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Executive Summary Evaluation of the Efficacy of Red Light Enforcement Systems for Generation of Revenue and/or Enhancement of Traffic Safety

Executive Summary

A comprehensive review has been made of pertinent literature and in use data from red light camera enforcement systems to assess their effectiveness for the purposes intended. This review and analysis has led to the conclusion that RLC enforcement systems can accomplish either of the objectives of revenue or safety, but not simultaneously, since the factors that enhance revenue will compromise safety and vice versa.

It appears that existing red light camera enforcement systems, which is the combination of the red light camera enforcement apparatus and the red, yellow and green signal systems, such as the ones installed at 19 intersections in San Diego, have been very effectively designed and programmed for revenue generation by using unreasonably short yellow intervals to create apparent violations to assess a fine. A review of the literature and the operational data available, shows no credible evidence of enhancement of safety achieved by red light camera enforcement as used over the past two decades. In fact, there are indications that safety is probably compromised by the RLC systems when they are operated in the revenue mode.

The summary of facts and conclusions are:

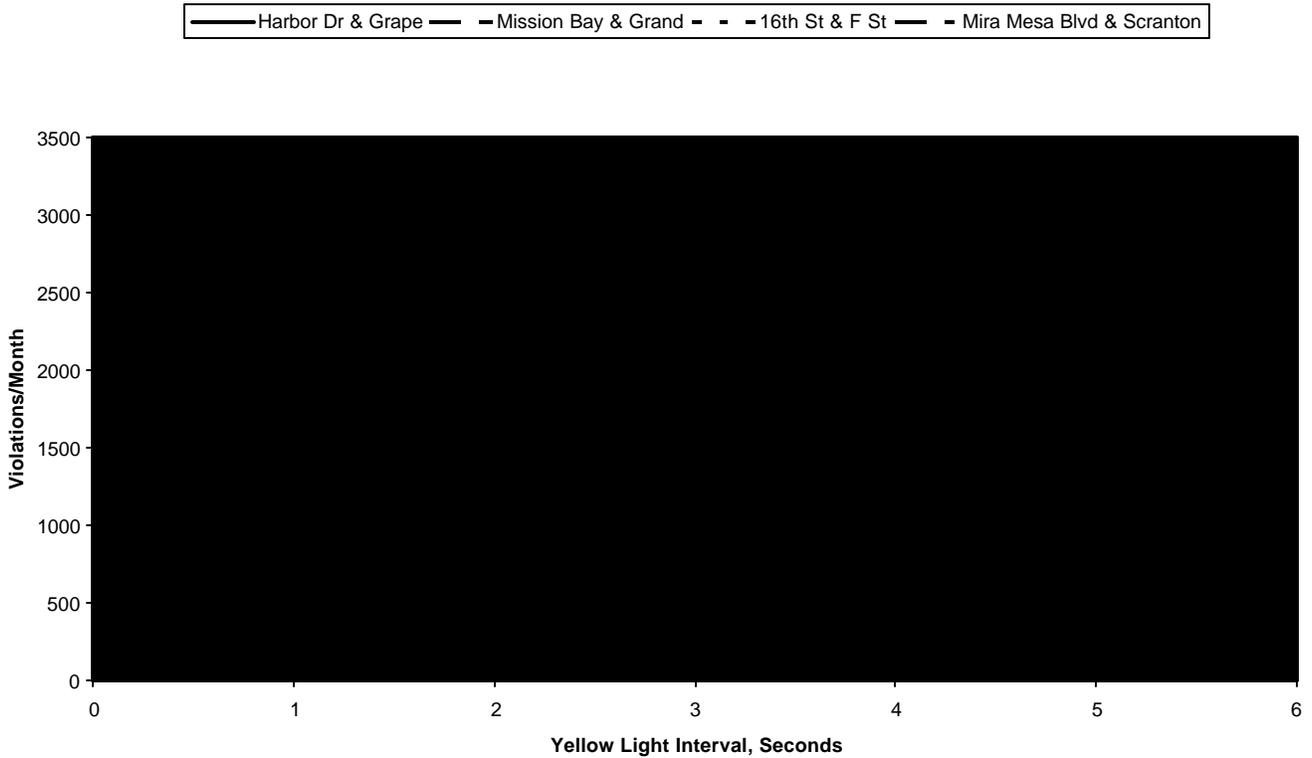
- ?? For red light enforcement systems, revenue generation and reduction in collisions become mutually exclusive objectives. It can be shown that yellow interval selection for revenue generation impairs safety and yellow interval selection for traffic safety reduces revenue.
- ?? There can be no question that inhibiting red light running can contribute to traffic safety, but comprehensive analysis shows that the portion of virtual red light running created by unreasonably short yellow light intervals, those in the 3 to 4 second range, does not and cannot reduce the risk of collisions from red light running. On the contrary, it has been shown the short yellow lights impair safety by increasing the risk of rear end collisions.
- ?? There appears to be general agreement in the traffic engineering and traffic enforcement industry that yellow light intervals at signaled intersections should be not less than 3 seconds nor more than 6 seconds depending upon approach speed and avoidance of the dilemma zone.

- ?? The entire industry of red light camera enforcement depends upon the yellow time interval between 3 and 6 seconds for generation of revenue. The potential revenue from traffic fines imposed for 3 second yellow intervals is nearly 100 times that for 6 second yellow intervals.
- ?? Most, if not all, red light camera enforcement systems are programmed to enhance revenue at the expense of traffic safety and unjustified fines imposed on innocent motorists.

This summary report does not consider any of the philosophical, ethical or legal aspects of electronic law enforcement using undeputized photo electronic robots to create virtual violation citations.

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**Effect of Yellow Light Interval On
Apparent Red Light Violations**



Source of data: City of San Diego, internal records

Summary of Collision Data at North Harbor Drive and Grape

Year	Collisions Caused from Red Light Running	
	Original	With RLC
1994	0	
1995	0	
1996	0	
1997	0	
1998		0
1999		0
2000		0

Figure 1