

CITY OF CITRUS HEIGHTS

Memorandum

July 19, 2007

TO: Henry Tingle, City Manager

FROM: David Wheaton, General Services Director
 Chris Boyd, Chief of Police
 Dennis Dunn, Traffic & Signal Operations Supervisor
 Mark Boettger, Police Commander

**SUBJECT: Intersection Safety Program: Red Light Camera Enforcement Project -
 Authorization to Execute an Agreement with Redflex Traffic Systems, Inc.**

Approved and Forwarded to
 City Council

Stephanie Daniels Fin.

APPROVED Atty.

Henry Tingle
 Henry Tingle, City Manager

Summary and Recommendation

In February 2007, Council approved an Intersection Safety Improvement Prioritization Program Report which included a recommendation to add Red Light Runner Camera Enforcement to certain intersections throughout the City. The Red Light Camera Enforcement Program is a service provided by four main service providers in California: ACS, ATS, Nestor, and Redflex Traffic Systems, Inc. Each provider was invited to present their proposals to a City team consisting of representatives of the Police Department, General Services and the City Traffic Team. Contacts were also made with several Cities and Counties to verify operational declarations made during the presentation. Additional questions were sent to each provider inquiring about existing program status, technology usage, contract language, and status of any legal challenges.

Staff recommends approving the attached resolution, authorizing the City Manager to execute an agreement with Redflex Traffic Systems, Inc. to equip the City with support services, licenses, application and citation equipment related to digital photo red light enforcement system for up to 21 approaches throughout the City.

Background and Analysis

A 2006 report from National Highway Traffic Safety Administration (NHTSA) reports that in 2005, nearly 9,200 people died and approximately one million people were injured in intersection-related crashes. The report also stated that approximately 40-45 percent of **all** crashes occur at intersections or are intersection related. Further, 2005 data from NHTSA's Fatality Analysis Reporting System, crashes caused by red light running (RLR) resulted in an estimated 805 fatalities, nation-wide.

The City Council-adopted Intersection Safety Program (ISP) paid close attention to this problem. During field studies for the ISP, drivers were observed running the yellow and red phases of traffic signals throughout Citrus Heights. This driving behavior can lead to angle crashes, which are typically more severe than other crash types. While the City has not experienced any intersection fatalities during the past year since Citrus Heights Police Department has been in operation, these type of

accidents remain high risk factors; pedestrian and bicycle safety being of most concern.. However, for example, between the years 2001 and 2004, there were fatal crashes at the intersections of:

- Sunrise Boulevard/Greenback Lane
- San Juan Avenue/Greenback Lane
- Sunrise Boulevard/Madison Avenue
- Mariposa Avenue/Antelope Road
- San Tomas Drive/Auburn Boulevard

Drawing from the same data, eight fatal crashes occurred at signalized intersections between the years 2000 – 2006; 23 occurred within 200 feet of an intersection during the same time period.

A recent Federal Highway Administration document generally estimates a 15% reduction in red-light running with installation of red-light running technology. This document also cites Fairfax, Virginia having experienced a 44% reduction in violations in the first year of use of this technology.

More than 70 other jurisdictions use Red Light Camera enforcement in California, helping to reduce broadside accidents and improve safety at signalized intersections for pedestrians and bicyclists.

Since focusing our discussions with Redflex Traffic Systems, Inc., several intersections were studied to determine the level of red light violations. These intersections included three from the ISP-recommended list and two additional intersections identified by staff of the Citrus Heights Police Department and General Services Department. Redflex conducted pre-contract video surveys to help determine feasibility of implementing the program at these specific intersection approaches. The intersection(s) approaches will initially include:

- Greenback Lane at San Juan/Sylvan Road, Southbound approach;
- Greenback Lane at Sunrise Blvd., Northbound and Eastbound approaches including right turns;
- Greenback Lane at Fountain Square/Peoria, Eastbound approach and Southbound including right turns, and;
- Greenback Lane at Mariposa Ave., Eastbound approach

Surveys will continue to be performed to insure effectiveness of the equipment at these locations.

The Red Light Camera Enforcement Project is part of an adopted evaluation and prioritization of safety and operations for signalized intersections throughout the City. It is also in unison with the City Council-adopted Intersection Safety Implementation Plan.

