1-14-17

Subject: Red light cameras

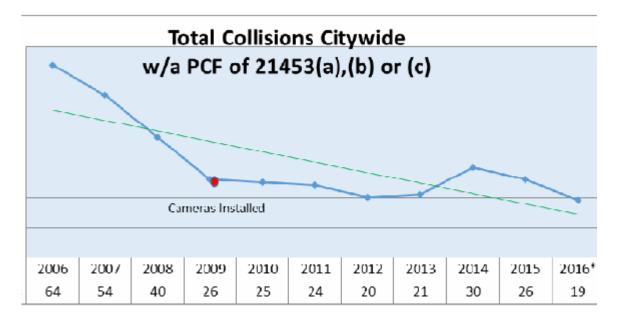
Venue: Jan. 17

Honorable Councilmembers:

A 59% decrease in red light running collisions is claimed in two prominent places in the staff report - it is the very first percentage figure given in the main staff report (top of page 3), and it is the first percentage figure given in the staff report's data tables (Attachment 2 to the staff report).

That remarkable figure has been placed in those prominent places to "sell" you, but I submit that for the following reasons, that figure is entitled to zero weight in your decision making.





... shows that the claimed decrease occurred in 2006 - 2008, which was <u>before</u> the cameras were installed. The big decrease in 2006 - 2008 could be attributed to the cost cutting measures of that era which, among other things, reduced police response to minor accidents. A staff report presented to the city council in the City of Ventura demonstrated the effect of the cost cutting - and some sleight of hand. (Ventura has had Redflex red light cameras since 2000.)

In three prominent places in Ventura's written staff report, staff claimed a 75% reduction of accidents.

1. In the summary, on page 2.

2. In this table, found on page 4.

1998	124	
1999	128	
2000	132	
2001	107	19%
2002	115	13%
2003	100	24%
2004	101	23%
2005	93	30%
2006	92	30%
2007	45	66%
2008	41	69%
2009	40	70%
2010	39	70%
2011	34	74%
2012	38	71%
2013	36	73%
2014	34	75%

Year Red Light Collisions % Change from 2000 CATSS (red light camera) Launch

Table transcribed from Ventura staff report for 3-30-15 council meeting

3. In the first PowerPoint slide.

Unfortunately for staff, Ventura's mayor noticed the dramatic change between 2006 and 2007, and during the meeting she asked staff about it. Staff's response (at 3:20:20 in the City's online video) was:

"The way the police department reports collisions now is vastly different than we did when we started this program. Now we only report - correct me if I'm wrong - now we only report injury or major property damage collisions. That's different. Our total collision numbers are down quite a bit because the reporting is different."

B. Another contributor to the claimed decrease may be the fact that, *statewide*, injury collisions dropped 23% between 2004 and 2013, and persons injured dropped 26%. (See the CHP table, Attachment A, below.)

C. Some of the claimed decrease may have been brought about by engineering improvements made by Napa Public Works staff. In 2016 the staff at the City of San Francisco MTA (SFMTA) - which operates that City's 41 red light cameras - examined (a copy of their report is Attachment B, below) the effect the nineteen-year-old program has had upon the incidence of broadside crashes with injury and found that the installation of a red light camera seldom was followed by a drop in accidents. Instead, the drops occurred after engineering improvements like making the yellows longer, adding an all-red interval (both of which are cheap to do), the addition of an arrow for left turns, or a general upgrade to the signal. (In one instance - see page 12 of the Report - staff conceded what one of the graphs shows, that the camera may have had no effect whatsoever.) Some other improvements every city should consider - they are really cheap to do and quite effective - are to paint "signal ahead" on the pavement, add new or larger backboards to the signal heads (even in an olde fashioned part of town), add lights to the hanging signs which give the names of cross streets, and put larger bulbs in the overhead street lights. Doing those improvements makes the signal lights more readable, the whole intersection more important looking, and brings an immediate BIG reduction in the number of drivers blundering thru multiple seconds late - and those are the guys who can injure or kill local residents.

One thing that San Francisco did not do was to look at the postal codes of those who got the red light camera tickets. Had they done so, they would have seen that most of the tickets were going to visitors. The Register has reported that 76% of Napa's camera tickets go to visitors. When there's a lot of visitors, red light cameras cannot stop the running, as there's always new visitors, making mistakes, being distracted, or lost. And the red light camera business model says it has to be that way - ticketing visitors - because without a continuing flow of tickets, there won't be revenue to pay for the cameras. So, the cameras are usually put in at intersections near transportation hubs, motel rows, colleges, government centers, hospitals, and areas frequented by tourists. If a town wants to keep visiting drivers from being distracted, it should make sure that its street signs - how to get on the freeway, how to get to major attractions - how to find parking - are plentiful and regularly maintained. That way, a visiting driver will be looking out the windshield, not down at his map display. (The maintenance of the Wayfinding program, also on the Jan. 17 agenda, will help.)

D. The authorities in many other California cities have reported that their cameras made little or no reduction in accidents. (To read their statements, see Candor, Attachment C, below.) I also want to point out that 71 cities - Baldwin Park, Bell Gardens, Belmont, Berkeley, Burlingame, Cerritos, Compton, Corona, Costa Mesa, Cupertino, Davis, El Cajon, El Monte, Emeryville, Escondido, Fairfield, Fresno, Fullerton, Gardena, Glendale, Grand Terrace, Hayward, Highland, Indian Wells, Inglewood, Irvine, Laguna Niguel, Laguna Woods, Lancaster, Loma Linda, Long Beach, City of Los Angeles, Los Angeles County, Marysville, Maywood, Modesto, Montclair, Moreno Valley, Murrieta, Oakland, Oceanside, Paramount, Pasadena, Poway, Rancho Cucamonga, Redlands, Redwood City, Riverside, Rocklin, Roseville, San Bernardino, San Carlos, San Diego, San Juan Capistrano, San Rafael, Santa Ana, Santa Clarita, Santa Fe Springs, Santa Maria, Santa Rosa, South Gate, South San Francisco, Stockton, Union City, Upland, Victorville, Vista, Walnut, Whittier, Yuba City and Yucaipa - have closed their camera programs.

