

Why Red-Light Cameras are Unlawful in New York

1. **Red-light camera firms violate the basic rule and standard of care in**

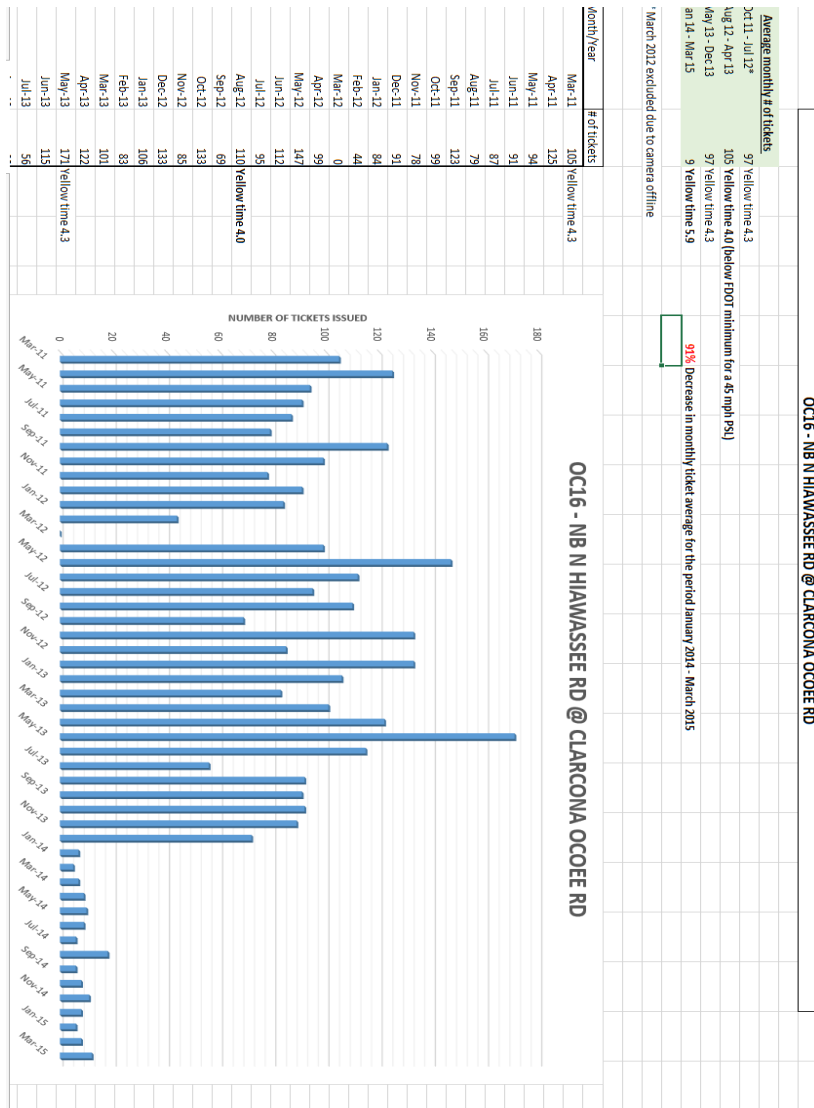
systems engineering. The firms design their cameras to capitalize on the engineering defect in the traffic signal's yellow light by penalizing drivers for it. In systems engineering, a dependent system (red-light camera) is not allowed to operate unless the primary system (traffic signal) is free from such defects. The red-light camera firms violate engineering practice and consumer protection laws. The firms and local governments racketeer to profit from the defect.

2. **The NYSDOT/NYCDOT traffic engineers do not use an engineering**

practice to determine yellow light durations. The following graph speaks volumes. It depicts violations v. time for an Orlando, Florida intersection. While the graph is for a Florida intersection, it typifies the dynamics at all US signalized intersections. The graph debunks the globally held presupposition that drivers are the ones at fault for running red lights.

For the attorney, the graph answers the question, "Which drivers had the time to stop"? The answer is "Those who do not run red lights." The graph shows that when given the opportunity to not run red lights, drivers do not run red

lights. So the corrected presupposition is “Drivers do not want to commit suicide. When drivers run reds, first look at the engineering.”



