

# RED LIGHT CAMERAS

## ...TIMING IS EVERYTHING

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### SUMMARY

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While there seem to be many areas of concern about the use of red light cameras in the City of Citrus Heights (Citrus Heights), the investigation conducted by the 2014-15 Sacramento County Grand Jury focused on two issues: (1) is the timing of yellow signal lights in compliance with Federal and State standards? and (2) has there been a reduction of accidents at the intersections where such cameras are installed?

It is the finding of this Grand Jury that Citrus Heights chronically and systematically ignores its own policies for oversight, testing, monitoring, maintenance and record keeping. The City's primary stated goal of the program is to reduce the incidence of accidents and fatalities, yet it fails to routinely collect and analyze the necessary data which would enable it to gauge the effectiveness of the program on an ongoing basis. The documentation received from Citrus Heights Police Department (CHPD) is flawed; thus, the actual reduction of accidents cannot be verified.

Citrus Heights should reassess its red light program to ensure it is using best practices toward compliance with the California Department of Transportation (CA DOT), California Vehicle Code (CVC) and the Police Department's own policy.

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### BACKGROUND

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Citrus Heights has been incorporated as a city since January, 1997. In June of 2006 the City formed its own police department. Red light cameras were installed beginning January 2008 at the five intersections discussed in this report: Greenback Lane at San Juan Avenue (camera at southbound San Juan), Auburn Boulevard at Antelope Road (camera at northbound Auburn), Greenback Lane at Fountain Square Drive (camera at eastbound Greenback), Oak Avenue at Sunrise Boulevard (cameras at northbound Sunrise and southbound Sunrise), and Antelope Road at Garden Gate Drive (camera at westbound Antelope).

At the time of this investigation, Citrus Heights had five intersections that utilized red light camera enforcement. The City has recently added three more intersections with camera enforcement that were not a part of this investigation. Citrus Heights is in contract with Arizona based company Redflex to provide and support red light cameras.

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### METHODOLOGY

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The Grand Jury interviewed members of the CHPD, Traffic and Signal Operations Supervisor, and a vice president of Redflex. We reviewed multiple documents and records related to traffic studies and collision history data, CHPD red light program policies, the Photo Red Light Enforcement Program (PRLEP) agreement, the CVC and CA DOT. Members of the Grand Jury also conducted an informal stopwatch timing of the yellow lights at each intersection where red light cameras were in operation at the time of this report.

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## **DISCUSSION**

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Jurisdictions that elect to implement a red light camera program must adopt policies which govern the operations of their camera system. This Grand Jury found that the CHPD routinely failed to follow its adopted policies and as such, is not effectively administering the red light program.

### **REDUCTION OF ACCIDENTS**

The CHPD maintains that red light cameras reduce accidents. When asked to provide the Grand Jury with documentation to substantiate this claim, we were given an abundance of raw data. This data did not offer an analysis of actual numbers of accidents at their red light intersections.

When the Grand Jury analyzed the raw data, it was noticed that included were intersections where no red light camera existed, as well as a duplication of accidents. These discrepancies were brought to the attention of the Police Department.

The Grand Jury then asked a third time for accurate documentation of accident reduction and were told it did not exist. They admitted that they do not routinely analyze the data they collect. The Grand Jury was told they were attempting to create and provide a document with accurate accident information. The resulting document that was provided included the same incorrect data.

Based on the inconsistencies in the documentation provided by the CHPD, the actual reduction in accidents cannot be verified.

### **YELLOW SIGNAL LIGHT SEQUENCING (DURATION OF YELLOW LIGHTS)**

The policy directive from the CA DOT sets a standard for the sequencing of yellow light change intervals. The standard set for yellow light change interval at intersections with a speed limit of 40 miles per hour (mph) must be a minimum of 3.9 seconds.

