



# CITY OF SAN MATEO

City Hall  
330 W. 20th Avenue  
San Mateo, CA 94403  
www.cityofsanmateo.org

## Administrative Report

---

Agenda Number: 17, Status: Old Business

---

**TO:** City Council

**FROM:** Larry A. Patterson, City Manager

**PREPARED BY:** Police Department

**MEETING DATE:** Monday, May 16, 2016

**SUBJECT:**  
Automated Traffic Enforcement Program - Amendment

### **RECOMMENDATION**

Adopt a Resolution to approve Amendment No. 4 to the agreement with Redflex Traffic Systems Inc., to extend the term of the agreement for one additional 2-year term; and authorize the City Manager to execute the Amendment.

### **BACKGROUND**

The City of San Mateo has contracted for automated traffic enforcement services with Redflex since May of 2004. The most recent agreement was approved by the City Council in November 2009 and was to expire in November 2015. Subsequently, several brief contract extensions were authorized to allow time for preparation of a comprehensive review and analysis of the automated traffic enforcement program. The current contract extension will expire June 13, 2016. The agreement provides an option to extend the term for up to two (2) additional consecutive two-year periods. Staff recommends extending the term of the agreement for one additional two (2) year term.

This Administrative Report addresses concerns raised by the public, provides answers to the most frequently asked questions, and includes additional pertinent information related to the automated traffic enforcement program.

### **TRAFFIC ENFORCEMENT PURPOSE**

Driving behavior is an extension of social attitude. The majority of drivers operate their vehicles in a safe and reasonable manner. Traffic laws are established for the protection of the public and the regulation of unreasonable behavior by an individual. Our society believes that careful and competent actions of a reasonable person should be legal. Laws cannot be effectively enforced without the consent and voluntary compliance of the public majority.

The primary purpose of traffic enforcement is to reduce traffic collisions and to facilitate the safe and expedient flow of vehicular and pedestrian traffic. Our goal is to prevent injuries and fatalities caused by the acts of careless and negligent drivers. We know from our experience and in carefully studying traffic complaints, collision data, insurance claims, and citation issuance rates, that drivers who commit offenses in one location do so in other locations. The use of automatic photo enforcement significantly aids society by reducing the incidence of collisions and changing driver behavior.

The automatic photo enforcement system eliminates arbitrary enforcement, as the video and photographic images provide undisputed evidence of the violation. Frequently, violators are unaware they failed to stop at

the red light until they review the video evidence. This process, often startling to the traffic offender, educates the driver to remain alert, vigilant, and cautious. Many drivers who receive a traffic citation for one offense will improve their driving performance overall.

In addition to enhanced public safety, automated traffic enforcement is safer for law enforcement personnel. Traditional enforcement of red-light violations by police officers is very difficult because the officer must be in a position behind the red light to view the violation. Once a violation is observed, the officer must navigate through the red light to try and apprehend the violator. This action puts both the officer and motorist at risk.

The use of automatic photo enforcement equipment frees police officers to provide enforcement in other locations. If the automatic photo enforcement system were eliminated, additional personnel resources would be required to maintain a similar standard of safety and enforcement.

The 2004 Administrative Report (Attachment 3) cites that between 2000 and 2004, there were 380 accidents citywide due to red-light violations, with injuries reported in 153 of those accidents. Comparatively, between 2011 and 2015, there were 140 collisions citywide with red light violation as the primary collision factor, with injuries reported in 113 of those accidents. According to these statistics, in the past four years, San Mateo has experienced 63% fewer collisions caused by red light violations and 26% fewer related injuries than were experienced in the 4 years preceding the initiation of the automated enforcement program. In this context, automated traffic enforcement has been an effective tool to reduce violations and enhance traffic safety for the public citywide.

### **PROGRAM HISTORY**

Red light running is one of the most dangerous violations that can occur in any jurisdiction. Studies conducted by the Federal Highway Administration have shown that motorists are more likely to be injured in crashes involving red-light violations than in any other type of collision. In 2004 the City Council approved the use of automated traffic enforcement in San Mateo in an effort to proactively use technology to reduce red light violations.

Prior to identifying the intersections to receive automated equipment, a video survey of multiple intersections throughout the City was conducted, with data collected on several dates and at various times. The intersections which were selected to receive automated enforcement equipment are those which experienced the highest occurrences of red light violations. Every red light violation represents a potential collision. In addition, these intersections were sound candidates for automated equipment as they are complex junctions with multiple lanes of approach, making them very difficult to enforce through traditional means.

