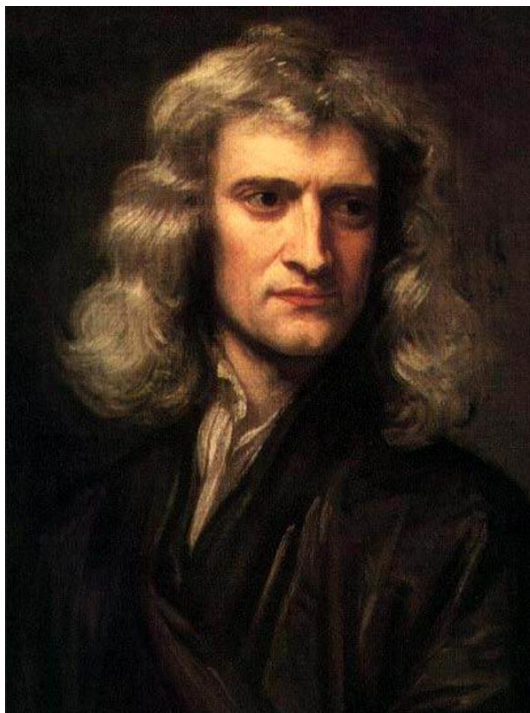


2012

Isaac Newton vs. Red Light Cameras



Press Brief
Town of Cary, North Carolina

Brian Ceccarelli

redlightrobber.com

1/14/2012

Table of Contents

Legal Basis.....	3
Is This Red Light Camera Case Any Different?	3
The Core of the Red Light Camera Debates.....	4
The Town of Cary Blindly Follows NCDOT Standards.....	5
Normal Straight-Thru Yellow.....	5
Short Straight-Thru Yellow	6
Short Turning Yellows	6
Dilemma Zone	6
Icy Roads.....	7
Right-Turn on Red/Other Defects	7
The Judgment of a Human Being	10
Are We Against Red Light Cameras?	10
The Stakes.....	11

Legal Basis

One cannot enforce legislation which countermands the Laws of Nature. But this is what every city does by enforcing the Institute of Transportation Engineers' (ITE) specifications for the yellow light duration. The ITE specifications contain systematic errors which force everyone to eventually run a red light. Enforcing them to the precision of red light cameras is like enforcing a like forbidding gravity. Everyone is guilty.

A thousand years ago, King Cnut tried to pass such a law and set an example for us all. Cnut was the most powerful king in Scandinavia. He was a Viking king--the king of Denmark, Norway and parts of England. Henry of Huntingdon, the 12th century chronicler, tells how Cnut set his throne by the sea shore and commanded the tides to halt. The tides failed to halt. When the tide reached Cnut's robe and feet, Cnut leapt backwards and said, "Let all know how empty and worthless is the power of kings, for there is none worthy of the name, but He whom heaven, earth, and sea obey by eternal laws." He then hung his gold crown on a crucifix, and never wore it again.¹

The Town of Cary has commanded the tides to halt, penalizing drivers \$50 each time the tide comes in. It is a modern day case of King Cnut, but without his humility. Like Cnut, the Town of Cary is attempting to enforce legislation which countermands eternal laws. The Town of Cary expects us to suspend the Laws of Motion by being able to stop our 45 mph car in the same time we stop our 20 mph car. Like stopping the tides, that is impossible to do.

The Laws of Nature are the highest laws, higher than the US Constitution, higher than man-made laws. All standards and lower laws are subject to these higher laws. If the lower laws violate the higher, the lower laws are not enforceable. The standards by which the Town of Cary enforces its red light cameras, violate the higher law, specifically Newton's Second Law of Motion.

Every city in the world enforces the same standards as the Town of Cary. Every DOT gets their standards from the same place: the Institute of Transportation Engineers.

Is This Red Light Camera Case Any Different?

Is this case different than other red light camera cases? Yes. It is the first case that appeals to a higher law. This case challenges the validity of the Department of Transportation's own standards under the light of the immutable Newton's Laws of Motion.

On November 30, 2010, Brian Ceccarelli, Paul Metters, Timothy Casperson and Lori Millette filed a class action lawsuit against the Town of Cary for illegal operation of their red light cameras. We filed this lawsuit with the help of attorneys Paul Stam, Caroline Nickel, Jon Rountree and Bill Peaslee.

Other lawsuits have used state or federal standards as the light. Such appeals to state or federal standards come to nothing because it is the standards themselves that cause people to run red lights. Therefore our complaint must appeal to higher law, in this case, Newton's Laws of Motion. Our lawsuit says that the NCDOT's misapplication of Newton's Laws of Motion forces our cars to run red lights, and that only because traffic engineers set yellow light durations shorter than what those Laws mandate. Drivers must obey Newton's Laws of Motion, and the Town of Cary cannot overturn Newton.