Other Issues for Discussion

1. Because of a too-short yellow light at Jefferson and First, there was a dismissal of some of the tickets issued there in late 2015, but dismissal was limited to only those drivers who were 0.4 second late, or less. Another city (San Mateo) that made a mass dismissal under similar circumstances dismissed all tickets regardless of late time, which seems to be more consistent with CVC 21455.7 which says:

(a) At an intersection at which there is an automated enforcement system in operation, the minimum yellow light change interval shall be established in accordance with the California Manual on Uniform Traffic Control Devices.

(b) For purposes of subdivision (a), the minimum yellow light change intervals relating to designated approach speeds provided in the California Manual on Uniform Traffic Control Devices are <u>mandatory</u> minimum yellow light intervals. (Emphasis added.)

2. In early 2015 CalTrans lengthened the yellow at Soscol and Imola. Running immediately dropped by about 2/3 and stayed low for fifteen months thereafter, making the intersection much safer. Then, beginning in April 2016 running began to rise and by June it had doubled. Is there a way to change the signal and/or camera settings back to those that produced the lower rate of running?

3. Would you please ask the police to report to you on the average age (and min/max) of those ticketed, broken down by camera location. Why is age of interest? Those intersections where the age of violators is found to be significantly higher probably need to be made more navigable for older drivers. Sometimes it can be as simple as lengthening the yellow light.

4. Would you please ask the police to track, and provide a monthly report on, the disposition of red light camera violations made by vehicles having protected/confidential license plates? (In California over 1.5 million private vehicles have protected plates, as permitted by CVC 1808.4.)

5. Would you please ask the police to track, and provide a monthly report on, the number of red light camera incidents flashed where the driver was a Napa-area resident, and the number of camera tickets eventually issued to those residents - with a comparison of that "issuance" rate to the rate for non-residents?

6. Would you please ask the NPD to fill-in the collision section on the red light camera 2015 annual report required by CVC 21455.5(i)? Presently Napa's report says, "Information not available."

7. Will the City be supporting the 2017 legislation permitting speed camera/photo radar tickets in California, as proposed by the City of San Francisco?

8, The proposed rent of \$3500 is almost double what it should be. In the price schedule negotiated by Elk Grove, which has five Redflex cameras, the rent drops to \$2000 once the cameras are seven years old - as yours are.

Years in service	Fixed price not to exceed / Designated Intersection Approach per month
0-4.99	\$4696.00
5.0-6.99	\$4196.00
7.0-9.99	\$2000.00
10.0+	\$1500.00

(Scanned from Elk Grove, California contract with Redflex)

To cover the extra \$216,000 rent, Napa will need to issue an extra 1440 tickets over the proposed three-year term of the contract extension.

9. And why is there no information about the competing bids? Redflex, though the most convenient choice in the short term, is in ill health financially.

Conclusion

If you decide to send this matter back for better statistics and/or a better deal, I, and others, may wish to do an in-depth examination of the revised materials, and the press may wish to write about it, also in-depth, as this is a controversial program. Ordinarily, a new staff report would become public just a few days - over a weekend - before the council meeting at which it is to be voted upon. Judging by the fact that it's been over a year since the bids were received, it does not seem to be particularly urgent to make a decision on this matter. Would you please consider making the new staff report public at least two weeks ahead of time?

Sincerely,

Jim

Attached below:

- A. CHP table of statewide accidents
- B. San Francisco's 2015 study
- C. Statements from other cities

ATTACHMENT A

TABLE 1A FATAL COLLISIONS BY MONTH 2004 - 2013

				Y	EAR					
MONTH	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
January	295	270	293	280	236	248	175	220	216	194
February	272	247	265	260	260	212	198	201	198	196
March	278	273	299	316	223	218	185	194	209	242
April	309	289	286	295	277	218	211	179	217	256
May	322	318	329	295	250	236	197	216	224	223
June	296	304	330	297	252	219	201	206	230	222
July	362	389	338	290	249	208	224	247	244	247
August	353	360	357	330	284	276	206	215	240	265
September	314	308	346	290	288	221	237	234	246	237
October	317	370	312	316	275	263	222	252	246	276
November	267	357	322	317	248	251	240	236	256	254
December	316	337	316	271	271	235	224	228	232	241
TOTAL	3,701	3,822	3,793	3,557	3,113	2,805	2,520	2,628	2,758	2,853

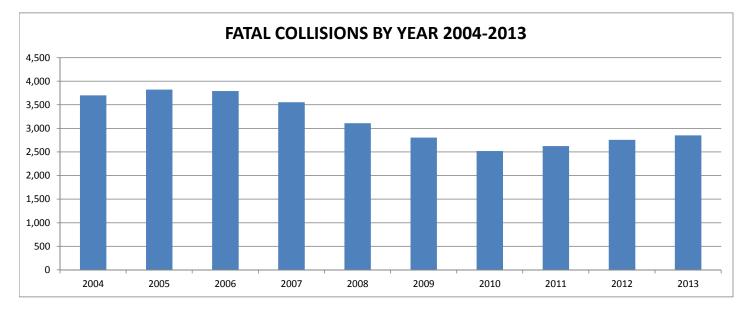


TABLE 1B PERSONS KILLED IN COLLISIONS BY MONTH 2004 - 2013

				YI	EAR					
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
MONTH										
January	318	300	323	308	263	271	190	239	241	208
February	307	269	284	293	279	231	214	215	216	225
March	310	305	337	353	247	235	209	207	219	269
April	346	323	314	323	296	246	233	200	235	278
May	352	351	365	331	280	263	213	226	240	250
June	329	347	355	328	279	245	213	226	249	240
July	408	455	388	324	280	222	243	262	261	263
August	394	426	401	368	308	316	231	233	268	288
September	352	347	377	323	312	239	251	257	265	252
October	338	410	349	348	303	283	239	282	270	298
November	298	395	353	351	273	276	262	251	284	275
December	342	376	351	317	281	249	241	237	247	258
TOTAL	4,094	4,304	4,197	3,967	3,401	3,076	2,739	2,835	2,995	3,104