Automated equipment was subsequently installed at the three (3) intersections, providing enforcement for five (5) directions of travel. Each direction of travel is referred to as an "approach". The City began issuing citations for each approach on the dates shown below:

Southbound Saratoga Dr. & E. Hillsdale Blvd.	5/23/2005
Eastbound E. Hillsdale Blvd., & Saratoga Dr.	5/20/2005
Eastbound E. Hillsdale Blvd & S. Norfolk St.	9/1/2005
Westbound E. Hillsdale Blvd. & S. Norfolk St.	9/1/2005
Eastbound E. 4 <sup>th</sup> Ave & S. Humboldt St.	12/01/2006

### **PROGRAM COSTS**

The San Mateo Police Department is focused on fiscal responsibility. We continually monitor, assess, and have re-negotiated our automated photo enforcement contract several times over the term, including having negotiated lower rates. The California Vehicle Code prohibits vendors of automatic photo enforcement equipment from receiving any compensation or service fee on a per-ticket or per-violation basis. The City of San Mateo pays Redflex a flat fee. In 2015, San Mateo paid Redflex \$239,040.

The City employs one (1) full-time Traffic Enforcement Coordinator at an annual cost of approximately \$129,500 to administer the red light program under the supervision of the traffic sergeant. Without including supervision, soft materials and overhead, the annual cost to operate San Mateo's Automatic Photo Enforcement program is approximately \$368,540.

This cost to administer the program is offset by funds received from fines and penalties. All funds received from fines and penalties are deposited into the City's general fund.

In 2013 the City received \$703,724 in the form of fines and penalties; after deducting costs for program administration, net revenue was approximately \$335,184.

In 2014 the City received \$710,413 in the form of fines and penalties; after deducting costs for program administration, net revenue was approximately \$341,873.

In 2015 the City received \$598,048 in the form of fines and penalties; after deducting costs for program administration, net revenue was approximately \$229,508.

### **CITATION PROCESS**

The Guidelines for "Screening Red Light Violations" are included as Attachment #4. In summary, when a driver commits a violation, this triggers the automatic camera system to record video and snap photographs of the driver and vehicle committing the violation. The violation is reviewed by a Redflex technician in accordance with the San Mateo Police Department approved guidelines. Once a Redflex technician believes a violation has occurred, Redflex submits the violation to the police department where a specially trained Traffic Enforcement Representative (TER) reviews the video and photos. The TER personally certifies a violation has occurred, identifies the violator, issues a notice to the driver, and submits the violation to the courts for prosecution.

The automatic photo enforcement equipment does not know who the driver is or where the driver resides. Tickets are only issued to drivers who can be identified. A citation is not issued if the picture does not clearly show the driver who ran the red light; nor is a citation issued if the pictures do not clearly show the vehicle completely crossed the limit line after the signal turned red. Drivers who stop on the limit line are not issued a citation; the vehicle must have completely traveled past the limit line.

### **TYPES OF RED LIGHT VIOLATIONS**

Section 21453 (a) of the California Vehicle Code (CVC) reads, in part, "A driver facing a steady circular red signal alone shall stop....and shall remain stopped until an indication to proceed is shown..." This law applies regardless of whether the intersection is being monitored by a police officer or automatic photograph equipment.

A driver who proceeds through a red-light without stopping when the traffic signal is a solid circular red light, regardless of whether the driver drove straight through the intersection or made a right turn will be cited for a violation of section 21453(a) CVC. A driver who proceeds through a red-light without stopping against a traffic signal with a solid red ARROW light will be cited for a violation of section 21453(c) CVC.

The terms "California Roll" or "California Stop" are generally defined as a motorist slowing down and then proceeding through a controlled intersection without stopping against a posted stop sign or a red-light. A "California Roll" is a violation of the law. The San Mateo Police Department issues citations for drivers who fail to stop, regardless if the driver believes he/she made a "California Roll / Stop."

### **YELLOW LIGHT TIMING**

The California Manual on Uniform Traffic Control Devices (CA MUTCD) establishes the guidelines cities must

comply with; this includes setting minimum yellow light interval times. According to the MUTCD, “The exclusive function of the yellow change interval shall be to warn traffic of an impending change in the right-of-way assignment.”

Traffic signals and their timing are maintained and monitored by the Public Works Department. It has been the City’s general practice to add 0.2 seconds of time to the yellow lights in excess of the MUTCD guidelines.

**TRAFFIC FINES**

Fines for Vehicle Code infractions are established by the uniform traffic penalty schedule adopted by the Judicial Council of California in accordance with section 40310 of the Vehicle Code. In 2015, the fines and court costs for a conviction of a red-light ticket were \$490.00. Attachment #5 of this Administrative Report is a Superior Court of California, County of San Mateo document titled “Why is Your Bail or Fine So Much?” This document describes the multiple components which comprise the total fine amount for infraction, misdemeanor and felony offenses in California, and the distribution of that fine money once it has been collected. The City of San Mateo receives \$135.05 or (27.56%) of the traffic fine. Traffic fine funds are deposited into the City’s General Fund.

