



# San Rafael Police Department

1400 Fifth Ave.  
San Rafael, CA 94901

---

**To:** San Rafael City Council

**From:** Glenn McElderry, Lieutenant

**Date:** May 25, 2010

**Re:** Report on the First Six Months of the Automated Red Light Photo Enforcement System

**BACKGROUND:** On August 18, 2008, the Council approved staff's recommendation that the City of San Rafael implement an automated red light enforcement system, and that the City Manager negotiate and execute an agreement with Redflex Traffic Systems, Inc. to install, support and maintain the system.

The goal of the automated red light enforcement program is to improve the safety of the community for vehicular, bicycle and pedestrian traffic by reducing the incidence of vehicles failing to stop for red traffic signals. This is consistent with the City Council's direction given to the San Rafael Police Department's community policing philosophy of reducing injury and fatal traffic collisions through increased enforcement.

At the time of Council approval, we agreed that the red light program would be evaluated after six months of full operation to determine the effectiveness at the approved intersections.

On March 3, 2009, a contract was signed between the City of San Rafael and Redflex Traffic Systems, Inc. The contract was for a maximum of ten approaches and for a term of five years.

The locations considered for red light photo enforcement were based upon a combination of traffic volume, collision statistics, red light violations and the "halo" effect caused by the presence of the photo enforcement system. It was the combination of these factors that the overall safety of motorists, bicyclists and pedestrians would be greatly enhanced.

Several intersections were proposed to Redflex Traffic Systems, Inc. for consideration. Redflex then surveyed the intersections and gathered data, which was then used to determine if the intersection met the threshold of minimum violations to justify investing in the installation of the photo enforcement system.

Of the intersections surveyed by Redflex Traffic Systems, Inc, the intersection approaches on Third Street at Irwin Street and on Irwin Street at Third Street were selected based upon the greatest immediate impact the photo enforcement system would have on safety.

On October 31, 2009, the first two “approaches” (a direction of travel heading into an intersection controlled by red light photo enforcement) went live after being installed, activated and a 30 day warning period completed. The approaches include westbound Third Street at Irwin Street, and northbound Irwin Street at Third Street.

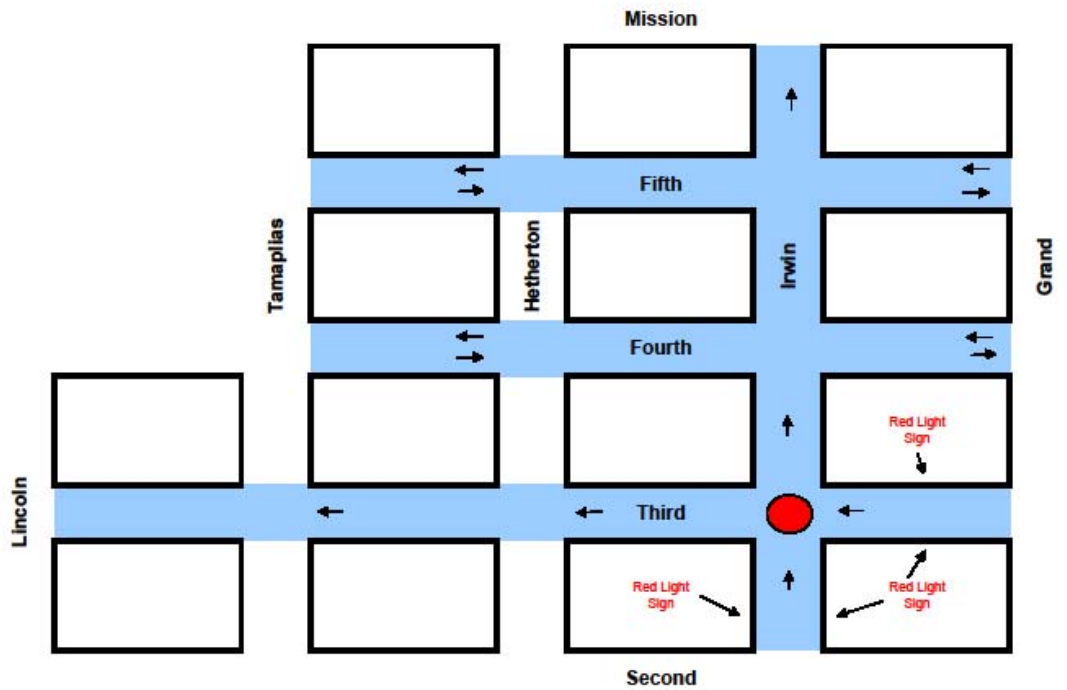
**ANALYSIS:** Before we begin our analysis of this new system, we want to acknowledge that six months is a very short time period for a proper evaluation of this new system, and that the information we are providing is very limited. The longer the system is operational, the more statistics will allow for a proper evaluation of the data.