					YE	AR				
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
MONTH										
January	15,623	15,428	15,389	14,073	14,108	12,899	12,365	12,092	12,854	12,130
February	16,106	15,295	15,059	13,649	13,881	12,460	11,896	12,168	12,500	11,514
March	17,400	16,908	15,810	16,111	14,862	13,955	13,573	13,217	13,798	13,448
April	16,908	16,321	14,995	15,203	14,265	13,737	13,154	12,503	13,025	12,978
Мау	17,194	17,120	15,910	15,874	14,488	14,533	13,510	13,131	13,814	13,722
June	16,551	16,352	15,934	15,708	13,581	13,144	13,174	12,687	13,015	12,919
July	17,368	16,781	15,718	15,715	13,570	13,814	13,524	13,516	13,219	12,913
August	17,471	16,930	16,330	16,068	14,118	13,580	13,797	14,012	13,919	13,790
September	17,547	17,040	16,121	15,976	14,237	14,191	14,042	14,130	13,578	13,735
October	17,916	17,556	16,955	16,454	15,082	14,742	14,531	14,716	14,731	14,212
November	15,939	16,482	15,995	15,161	14,073	13,096	13,570	13,376	13,113	13,019
December	17,363	16,495	15,741	15,002	14,231	13,373	13,958	13,567	12,130	12,529
TOTAL	203,386	198,708	189,957	184,994	170,496	163,524	161,094	159,115	159,696	156,909

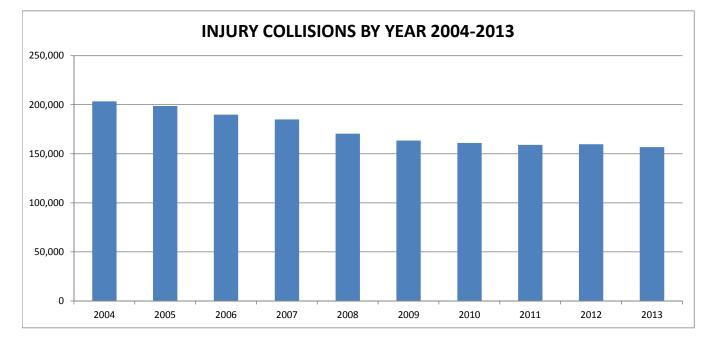


TABLE 1D PERSONS INJURED IN COLLISIONS BY MONTH 2004 - 2013

					YEAR					
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
MONTH										
January	23,334	22,478	22,478	20,251	19,785	18,343	17,306	17,060	18,070	16,956
February	23,719	22,298	22,006	19,629	19,748	17,555	16,941	17,147	17,555	16,249
March	25,654	25,039	23,166	23,246	21,326	19,928	19,136	18,612	19,525	18,945
April	25,126	23,999	21,962	22,098	20,449	19,535	18,785	17,775	18,646	18,358
May	25,695	25,406	23,214	22,929	20,777	20,828	19,363	18,782	19,438	19,599
June	24,648	24,234	23,402	22,839	19,315	18,983	18,697	18,207	18,757	18,689
July	26,178	25,398	23,448	23,027	19,432	20,019	19,615	19,531	19,063	18,684
August	26,313	25,250	24,012	23,470	20,216	19,468	19,879	19,854	20,139	19,859
September	25,903	24,888	23,381	22,944	19,832	20,106	19,798	19,860	19,139	19,464
October	26,554	25,730	24,525	23,415	21,001	20,504	20,676	20,738	20,532	20,095
November	23,422	24,003	23,197	21,445	19,866	18,511	19,294	18,864	18,382	18,421
December	25,811	24,075	22,783	21,394	20,126	18,997	19,864	19,172	17,298	17,809
TOTAL	302,357	292,798	277,574	266,687	241,873	232,777	229,354	225,602	226,544	223,128

TABLE 1E POPULATION, MOTOR VEHICLE REGISTRATION, MOTORCYCLE REGISTRATION, LICENSED DRIVERS, LICENSED MOTORCYCLE DRIVERS, MOTOR VEHICLE MILES OF TRAVEL, AND MILEAGE DEATH RATE 2004 - 2013

		Motor Vehicle	Motorcycle	Licensed	Licensed Motorcycle	Motor Vehicle Miles	Mileage Death
Year	Population	Registration	Registration ^{1/}	Drivers	Drivers ^{2/}	of Travel	Rate4/
2004	36,590,800	28,258,341	641,905	22,843,200	1,015,488	328,419,000,000	1.25
2005	37,004,700	28,129,822	680,857	22,927,349	1,055,370	327,500,000,000	1.31
2006	37,444,400	28,705,184	732,547	23,237,087	1,109,374	329,700,000,000	1.27
2007	37,771,400	28,908,964	772,524	23,629,860	1,161,866	330,400,000,000	1.20
2008	38,148,500	28,663,729	824,244	23,718,992	1,211,848	325,750,000,000	1.04
2009	38,476,700	28,495,919	809,129	23,700,047	1,262,020	324,275,000,000	0.95
2010	37,318,500	28,560,744	808,913	23,799,513	1,289,733	327,770,000,000	0.84
2011	37,570,300	28,463,152	818,650	23,956,498	1,329,116	325,032,000,000	0.87
2012	37,872,400	28,836,311	847,357	24,290,288	1,359,837	326,547,000,000	0.92
2013	38,164,000	29,679,221	872,403	24,643,432	1,376,299	329,174,000,0003/	0.94

^{1/}Motorcycle Registration is also included in Motor Vehicle Registration.

²¹Licensed Motorcycle Drivers are included in Licensed Drivers.

^{3/} The 2013 vehicle miles of travel is an estimate. Source: California Department of Transportation.

^{4/}Number of persons killed per 100 million miles of travel.

ATTACHMENT B



SFMTA Municipal Transportation Agency

Automated Photo Enforcement Annual Report 2015

March 28, 2016

Pursuant to California Vehicle Code section 21455.5, the San Francisco Municipal Transportation Agency is submitting an Automated Photo Enforcement Program Annual Report for 2015. This Annual Report contains the following information:

- 1. The number of alleged violations captured by the system: **33,049 alleged automated** enforcement violations were captured in 2015, as shown in the chart below.
- The number of citations issued by a law enforcement agency based on information collected from the automated traffic enforcement system: 11,851 automated enforcement citations were issued in 2015, as shown in the chart below.
- 3. For citations identified in item #2, the number of violations that involved traveling straight through the intersection, turning right, and turning left: Our vendor, Xerox, does not track whether a violation involved traveling straight through the intersection, turning right, or turning left. In San Francisco there are policies in place (such as minimum violation speed) to prevent the system from citing legal right turns on a red light.
- 4. The number and percentage of citations that are dismissed by the court: **The Court was** unable to provide data for November and December 2015 due to their switch to a new computer system at the end of 2015. The SFMTA will submit a revised annual report if and when the data becomes available. From January to October 2015, 549 citations were dismissed, as shown in the chart below, which represents 5.49% of citations issued from January to October (10,001).
- 5. The number of traffic collisions at each intersection that occurred prior to, and after the installation of, the automated traffic enforcement system: Beginning on page 3 are graphs showing the number of injury collisions before and after installation of red light cameras at each intersection.

