

Critique of Troy D. Walden's EVALUATION OF PHOTOGRAPHIC TRAFFIC SIGNAL ENFORCEMENT SYSTEMS IN TEXAS

Page 2, paragraph 3:

"A total of 4,022 crash records were identified by the investigator as not being intersection related. These records were removed from the sample which left a total of 11,122 crash records that were used in this investigation."

This removal is for rear end collisions which occurred more than 150 feet from the intersection but were within the decision zone of the traffic light. This removal improperly discounts the increase in rear end collisions which is known to be associated with red light cameras.

Page 10, paragraph 1

"The National Highway Traffic Safety Administration (NHTSA) estimated that a total of 102 people die each day in motor vehicle crashes in the U.S. These figures equate to one death every 14 minutes.¹"

Two people not 102 die each day from red light violations according to the NHTSA 2008 figures.

Page 10, paragraph 2

"Red light running causes more than 100,000 crashes and 1,000 fatalities annually which results in an economic loss of over \$14 billion in the United States (US) each year.² Additionally there were more than 2.3 million reported intersection-related crashes, resulting in approximately 7,770 fatalities and 733,000 injuries. Right angle intersection crashes accounted for 46% of the total.²"

The data presented is for intersection-related crashes which is a broad category and is not the subject of this study. Red light running crashes are not the largest part of this category.

"... red-light running crashes alone caused 762 deaths in 2008 ..."

<http://safety.fhwa.dot.gov/intersection/redlight/>

In 2009 statewide "DISREGARD STOP SIGN OR LIGHT" was listed as a cause of 15,660 crashes (2.57% of the total crashes). This cause ranked 13th out of 75 listed causes. It was the cause of 89 fatalities.

ftp://ftp.dot.state.tx.us/pub/txdot-info/trf/crash_statistics/2009_update/20_2009.pdf

Page 10, paragraph 3

"Clearly, red light running poses a significant traffic safety problem for communities across the US."

"Significant" is overstating the problem.

Page 10, paragraph 5

"Enforcement of red light signal violations is a proactive activity intended to increase traffic safety by reducing the overall number of crashes and vehicle conflicts."

The stated purpose is a cover for revenue inspired law enforcement.

Page 11, Figure 1.

"Traffic Conflict Points in a Typical Intersection"

Figure 1 was reproduced without attribution. This figure was previously published here:

**<http://www.ite.org/membersonly/itejournal/pdf/2010/JB10EA18.pdf>
PDF Page 2 which altered the caption but credits this publication:**

**<http://www.fhwa.dot.gov/publications/research/safety/04091/04091.pdf>
August 2004 PDF Page 240.**

Page 11, paragraph 1

"Research has shown that the more traffic conflicts occur the greater the probability for a higher number of crash events to exist."

This assertion is undocumented and documents the bias of the investigator.

Page 11, paragraph 2

“Since people’s decisions to disobey traffic laws are largely self-motivated and often linked to personal choices ...”

These assertions are unsupported personal opinions. They document the bias of the investigator.

Page 11, paragraph 3 & 4

“Unfortunately, Texas is not unfamiliar with fatal and injury intersection crashes. In 2008, TxDOT reported that 829 people were fatally injured in crashes that occurred at intersections.³ This represents approximately 24% of the 3,468 fatal injury crashes that occurred within that year. Additionally it is estimated that red light running cost the State of Texas over \$2 billion annually.⁸”

“Over a five year period (2004-2008), intersection-related crashes claimed approximately 3,400 lives in Texas.⁴ The total number of fatal crashes as well as those attributed to intersections remained relatively consistent across that five-year period. The frequency of these crashes is illustrated in Figure 2.”

These numbers are related to intersections. This evaluation is supposed to be about signal-related crashes.

Page 12, Figure 2.

This figure is not about signal-related crashes.

Page 12, Objective

According to the Associate Director of TTI this evaluation was not subjected to any internal review by TTI-CTS and therefore the findings should be construed to be solely those of the of the investigator.

Page 17, Table 1

In 2009 there were no fatalities statewide attributed to “Failed to yield right of way-turn on red”. Crashes attributed to this violation numbered only 1,469 or 0.24% of the total number of crashes in Texas in 2009. This is clearly not a serious violation which requires draconian methods of enforcement.

ftp://ftp.dot.state.tx.us/pub/txdot-info/trf/crash_statistics/2009_update/20_2009.pdf

Analysis of red light camera citations indicates that a preponderance of the infractions is for right-on-red rolling stops. In Sugar Land, TX it was found that 60% of the citations typically were for this violation. One wonders how strict enforcement of this relatively insignificant violation can decisively reduce this already rare cause of accidents.

