CORE 115 Pre-Assignment

CORE 115-L7 (S2-19) Common Ground
1/14/19 – 3/1/19 Brooke Gialopsos, Ph.D.

You are a member of the city council of a medium-sized Midwestern city in the US. There have recently been a number of deadly accidents at several major intersections, several involving pedestrians getting killed. Additionally, the number of people running red lights has been increasing, and you suspect that this has contributed to the increased numbers of deadly accidents. Some citizens have suggested installing red light cameras at several key intersections to reduce the accidents and automatically fine drivers who run red lights. Another group of citizens has protested this effort, saying that they feel it will violate their privacy, as well as their right to face their accuser (which is not an issue when an actual police officer stops them and hands them a traffic ticket directly). You have already received a proposal from a vendor of these red light cameras, and it promises to help generate badly needed revenue for your police department, which will allow you to keep from laying off police officers and the cameras will allow them to patrol neighborhoods rather than having to monitor these intersections.

In preparation for an upcoming public hearing, you need to prepare your official recommendation on this issue. Your intern has provided you with her research on the issue, including summaries of the research on red light cameras and their effectiveness, and a copy of the Sixth Amendment to the U.S. Constitution (in case you want to see the official language about privacy and the right to face your accuser). Before the next council meeting, you need to prepare your recommendation, which you will present at the meeting. Remember that this is not just your opinion. You need to cite evidence to support your ideas. Also remember that your duty as an elected official is to serve the greater good of your community. As you explain your position, clearly explain how your choice serves the greatest good for your citizens.

In writing your response, please be sure to include the following:

- **Cite the evidence** that you used in making your decision, making sure to use a recognized format (such as **MLA or APA**).
- Clearly **explain your understanding** of this situation. **What is the most important aspect of the problem that you were trying to solve with your decision?**
- Clearly **state your decision**. **You must make one choice** (that is, either to support or oppose the installation of red light cameras) **and you must clearly state why you believe that your choice is supported by the evidence.**
- Comment on the **quality of information** that helped you to make your decision. Remember that this may involve a **commentary on reasons to trust what you think is good information, as well as reasons that you do not trust information that you think is bad information.**
- **Your final paper should be approximately three pages, plus a works cited or reference page**, which should be integrated into your paper, saved, and submitted as one single document in either Word (.doc/.docx) or pdf format.

CORE 115 Pre-Assignment

Abstracts (brief summaries) of Journal Articles:

Article 1:

Title: Effects of red light camera enforcement on fatal crashes in large US cities.

Authors: Hu, Wen *whu@iihs.org* McCartt, Anne T. Teoh, Eric R.

Appeared in: Journal of Safety Research. Aug2011, Vol. 42 Issue 4, p277--- 282. 6p.

Abstract: Objective: To estimate the effects of red light camera enforcement on per capita fatal crash rates at intersections with signal lights. Methods: From the 99 large U.S. cities with more than 200,000 residents in 2008, 14 cities were identified with red light camera enforcement programs for all of 2004–2008 but not at any time during 1992–1996, and 48 cities were identified without camera programs during either period. Analyses compared the citywide per capita rate of fatal red light running crashes and the citywide per capita rate of all fatal crashes at signalized intersections during the two study periods, and rate changes then were compared for cities with and without cameras programs. Poisson regression was used to model crash rates as a function of red light camera enforcement, land area, and population density. Results: The average annual rate of fatal red light running crashes declined for both study groups, but the decline was larger for cities with red light camera enforcement programs than for cities without camera programs (35% vs. 14%). The average annual rate of all fatal crashes at signalized intersections decreased by 14% for cities with camera programs and increased slightly (2%) for cities without cameras. After controlling for population density and land area, the rate of fatal red light running crashes during 2004–2008 for cities with camera programs was an estimated 24% lower than what would have been expected without cameras. The rate of all fatal crashes at signalized intersections during 2004–2008 for cities with camera programs was an estimated 17% lower than what would have been expected without cameras. Conclusions: Red light camera enforcement programs were associated with a statistically significant reduction in the citywide rate of fatal red light running crashes and a smaller but still significant reduction in the rate of all fatal crashes at signalized intersections. Impact on Industry: The study adds to the large body of evidence that red light camera enforcement can prevent the most serious crashes. Communities seeking to reduce crashes at intersections should consider this evidence.

