



San Rafael Police Department

1400 Fifth Ave.
San Rafael, CA 94901

To: Diana Bishop, Chief of Police
From: Alan Piombo, Lieutenant
Date: May 13, 2013
Re: Red Light Photo Enforcement Program Review

BACKGROUND:

On August 18, 2008, the City Council approved implementation of an Automated Red Light Photo Enforcement Program (RLPEP), and authorized the City Manager to 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 was to improve the safety of the community for vehicular, bicycle and pedestrian traffic by reducing red light violations at critical intersections in the downtown corridor. This program was consistent with the City Council's community policing philosophy of reducing injury and fatal traffic collisions through increased enforcement.

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

The City Traffic Engineer installed pedestrian countdown devices for both directions at Third Street and Irwin Street prior to the installation of the two approaches. The yellow light phase was increased in both directions proceeding into the intersection in order to allow vehicle operators, bicyclists, and pedestrians more time to analyze whether they could safely proceed through the intersection.

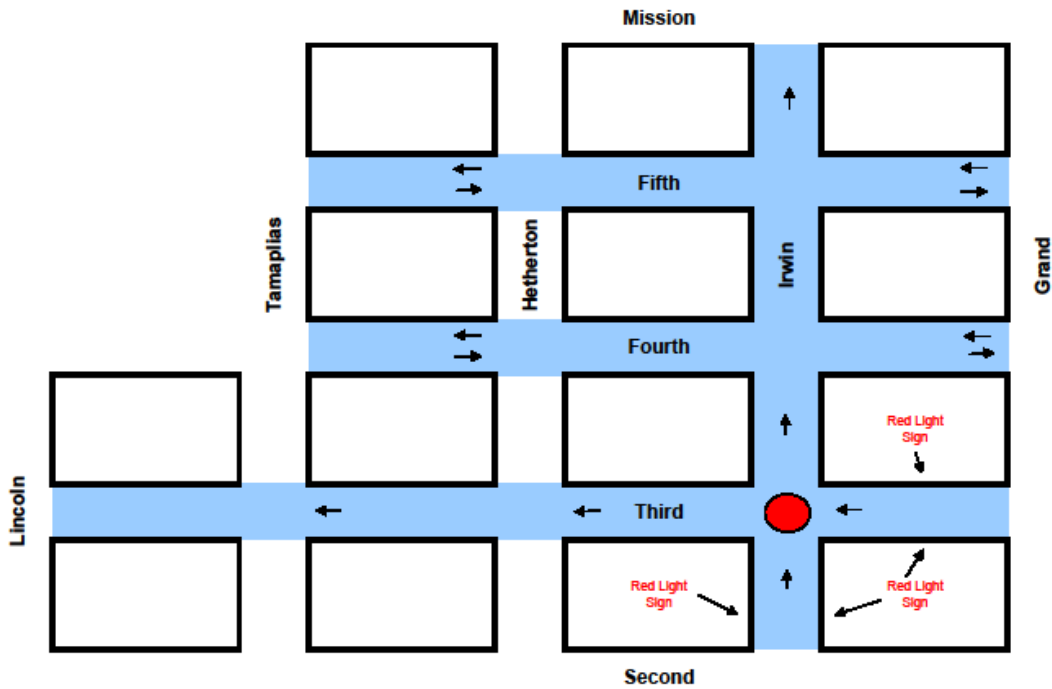
On October 31, 2009, the first two "approaches" were activated with a 30-day warning period. The approaches were westbound Third Street at Irwin Street and northbound Irwin Street at Third Street. These locations were selected based upon a combination of traffic volume, collision statistics, red light violations and the "halo" effect caused by the presence of the photo enforcement system.

On December 1, 2009, the Police Department began issuing citations for red light violations based on RLPEP activations at the two approaches.

COLLISION RATES & “HALO EFFECT”:

One factor for consideration in determining the effectiveness of the program is the collision rate at the monitored intersection and the “halo effect” created by the program at nearby intersections. The "halo effect" theory is based upon the idea of heightened driver awareness to the red light cameras and improved driving habits spread into nearby intersections. This would include intersections where red light cameras are not installed and as a result collision rates should decrease at neighboring intersections, not just intersections where cameras are located.

The following map shows the potential “halo” effect in blue.



The following table shows the number of collisions on an annual basis for the operational intersection (Third / Irwin) and the next two “halo” intersections in the westbound and northbound directions. The data reflects the three years preceding system installation (2007-2009) and the three full years since the system went into operation (2010-2012).