2015	Alleged Violations Captured	Number of Citations Issued	Number of Citations Dismissed by the Court				
January	2,686	1,024	73				
February	2,000	947	38				
March	2,656	1,053	32				
April	2,866	1,096	19				
May	2,692	894	41				
June	3,023	945	47				
July	2,958	918	53				
August	2,860	905	136				
September	2,839	1,050	73				
October	3,098	1,169	37				
November	2,486	957	data not available				
December	2,460	893	data not available				
2015 Totals:	33,049	11,851 (10,001 Jan-Oct)	549 Jan-Oct (or 5.49% of citations issued Jan-Oct)				

Engineering Changes at Red Light Camera Enforced Intersections

19th Avenue and Sloat Boulevard

Installation Dates: January 1997 (Northbound), February 1997 (Southbound) Directions Enforced: Northbound and Southbound 19th Avenue Date of Major Signal Upgrade: April 1999 Date of Yellow Light Changes: April 1998

Other signal modifications of note: April 2000, all-red added after Sloat Boulevard phase, pedestrian signals installed crossing 19th Avenue. August 2003, all-red added after 19th Avenue phase. November 2007, lagging eastbound left turn arrow installed.

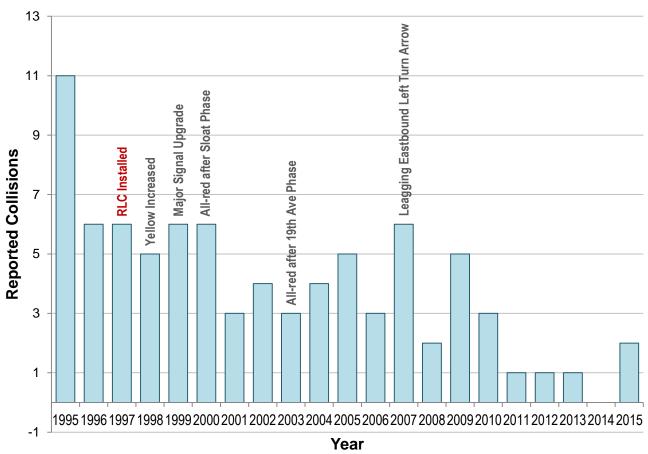


Figure 2: 19th Avenue and Sloat Boulevard Injury Broadside Collisions (1995-2015)

Figure 2: 19th Avenue and Sloat Boulevard Injury Broadside Collisions (1995-2013)

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Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	11	6	6	5	6	6	3	4	3	4	5	3	6	2	5	3	1	1	1	0	2

1st and Folsom Streets

Installation Dates: March 2000 Directions Enforced: Southbound 1st Street Date of Major Signal Upgrade: October 1998 Date of Yellow Light Changes: October 1998 Other signal modifications of note: Pedestrian signals added August 2006

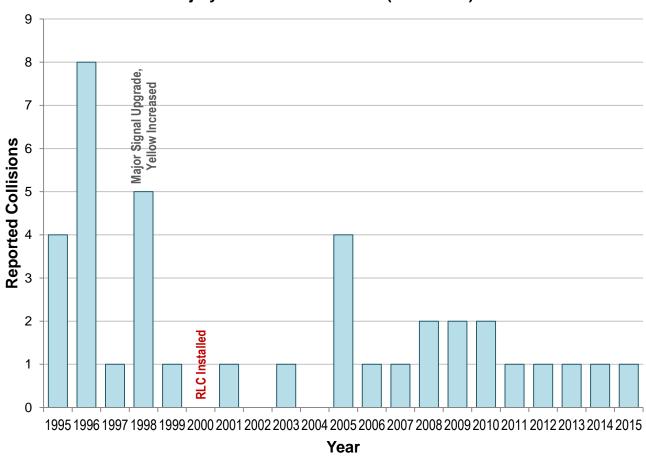


Figure 3: 1st and Folsom Streets Injury Broadside Collisions (1995-2015)

Figure 3: 1st and Folsom Streets Injury Broadside Collisions (1995-2013)

							J - J	-				- (,						
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	4	8	1	5	1	0	1	0	1	0	4	1	1	2	2	2	1	1	1	1	1

3rd and Harrison Streets

Installation Dates: February 2001 Directions Enforced: All Date of Major Signal Upgrade: July 1998 Date of Yellow Light Changes: March 2000 Other signal modifications of note: Pedestrian signals added March 2000

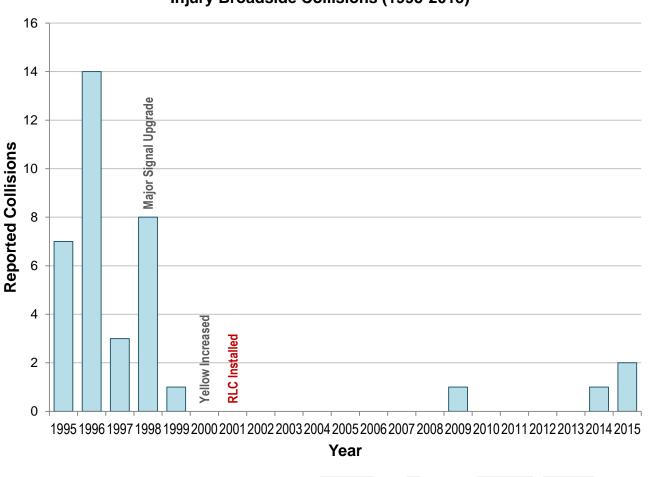


Figure 4: 3rd and Harrison Streets Injury Broadside Collisions (1995-2015)