Article 2:

Title: Red light for red-light cameras?: A meta-analysis of the effects of red-light cameras on crashes.

Author: Erke, Alena

Appeared in: Accident Analysis & Prevention. Sep2009, Vol. 41 Issue 5, p897--- 905. 9p.

Abstract: A meta-analysis has been conducted on the effects of red- light cameras (RLCs) on intersection crashes. The size and direction of results reported from studies included in the meta- analysis are strongly affected by study methodology. The studies that have controlled for most confounding factors yield the least favourable results. Based on these studies, installation of RLCs leads to an overall increase in the number of crashes by about 15%. Rear-end collisions

increase by about 40% and right angle collisions, which are the target crashes for RLC, are reduced by about 10%. All effects are, however, non-significant. Meta-regression analysis shows that results are more favourable when there is a lack of control for regression to the mean (RTM). An interaction is found between control for RTM and control for those spillover effects that result from the tendency of RLCs to affect crash levels in nearby intersections without RLC. In studies controlling for RTM, additional control for spillover effects reduces the favourability of results still further. Studies controlling for both RTM and spillover effects tend also to control for more additional factors than other studies. It is likely that the results are affected by additional moderator variables, which could not be investigated in this meta-analysis. RLCs may reduce crashes under some conditions, but on the whole RLCs do not seem to be a successful safety measure.

Article 3:

Title: Turning off the cameras: Red light running characteristics and rates after photo enforcement legislation expired.

Authors: Porter, Bryan E., Johnson, Kristie, & Bland, Johnnie

Appeared in: Accident Analysis & Prevention. Jan2013, Vol. 50, p1104--- 1111. 8p.

Abstract: In 2005 the Virginia legislature allowed the law permitting automated enforcement for red light running violations to expire. An opportunity presented itself to evaluate what would happen to red light running behavior at formerly enforced locations. Using intersections previously studied to document one city's deployment and use of photo enforcement (see Martinez and Porter, 2006), we mobilized multiple pre-expiration, immediate post-expiration, and one year post-expiration observations at camera-enforced intersections as well as two control groups consisting of same-city and a different city's non-camera locations. More than 2700 direct observations were made in these time periods, documenting the near-immediate increase in red light running at previously camera-enforced intersections. These intersections had a rate that nearly tripled immediately after the law expired, and more than quadrupled one year later. Further, within a year of the law’s expiration, the low red light running rates at the previous-camera locations had recidivated to red light running rates of the control locations. Driver characteristics were not significant predictors of these rates once intersection group and traffic volume (and their interaction) were controlled, meaning red light running in this study was not linked to a particular driver type. Our results are important for scholars of intersection safety, as this is the first known peer-reviewed study documenting estimates of what could happen when automated enforcement is removed.

Other Information

United States. Federal Highway Administration Research and Technology. *Safety Evaluation of Red-Light Cameras: Executive Summary.* By Michael Griffith. April 2005. Web. 28 April 2018.

The fundamental objective of this research was to determine the effectiveness of red-light-camera (RLC) systems in reducing crashes. The study involved research using data from seven jurisdictions across the United States to estimate the crash and associated economic effects of RLC systems. The study included 132 treatment sites, and specially derived rear end and right-angle unit crash costs for various severity levels. Crash effects detected were consistent in direction with those found in many previous studies: decreased right-angle crashes and increased rear end ones. The economic analysis examined the extent to which the increase in rear end crashes negates the benefits for decreased right-angle crashes. There was indeed a modest aggregate crash cost benefit of RLC systems. There were weak indications of a spillover effect that point to a need for a more definitive, perhaps prospective, study of this issue.

Combined results for seven jurisdictions				
	Right-angle crashes		Rear-end crashes	
	Total crashes	Definite injury	Total crashes	Definite injury
Estimate of percentage change	-24.6	-15.7	14.9	24.0
Estimate of the change in crash frequency	-379	-55	375	32

Estimated economic impact		
	Right-angle crashes	Rear-end crashes
Cost before installation of RLC	$66,814,067	$69,347,624
Cost after installation of RLC	$48,319,090	$75,222,780
Percentage of change in crash costs	-27.7	8.5

Amendment VI of the U.S. Constitution

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the Assistance of Counsel for his defense.