Had Orlando set the yellow to 8.0 seconds, even those last 9 violations per month may disappear. 8.0 seconds is what the laws of physics require. I have several

dozen of these types of graphs from several American cities. Without exception they demonstrate the same conclusion. Traffic engineers do not give drivers the time to stop.

The NYSDOT and NYCDOT uses the Institute of Transportation's "ITE yellow change interval formula" to calculate yellow light durations. All DOTs use ITE's formula. The formula is the primary defect. The formula is wrong. The formula has severe math and physics errors. The formula's opposition to physics forces drivers to run red lights.

Drivers encountering the defect are so common that jurisdictions like NYC and Suffolk County have issued more tickets than their populations--millions of tickets. The defect is the origin of the *dilemma zone*. The defect is the reason drivers often step on the gas when the light turns yellow. The defect is the reason why some drivers enter the intersection a few seconds after the light turns red when conflicting traffic gets a green light, this causing crashes. In the eyes of onlookers, the defect frames drivers into looking like "scofflaws blowing through the light".

Drivers have to obey the laws of physics. A man-made ordinance obligating drivers to disobey physics is a great money maker.

3. Stepping Stones

- a. [23 CFR 655.601\(a\) Subpart F](#) → [MUTCD](#). The Manual of Uniform Traffic Control Devices (MUTCD) is published by the Federal Highway Administration (FHWA). The MUTCD defines the engineering design and operational standards required by traffic signals and traffic signs in the United States. For example, all stop signs in the United States are octagons and painted red because the stop sign design is in the MUTCD. The MUTCD also has mandates for yellow light durations.

The MUTCD is for engineers, written in the vocabulary of engineers. Engineers call the MUTCD a “Systems Requirements Specification” (SRS). The SRS contains four different kinds of statements. One of the four is a “standard”. Only standards must be implemented. Only standards are mandates.

- b. [MUTCD](#) → [NY Vehicle and Traffic Law, Title VIII, Article 44, § 1680](#). New York adopts the [MUTCD](#) as law.

- c. [MUTCD 4F.17\(03\)](#) is a standard mandating that “yellow change intervals shall be determined by *engineering practices*.” (Saying “yellow change interval” is the same thing as saying “yellow light duration”).
- d. “Engineering practices” is the key legal term.
- e. [MUTCD 4F.17\(03\)](#) → [NYS Professional Engineering Practice Guideline 1](#) → “engineering practice.” Under “Scope of Services”, Guideline 1 defines “engineering practice” as the “application of the mathematical and physical sciences”. [Dictionaries](#) and [encyclopedias](#) and other states’ [statutes](#) have identical definitions. This definition sifts what is engineering from what is not engineering. For example, an engineer implementing $2 + 2 = 4$ is an engineering practice but implementing $2 + 2 = 5$ is not an engineering practice.
- f. ITE formula → engineering malpractice. The [ITE formula](#) is misapplications of the mathematical and physical sciences. It is the equivalent of $2 + 2 = 5$. Therefore, it is not an engineering practice. These National Society of Professional Engineers [videos](#) describe the history of the yellow light, the math behind the yellow light, and the New York’s DOTs’ misapplications of math to yellow lights. The videos show that such misapplications cause over 90% of all red-light running and crashes.

g. Obstruction and Concealment. The New York Board of Engineers, the NYSDOT and NYCDOT go out their way to conceal and obstruct the discovery of New York's unlawful engineering practices in order to stave off litigation. (1) Instead of publishing a traffic signals design manual on the internet, New York keeps its yellow light practice hidden from the public. The fact that New York uses the ITE formula can only be gleaned from its internal [emails](#) and existing [signal timing charts](#). New York conceals its practice because many intersections in New York do not comply to its own standard. (2) The [NYCDOT](#) and the [Board of Engineers](#) exercise suspicious laws to withhold information which would expose the unlicensed practice of engineering by red-light and speed camera firms. (3) [§ 7201](#) omits the word "public" although the purpose of having an engineering practice statute is to safeguard the public. (4) In violation of New York law, NYSDOT changed some MUTCD standards via its [supplement](#) because many (probably thousands) New York traffic control devices do not comply with the federal mandates.