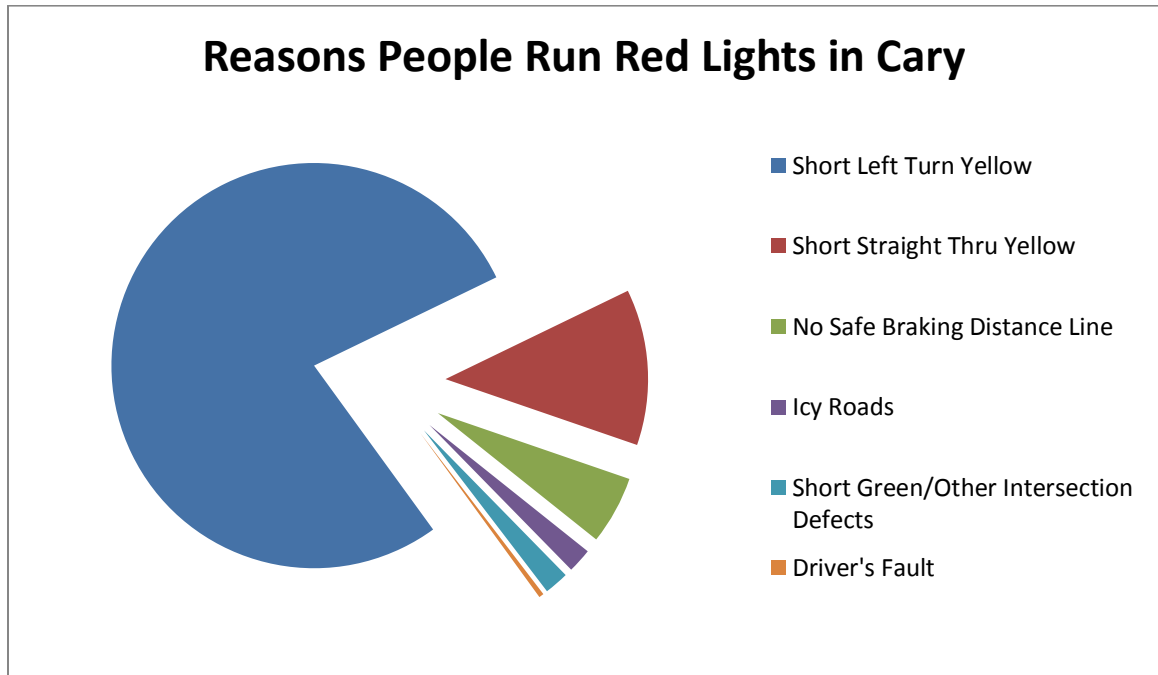
The Core of the Red Light Camera Debates

At any given moment in the world, there are a thousand debates raging about red light cameras. Are the cameras good? Are they bad? Do they decrease crashes? Do they increase crashes? Do they decrease fatalities? Do they increase fatalities? Are T-Bone crashes traded for rear end crashes? Do the yellows meet DOT standards? Do the cameras meet USA video standards? Are the cameras constitutional? Are the cameras there for safety? Are the cameras there to make money? In the end, these debates are good debates but they all are debates about surface problems. None of the debates address the core problem. Without the core problem, there would be no debates.

The core problem is that towns enforce DOT standards with the mathematical precision of red light cameras, but that these standards oppose Newton's Law of Motion, immutable laws which drivers must obey in this universe. Camera companies profit from the defective standards by marking governments then turning them into accomplices using the false promises that the cameras will reduce red light running. The governments, needy for money and perhaps at first innocently ignorant, penalize the innocent—the drivers. Once the scam is underway, the incoming revenue or contractual obligations keep the governments participating. The governments willfully turn a blind eye to the errors of engineers, and then try to cover them up as the Town of Cary does.

The problem is worldwide because almost every city in the world uses the same defective standards.

The Town of Cary Blindly Follows NCDOT Standards



In interviews with the newspapers and TV, the Susan Moran of the Town of Cary always says, “The Town of Cary has a long history of operating our traffic signals according to the appropriate standards” That is mostly true, except for that the standards are not appropriate. Cary chooses to place its cameras at intersections where traffic engineers have most violated Newton’s Laws of Motion.

Normal Straight-Thru Yellow

The NCDOT’s standard forbids drivers from decelerating for any reason before entering the intersection. When a driver decides to go, the standard only provides enough yellow time for him to proceed to the intersection at the speed limit. If a driver slows down to turn, slows down for cars waiting on the other side of the intersection, slows down for the red light at the next close-by intersection, slows down for cars going in or out of business exits, slows down for other reasons, he opens the possibility that he will be forced to run a red light. The driver can no longer stop safely, or proceed into the intersection without running a red light.

