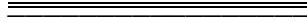
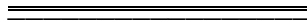


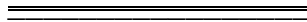
**The Bill Blackwood
Law Enforcement Management Institute of Texas**



Use of Red Light Cameras in Municipalities



**A Leadership White Paper
Submitted in Partial Fulfillment
Required for Graduation from the
Leadership Command College**



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February 2015**

ABSTRACT

The subject of red light cameras at intersections throughout the United States and the world has been highly controversial. There are many proponents on both sides of this controversy. Throughout research conducted on the internet, articles in law enforcement publications, and local newspapers throughout the world, it still remains a subject that officials and citizens cannot agree on. It is important for citizens to understand the purpose of red light camera systems, their intended use, and how these systems work. Red light cameras have been surrounded with controversy, and some of the controversy is well deserved.

Although there have been many cities that have taken advantage of the public, it has been determined that the good outweighs the bad when it comes to these systems. The number of accidents has been reduced, and these systems have changed the driving habits of motorists, along with generating revenue for the municipalities. Most cities have claimed that revenue had little to do with implementing the camera systems, and the safety of the public is more important. The use of red light cameras is a trend that is not likely to go away and should be embraced in cities across the country.

TABLE OF CONTENTS

	Page
Abstract	
Introduction	1
Position	2
Counter Position	5
Recommendation	9
References	11

INTRODUCTION

The first red light cameras were developed in the Netherlands, and they have been used since the 1960s. In 1969, they were used for enforcement purposes in Israel. The early red light cameras used tubes laid across the street, and when the system would detect a violation, it would trigger the system and take a photograph. The first developer of this system was a company by the name of Gatsometer ("History," 2013).

In 1982, red light cameras gained notoriety in New York, after a fatality accident involving a motorist who ran a red light and struck an 18 month old girl ("Red light camera systems," 2011). After this incident, a community group in New York teamed with the city's Department of Transportation to devise a system that would be used to ticket drivers who run red lights ("Red light camera systems," 2011). This system would go in effect in 1993. Following its existence, Australia, Britain, South Africa, Taiwan and the Netherlands were some of the few countries/continents that began using this system. These early systems used 35 millimeter film' and it would have to be removed periodically and taken to the local police department or government agency. In December of 2000, the majority of the cameras were switched to a digital system ("Red light camera systems," 2011).

According to the National Highway Safety Administration the issue of red light running is a serious concern across the United States ("Red-light running," 2014). The report indicated that there were approximately 2.3 million reported intersection crashes, in those crashes there were more than 7,700 fatalities and 733,000 injuries ("Red-light

running," 2014). The report further indicated that more than half of the fatalities were the non-violators. Ultimately, red light cameras should be used in municipalities.

POSITION

Red light cameras have other uses other than only ticketing reckless drivers. On November 1, 2011, in Cedar Rapids, Iowa, a collision was caught on camera with two motorists at the intersection of Sixth Street and Second Avenue. Both vehicles were totaled in this collision, and one victim had to be extracted from her vehicle. Both motorists were injured, but only one was transported to a hospital, and both motorists denied fault. Once the Cedar Rapids police viewed the video footage, they had hard, indisputable evidence of who was at fault, and appropriate citations were issued (Raasch, 2011).

The City of Cedar Rapids has installed seven cameras at intersections located throughout the city for the purpose of monitoring speeders and red light runners. Since the installation of the cameras in 2011, there have been ten accidents caught on video at various locations throughout the city. According to a spokesman from Cedar Rapids Police Department, insurance companies appreciate the systems. The spokesman also described the cameras as independent and infallible, unlike a human witness (Raasch, 2011).

In addition to the general public, city employees operating city owned vehicles in Cedar Rapid, Iowa were issued citations for red light violations. The cameras cited 26 local police vehicles for speeding and running red lights. According to the Chief of Police, Greg Graham, six of the officers have been issued letters of reprimand due to the fact they failed to have their lights and sirens on. Out of the 26, five were not

violations and 15 are still under review. Additionally in Cedar Rapids, Iowa, there were numerous Cedar Rapids city employees in city owned vehicles committing red light violations. These included dump trucks and city busses. According to Chief Daugherty of the Cedar Rapids Police Department, the city cannot show favoritism, and they must maintain consistent in their enforcement ("Iowa cops nabbed," 2010).

Since the City of Wenatchee, Washington installed red light cameras, the police department has seen a slight reduction in collisions (Riggs, 2012). The mayor contributes the drop in accidents, as a whole, to the red light cameras and feels that if they can reduce just one accident, they were worth it. According to statistics gathered by Wenatchee Police Department, from the years of 2010 and 2011, the numbers of accidents have dropped and are at a five year low, which once again, the mayor attributes to red light camera (Riggs, 2012).