Fiscal Impact

By contract, the Fiscal Impact of Red Light Camera Enforcement will be neutral, and requires no up-front funding for the installation of the cameras. The contract calls for \$6,000 per approach paid to Redflex, covering equipment installation, maintenance, and the processing of the photo/motion pictures. Language is included in the proposed contract that will require the City to pay “what is collected” from individual violations. However, no money is paid upfront to Redflex prior to revenue being collected from violations.

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The City will be required to provide an officer or designated person to interact with the citation process, evaluate photos and video to determine violations, attend court proceedings and provide administration for the City Program. It has yet to be determined if a new staff position will be required for this contract, or if an existing qualified staff member will be assigned, therefore it is unknown if there will be an additional cost associated with the citation process. The City's cost is also expected to be recovered from fines derived from violations. It is also expected that revenue will be collected exceeding Redflex cost and City administration of the program.

Conclusion

Staff recommends approving the attached resolution, authorizing the City Manager to execute an agreement with Redflex Traffic Systems, Inc. to equip the City with support services, licenses, application and citation equipment related to digital photo red light enforcement system for up to 21 approaches throughout the City.

- Attachments: (1) Resolution
(2) 2005 ISP Program Report – Page 16 and 17
(3) Guidance Document – Response by Redflex Traffic Systems

RESOLUTION NO. 2007- ____

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CITRUS HEIGHTS,
CALIFORNIA, AUTHORIZING THE CITY MANAGER TO EXECUTE AN
AGREEMENT WITH REDFLEX TRAFFIC SYSTEMS, INC. FOR THE
RED LIGHT CAMERA ENFORCEMENT PROJECT**

WHEREAS, the City has a high volume of intersections within its limits; and

WHEREAS, in accordance with the Intersection Safety Prioritization Program, staff has identified intersections within the City limits sites with potential for safety improvements and would benefit from red light camera enforcement; and

WHEREAS, the Police and General Services staff have met with four main red light camera service providers, those being ACS, ATS, NESTOR and Redflex to evaluate their operations and available services; and

WHEREAS, staff has determined Redflex Traffic Systems, Inc. to be the most qualified company to provide the services desired by the City to initiate and monitor the Red Light Camera Enforcement Project and wishes to execute an agreement for these services.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED by the City Council of the City of Citrus Heights that the City Manager is hereby authorized to execute an agreement with Redflex Traffic Systems, Inc. and that a copy of the Agreement is available and on file in the City Clerk's office and is incorporated herein by reference and made a part of this Resolution.

The City Clerk shall certify the passage and adoption of this Resolution and enter it into the book of original resolutions.

PASSED AND ADOPTED by the City Council of the City of Citrus Heights, California, this 19th day of July, 2007 by the following vote, to wit:

AYES:
NOES:
ABSTAIN:
ABSENT:

Jeff Slowey, Mayor

ATTEST:

Rhonda Sherman, City Clerk



Results of Planning-Level Review

A planning-level field diagnosis was conducted at each of the intersections identified in Figure 4. Two people spent two complete days in the field studying each intersection, taking notes and recording findings. There were two types of findings from this field work: programmatic-level findings, and site-specific recommendations. These findings are detailed in the following sections.

PROGRAMMATIC FINDINGS

The planning-level field review showed that conditions in Citrus Heights are very good, overall. Signing and striping is very clear and consistent, for the most part. Street signs have a large visible font, which makes it easy for drivers unfamiliar with the area to circulate in the City. In addition, most of the double left-turn lane locations have dotted lane line extensions to assist drivers navigate the large intersection. Traffic signal installations are consistent throughout the city with a mast arm and signal head at the intersection and far-side secondary signal heads installed at most, if not all, of the signalized intersections. Medians have been installed and some access management has occurred where the roadways have been reconstructed, thus eliminating left-turns across the arterial roadways. Many intersections that have been reconstructed include detectable warnings for visually impaired pedestrians; there are some locations with pedestrian countdown signals, as well.

The field review also showed opportunities for programmatic/policy-level improvements throughout the City. The City will need to consider community wide programs to address these issues and improve conditions. The following sections present these findings in more detail.