A violation captured by the automatic photo enforcement system carries the same penalty and associated penalty costs as a ticket issued on scene by a police officer.

**CITATION ISSUANCES**

2005 is not a complete year and did not include all five approaches. Since 2006, there has been a 49% drop in the issuance of citations.

<b>Year</b>	<b>Number of Automated Enforcement Citations</b>	<b>% Change From Previous Year</b>
2005	Incomplete Year	N/A
2006	9,393	Baseline
2007	8,352	-11.08%
2008	8,004	-4.17%
2009	6,402	-20.02%
2010	5,961	-6.89%
2011	5,399	-9.43%
2012	6,757	25.15%
2013	5,423	-19.74%
2014	4,462	-17.72%
2015	4,790	7.35%

**VEHICLE VOLUME**

The number of violations issued in relationship to the volume of vehicles passing through the automated intersections illustrates a small percentage of drivers are given citations for failing to stop at a red light (around 0.02%). In 2015 approximately 13 citations were issued per day, which amounts to less than three citations for every 10,000 vehicles which traverse through the automated intersections. We do not have vehicle volume data prior to 2013.

Year	Vehicles	% Change	Citations	Vehicles Per Day	Citations Per Day	Citations Per 10,000 Vehicles	Citations % Change
2013	24,126,457 (24 million)	---	5423	66,099	14.9	2.24	--
2014	23,267,241 (23 million)	-3.6%	4462	63,745	12.2	1.92	-17.72%
2015	21,858,265 (21 million)	-6.1%	4790	59,885	13.1	2.91	7.35%

**VIOLATIONS BASED ON DIRECTION OF TRAVEL**

Several public inquiries were made regarding distribution of tickets based upon the direction of travel for the violator. The following table reports the number of violations based on traveling movement:

	2013		2014		2015	
	Qty.	% of Total	Qty.	% of Total	Qty.	% of Total
Straight	2147	39.6%	1312	29.4%	1,584	33.1%
Right	3120	57.5%	2825	63.3%	2,898	60.5%
Left	156	2.9%	325	7.3%	308	6.4%
<b>TOTAL</b>	<b>5423</b>	<b>100%</b>	<b>4462</b>	<b>100%</b>	<b>4790</b>	<b>100%</b>

Right turn violations are most dangerous to pedestrians. The San Mateo County Health System recently issued a publication entitled The “San Mateo County Collision Report,” which indicates 44% of pedestrian collisions in San Mateo County from 2009-2013 occurred in the pedestrian right-of-way.

**TRAFFIC CITATIONS ISSUED TO RESIDENTS**

Several public comments were made inquiring as to the distribution of automatic photo enforcement citations which are issued to residents of San Mateo vs. non-residents. The following table reports these percentages, which are based on the registered owner’s address of record with DMV:

Year	Percent of Citations issued to San Mateo Addresses	Percent of Citations issued to Non-San Mateo Addresses
2006	35%	65%
2007	35%	65%
2008	32%	68%
2009	31%	69%
2010	30%	70%
2011	31%	69%
2012	31%	69%
2013	30%	70%
2014	32%	68%
2015	31%	69%

**TIME THROUGH RED LIGHT SAMPLING**

In October 2015, the Police Department discovered the yellow light interval for the approach on southbound Saratoga at E. Hillsdale Blvd. had been 0.2 seconds out of compliance between August 1, 2015 and October 15, 2015; and that the yellow light interval for the approaches for both eastbound and westbound E. Hillsdale Blvd. at S. Norfolk Street had been 0.3 seconds out of compliance between August 1, 2015 and October 9, 2015. The decision was made to dismiss citations issued while the yellow light intervals were out of compliance. During this time, 956 citations were issued to violators; however, only two (2) of those citations would not have been issued if the yellow light timings were adjusted according to the CA MUTCD.

Of the citations which were issued during this period, the following table shows the distribution of violations in terms of the duration of the red light before the violation occurred. (in other words, how many seconds the light had been red before the driver entered the intersection).