Captain Doug Jones of the Wenatchee Police Department stated that the population has risen from 31,120 in 2010 to 32,090 in 2011, and the number of collisions has still reduced. In addition to collisions decreasing, the numbers of red light citations have reduced as well. In November of 2011 the numbers of citations mailed out were 258, which is a dramatic drop from August 2010 of 686. However, it is acknowledged that the November statistic was especially low, due to the fact of sidewalk construction at that particular intersection (Pratt, 2010).

When the cameras were installed in July of 2010, the price for running a red light was \$124. In 2011, the total numbers of citations mailed out were 5,666, and after the monthly maintenance fee and court fees, and taken into account that some violators contested, paid a lower fine, or even had the citation dismissed, the city still pocketed

\$393,948 (Pratt, 2010). According to the mayor of Wenatchee, who is a former a city councilman, the biggest number of complaints that he received from citizens were red light runners. He now has the mindset that the city has collected a bit of revenue, collisions have reduced, and he feels that citizens are driving safer. All in all, he feels that the cameras are worth the city's time (Pratt, 2010).

It has been determined that the use of red light cameras has greatly reduced the number of right angle collisions, which are some of the most violent. In a study on red light cameras in Oxnard, California in 2001, it was determined that right angle collisions were down 32%, and injuries from those right angle collisions were down 68%. These same results were also prevalent in Texas, in a statewide survey, at intersections throughout Texas. It was determined that the numbers of right angle collisions were reduced by 43%. As expected, right angle collisions were not completely eliminated, but they were decreased by almost half, which leads to a conclusion that red light cameras are effective (Retting, 2002).

In 2009, the City of Arlington, Texas installed red light cameras throughout the city and statistics have shown it to successful thus far (Inman, 2012). According to statistics released in 2012 by the city, it was determined that the most dangerous time of the day for red light runners and when most violations occur is on Fridays from 1:00pm until 3:00pm. Out of the violations reported, 57% of red light violators are not Arlington residents. This data was obtained from 17 red light cameras, located at 20 different locations throughout Arlington (Inman, 2012).

In 2009, when the red light cameras were installed, the City of Arlington collected \$500,445 in fines, in 2010, \$5,271, in 2011, \$4,409,284 and as of March 31, 2012,

42,997,295 (Inman, 2012). These statistics show that the city's revenue has decreased since the first year of inception, but this is a successful program thus far. According to the Arlington officials, in 2009, 94,809 red light citations were issued, and this number has dropped to 42,741 thus far in 2012. Each year, the city has noticed a decreasing trend in these violations, once again showing this program is a success. The average penalty is \$75.00 per violation. Since 2009, statistics show that 83% of drivers have changed their driving behavior since receiving one violation. The crash data has also shown a reduction in accidents at six locations in Arlington from a reporting period of July 1-June 30. At the six intersections data was collected, in 2010, there were 37 accidents, and in 2011, there were 15 (Inman, 2012).

COUNTER POSITION

In today's society there are many opponents to government agencies issuing red light citations. Many citizens believe that these systems have been put in place to generate revenue for the municipality. According to an article published in the (Rachwal, 2008), six cities have been accused of shortening the timing cycles to catch more red light violators, ignoring the danger of doing this. One agency in question had to refund the total of \$1 million dollars to citizens who were issued red light citations. (Rachwal, 2008).

Union City, California was one of the agencies accused of tampering with the timing cycles at locations where the red light cameras were placed. This accusation was brought to light when Dave Goodson, an engineer, was ticketed for a red light violation. Goodson indicated that he did not have time to stop for the light before it turned red. As a result of the complaint, it was determined by Union City's traffic

engineers that the timing cycle was set at 3 seconds and not the stated mandated 4.3 seconds. In numerous situations, motorists would face a dilemma: When the light turns yellow, a citizen can either slam on the breaks and chance getting rear-ended or continue through the light and receive a citation for running the red light. A study completed by the Texas Transportation Institute indicated that adding an extra second to the yellow light cycle would reduce accidents at a rate of 40 %. According to Captain Brian Foley, he stated “it was not intentional. We’re not going to let anything hurt the integrity and credibility of this program” (“Union City,” 2005, para. 3).

It is also believed that the private company installing the red light camera systems had completed a survey to determine where the highest traffic volume, highest accident rates, and the shortest yellow light cycles were located in the city, and that is where they installed the systems (“Union City,” 2005). In February of 2007, a controversy erupted when a local television station reported and documented the short yellow cycles. One intersection had a timing cycle of 2.9 seconds, which is below the state minimum. After this story was aired, the red light camera program was delayed, and the \$2 million expected profit from this program was the reason for a hiring freeze to maintain the solvency (“Union City,” 2005).

