testing to demonstrate the effectiveness of momentum principles when two vehicles into a collision become three or more parts out of a collision and a series of tests to determine the validity of the use of drag factor ranges in pedestrian-impact investigations. Breakout sessions included applications of basic statistical analysis to collision data, the use of impulse and angular momentum in reconstructing a specific collision, a crash data retrieval update, and new technology and systems incorporated into commercial vehicles currently in production.

As of July 1, 2008, my hourly rate will increase to \$180.00. My mileage rate will increase to \$0.80 per mile. All other rates and charges remain at their January 2008 levels. I will be in north Georgia for a week of vacation for the week of June 30 through July 4. The January 2008 hourly rate will continue to apply to reconstructions and related investigations begun on or before June 27, 2008. I am grateful for your continued interest in my services. Please call anytime you have a question

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