High Travel Speeds

The field work conducted this year primarily occurred on: Greenback Lane, Sunrise Boulevard, Madison Avenue, Auburn Road, Old Auburn Road, Sylvan Road, Antelope Road, Van Maren Lane, and Mariposa Avenue. Most of these streets have posted speed limits of 40 or 45 miles per hour. Madison Avenue has a posted speed limit of 55 miles per hour. In almost all cases, the average travel speed on these roads exceeded the posted speed limit. This was determined by driving the field investigation vehicle at the posted speed limit and observing surrounding traffic flow speeds. While there is no direct correlation between travel speeds and the incidence of crashes, it has been established that the higher the speed of a vehicle prior to a collision the greater the severity of the collision.

RECOMMENDATION: It is recommended that the City of Citrus Heights' plan to fund speed enforcement by the police force throughout the City. Educational programs might also be funded. To the extent possible, these should be city-wide programs to raise overall awareness that 1) the police force is enforcing posted speed limits, and 2) speeding is dangerous. If needed, corridor specific programs could be implemented to reinforce the importance of traveling according to posted speed limits.

* Red Light Running *

Drivers were observed running the yellow and red phases of traffic signals throughout the City of Citrus Heights. This could be caused by many factors, including:



- Sight obstructions making it not possible to see red lights,
- Travel speeds in advance of the intersection,
- Duration of the yellow phase of the signal, or
- Active decisions to travel through the red-light because of long cycle lengths.

Red-light running can lead to angle crashes, which are typically more severe than other crash types.

RECOMMENDATION

It is recommended that the City of Citrus Heights implement a Red-light Camera program. Several studies have shown the effectiveness of red-light cameras. According to *NCHRP 500: Guidance for Implementing the AASHTO Strategic Highway Safety Plan, Volume 12: A Guide for Reducing Collisions at Signalized Intersections*, the Federal Highway Administration's (FHWA) general estimate is a 15-percent reduction in red-light running with installation of red-light running cameras. This document also cites that Fairfax, Virginia, experienced a 44-percent reduction in violations in the first year.

Keys to successful implementation of red-light camera programs are local stakeholder acceptance (i.e. the public, the police department, and local politicians) and a view that it is a safety improvement program, NOT a revenue generation program.

**City of Citrus Heights
Response to Red Light Camera Questions
Redflex Traffic Systems**

1. Please provide a list of contact phone number and names for references using your program within the last 18 months.

Redflex currently has in excess of 110 contracts nationwide, including some 50 contracts in effect in the State of California. A partial list of references has been provided below:

City of Stockton
Officer Tony Delgado
(209) 937-8018

City of Marysville
Sergeant Dennis Hauck
(530) 870-1026

City of Rocklin
Aaron Robertson
(916) 625-4500

City of Fairfield
Sgt. Mark Scherer
(707) 580-1031

City of Culver City
Sgt. Allen Azran
(310) 253-6268

2. We would like to see documentation on court rulings.

There are scores of court rulings that have been decided in the California Superior Court system that apply to red light camera systems. Most of these rulings are not recorded and therefore do not impact other courts. In one case of interest, the Yuba County Superior Court ruled in our favor on the legality of the Cost Neutrality clause that we offer in our contracts (please see attached).

3. **How many Intersections are included in the initial evaluation process and are right turn movements included in the evaluation of those intersections?**

Redflex conducts both pre- and post-contract video surveys to help determine the feasibility of implementing a red light camera system at specific intersection approaches. The pre-contract survey is typically done at no cost to the client and has a goal of helping to quantify the extent of red light running within the community. We will typically survey either four or eight intersection approaches and in some instances are willing to complete additional surveys, if required. Once we have entered into a contract, Redflex will conduct video surveys in the event that pre-contract surveys have not been completed. We will also continue to perform surveys following the start up of the program to determine the feasibility of adding locations that had not been previously considered. If right-hand turn movements are considered to be a problem they can be included in the video survey.

4. **What (Data, Drawings, Information) is required/expected from City staff for program start up and implementation?**

Redflex will need a copy of the intersection plan for each approach where the system will be implemented (either electronic (AutoCAD) or a hard copy). We will also need to know if there is adequate power at each intersection (city power pedestal). In addition, the City will need to verify that the yellow phase timing meets Caltrans minimum standards.

Following completion of the Redflex construction documents, the City will review and approve our construction plans. Once the drawings are approved, the City will issue Redflex an encroachment permit so that we can complete construction at each intersection approach.