Year	Third / Irwin	Westbound Halo	Northbound Halo
2007	9	11	7
2008	6	8	12
2009	5	15	9
Average	6.67	11.33	9.33
2010	8	15	15
2011	10	5	10
2012	8	14	5
Average	8.67	11.33	10

The collision data indicates there was no significant impact from the “halo effect”. However, the relatively low number of collisions combined with the wide variation in results would also suggest the statistics are not highly reliable or scientifically significant.

RLPEP CITATION RATES:

A second factor for consideration in determining the effectiveness of the program is the rate of violations at the monitored intersection. The following statistics are for RLPEP generated citations for the two approaches located at westbound Third Street at Irwin Street and northbound Irwin Street at Third Street on a quarterly basis from November 2009 through March 2013.

Quarter (3 Months)	W/B Third Street	N/B Irwin Street	Total
2009 Q4	560	1030	1590
2010 Q1	471	770	1241
2010 Q2	505	779	1284
2010 Q3	417	560	977
2010 Q4	278	441	719
2011 Q1	251	486	737
2011 Q2	248	471	719
2011 Q3	384	579	963
2011 Q4	376	400	776
2012 Q1	293	287	580
2012 Q2	253	336	589
2012 Q3	252	367	619
2012 Q4	161	374	535
2013 Q1	126	317	443

The number of violations at the monitored intersection has dropped significantly over the first two years of the program and has leveled off over the past year. This is an indication that drivers are aware of the RLPEP intersection and driving habits have improved.

ADDRESS OF OFFENDING VEHICLES:

The following table shows the number of red light violations based on the registered address of the offending vehicle. The results indicate 40% of all violators are from outside the county, which indicates a relatively high portion of commuter, pass through and tourist violators. These drivers may not be as influenced by repeat trips through the area compared to local drivers.

Month/Year	San Rafael	Marin County	California	Out-of-State
Jan-12	75	100	75	15
Feb-12	43	130	50	17
Mar-12	72	114	97	32
Apr-12	60	128	88	29
May-12	59	108	65	15
Jun-12	71	102	91	34
Jul-12	59	88	121	28
Aug-12	60	101	118	24
Sep-12	55	92	111	29
Oct-12	63	120	93	22
Nov-12	55	93	95	29
Dec-12	48	73	45	12
Total	720	1249	1049	286
% of Total	22%	38%	32%	9%

REVENUE ESTIMATES:

The County of Marin Courts computer program does not provide any breakdown on the source or type of fines received and the total monthly amounts are sent to the City of San Rafael in a lump sum. Without the specific breakdown of fines collected the monthly fines attributed to the RLPEP can only be estimated based on fine revenue received prior to the implementation of the RLPEP and during the operational period.

The following chart shows annual traffic fines revenue, department issued citations and RLPEP citations for the three years preceding system installation (2007-2009) and the three full years since the system went into operation (2010-2012).

Year	Total Fine Revenue	Department Cites	RLPEP Cites
2007	\$ 337,217	8158	0
2008	\$ 619,231	10572	0
2009	\$ 481,524	6769	0
Average	\$ 479,324	8500	0
2010	\$ 625,068	8769	4221
2011	\$ 697,602	5974	3195
2012	\$ 606,089	2827	2323
Average	\$ 642,920	5857	3246

Prior to RLPEP (2007-2009) the department averaged \$479,324 in annual revenue based on 8,500 department issued citations, which is an average of \$56.40 per citation issued. Since the implementation of RLPEP (2010-2012) the department has averaged \$642,920 in annual revenue generated by a 5,857 department issued citations and 3,246 RLPEP citations. Assuming the department issued citations generate \$56.40 per citation, then RLPEP citations generate \$96.30 per citation, which represents annual revenue of \$312,585. Using an alternative method for estimating revenue based upon the citation ratios, then RLPEP generates 36% of the total revenue equal to \$231,451.

BUDGET IMPACTS:

One of the initial concerns with the RLPEP was the perception it was a potential “revenue generator” and the City of San Rafael would be using the program as a “money maker”. One of the goals associated with the RLPEP was maintaining cost neutrality. The RLPEP budget includes estimated revenue from traffic fines and direct expenses for Police Department personnel and contract services with Redflex. The following chart shows actual costs and estimated revenue for the RLPEP.

Fiscal Year	Program Costs	Revenue Estimates	Net Operating Income
2011	\$ 196,901	\$ 203,111	\$ 6,210
2012	\$ 260,141	\$ 243,084	\$ -17,057
2013*	\$ 223,217	\$ 273,387	\$ 50,170
Average	\$ 226,753	\$ 239,860	\$ 13,107

PROGRAM EXPANSION:

The current contract with Redflex allows for program expansion up to ten (10) approaches. The table on the following page shows the intersections with the highest number of collisions for the two-year period ending December 31, 2012. Redflex conducted surveys on several of these intersections in April 2013, which are indicated by data in the three right columns. The intersections were selected based on number of collisions, proximity to the existing RLPEP intersection, and potential impact on driving habits.

