



More new hardware! I've had a wide-carriage, photo inkjet printer for years, but it hasn't gotten much use lately, and that inactivity was causing issues. When any one of the eight ink nozzles became clogged, meaning that a color would not print properly (or text, if the clogged nozzle was matte black), the machine would have to be put through a printhead self-cleaning procedure. There were two disadvantages: ALL nozzles were cleaned simultaneously during that procedure, using ink from each of the eight tanks, and one stubborn nozzle could require more than a dozen cleaning cycles to clear. Meanwhile, ALL cartridges were spitting ink. The last time I wanted to make one nice photographic print on a sheet of letter-size glossy paper, I went through one complete set of eight cartridges before the offending nozzle cleared. That was \$120 worth of cartridges in the trash can and over an hour of my time just for one good print. I decided it was time for some new hardware; I gave the offending machine to someone who will get regular use of it and (probably) won't have clogged nozzle issues. After some online shopping, I decided to replace it with Canon's Pixma Pro9000 Mark II inkjet photo printer. It also has eight tanks and will handle media up to 13 inches by 19 inches. The claimed maximum resolution is 4800 x 2400 dpi. Canon claims 100-year print life. (Since inkjet printers haven't been around for 100 years, don't you sometimes ask yourself, "How do they know?" ☺) So far, I've been quite pleased with it. It has rubbery feet which hold it firmly in place on the desk, but it has a pair of wheels at the back—to move it, I simply have to lift the front a little, and it rolls easily. It's very quiet. It prints a photograph on glossy paper which is equivalent to or better than a print from the machine it replaced in much less time.

How long does it take to start moving a typical car or light truck from a stop sign when the driver's foot is on the brake pedal? Studies have shown that the total time involved for a person to begin noticeable vehicle motion after deciding or believing that it is safe to proceed is approximately one second. In other words, the driver has looked left, looked right, looked back to the left, and decided it's safe to proceed. He moves his foot from the brake pedal to the throttle pedal and begins some (typically moderate) acceleration. From the time that driver has made his

decision until there is perceptibly significant motion of that vehicle to an outside observer, the elapsed time is typically one second—a form of combined latencies.

Many of you might consider yourself to be a good judge of speed, and you may be right about that. When it comes to judging the speed of a vehicle coming directly toward you, however, you generally cannot form a reliable estimate or approximation of the speed of that vehicle until it is within approximately 200 feet. There would be exceptions, such as when the vehicle is traveling through a vertical or horizontal curve in its approach, where you could visually compare it to some fixed reference(s). But, getting back to the general case, for a vehicle that is 300 or 400 feet away and coming directly toward you, you cannot estimate its approach speed with any reliability, because the angle between its extremities (i.e., the visual size of its width) is not changing at a significant enough rate that your brain can assess its speed. That is how many "failure to yield" collisions occur with the driver that entered often saying something like, "I never saw . . ." and the impact characteristics indicating substantial speed on the part of the other driver. A vehicle traveling 45 mph covers 66 feet every second. If that vehicle is 300 or more feet away when a driver contemplates making a turn or entering a roadway, that driver may notice and dismiss the oncoming vehicle, "knowing" that he'll be clear of that vehicle's lane by the time it gets there. But if the oncoming vehicle is traveling 90 mph, it will cover 300 feet in 2.25 seconds, not enough time for its driver to say his final prayer before departing to meet his maker, and not enough time to avoid a collision with the crossing vehicle by any means. Yet, when the collision occurs, the (generally) surviving driver who was turning or entering, who saw that vehicle but dismissed it from memory because it was "too far away to be a hazard," will say, "I never saw . . ." because he had already dismissed it from his memory. And the investigating police officer, who often doesn't have the training or the experience to assess vehicle impact speeds, will charge the turning or entering driver with failure to yield, and use that driver's statement that he never "saw" the oncoming vehicle as substantiation for the charge. But, in that scenario, the collision is wholly attributable to the excessive speed of the striking vehicle.

Red-light cameras at intersections—some like them, some hate them. Almost everyone perceives or admits that they are a revenue source; some believe that generation of revenue is their only justification. Studies conducted at red-light intersections by our Federal government have demonstrated a statistical reduction in side-impact crashes of 25 percent and a statistical increase in rear-end crashes of 15 percent. In general, side-impact crashes are more likely to create serious injuries than rear-end crashes at intersections; wearing your seat belt does not provide much protection in a side impact if you are on the side of the vehicle which is struck, and side-impact airbags may not provide much additional protection, depending on the depth of penetration of the colliding vehicle. Perhaps most people would then say that, overall, red-light cameras are a benefit, except, perhaps, those persons who have received a photo citation in the mail. I haven't studied the particulars enough to have an opinion either way, I'm just reporting on some statistics and related opinions. Some jurisdictions are in the process of installing red-light cameras while other jurisdictions have turned them off or have removed them.

Ralph's Accident Reconstruction Newsletter

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If you are looking for a speaker to address a topic on motor vehicle forensic investigations and evaluations for a luncheon or seminar, I am willing and available. Topics which could be addressed in short time spans include automotive lamp filament examination for on or off, tire failures, and Bosch Crash Data Retrieval (Event Data Recorder imaging/downloads from supported cars and light trucks). The topic of Crash Data Retrieval could fill an hour, and a presentation on the basic physics associated with accident reconstruction can occupy a minimum of one hour to as much as two hours. The subtleties and variations associated with the topics of pedestrian/bicyclist/motorcyclist collisions, conspicuity evaluations, evaluations of brakes and steering systems, and non-EDR evaluations of seat belts and airbags are such that I don't feel they can be properly addressed in any short presentation, or even (necessarily) a whole day's program. For anything reasonably close to the greater Atlanta area, there would be no charge for the presentation. For a presentation given at a substantial distance from my office, there may need to be a discussion of some amount of compensation. Please contact me if you feel you might want me to talk to your group. I will need a little notice, since these presentations are not "canned."

I have received and am learning to use the new software package I bought, ARAS 360, which purports to provide 3D drawing, speed analysis/crash simulation, and animation capabilities all in one package. I hope to be able to use it to its full potential in the very near future.

Money has been tight for many of us. Over the past several years, there has been a marked increase in the number of invoices which became past due, some of them by many months. When the economy is good and I am busily employed, a few overdue accounts are a simple nuisance. When the volume of work is down, however, and there is a large number of overdue accounts receivable, those unpaid invoices can cause problems. Like you, I have bills that need to be paid every month, whether I have a large volume of work or none at all. As you can imagine, it is quite frustrating to have over \$10,000 in **overdue** accounts receivable but no money in the checking account to pay the bills. As an incentive to get invoices paid more promptly, I am changing my late-fee structure. A late fee of \$25 still applies for an invoice not paid within 30 days. For invoices which remain unpaid for another 30 days, the monthly late fee will increase to \$50, added for each subsequent 30 days the invoice remains unpaid. I continue to offer the discount of five percent off billed time for invoices paid within one week/five business days of the billing date when the total billed time is \$1000 or more. For those of you who pay promptly, you will not notice any change. For those who have been tardy with payments, please make every effort to pay any invoice I send, which is due upon receipt, within thirty days of the invoice date. It would be nice if I could afford to do this work as a hobby, but I need to actually make a profit most of the time to stay in business. ☺

I am grateful for each opportunity to provide service, but I am also grateful to receive timely payments for services. Please call anytime you have a question.

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Collision Analysis

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