There are two areas that we are going to address in this report. The first is our goal that the automated red light enforcement system will improve the safety of our community for vehicular, bicycle and pedestrian traffic. The second is the requirement that the system be cost neutral.

### **The Automated Red Light Enforcement System will Improve the Safety of Our Community for Vehicular, Bicycle and Pedestrian Traffic**

Before our first two approaches were installed, the city traffic engineer installed pedestrian countdown devices for both directions at Third Street and Irwin Street. They also increased the yellow phase to a longer time period so that drivers would have a longer yellow light. The hope was that these changes would also assist the drivers, bicyclists, and pedestrians in their judgment of “do they have enough time to safely proceed through the intersection.”

For comparison purposes, we looked at the accident rate from between November 1<sup>st</sup> and April 30<sup>th</sup>, for the intersection of Third Street and Irwin Street and the surrounding streets that we feel receive a “halo” effect from the installation of the automated red light enforcement system. The following map shows the potential “halo” effect in blue.



The following chart shows a comparison of the same months before the system was installed and after the system was installed.

**Accidents: November 1 through April 30**

November 1st 2008 - April 30th 2009	Total of 48
November 1st 2009 - April 30th 2010	Total of 43

**12% Reduction**

### **The System will be Cost Neutral**

To properly explain the costs of operating the automated red light enforcement system, we must provide an outline of the citation process and how we interact with Redflex and the Marin County courts.

From the date of a red light camera violation, Redflex has seven (7) days to complete their review of the violation and forward it to our agency. From there, the City has three (3) days to complete our own review and either accept or reject the violation. If the violation is accepted, then it is sent back to Redflex and they mail out a notice of violation to the driver. We also forward the violation information to the Marin County courts. The courts have seven (7) days to send out an official violation notice with instructions on how to pay the citation and/or the process to contest it in court. Depending on what the driver decides (paying or contesting), there could be a range of two months to five months before the City actually receives any of the violation fine money. The following chart shows the timetable.

<b>Violation Date</b>	<b>November 1<sup>st</sup></b>
<b>Redflex Review</b>	<b>November 7<sup>th</sup></b>
<b>SRPD Review</b>	<b>November 10<sup>th</sup></b>
<b>Redflex Notice Mailed</b>	<b>November 15<sup>th</sup></b>
<b>Court Notice Mailed</b>	<b>November 24<sup>th</sup></b>
<b>Paid by driver (not contesting)</b>	<b>January 1<sup>st</sup></b>
<b>City receives fine from County</b>	<b>February 1<sup>st</sup></b>
<b>If the driver contests the citation in court the City would receive any fine from the County</b>	<b>May 1<sup>st</sup></b>

The Judicial Council of California establishes the policy of determining uniform bail and penalty schedules in order to achieve a standard of uniformity in the handling of traffic offenses. Annually, the County judges review the policy and approve the Uniform Bail and Penalty Schedule.