Seconds After Light Turned Red	Citations Issued	% of Total	Seconds After Light Turned Red	Citations Issued	% of Total
> 0	6	0.63%	> 12	88	9.21%
> 1	6	0.63%	> 13	65	6.80%
> 2	3	0.31%	> 14	65	6.80%
> 3	2	0.21%	> 15	70	7.32%
> 4	8	0.84%	> 16	84	8.79%
> 5	8	0.84%	> 17	81	8.47%
> 6	17	1.78%	> 18	56	5.86%
> 7	33	3.45%	> 19	43	4.50%
> 8	57	5.96%	> 20	23	2.41%
> 9	59	6.17%	> 21	11	1.15%
> 10	79	8.26%	> 22	5	0.52%
> 11	74	7.74%	> 23	13	1.36%

Analysis of this sample shows that a vast majority of citations (79%) were issued to violators who entered the intersection 10 or more seconds AFTER the light had turned red.

**INTERSECTION VIOLATION PERCENTAGES**

The following table reports the percentage of violations of each intersection which makes up our city’s automatic photo enforcement program.

Year	E/B E. 4 <sup>th</sup> Ave & S. Humboldt St	E/B E. Hillsdale & S. Norfolk St.	W/B E. Hillsdale & S. Norfolk St	E/B E. Hillsdale & Saratoga Dr.	S/B Saratoga Dr. & E. Hillsdale
2006	6.37%	10.18%	13.04%	10.21%	60.20%
2007	32.35%	6.50%	13.89%	6.21%	41.05%
2008	26.51%	5.57%	13.07%	4.91%	49.95%
2009	25.96%	3.70%	10.83%	3.27%	56.23%
2010	28.74%	4.01%	9.81%	2.45%	54.99%
2011	31.86%	4.61%	12.48%	3.23%	47.82%
2012	27.34%	4.11%	11.89%	4.48%	52.18%
2013	23.03%	5.36%	14.04%	3.11%	54.45%
2014	12.90%	8.09%	14.03%	4.87%	60.11%
2015	13.79%	7.53%	12.78%	6.63%	59.27%
<b>Average</b>	<b>22.89%</b>	<b>5.97%</b>	<b>12.59%</b>	<b>4.94%</b>	<b>53.63%</b>

**PHOTO ENFORCEMENT EFFECTIVENESS**

Staff continues to vigorously monitor traffic collision activity throughout the City. Measuring the success or effectiveness of automatic photo enforcement’s impact on traffic collisions is difficult to empirically quantify. Nevertheless, each violation represents a potential traffic collision. Staff knows from experience when traffic enforcement increases collision rates drop.

Stop light violations are one of the most dangerous vehicle code violations because of the of the speeds involved and the expectation of approaching drivers and pedestrians who rely on other drivers to stop so they can safely navigate an intersection. When motorists fail to stop at red lights, it results in high speed collisions that cause injuries, deaths, and destruction of property.

Staff believes drivers who commit traffic infractions in one location also commit violations in other locations. Having dedicated enforcement in the most hazardous locations provides for the most efficient and effective

use of limited resources.

The City of San Mateo has photo enforcement 24 hours a day, 365 days a year, for three (3) intersections. To provide the same level of service through dedicated traffic officers, the City would need to hire 13 additional police officers at a cost of over 3 million dollars. The existing program has no adverse budget impact with a net operating cost of about \$368,540, which is offset through traffic fines. Additionally, staffing an intersection with a traffic officer requires the traffic officer to navigate through the controlled intersection, frequently against the same red light, to apprehend the violator creating a hazard, disrupting the flow of traffic, and frequently adding to the congestion by blocking a lane of traffic to issue a citation.

Automated Photo Enforcement Programs are an effective means of reinforcing compliance for the most dangerous traffic violations that result in the highest number of serious and fatal injury accidents. Staff recommends continuing San Mateo's automated photo enforcement program for an additional two years by approving the contract amendment with Redflex.

### **BUDGET IMPACT**

Funding for this agreement has been allocated in the Police Department's operating budget in 10-5112-07-5311. Should the Council not wish to renew automated photo enforcement contract, the resultant loss of revenue to the general fund is estimated at \$302,000 based on the average of past actuals for the last three years.

### **ENVIRONMENTAL DETERMINATION**

In accordance with Public Resources Code section 21065, approval of this agreement is not a project subject to CEQA because it can be seen with certainty that entry into a contract with Redflex Traffic Systems, Inc. will not have a significant impact on the environment.

### **NOTICE PROVIDED**

All meeting noticing requirements were met.

### **ATTACHMENTS**

- Att 1 - Proposed Resolution
- Att 2 - Amendment No. 4
- Att 3 - Administrative Report Dated May 3, 2004
- Att 4 - Guidelines for "Screening Red Light Violations.
- Att 5 - "Why is your bail fine so much?"

**STAFF CONTACT** Susan E. Manheimer, Chief of Police  
police@cityofsanmateo.org  
(650) 522-7600

Shannon Hagan, Traffic Sergeant  
shagan@cityofsanmateo.org  
(650) 522-7745