CITY OF RIVERSIDE

City of Arts & Innovation

City Council Memorandum

TO: **HONORABLE MAYOR AND CITY COUNCIL** **DATE: JUNE 17, 2014**

FROM: **PUBLIC WORKS DEPARTMENT** **WARDS: ALL**

SUBJECT: **PHOTO RED LIGHT ENFORCEMENT PROGRAM UPDATE**

ISSUE:

The issue for City Council consideration is to receive an update on the Photo Red Light Enforcement Program.

RECOMMENDATION:

That the City Council receive an update on the Photo Red Light Enforcement Program.

PUBLIC SAFETY COMMITTEE RECOMMENDATION:

On February 19, 2014 the Public Safety Committee, with Chair Soubirous, Vice Chair Melendrez and Member Davis present, unanimously voted to receive and file the Photo Red Light Enforcement Program Update and requested that it be forwarded to the City Council with an additional five years of program data, including City population data.

BACKGROUND:

On August 8, 2006 the City Council approved a five-year agreement with Redflex Traffic Systems, Inc. for a Photo Red Light Enforcement Program upon unanimous recommendation of the Public Safety Committee. Following approval of the agreement, cameras were installed at intersections identified as having the highest frequency of traffic collisions and meeting other risk factors such as being located near a school.

The Photo Red Light Enforcement Program is designed to be a public safety program intended to modify driver behavior. Evidence of the need for such a program includes:

- A 2005 study by the United States Department of Transportation's Fatality Analysis System which ranked Riverside, California as number one for fatal auto collisions per capita in Southern California.

- The United States Department of Transportation (DOT) indicates there are more than 1.8 million intersection crashes annually and according to the Insurance Institute for Highway Safety (IIHS), red light running is the leading cause of traffic collisions.

- In 2009 red light running killed 676 people and injured 113,000 nationwide. Nearly two-

thirds of these deaths were people other than the red light running drivers, typically occupants of other vehicles, passengers in the red light runners' vehicles, bicyclists or pedestrians.

- Intersection crashes account for more than 45% of all reported crashes and 21% of fatalities nationwide according to the Fatality Analysis Reporting System.

- Between 2002 and 2007 there were 9,265 collisions at intersections, including nine fatal collisions resulting from red light running in Riverside.

To address these issues, on January 8, 2007, after a 30-day period when only warning notices were issued, the City began issuing photo red light enforcement citations at 11 intersections (17 approaches) Citywide. By September 25, 2009 the Photo Red Light Enforcement Program consisted of 30 cameras located at 20 intersections throughout the City. Between 2007 and 2011 the initial 17 photo-enforced locations experienced a 64% decrease in the number of vehicles captured running red lights. Additionally, there was a 46% decrease in the number of reported broadside collisions program-wide between 2006 and 2011. Attachment 1 details the locations of the 30 cameras and date of installation.

Given the positive impact of the program, on October 25, 2011 the City Council approved the First Amendment to the Agreement with Redflex Traffic Systems extending the term of the Agreement through November 30, 2016. The Amendment also included a decrease in the cost per camera per month and a termination clause which allows the City to terminate the Agreement at any time at no cost to the City and at the discretion of the City Council with a 60 day notice.

On July 10, 2012 the City Council considered a unanimous recommendation from the Public Safety Committee to discontinue the Photo Red Light Enforcement Program due to a request by Caltrans to remove the five cameras in their right-of-way and a request by the City of Moreno Valley to remove the camera at the shared intersection of Day Street and Canyon Springs Parkway, which led in part to a projected $611,000 General Fund subsidy required to continue the program. After discussion, the City Council approved a substitute motion providing 60 days to make the Photo Red Light Enforcement Program cost neutral.

Following the July 10, 2012 City Council meeting, the Public Works Department reviewed historical collision and violation data at the 30 photo-enforced approaches. After a detailed review of the activity at each intersection, it was determined that 11 approaches (Attachment 2) would be eliminated from the Program given their low activity rates. All 11 of the approaches experienced significant reductions in red light violations and nine of the approaches experienced less than one violation per day. On September 30, 2012 these cameras were turned off and removed.