Figure 4: 6th and Bryant Streets

						I	Injury	y Bro	adsic	le Col	ll1S10	ns (1	995-2	2013)						
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	7	14	3	8	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2

4th and Howard Streets

Installation Dates: June 2004

Directions Enforced: Westbound Howard Street Date of Major Signal Upgrade: March 1999 and February 2003 Date of Yellow Light Changes: Other signal modifications of note: All-red added February 2003

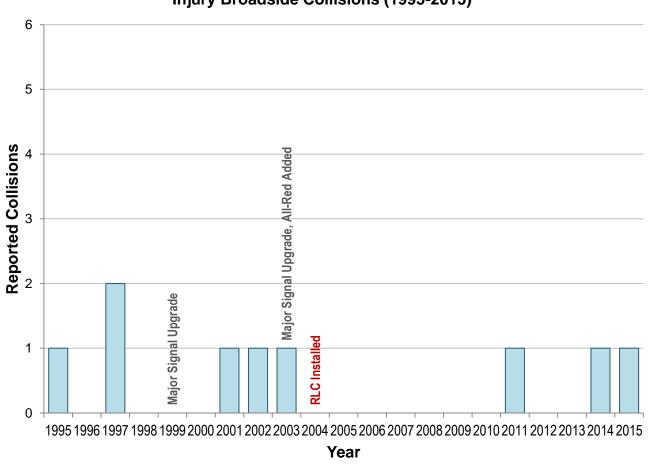


Figure 5: 4th and Howard Streets Injury Broadside Collisions (1995-2015)

Figure 5: 4th and Howard Streets

	Injury Broadside Collisions (1995-2013)																				
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	1	0	2	0	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0	1	1

5th and Harrison Streets

Installation Dates: February 2001 Directions Enforced: Southbound 5th Street, Westbound Harrison Street Date of Major Signal Upgrade: July 1998 Date of Yellow Light Changes: July 2000 Other signal modifications of note: September 2004, all-red added after 5th St phases. November 2005, all-red added after Harrison St and offramp phases.

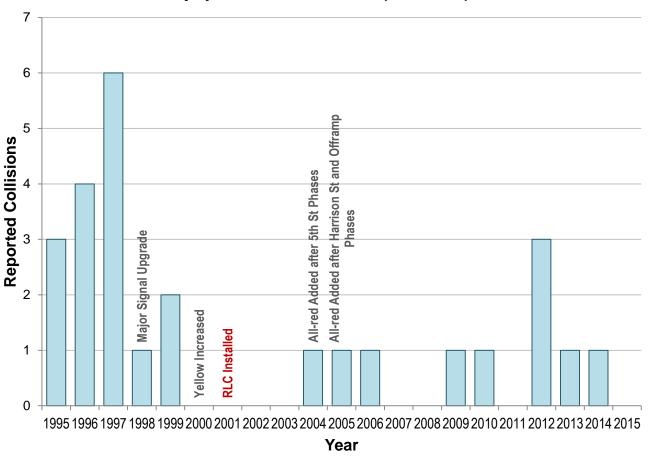


Figure 6: 5th and Harrison Streets Injury Broadside Collisions (1995-2015)

Figure 6: 5th and Harrison Streets Injury Broadside Collisions (1995-2013)

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Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	3	4	6	1	2	0	0	0	0	1	1	1	0	0	1	1	0	3	1	1	0

5th and Howard Streets

Installation Date: November 1996 Directions Enforced: Westbound Howard Street Date of Major Signal Upgrade: March 1999 Date of Yellow Light Changes: December 1997, February 2012 Other signal modifications of note:

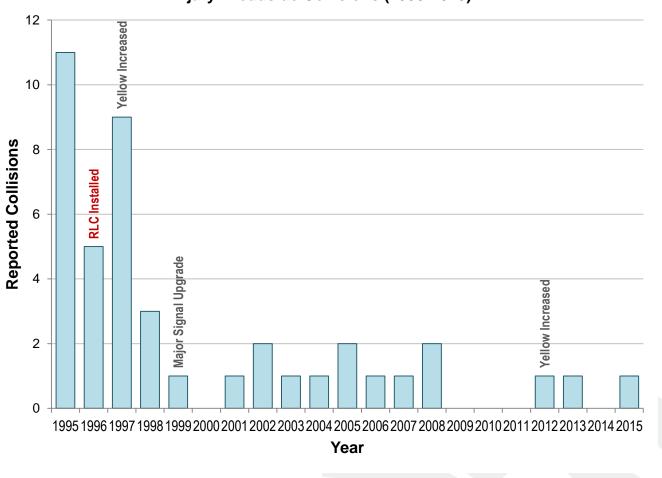


Figure 7: 5th and Howard Streets Injury Broadside Collisions (1995-2015)

Figure 7: 5th and Howard Streets Injury Broadside Collisions (1995-2013)

Year	1995	1996	1997	1998	1999		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	11	5	9	3	1	0	1	2	1	1	2	1	1	2	0	0	0	1	1	0	1

5th and Mission Streets

- Installation Dates: October 2000 (Northbound), November 2000 (Southbound and Westbound)
- Directions Enforced: Northbound and Southbound 5th Street, Westbound Mission Street

Date of Major Signal Upgrade: April 1999 and October 2003

Date of Yellow Light Changes: April 1999

Other signal modifications of note: All-red added September 1997 and increased October 2003.

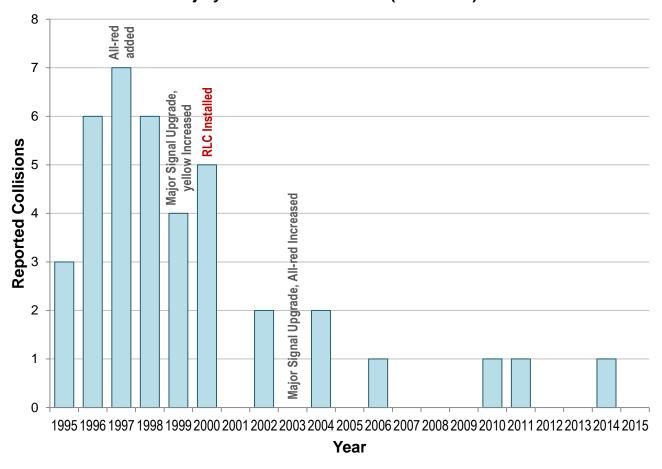


Figure 8: 5th and Mission Streets Injury Broadside Collisions (1995-2015)

Figure 8: 5th and Mission Streets Injury Broadside Collisions (1995-2013)

							·· , • ,					···· (-			,						
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	3	6	7	6	4	5	0	2	0	2	0	1	0	0	0	1	1	0	0	1	0

6th and Bryant Streets

Installation Dates: December 1999 (Northbound), February 2000 (Southbound) and April 2000 (Eastbound)

Directions Enforced: All

Date of Major Signal Upgrade: September 1997

Date of Yellow Light Changes: July 2000, eastbound and southbound. May 2004 northbound.

