

[May 14, 2014, Mr. Camp is Jonathon Camp, a reporter for ABC 11 Raleigh]

Mr. Camp,

I have worked with Mr. Ceccarelli on this project in the past and would like to thank you for the piece yesterday. As a Professional Engineer and a professional accident reconstructionist ( [www.ara-i.com](http://www.ara-i.com) ) I would like to comment that the current use of the yellow light formula for left turns is beyond comprehension. How professional engineers cannot immediately see the error of their application is inconceivable to me. The response from the DOT is indicative of the lack of attention to detail and lack of understanding of the fundamentals of engineering.

In paragraph 2 the DOT shows its lack of understanding by stating there isn't a formula that accounts for ALL situations, this is fundamentally incorrect. ALL situations can be handled simply by doubling the yellow time in accordance with the laws of physics. This would account for ALL legal maneuvers. I would not expect the DOT to be concerned with illegal/purposeful maneuvers.

In paragraph 3 the DOT attempts to justify the use of 1 to 1.5 seconds for perception and reaction. They even cite (AASHTO) guidelines of 2.5 to 3.5 seconds for perception and reaction. What they fail to mention is that the AASHTO guidelines SPECIFICALLY state that the greater perception and reaction should be used at intersections! What they also fail to mention is that roughly 80% of all red light violations occur within the first 1 second of red. The additional 1.5 to 2.5 seconds of perception and reaction in accordance with AASHTO would account for those inadvertent violations.

In paragraph 4 the DOT shows a lack of understanding of what the yellow light formula does. If they simply use the upper speed (say 5-10mph above the speed limit) in the formula then they will account for all of the lower speeds. The fact that they cannot see this very simple truth is disturbing, they simply cannot see the forest for the trees.

Paragraph 5 contains the most disturbing statements. I would find it disturbing if these statements originated from a professional engineer. To include the statement that the braking of a passenger vehicle at a stop light is affected by the thermal expansion of the brake components is beyond comprehension. It is a well known fact that overheating of brakes can affect their performance, however, there will never be a vehicle traveling on the highway that its braking performance is compromised by the induced heat at a single stop light. I simply cannot fathom that a technical organization responsible for the safety of motorists on the highway would even consider this worth mentioning. Secondly, the DOT mentions that "wet road condition" can reduce the ability to brake below their mentioned 10-12 feet per seconds squared. There isn't a vehicle legally travelling the roads of NC that cannot decelerate in wet conditions at the aforementioned values. The fact that the DOT believes this shows a blatant lack of knowledge of the fundamentals of vehicle motion, vehicle performance and high school physics.

Paragraph 8 contains misguided and deceptive information. Notwithstanding the obvious typographical error ( I would hope that drivers would treat the "green" as an unofficial extension of the green), I assume they intended this to be "yellow". What does it matter if drivers use the yellow to go through the light? They are legally allowed to do so and are doing so now. The point is: the shorter yellows CAUSE some drivers to run red lights, so simply extend the time. I fully disagree with the implication that longer yellows will require longer reds and would challenge the DOT to produce a valid, scientific study that supports this ridiculous notion. With respect to the red timing and ASSUMING the drivers will

“violate the red”, I find it hard to believe that adding two seconds or so to the red will suddenly turn us all into hardened criminals.

Paragraph 10 – closing statement – The DOT readily admits that their current methods cannot and do not account for all conditions, yet they fully endorse the use of zero-tolerance enforcement by red light cameras. Why they simply cannot admit that their methods should not be used for zero tolerance enforcement is confusing. They know their methods are imperfect yet they penalize drivers for not conforming to their imperfect light timings.

I sincerely hope that you continue to investigate this matter, if there is anything I can do to assist, please feel free to contact me.

Sincerely,

Johnnie Hennings, P.E.