Additionally, the City obtained Caltrans approval to continue the use of photo red light enforcement in Caltrans rights-of-way and removed a camera at the shared intersection of Canyon Springs Parkway and Day Street at the request of the City of Moreno Valley. These administrative changes to the Program eliminated the projected deficit and made it cost neutral.

Currently, the Photo Red Light Camera Enforcement Program consists of 18 cameras at 15 intersections throughout the City (Attachment 3). However, due to the on-going construction of the State Route 91 High-Occupancy Vehicle (SR-91 HOV) Lane Project, four out of the five cameras installed in the Caltrans rights-of-way have been temporarily turned off and removed.

Two of these cameras were located at the intersection of Mulberry Street and Fourteenth Street and the other two were located at the intersection of Arlington Avenue and Indiana Avenue. Upon completion of the construction, it is likely that the cameras previously located at Mulberry Street and Fourteenth Street will be reinstalled, but it has not yet been determined if the cameras that were located at Arlington Avenue and Indiana Avenue will be returned due to the reconfigured design of the intersection.

CITATION PROCESSING

A photo red light enforcement camera is activated when a vehicle is moving over sensors placed in the roadway (behind the crosswalk or limit line) and only after the traffic signal light has turned red. A detailed exhibit demonstrating the photo documentation is provided in Attachment 4. The camera will capture four still photos and a 12 second video clip of the incident and send them as a package through a secured internet connection to Redflex. The still photos include a picture of the driver, the vehicle license plate, the vehicle behind the limit line facing a red light and the vehicle in front of the limit line facing a red light. The video is captured to verify the pictures and to determine that the vehicle is moving.

Each incident captured by the photo red light enforcement cameras undergoes a rigorous review process to ensure that vehicles captured by the cameras are in clear violation of running a red light. The incidents are independently reviewed three times by Redflex utilizing criteria established by the City. Incidents that pass inspection by Redflex are then made available to one of the City's Photo Red Light Enforcement Operators (Operators). Each of City's Operators has extensive law enforcement experience and retains the final decision as to whether or not a citation will be issued. Operators will only issue a citation after a thorough review process has been completed and they have determined that a citation is warranted by the offense.

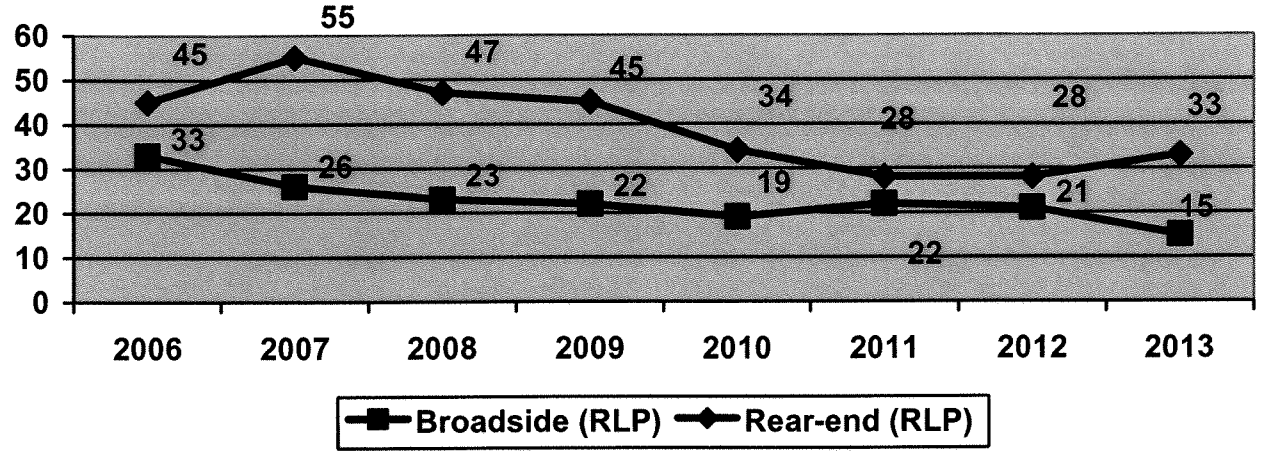
In 2013 the City's Photo Red Light Enforcement Program captured 74,729 activations of which 15,966 citations were issued. This is a significant decrease from when these cameras were initially installed. On average, the number of vehicles captured running red lights was down 34% in 2013 when compared to the initial installation date of each camera. From this data we can infer that the photo red light enforcement cameras are helping the City's effort to improve traffic safety. Attachment 5 details the number of camera activations and number of notices printed for each camera location.