Other signal modifications of note: Southbound left turn arrows added September 1997

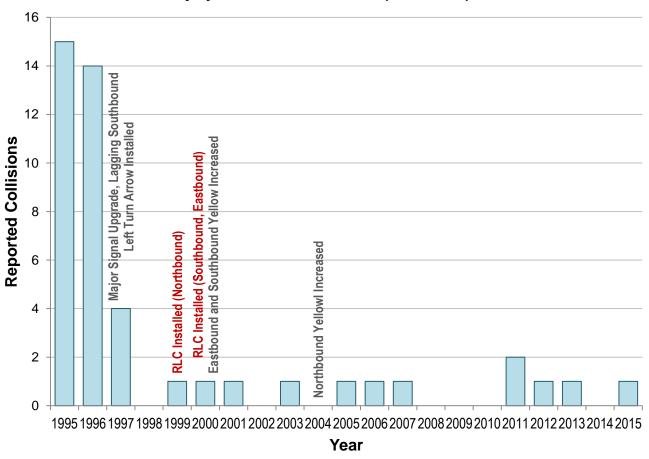


Figure 9: 6th and Bryant Streets Injury Broadside Collisions (1995-2015)

Figure 9: 6th and Bryant Streets Injury Broadside Collisions (1995-2013)

						-	njurj	DIU	uubic	10 00	110101		,,0,	1010)			/			
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	15	14	4	0	1	1	1	0	1	0	1	1	1	0	0	0	2	1	1	0	1

7th and Mission Streets

Installation Dates: September 1997 (Northbound), November 1998 (Westbound) Directions Enforced: Northbound 7th Street, Westbound Mission Street Date of Major Signal Upgrade: August 2002 Date of Yellow Light Changes: August 1998 Other signal modifications of note:

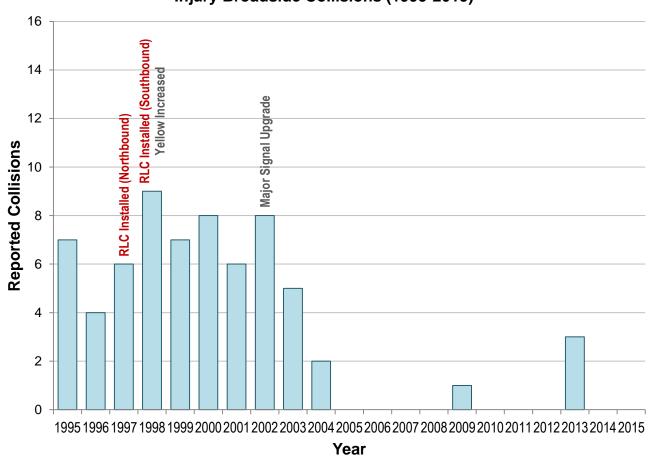


Figure 10: 7th and Mission Streets Injury Broadside Collisions (1995-2015)

Figure 10: 7th and Mission Streets

						1	njurj	/ DIU	ausio		113101	II (I	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2015	J			/			
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	7	4	6	9	7	8	6	8	5	2	0	0	0	0	1	0	0	0	3	0	0

7th and Mission Streets shows how a red light camera installation can at times leave an intersection's collision trends unchanged. 7th and Mission was one of the first red light cameras to be installed by the City in 1997. The location was selected for its above average collision totals. In 1998, after the red light camera had begun operation, the location reported a higher number of collisions and was one of the highest injury collision locations for the city (Figure 2). Yellow lights were adjusted that year. The location continued to average collision totals close or higher than those present before the red light camera, reporting its second highest annual total in a decade in 2002. In 2003 a major signal upgrade along the downtown portion of Mission Street was completed. This upgrade relocated the location of signal poles, installed overhead (mast arm) signals, and installed pedestrian signal indications. Annual injury collisions since the upgrade dropped significantly, suggesting it was the signal engineering upgrade and not the enforcement mechanism that in this case reduced the intersection's injury collision totals.

8th and Harrison Streets

Installation Dates: January 2001 Directions Enforced: All Date of Major Signal Upgrade: August 1998 Date of Yellow Light Changes: July 2000 Other signal modifications of note: September 2005, all-red added.

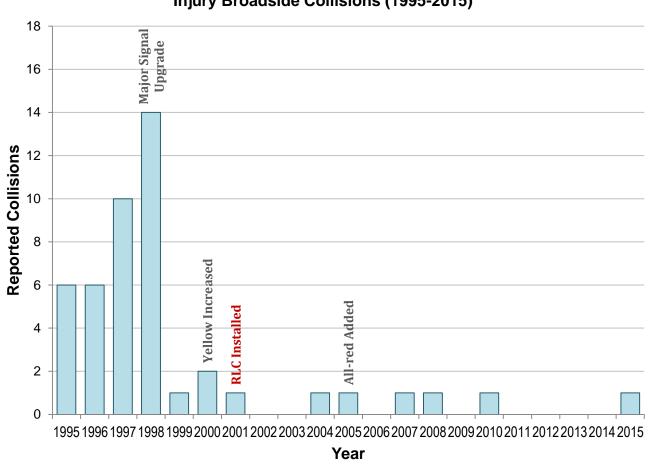


Figure 11: 8th and Harrison Streets Injury Broadside Collisions (1995-2015)

Figure 11: 8th and Harrison Streets

						1	njury	DI0	ausic	le co	115101	112 (1	993-4	2012	J						
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	6	6	10	14	1	2	1	0	0	1	1	0	1	1	0	1	0	0	0	0	1