The survey involves video recording the intersection for eight to ten hours, then reviewing the video to determine the number of actual violations. The table shows the direction of the approach to the intersection (Approach) and the number of violations verified in each direction: left turn (LT), straight through (Through), right turn (RT) and total (Total).

The intersections marked with an asterisk (*) were not studied based upon the types of common collisions, proximity to the existing RLPEP intersection and the potential impact on traffic flow from the SMART train.

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Intersection	Collisions	Approach	LT	Thru	RT
MT Freitas & Del Presidio Blvd*	26				
Bellam Blvd & Francisco Blvd	24	EB	7	25	0
		SB	0	3	63
		WB	1	1	41
Second St & Irwin St*	22				
Third St. & Grand Ave*	21				
Mission Ave & Irwin St	18	EB	13	2	0
		NB	7	20	18
		WB	0	0	11
Second St & Hetherton Ave	18	EB	0	7	33
		SB	30	0	0
Third St & Irwin St*	18				
Second St & Grand Ave	17	EB	2	3	0
		NB	0	6	7
		SB	3	1	0
MT Freitas & Las Gallinas Ave	16	EB	0	1	136
		NB	0	0	250
		SB	0	0	0
		WB	11	0	0
Third St & Hetherton Ave*	16				
Third St & Lincoln Ave*	14				
Second St & Tamalpais Ave*	13				
Mission Ave & Lincoln Ave	11	SB	1	3	68
		WB	2	12	13
		EB	4	4	2
		NB	1	1	6

Redflex identified the intersections highlighted in yellow as automatically meeting the criteria for program viability based upon the total number of violations. In some instances there is a high ratio of right turn violations, which tend to bring more public scrutiny, but remain a significant safety risk. The intersections marked with an asterisk (*) would likely be approved based upon the number of straight through and left turn violations. The intersections highlighted with **bold** print would likely be recommended based on collisions statistics, violations counts, program viability, and expand the potential “halo effect” in high traffic areas.

CONTRACTUAL ISSUES:

The initial term of the contract with Redflex, Inc. was for a period of five years with options for the City of San Rafael to extend the contract for two additional two year periods. The monthly operational costs were fixed at \$5,900 per approach for a total of \$11,800 monthly for the two approaches located at the intersection of Third Street and Irwin Street.

The contract includes options for expanding the program up to 10 approaches. However, recent discussion with Redflex indicate the labor and material costs associated with constructing new approaches would not be recouped with less than 24 months remaining on the contract or without a contract extension.

The contract contains options for termination with or without cause. There does not appear to be any options for terminating based upon Redflex's activities in Chicago.

- **TERMINATION FOR CAUSE:** This provision allows either party the right to terminate the contract immediately by written notice to the other if (i) state statutes are amended to prohibit or substantially change the operation of photo red light enforcement systems; (ii) any court having jurisdiction over or providing controlling precedent for the City of San Rafael, making a ruling, or any state or federal statute declares, that results from the Redflex System of photo red light enforcement are inadmissible in evidence; or (iii) the other party commits any material breach of any of the provisions of the contract. In the first two instances the City of San Rafael would be relieved of any further obligations for payment to Redflex other than as specified in Exhibit "D".
- **TERMINATION WITHOUT CAUSE:** The City of San Rafael may terminate the contract without cause at any time by giving thirty (30) calendar days advance written notice of termination to Redflex. In this instance the City of San Rafael would be obligated to pay Redflex for all services satisfactorily performed in accordance with the contract. The City of San Rafael would be also be obligated to reimburse Redflex for a proportion of the labor and material costs associated with the installation and maintenance of the equipment at each of the approaches, not to exceed \$70,000 per approach, based on the remaining length of the contract.

If the City of San Rafael opted to terminate the contract without cause the 30-day notice require would carry at least through June 30, 20130, at which point the contract would have 9 months remaining and cost the City of San Rafael approximately \$21,000.

NEW CONTRACT PROPOSAL:

Redflex proposed the following pricing structure based upon the length of potential contracts and a cost recovery component for the new equipment. The proposed discounts are contingent on the premise that the City of San Rafael would be willing to eliminate the current "Termination for Convenience" clause from the contract. This clause has continued to make it difficult for Redflex to properly forecast future earnings.

Current Pricing	Discount %	Discount Amount	Monthly	Term (Years)
\$5,900.00	13.00%	\$767.00	\$5,133.00	3x2x2
\$5,900.00	20.00%	\$1,180.00	\$4,720.00	5x1x1
\$5,900.00	25.00%	\$1,475.00	\$4,425.00	7x1x1