In Citrus Heights, there are no streets with a speed limit higher than 40 mph. At the red light camera intersections Citrus Heights sets a warning so that when yellow light sequencing falls below 3.5 seconds, that intersection will revert to flashing red, indicating a problem with the sequencing of the signal lights. This is below the minimum standard of 3.9 seconds set by the CA DOT. This is the only method of "monitoring" the City does to ensure that the signal lights are functioning properly. The City does no physical timing with stopwatches at those intersections, nor any other type of check to determine if the yellow light sequencing is accurate or potentially fluctuating.

During the Grand Jury's informal timing at the site of each red light camera intersection, one of those intersection's yellow light sequence timing was off by approximately one second. This was an informal timing done by Grand Jury members with a stopwatch, but this raises a concern for the potential of variances in the timing of the yellow lights.

## INSPECTION AND MAINTENANCE

The CHPD Policy titled *Red Light Photo Enforcement Policy*, states, in part, that their PRLEP personnel shall be responsible for maintaining records involving the day to day operation of the program. These records shall include, but are not limited to:

1. Monthly signal light maintenance documents provided by the City's traffic engineers including, but not limited to, the amber (yellow) lighting sequences per the CA DOT standards.
2. Monthly stopwatch audits confirming the amber (yellow) light timing.

The CHPD provided multiple documents that were designated as checklists for documenting the "stopwatch" audits of the yellow light timing. Some of the documents they provided were postdated beyond the date they were received. In other words, the Grand Jury was given documents with future dates that had not yet occurred.

The CHPD stated that their only method of stopwatch timing of the yellow light sequencing was done by using video taken by the red light cameras. Redflex stated that it is not advisable to rely on their video for yellow light timing. There are variances in timing due to the way video is compressed. The unreliability of digital formatting affects the accuracy of timing.

Redflex advised that their company is responsible for the installation, inspection and maintenance of the cameras and follows a maintenance schedule that is stated in the contract between Redflex and Citrus Heights. This includes, in part, monthly site checks and needed repairs, as well as electronic monitoring of the cameras and related equipment.

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## FINDINGS

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- F1. Citrus Heights does not uphold its responsibility to operate and monitor its red light camera program.
- F2. The CHPD routinely fails to follow its adopted policy and procedures on red light cameras.
- F3. The accident reduction data used to judge the effectiveness of the program by the CHPD is inconsistent and inaccurate in some instances.
- F4. The City has no process in place to be alerted when the yellow light sequencing falls below the minimum standard set by CA DOT and mandated by the CVC.
- F5. Citrus Heights has no reliable process in place to ensure that the timing of the yellow light sequencing is consistent. CHPD performs stopwatch audits of the yellow light sequencing using Redflex video, which is compressed and unreliable.

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**RECOMMENDATIONS**

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- R1. The CHPD should routinely produce and analyze actual traffic incident data. This information should then be used to judge the effectiveness of the program. This will allow informed decisions such as whether the cameras are placed at intersections that yield the most desired effect.
- R2. Citrus Heights Public Works should set the minimum timing for yellow lights at the minimum standard, in order to trigger the red flashing signal, indicating a problem with the timing.
- R3. Citrus Heights should assign personnel to conduct an on-site physical timing of the yellow signal lights at each intersection where there is a red light camera. A written maintenance log should be kept.

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**RESPONSES**

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Penal Code sections 933 and 933.05 require that the following officials submit specific responses to the findings and recommendations in this report to the Presiding Judge of the Sacramento County Superior Court by October 1, 2015:

- Citrus Heights Chief of Police - Findings 1, 2, 3 and Recommendations 1, 3
- Citrus Heights City Manager - Findings 1, 4, 5 and Recommendations 1, 2, 3

**Mail or hand-deliver a hard copy of the response to:**

Robert C. Hight, Presiding Judge  
Sacramento County Superior Court  
720 9th Street, Department 47  
Sacramento, California 95814

In addition, email the response to:

Becky Castaneda, Grand Jury Coordinator at [castanb@saccourt.com](mailto:castanb@saccourt.com)