9th and Howard Streets

Installation Dates: September 1997 (Northbound), March 2010 (Westbound) Directions Enforced: Northbound 9th Street, Westbound Howard Street Date of Major Signal Upgrade: March 1999 Date of Yellow Light Changes: December 1997 Other signal modifications of note: Pedestrian signals installed October 2004

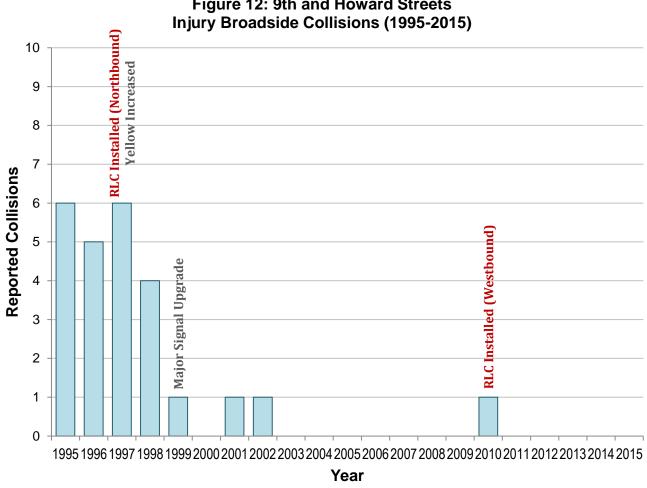


Figure 12: 9th and Howard Streets

Figure 12: 9th and Howard Streets Injury Broadside Collisions (1995-2013)

						-		, 210	aabie	0 00				-010)			/			
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	6	5	6	4	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0

14th Street and South Van Ness Avenue

Installation Dates: June 2000 (Eastbound), February 2001 (Northbound) Directions Enforced: Northbound South Van Ness Avenue, Eastbound 14th Street Date of Major Signal Upgrade: Pending (2015) Date of Yellow Light Changes: August 2000

Other signal modifications of note: July 2001, all South Van Ness Ave northbound heads and one 14th St eastbound head upgraded from 8" to 12". February 2010, all remaining 8" heads upgraded to 12" heads

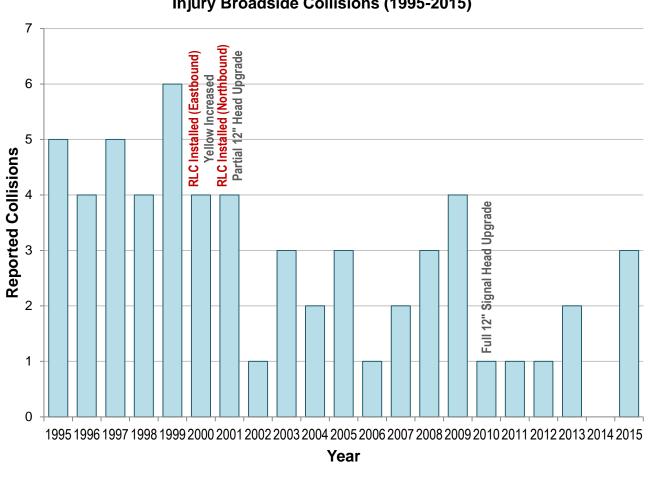


Figure 13: 14th Street and South Van Ness Aveue Injury Broadside Collisions (1995-2015)

Figure 13: 14th Street and South Van Ness Avenue Injury Broadside Collisions (1995-2013)

						-	·· , • ,					(,						
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	5	4	5	4	6	4	4	1	3	2	3	1	2	3	4	1	1	1	2	0	3

15th and Mission Streets

Installation Dates: June 2000 (Southbound), August 2000 (Northbound) Directions Enforced: Northbound and Southbound Mission Street Date of Major Signal Upgrade: November 2007 Date of Yellow Light Changes: June 1999 Other signal modifications of note:

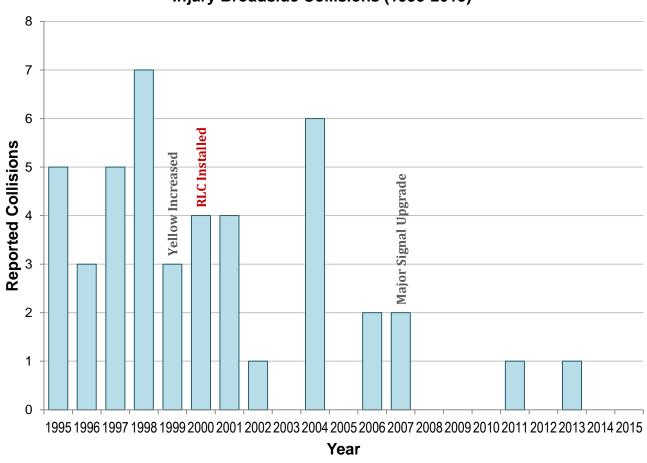


Figure 14: 15th and Mission Streets Injury Broadside Collisions (1995-2015)

Figure 14: 15th and Mission Streets Iniury Broadside Collisions (1995-2013)

						1	njurj	DIU	ausic		111510	113 (1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2010	J			/			
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	5	3	5	7	3	4	4	1	0	6	0	2	2	0	0	0	1	0	1	0	0

Bush Street and Van Ness Avenue

Installation Dates: March 2001

Directions Enforced: Northbound Van Ness Avenue

Date of Major Signal Upgrade: June 2004

Date of Yellow Light Changes: January 2000

Other signal modifications of note: June 2004, all-red added. July 2004, pedestrian signals crossing Van Ness installed.