The typical red light violation fine in the Marin County Court System is approximately \$445 - \$494 depending upon if the violator selects traffic school. The following is a break down of the total fine amounts and where the money goes:

Red light Fine with No Traffic School = \$445

City of San Rafael = \$139.06 - Vehicle Code Violations

County of Marin = \$103.34

-General Fund County Share (\$8.92), Criminal Justice Facilities Construction Fund (\$17.15), Courthouse Construction Fund (\$13.72), EMS Maddy (\$19.60), 2% Automation Charge for Criminal Records (\$7.20), DNA Identification Penalty Assessment (\$9.80), Maddy EMS (\$13.72), Automated Fingerprint Identification System Fund (\$3.43), DNA Additional Penalty Assessment (\$9.80).

State of California = \$202.60

-State Penalty; Criminal Offenses (\$48.02), County Share of State Penalty(\$20.58), 20% State Surcharge; Base Fines (\$20.00), State Court Construction Penalty; Criminal Offenses (\$29.40), Court Security Fee on Criminal Offenses (\$30.00), ICNA-Conviction Assessment-Infractions (\$35.00), ICNA-Court Const PA (\$19.60)

Red Light Fine with Traffic School = \$494

City of San Rafael = \$164.40

-Vehicle Code Violations (\$103.50), Traffic Violator School (\$60.90)

County of Marin = \$184.61

-General Fund County Share (\$13.00), Criminal Justice Facilities Construction Fund (\$1.00), Courthouse Construction Fund (\$1.00), Traffic Violator School (\$117.39), EMS Maddy (\$14.00), Traffic Violator School Fee (\$24.01), Maddy EMS (\$14.21)

State of California = \$144.99

20% State Surcharge; Base Fines (\$20.00), State Court Construction Penalty; Criminal Offenses (\$21.00), Court Security Fee on Criminal Offenses (\$30.00), ICNA-Conviction Assessment-Infractions (\$35.00), ICNA-Traffic Violator School (\$24.99), ICNA-Court Const PA (\$14.00).

The County of Marin Courts is in the process of changing their computer program. Their current system does not provide any breakdown as to the type of citation violation fine money and it is sent to the City in a lump sum. Their new computer system will be able to provide specific violation fine information. Without this breakdown of violation fine money, we have had to look at what our monthly traffic citation violation fine checks have been and how much they have increased since we started issuing citations from the automated red light enforcement system. The following chart shows you the difference.

	<u>Vehicle Code Fines</u>	<u>Traffic School Fines</u>
<b>9/15/2009</b>	<b>\$24,555</b>	<b>\$2,424</b>
<b>10/14/2009</b>	<b>\$23,231</b>	<b>\$2,176</b>
<b>11/17/2009</b>	<b>\$27,651</b>	<b>\$2,365</b>
<b>12/16/2009</b>	<b>\$23,857</b>	<b>\$2,386</b>
<b>1/14/2010</b>	<b>\$23,546</b>	<b>\$2,354</b>
<b>2/22/2010</b>	<b>\$43,394</b>	<b>\$3,953</b>
<b>3/11/2010</b>	<b>\$38,701</b>	<b>\$4,096</b>
<b>4/14/2010</b>	<b>\$46,462</b>	<b>\$11,917</b>
<b>Average Prior To System</b>	<b>\$24,568</b>	<b>\$2,341</b>
<b>Average After System</b>	<b>\$42,852</b>	<b>\$6,655</b>
<b>Average Monthly Fines Received From Red Light Camera System</b>	<b>\$18,284</b>	<b>\$4,314</b>

Using the average monthly fines received from the automated red light enforcement system citations, we can then project what we expect to receive by the end of this current fiscal year as well as a projection into FY10/11. We then need to factor in our operating costs with the current two approaches in operation for us to answer the question of the system being cost neutral. The following chart represents our current fiscal year and a projection for FY10/11.