<http://houstoncoalition.net/slrc>

Page 21, Table 3. Page 32, Table 7. Page 33, Table 8. Page 37, Table 10.

Only 37 of the 55 jurisdictions with red light cameras are included in the crash counts listed in these three tables. The missing 18 jurisdictions with red light cameras are: Allen, Balcones Heights, Carrollton, Desoto, Frisco, Harlingen, Hurst, Hutto, Killeen, Lancaster, Lewisville, Longview, Lubbock, Montgomery County, Port Lavaca, Southlake, Tomball and University Park.

It seems strange that such sweeping generalizations about the subject of this study would be made with such an extensive gap in the data.

The investigator offers no reason as to why this data is missing and the method of calculation of the tabulations is also mysteriously unexplained.

Page 24, paragraph 2

“While programming correct yellow intervals provide some safety benefits for the intersection, the yellow interval timing approach is effective only if all motorists drive at the same speed and use similar driver capabilities. Since many operators drive at differing range of speeds and react to things in different ways, there is no singular correct or safe duration for the yellow interval duration. Unfortunately, some driver dilemma will continue to exist regardless of what yellow interval time exists.”

But, adding one second to the “ITE Formula” dramatically decreases the number of red light violations according to TTI colleagues Bonneson and Zimmerman who stated the following:

“A before-after study is described and the resulting data used to quantify the effect of increasing the yellow interval on the frequency of red-light violations. Based on this research, it was concluded that: (1) an increase of 0.5 to 1.5 s in yellow duration (such that it does not exceed 5.5 s) will decrease the frequency of red-light-running by at least 50 percent ...”

<http://www.motorists.org/red-light-cameras/TRB2004-1228.pdf>

This method obviously is a very effective, less expensive and a non-punitive way of reducing red light violations. This would provide much more than merely “some safety benefits”. The investigator shows no interest in this method.

Page 25, Table 4.

The correct yellow interval timing for 45 MPH is 4.3 seconds. Two intersections are shown to have short yellows and this shortage is apparently not problematic for this investigator.

Page 45, paragraph 1

“The percent decrease (11%) in the total number of crashes ranged from a low of 7% on US highway intersections to a high of 15% for State highway intersections. The Business/Primary Road Category (126 intersections) accounted for 40% of this decrease which is proportional to the number of crashes the roadway type represents in the before and after installation totals.”

Historical trends show an annual decrease without the use of red light cameras. The proper use of control sites in this study would show that red light camera locations would not show a greater decrease in crashes.

Page 46, paragraph 1

“The most severe type of crash is attributed to right angle conflicts.”

The most severe type of crash is not a T-bone. Head-on and rollover crashes are more severe.

Page 46, paragraph 2

“As expected the number of rear end crashes did increase with four out of the five different types of intersections. There was an increase of 142 red light related rear end crashes over a total of 267 intersections. More than half of the increase can be attributed to intersections on Business/Primary roads.”

The censorship of over 4,000 crashes arbitrarily deflates the count of rear end crashes to a mere 142.

Page 47, paragraph 2

“...there is evidence that suggests automated traffic enforcement systems are effective ...”

“Evidence that suggests” is a rather weak assertion. The decrease in traffic due to the economic recession, the historical trend, the increase in yellow times and the complete lack of control sites invalidates the claim of crash reduction as a benefit of red light cameras.

Page 47, paragraph 3

“While rear end collisions did appear to rise, the majority of those type crashes were not related to red light violations. In those cases where a greater number of rear end collisions occurred, the majority were found to be a result of the “following” driver traveling too closely to the lead unit or failing to control speed. Evidence suggests that rear end crashes are not a result of the lead unit braking hard to avoid running a red signal and being struck from the rear. Crashes of this type were clearly defined in the frequency of non-red light related collisions that were evaluated.”

When a yellow traffic light is encountered red light cameras do change driver behavior. Before photo enforcement drivers tended to stomp on the accelerator. After photo enforcement they tend to stomp on the brake instead. There surely was no decrease in the vehicle following distances associated with photo enforcement. To assert otherwise is absurd.

Page 48, Reference 4.

“National Highway Traffic Safety Administration: Fatal Accident Records System (FARS). Retrieved from NHTSA website:
http://www.nrd.nhtsa.dot.gov/departments/nrd30/ncsa/STSI/48_TX/2008/48_TX_2008.htm#TAB7

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Page 48, Reference 5.

“James A. Bonneson and Karl Zimmerman, .“Identifying Intersections with Potential for Red Light-Related Safety Improvement,” *Transportation Research Record: Journal of the Transportation Research Board*, No. 1953, 2006, pp. 128-136. Retrieved from:
<http://trb.metapress.com/content/3k1253147820476v/fulltext.pdf>”

This link is not freely available.