Short Straight-Thru Yellow

Cary Town Blvd at Convention EB, High House at Prestonwood WB, and Kildaire Farms at Maynard Road SB did not have straight-thru yellows whose length meets the minimum required by NCDOT's ITSS Design Manual. These intersections even failed the Town of Cary's own standards. By Cary Town Charter 8.15, Cary was illegally operating these cameras for years. Cary has refused to refund the money they took while illegally operating their cameras. That's about \$1,200,000.00.

Short Turning Yellows

This applies to both left and right turn yellow arrows.

Since 2004, \$5.2 million out of \$6.0 million the Town of Cary made has been made from left turn yellows that are shorter than what Newton's Laws of Motion require. In a huge mistake initiated by the Institute of Transportation Engineers, the NCDOT sets turning lane yellow durations to less than that of the formula. To begin with, the formula only provides $\frac{1}{2}$ the time required for a decelerating turning driver to reach the intersection. ITE exacerbates the problem by undercutting an already insufficient duration. ITE forces a high percentage of turning drivers, especially those approaching the intersection unimpeded, to run a red light. A big chunk of the blue slice in the Cary pie chart comes from the red light camera watching the left turn lanes into Crossroads Mall. While such short left turn yellows follow the NCDOT's standard, that standard opposes Newton's Laws of Motion. 15 of 17 red light camera intersections have illegally-set left turn yellows.

Dilemma Zone

There are two types of dilemma zones. Type I and Type II.

A type I dilemma zone is where a driver cannot stop safely or proceed into the intersection without running a red light. Any time a driver needs to slow down before entering the intersection, the DOT standard subjects him to a type I dilemma zone. The size of the zone can be over a dozen car lengths long. Its size increases the more the driver slows down. If the driver was in the zone at the time the light turned yellow, there is no solution for the driver. Whether he chooses to stop or to go, he will run the red light.

A type II dilemma zone is where the driver does not know whether he has the distance to stop or the time to go. Though a solution is possible, the driver is in that precarious place where when the light turns yellow, he is not sure what the solution is. Half the time the driver makes the wrong decision and innocently runs the red by a fraction of a second. To help prevent entering the intersection on a red, most drivers accelerate.

Dilemma Zones are the reason why the red light camera companies are in business.

Every signalized intersection in the world has the defect of a type I dilemma zone. The standard does not allow drivers to decelerate before entering the intersection. This type of systematic error in the standard forces drivers to run red lights.

Every signalized intersection in the world has the defect of a type II dilemma zone. In a single instance of time, the demand to stop gets replaced by the mandate to go. Since DOTs never paint a line at the safe stopping distance, there will always be a zone of indecision along the road where upon seeing a light turn yellow, the driver does not know whether he must stop or go. This type of systematic error guarantees drivers running red lights because the error forces drivers to mentally flip a coin.

Remove the dilemma zones and one removes all the crashes and the fatalities.

Remove the dilemma zones and the red light camera companies go away.

Icy Roads

No one can stop the rain. When there is rain or snow, the road becomes slippery. According to Newton's Laws of Motion, a car needs more time to stop on a slippery road. ITE's yellow light duration equation does not compensate for slippery roads. So when it rains, the equation becomes invalid, which in turn invalidates the red light camera.

Generally speaking, what we see is the deficiency of automated devices to work properly in one-off conditions. In the past, we never had a problem with the enforcement of one-off conditions because the police did the enforcing. Police adapt. Police are smart. Automated devices do not adapt. Automated devices are stupid. Such devices are not aware of weather conditions. They are not aware of anything beyond the tunnel vision of ITE's yellow light equation.

Right-Turn on Red/Other Defects

Right-Turn on Red

All cities have a serious problem of red light cameras flashing cars when drivers make right turns on red lights.

Right-turn-on-red drivers come in two flavors:

1. The right-turning driver whose time-into-red is under 4 seconds. These innocent drivers were merely entrapped by the type I dilemma zone. The DOT forced them to run a red light.

2. The right-turning driver who turns well into the red phase without stopping. These innocent drivers comes in 2 varieties:
- a. Those that stop before turning but stop past the stop line. Technically speaking these drivers broke the law since they crossed over the stop line without stopping. But what is happening is that red light camera companies are exploiting an incompatibility between law and reality. In reality, right-turning drivers must cross over the stop line for safety reasons. Right-turning drivers must be able to see past obstacles to their left, be it cars waiting in lanes to their left or obstacles erected on the corners of the intersections. Signs, hedges, telephone poles, transformers, mailboxes . . . all these things sitting on corners of demand a driver to pull up beyond the stop line to see past them.