	Total Fines	Total Costs	Balance
FY09/10	\$158,186	\$139,065	\$19,121**
FY10/11	\$271,176	\$200,185	\$70,991**

**\*\*Covers only the two (2) approaches at Third Street & Irwin Street**

**Review of the Automated Red Light Enforcement System statistics**

Whenever we activate an approach, there is a legal requirement for us to have a thirty day warning period so that drivers have an opportunity to realize that a new system is in operation. After the thirty days, citations are actually issued after being reviewed and authorized.

As previously mentioned, there is a multi-step process that is undertaken to verify that a valid violation has occurred. Part of the criteria that we use is to be able to identify the driver; a license plate must be seen in the photo, there must be an unobstructed violation seen in the video, etc. Even though the system “activated” and captured a possible violation, if any one of our review criteria is not present, a citation would not be issued. The following chart shows the system statistics.

	TOTAL # OF ACTIVATIONS	# OF NOTICES PRINTED	% OF GOOD ACTIVATIONS
OCT	888	660	97%
NOV	752	516	87%
DEC	632	414	84%
JAN	532	438	98%
FEB	530	313	72%
MAR	509	490	96%
APR	470	443	94%
<b>TOTAL:</b>	<b>4313</b>	<b>3274</b>	<b>92% average</b>

**AVERAGE # OF DAILY ACTIVATIONS:**

	THIRD STREET	IRWIN STREET
OCT	6	23
NOV	11	14
DEC	7	13
JAN	6	12
FEB	7	12
MAR	8	12
APR	8	13

**Pre-build Survey**  
**8-10 hour snapshot**

	THIRD STREET	IRWIN STREET
APRIL 2009	37	56
OCTOBER 2009	6	23
% of difference	84%	60%
APRIL 2010	8	13
% of difference*	78%	77%

\*These numbers are drastically different due to three specific factors:

- At the time of the original April 2009 survey, the yellow light timing was set at 3.0 seconds. Since October 2009, the yellow light timing was increased to 3.5 seconds, which is .5 seconds longer than the Department of Transportation required when the system was installed.
- Pedestrian count down clocks were installed for the intersection.
- A one second “all way red” was added to the signal light cycle so no vehicles get a green light for an additional one second.



An additional factor in the number of activations is that community awareness and education of the program has been effective in reducing violations.

### **Top Six Misconceptions of the Automated Red Light Enforcement System**

1. It increases rear end collisions – Our City has seen no increase in rear end collisions at the location of the two automated red light enforcement system cameras.
2. The driver did not run the red light – In addition to the still photos of the vehicle and driver it also provides a video, which captures the limit line, the intersection, the signal lights, etc. and it shows the vehicle running the red light. If there is not a clear violation in the video, then the citation would not be approved or issued by our officers who review each and every violation.
3. The driver does not have to stop before making a right or left hand turn on a red signal – The California Vehicle Code requires every driver to come to a full and complete stop at any solid red signal before continuing on their turn.
4. The driver came to an almost complete stop (California stop) – The automated red light enforcement system will not activate if the driver is going below 14 miles an hour. If the system is activated and the violation is forwarded to our office, then the driver was traveling over 15 miles per hour, which is a clear violation.
5. The City of San Rafael has shortened the yellow light timing at the intersection – The yellow light timing was actually lengthened by .5 seconds.
6. A driver will receive a citation if he/she is in the intersection when the light changes from yellow to red – The system doesn't actually activate (turn on) until the signal light phase has turned to red.

### **Next Approaches to Receive the Automated Red Light Enforcement System**

When we started this program, we were aware that several of the intersections in San Rafael were actually controlled by Caltrans and we would need to work through a much longer installation approval process if we were going to install

the red light camera system. We have been working with Caltrans for the past several months for the intersection of Hetherton Street and Second Street. Outside of the Caltrans process, we are also working on installing the system at Third Street and A Street, and Lincoln Avenue and Mission Avenue.