Although it has been proven that some cities or red light camera companies have shortened yellow light cycles, it does not seem to be a common practice throughout the United States (Rachwal, 2008). It has also been proven, statistically, that these systems have gained extensive revenue for many cities throughout the United States and reduced the accidents in these cities (Rachwal, 2008). These systems have been responsible for recording accidents, which, in turn, has made the investigating of these

accidents almost foolproof. According to a spokesman from the Cedar Rapids, Iowa police department, insurance companies appreciate the camera systems (Raasch, 2011). The insurance companies believe they can raise the insurance premiums without exposing themselves to a large number of insurance claims ("Why the insurance," 2008). These insurance companies also believe that in addition to the influx of red light cameras, there will be an implementation of speed cameras. In the United States, most speed limits are under posted, which, in turn, means it is more likely for motorists to exceed the speed limit, more tickets, and then higher premiums the consumer will have to pay ("Why the insurance," 2008).

Another argument against red light cameras is that they will cause an increase in accidents. In the City of Lubbock, preliminary reports have shown an increase in the number of accidents at the intersections where red light cameras were installed. At the 12 intersections where red light cameras were installed, the number of rear end crashes has doubled, and the total number of crashes has gone up 50%. According to the Lubbock public works director, three months is not sufficient time to get an accurate results. Despite the negative results of the survey, city officials feel that the program is working because the number of injuries in accidents have gone from 28 to 22. These figures do not necessarily show a reduction of accidents, but it reflects a reduction of the number of passengers in the vehicles at the times of the crashes. Additionally, a year's worth of independent studies from other cities has reflected an increase in both injury and property damage, at locations where red light cameras have been installed. ("Lubbock," 2007).

In studies conducted in Wenatchee Washington showed that from the years of 2010 and 2011 the number of accidents have dropped and are at an all-time low. The mayor and police administration attribute this to red light cameras in place (Riggs, 2012). The mayor, at this time has no plans to remove the red light systems, and feels if they can save just one life, the systems are worth it. The only issue that Wenatchee had was an intersection that had a rise in accidents, and they cannot explain why, but they believe it was attributed to people trying to stop and being struck from the rear.

While rear end accidents may have increased, the red light cameras have reduced the number of right angle "T-Bone" accidents, which are generally the most violent. In Oxnard, California, it was determined, through research and surveys, that right angle accidents were down 32%, and the injuries from these accidents were down 68% (Retting, 2002). The same results were also similar in Texas. Right angle collisions were reduced by 43%. Although right angle accidents were not eliminated, they were reduced by half, and officials came to the conclusion that red light cameras were effective (Retting, 2002).

The City of Arlington Texas began their red light camera program in 2009 and has had success, financially and in the reduction of accidents since its inception. Arlington was able to obtain data of 17 red light cameras at 20 locations throughout Arlington. They were able to predict a window of time and location where the highest number of accidents and violations would occur. In the first year, 2009, the city collected \$5,004,545 in fines, in 2010, \$5,271,108, in 2011, \$4,409,284 and in 2012 \$2,997,295. Each year this number has reduced, the number of accidents has reduced, and there were only 5% repeat violators, which show an 83% of the drivers changed

their driving habits at these locations, thus showing success with this program.

Ultimately, although there have been many opponents of red light cameras, whether it be due to shortened yellow light cycles, the argument of more rear end collisions etc., the red light camera system has changed the driving habits of citizen across the United States. This makes for a safer highway system in cities, towns and counties across the United States.

RECOMMENDATION

Red light cameras have many uses other than ticketing drivers. Although the red light camera systems have earned cities a large amount of revenue, they have also reduced traffic collisions at intersections across the United States. Red light cameras can record accidents, which also makes it easier to determine fault. This saves hours of manpower and the taxpayers' money when it comes to civil suits, when drivers fail to admit fault. The red light cameras make great independent witnesses and are considered infallible, unlike a many human witnesses. Red light cameras have also reduced right angle collisions, which are some of the most violent collisions. The study conducted in Texas in 2008 showed a decreased in accidents by 43%, which is down by approximately half (Retting, 2002).

There have been a number of cities that been accused of shortening yellow light cycles in order to generate more revenue. One city had to pay citizens back millions of dollars, when this was discovered (Rachwal, 2008). Most cities stated that this was not done in malice and did take responsibility (Rachwal, 2008). Although this has occurred on numerous occasions, these accusations have been few and far between. Red light cameras have been proven to be a useful and reliable tool for many cities. Additionally,

there have been statistics showing an increase in rear end collisions at intersections where red lights are in place. A study completed in Lubbock Texas showed a 50% increase in accidents at one particular intersection, but according to public works director, 3 months' worth of statistics was not a good comparison. ("Lubbock," 2007).

In conclusion, red light cameras, as a whole, have reduced the number of right angle accidents across the United States, but they have also shown a slight increase in rear end collisions (Retting, 2002). In many cities the number of citations issued have decreased in the years since the cameras were first installed in most cities. This is a direct result of citizens knowing that red light cameras exist in their cities, thus altering their driving habits. This data from the recording of traffic accidents has proven helpful in determining fault at accident scenes. The major insurance companies have been a supporter of such systems (Raasch, 2011).

Ultimately, more studies and research on red light cameras need to be conducted in order to improve what already exists. These systems could be used in the same manner that border crossing cameras are used for. With the technologies that exist, the possibilities are endless for these systems.

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