TRAFFIC COLLISION DATA

Photo red light enforcement cameras are an important tool for the City's complete traffic safety program. The cameras have been shown to help educate drivers and change driving behaviors. According to traffic collision data, intersections equipped with photo red light enforcement cameras – as well as Citywide – have maintained a reduced level of collisions of all types since the installation of the cameras in December 2006.

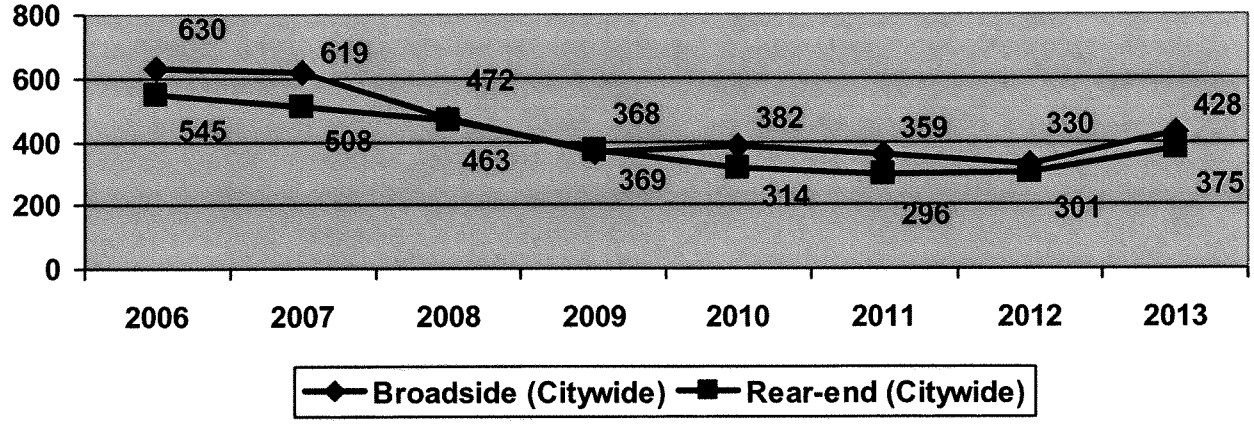
When comparing 2006 to 2013, reports of intersection related collisions of all types decreased by approximately 43%. Additionally, reports of broadside collisions, which typically result in serious injuries, decreased by approximately 55% and reports of rear-end collisions decreased by 23%. The chart below shows the number of intersection-related broadside and rear-end collisions reported between 2006 and 2013 at the 15 intersections currently equipped with photo red light enforcement cameras.

Photo Red Light Enforced Intersections



Furthermore, signalized intersections Citywide have seen a 27% decrease in reports of collisions of all types when comparing 2006 and 2013. Specifically, there has been a 32% decrease in the number of broadside collisions reported and a 31% decrease in rear-end collisions reported as depicted in the chart below.

Signalized Intersections Citywide



In addition to implementing the Photo Red Light Enforcement Program, the Public Works Department examined extending the duration of yellow intervals to determine if there would be an impact on safety. Time added to the yellow interval was in addition to the all red phases previously implemented at signalized intersections throughout the City. Lengthening of the yellow interval has been suggested as a possible approach to reducing the likelihood of red light running and rear-end collisions.