These transgressions are not limited to New York. I found similar obstructions intentionally invoked by North Carolina to conceal its unlawful engineering.

h. [New York EDN Title XIII, Article 145, § 7201](#). **Red-light cameras are**

unlawful in New York. In systems engineering, a dependent system (red-light camera) is unlawful when it amplifies the defects of the primary system (traffic signal's yellow), further harming the public. Red-light cameras do not fix the yellow. They amplify the defect by blaming and financially punishing drivers for the defect.

- i. Under consumer protection laws, this defect is enough to establish a solid legal theory. No more laws are required. Nonetheless, because the consequences of this particular engineering error are physical injuries and death, there is a federal regulation and state laws specifically prohibiting it.
- ii. [New York PEN Title K § 190.65](#). Fraud. Criminal act. Red-light camera firms know the errors in the ITE formula. The Orlando graph is evidence. The firms misrepresent their cameras as “safety” devices. But known to all traffic engineers and red-light camera firms is the fact that that traffic engineers intentionally cause drivers to run red lights for the sake of traffic flow efficiency. On top of that, traffic engineers know that the legal motion of traffic is not the same as the safe motion of traffic. Traffic

engineers deliberately make drivers *safely* run red lights.

Equating safe and legal motion is misrepresentation. For example, for every 1 crash there would be 10,000 people who ran red lights safely.

- iii. The NYSDOT and and NYCDOT traffic engineers commit fraud by misrepresenting their yellow light durations as accurate.
- iv. A word on liability. [NY Article VI HAY § 139.1](#) and similar laws state that persons can recover damages for injuries by means of defective roads and bridges. Traffic signals are part of the road infrastructure.
- v. New York has liability statutes specific to red-light cameras. For example, Nassau County has [NY Title 7, VAT § 1111-B \(10-o\)](#) “It shall be a valid defense . . . that such traffic-control indications were *malfunctioning* at the time of alleged violation.” The ITE formula is a bad math *function*. In Latin, a *malfunction*.
- i. The FHWA and ITE confirm that the ITE formula is not an engineering practice. DOTs and traffic engineers claim the ITE formula is an engineering practice. They make these claims in depositions and court testimonies. But . . .

- i. ITE never claimed its formula to be an engineering practice. For decades, ITE only calls its formulas “practices”. ITE has avoided the terms “engineering practices” and “standard”. Only since 2020, ITE has elevated its formula to “guideline” and now warns of its incompatibility with red-light cameras.
- ii. In 2020, [ITE formally acknowledged](#) that its old formula is wrong. ITE introduced a new formula. Though the new formula is a better than the old one the NYSDOT and NYCDOT use, the math is still wrong, still making everyone run red lights.
- iii. In 2023, the FHWA formally rejected all ITE formulas. The MUTCD (11th Edition, 2023, [4F.17](#)) no longer declares the ITE formula an engineering practice. Prior editions indirectly referred to the ITE formula as an engineering practice in ([4D.26\(07\)](#)).
- iv. The FHWA removed the ITE formula from its web pages. One can no longer claim that the ITE formula is a federal guideline (as if guidelines had authority in the first place).
- v. The ITE formula is a standard of *practice*, not a standard of *care*. This is a decisive legal distinction. The ITE practice does not rise to the threshold required of a standard of care. Though all traffic engineers use the ITE formula, popularity does not qualify the

formula as a standard of care. Only a formula that is applications of mathematical and physical sciences can be an engineering practice, and once an engineering practice, only then can it be elevated to a standard of care.

- j. There is a lawful engineering solution. A yellow light formula that would be an engineering practice is one that removes the 2 from the denominator of the ITE formula. Take ITE's formula: $Y = p + v/2a$ and change it to $Y = p + v/a$. v/a is the time to stop. $t = v/a$ is an equation of motion. All objects in the universe obey equations of motion.
- k. The North Carolina DOT wrote this [legislation fix](#) to [ameliorate](#) the ITE formula's short yellows. The fix will not eliminate crashes; only removing the "2" could do that.