5. **How do you meet the State auditing requirements for your program?**

In July 2002, the California State Auditor made recommendations on changes to the existing red light camera statute. Many of these recommendations were ultimately incorporated into the statute in 2004. Currently the California Vehicle Code (CVC) Section 21455 and its subsections authorize automated red light enforcement. A summary of the state mandated requirements that are supported by Redflex can be found below:

- The agency identifies the system by signs. Redflex will help meet this requirement by supplying all required signs.

- The agency must issue only warning notices for the first 30 days. Following the installation of the equipment, Redflex will issue warning notices for the first 30 days.
- Only a governmental agency may "operate" the system. The City will be responsible for operating the program, and will be supported by Redflex as agreed to in the business rules that have been approved by the Police Department.
- Agencies must develop uniform guidelines for screening and issuing violations and for the processing and storage of confidential information. Redflex will work with the City to develop guidelines for the processing of violations and meeting retention requirements for confidential information in keeping with the CVC.
- Citations may be issued by an authorized employee of a law enforcement agency. Redflex will print and mail citations only after receiving approval from the Police Department.
- Agencies must allow violators to view photos and/or videos. The citations that are mailed to the defendant will include a set of four digital pictures as required by the statute. Redflex will provide a URL address (web site) for violators to view the video via the Internet.

6. What are the fees to relocate a camera from one intersection or approach to another intersection or approach? What are the fees to disconnect a camera at a particular intersection and just leave it there, or are there fees?

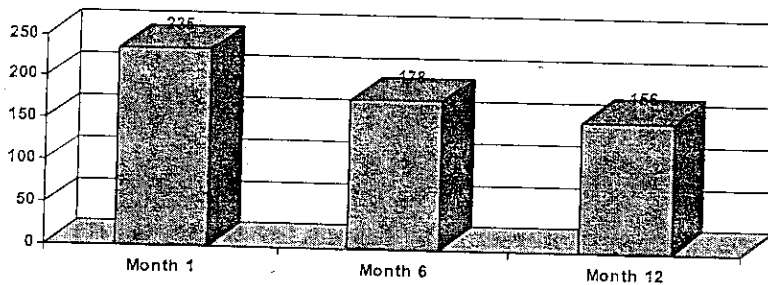
Through our experience in installing in excess of 110 programs nationwide, we have gained a significant amount of knowledge in recommending intersection approaches where our program can have the greatest impact. Our evaluation process includes conducting video surveys to quantify the degree to which red light violations occur at various intersections throughout the City.

What we have found is that if we have done a proper analysis the system is expected to generate a sufficient number of violations both in the short-term, and over the long run. In countless installations we have seen that even after the introduction of a program, these systems continue to generate enough violations to justify their continued implementation. After all, the system has the same effect as having a patrol car at the intersection 24/7; moving the patrol from the intersection will result in motorists resorting to their previous behavior of running the red light.

As with any new enforcement initiative (i.e. new stop sign added at an intersection) violations will typically be higher initially and then in most cases (but not all) will level out over time. The actual time line for this varies by city and intersection approach. Factors that effect the driver

"learning curve" at a specific intersection include the percentage of transient motorists and a number of engineering factors including, but not limited to the impact (or lack of impact) from adjacent intersections that either act to calm or speed up traffic in the vicinity of the intersection.

In the case of the City of Santa Clarita the following data is available regarding citations issued over the first 12 months of the program:



City of Santa Clarita
Average Number of Citations Issued Monthly
(Per Approach)

Having said this, if the City of Citrus Heights ultimately wants to relocate a system, we can provide two solutions; a rotation strategy, and/or a mobile unit. The rotation strategy would require that each proposed intersection is wired as a "hot intersection". In this scenario cameras would be moved (rotated) between the intersections that have been wired for this purpose. In order to price this option we would need to have additional information regarding the installation requirements at all intersections involved. We have also implemented mobile units in the State of Texas. Redflex would be happy to work out a pricing strategy for the deploying a mobile unit in the City of Citrus Heights after determining the exact lane configuration requirements at each proposed intersection and determining how the City and Redflex would coordinate efforts to deploy the units.

7. Please provide an example of current contracts similar to City's desired approach.

A sample contract has been provided as an attachment.