When a driver does this and a policeman watches, the policeman does not care. He knows that the driver must do this. No harm, no foul. But the camera has no human discernment.

A right turning driver could stop at the stop line and then cross over the line only to stop again. Sometimes a right turning driver will do this, but only when he cannot see objects in the crosswalk as he approaches the intersection. Most of the time, the driver can see objects in the crosswalk. He will just pull up to place where he can see if the coast is clear.

- b. Those that churn. Churning is yielding, not stopping. Technically illegal in most states, churning is still harmless. When approaching the intersection and the driver can see that the coast is clear, there is no need to stop. A driver with an independent brain simply yields.

Whether the driver should stop or churn is a religious question. At this point I ask, "What would Jesus say?" I think He would say, "Is the Red Light made for Man or is Man made for the Red Light?" And then Jesus would run the red light just as He healed the cripple on the Sabbath. Jesus ticked off a lot of legalistic people by doing such things.

Short Green

Every now and then, you find yourself sitting in a long line behind a traffic light. When you finally arrive at the intersection, you note that the long line is all due to a green light that lasts but a second. It lets one car go thru then immediately turns red. This was my first experience with a red light camera. The Town of Cary added a left turn lane to Maynard Rd at Kildaire Farms, but some careless engineer castrated the green light. The castrated green light caused a traffic jam all the way back to Barnes & Noble. Upon arriving at the intersection, I with a lot of other drivers played crack-the-whip through the intersection before opposing traffic started moving.

The Town of Cary gave us all a ticket.

Perpetual Red

Every now and then, you find yourself waiting for a red light to turn green. The light never turns green. You go.

The red light camera will get you. It does not understand engineering defects. Several types of engineering defects, like a bad actuator, an improperly set minimum green time, or lack of midnight blinking yellows/reds are responsible.

I cannot help thinking about what Jesus would say if He approached such a perpetual red light. “Are the traffic lights made for Man, or is Man made for the traffic lights?”

Red & Yellow at the Same Time

Some intersections in California show both a [yellow and a red light all at once](#). What do you do with that?

Is it legal for a City to give you a ticket under such circumstances? These defects oppose the standards of your own DOT. A short green light, for example, violates the minimum green light length standards. All intersections are required to meet requirements before any law can be enforced. Short green lights and perpetual red lights violate these standards, thus invalidating the red light running laws.

The Judgment of a Human Being

In the absence of a flesh and blood policeman, we have a cold and stupid red light camera. The difference between the two types of enforcement is huge. Traffic engineers never intended for their roads to be patrolled by computers, for engineers have not prepared their roads for such precise scrutiny. Engineers have always assumed a policeman would be the guardian of their domain, giving and taking as Nature demands. A policeman does not stalk an intersection 24/7. A policeman does not stupidly give a ticket to a person who ran a red light by $5/10^{\text{th}}$ of a second. A policeman is not going to give a ticket to a solitary person running a red light in a solitary snow storm.

Are We Against Red Light Cameras?

No.

We are against red light camera *enforcement*, for the time being, because engineers do not build intersections which meet that level of enforcement. The Town of Cary will only be ready to introduce the red light cameras after they adopt only those standards which abide by Newton's Laws of Motion, and build intersections which fulfill all the requirements of their own specifications.

We are for red light cameras as engineering tools. They are certainly wonderful to this end. The data coming from the cameras makes it obvious when the engineer fails.

There is a solution. Set the yellow light durations to the time it takes a car to decelerate to a stop. This one easy solution covers all contingencies. Then DMVs instruct drivers, "Yellow light means a red light is coming, but you can always decelerate safely without possibility of penalty. The worse thing that can happen is if you plan to stop but arrive at the intersection while the light is still yellow. Don't worry, it will turn red in a second. If so desire, you can just glide into the intersection on the yellow." Traffic engineers balk at this. But the alternative is to enter the intersection on a red—which is what engineers are used to and what red light camera companies count on.

The Stakes

As long as cities, sheriff's offices, DOTs and red light cameras misdirect everyone into believing that drivers are to blame and the solution is enforcement, we will continue to suffer having crashes, fatalities and cities picking our pockets. Red light cameras do not deliver on the promises made by the red light camera companies. That is because the driver is not the problem. The engineer is. And his remedy is an introductory physics book.

There is a very good thing about red light cameras. Without the data generated by the red light camera systems, we could not have seen the complete failure of the current engineering standards. We would not have realized that current engineering standards have built-in failures. The problem is getting municipalities, needy for money, to admit the failures . . . and then correct them since all our lives really do depend on it.

¹Forester, T. (ed. & trans.), *The Chronicle of Henry of Huntingdon*, Bohn, 1853 (reprinted Llanerch, 1991) p. 199.