In December 2007 one second was added to the yellow intervals of two intersections monitored by photo enforcement cameras. After several years of data collection, there was no significant decrease in red light running violations or rear-end collisions found when compared to data collected at other photo enforced intersections. Additionally, increasing the duration of the yellow interval at only intersections equipped with photo enforcement cameras eliminates the uniformity in traffic control devices which is a primary goal in traffic management.

As previously discussed, there were 12 cameras removed from 10 intersections throughout the City (Attachment 3). At the time the cameras were removed in September 2012, these 10 intersections were maintaining a reduced level of collisions compared to years prior to program implementation. Since the cameras were removed, collision rates at the 10 intersections have varied. At five intersections, where photo enforcement cameras were completely removed, the number of collisions reported has increased by approximately 54% between 2012 and 2013. At the five intersections where at least one camera remains, the number of collisions reported has decreased by approximately15%. It is important to note that accidents are random events; therefore, one years' worth of data is not sufficient to draw substantial conclusions on the effects of removing select photo red light enforcement cameras. Trends will continue to be monitored as the program continues.

Attachments 6, 7 and 8 summarize the collision history at the photo enforced intersections while Attachment 9 provides intersection detail.

ADDITIONAL DATA AND QUESTIONS

As requested by the Public Safety Committee, the Public Works Department researched additional data including population and median household income trends in the City, trends in the number of vehicle miles traveled in California and additional City traffic collision data between the years 2000 and 2013. The data, outlined in Attachment 10, shows that although the population within the City has steadily increased, the median household income and the number of vehicle miles traveled has remained relatively steady since 2000; the number of vehicle collisions began to significantly decline in about 2007 when the photo red light enforcement cameras were initially installed.

In addition to the data requested at the Public Safety Committee, Public Works received the following questions:

1. What is the total number of fatal accidents within the City, fatal accidents at intersections with cameras and at intersections where the cameras have been removed. See Attachment 11.
2. For rear-end accidents, what is the breakdown where the primary collision factor was due to unsafe speed, following too closely, an abrupt/unnecessary stop or other factor. For rear-end accidents, how many have inattention as an associated factor, including the use of a cell phone. See Attachment 12.
3. Do personnel reviewing red light camera violations track the number of people using their cell phone at the time of the violation? No.

FISCAL IMPACT:

There is no fiscal impact incurred by receiving this report. The Photo Red Light Enforcement Program expenditures for fiscal year 2013/14 are estimated to be $1,209,717 as budgeted in the Public Works Non-Departmental Account (7241200).

Photo Red Light Enforcement Program revenue is currently estimated to be $1,281,144 in fiscal year 2013/14.

Concurs with:

Mike Soubirous, Chair
Public Safety Committee

Prepared by:	Thomas J. Boyd, P.E., Public Works Director/City Engineer
Certified as to availability of funds:	Brent A. Mason, Finance Director/Treasurer
Approved by:	Deanna Lorson, Assistant City Manager for Scott C. Barber, City Manager
Approved as to form:	Gregory P. Priamos, City Attorney

Attachments:

1. Initial Photo Enforcement Camera Locations and Activation Dates
2. Photo Enforcement Cameras Removed in September 2012
3. Currently Active Photo Enforcement Cameras
4. Statement of Technology: SMARTCAMred with Video
5. Violation Data for all Photo Enforcement Camera Locations
6. Collisions for Current Photo Enforced Locations
7. Collisions for Intersections with Partial Photo Enforcement Camera Removal
8. Collisions for Intersections with Complete Photo Enforcement Camera Removal
9. Collision Data for all Photo Enforced Intersections
10. Additional Data Requested by the Public Safety Committee
11. Additional Question, Fatalities 10-year History
12. Additional Question, Rear-end accidents