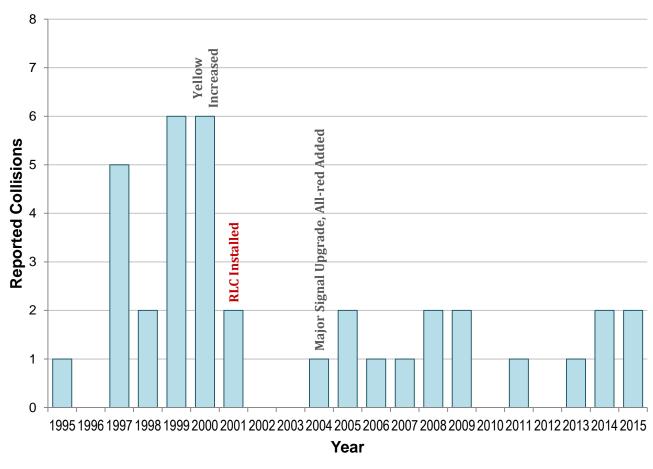


Figure 15: Bush Street and Van Ness Avenue Injury Broadside Collisions (1995-2015)

Figure 15: Bush Street and Van Ness Avenue

						1	njurj	/ DIU	ausic		111310	IIS (I	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2010)						
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	1	0	5	2	6	6	2	0	0	1	2	1	1	2	2	0	1	0	1	2	2

Ellis and Larkin Streets

Installation Dates: February 2010

Directions Enforced: Northbound Larkin Street, Westbound Ellis Street

Date of Major Signal Upgrade:

Date of Yellow Light Changes: June 2003

Other signal modifications of note: January 2007, all-red added. June 2011, 12" heads and pedestrian signals installed.

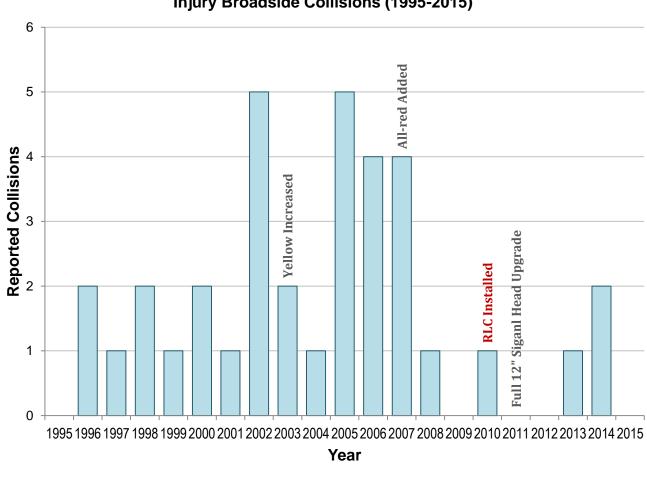


Figure 16: Ellis and Larkin Streets Injury Broadside Collisions (1995-2015)

Figure 16: Ellis and Larkin Streets Injury Broadside Collisions (1995-2013)

							J - J	-				···· (-			,						
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	0	2	1	2	1	2	1	5	2	1	5	4	4	1	0	1	0	0	1	2	0

Fell Street and Masonic Avenue

Installation Date: January 2012 Directions Enforced: Westbound Fell Street Date of Major Signal Upgrade: June 2003 and September 2012 Date of Yellow Light Changes: September 2010 Other signal modifications of note: April 2002, all-red added.

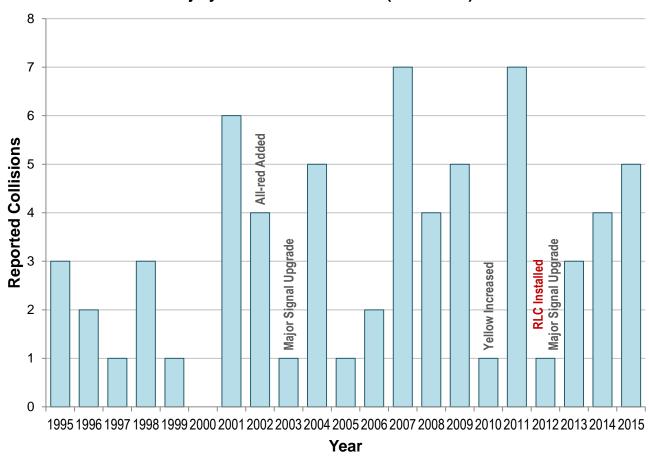


Figure 17: Fell Street and Masonic Avenue Injury Broadside Collisions (1995-2015)

Figure 17: Fell Street and Masonic Avenue Injury Broadside Collisions (1995-2013)

						-	njurj	DIU	uubic	10 00.	110101		,,0	1010)						
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	3	2	1	3	1	0	6	4	1	5	1	2	7	4	5	1	7	1	3	4	5

Fulton Street and Park Presidio Boulevard

Installation Dates: May 2004 (Northbound), June 2004 (Southbound) Directions Enforced: Northbound and Southbound Park Presidio Boulevard Date of Major Signal Upgrade: April 2009 Date of Yellow Light Changes: Other signal modifications of note: August 2003, all-red added.

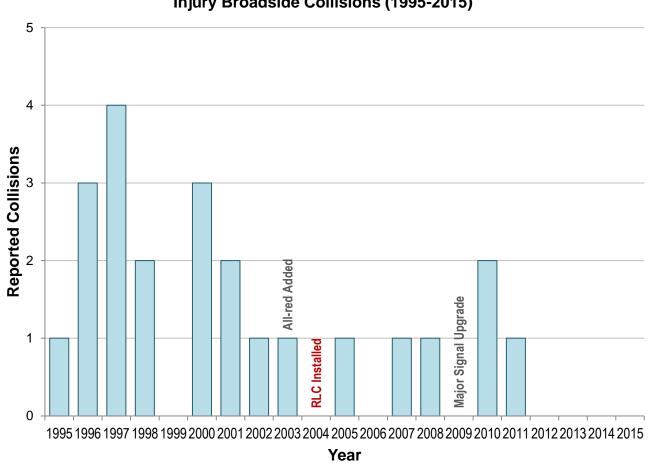


Figure 18: Fulton Street and Park Presidio Boulevard Injury Broadside Collisions (1995-2015)

Figure 18: Fulton Street and Park Presidio Boulevard Injury Broadside Collisions (1995-2013)

						-	njurj	DIU	uusio		115101	15 (1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2010	J						
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	1	3	4	2	0	3	2	1	1	0	1	0	1	1	0	2	1	0	0	0	0

Francisco and Richardson Streets

Installation Dates: May 2004 (Westbound), June 2004 (Eastbound) Directions Enforced: Eastbound and Westbound Richardson Avenue Date of Major Signal Upgrade: August 2006 Date of Yellow Light Changes: Other signal modifications of note: April 2003, all-red added after Francisco phase.

August 2006, all-red added after Richardson phase, pedestrian signals installed.

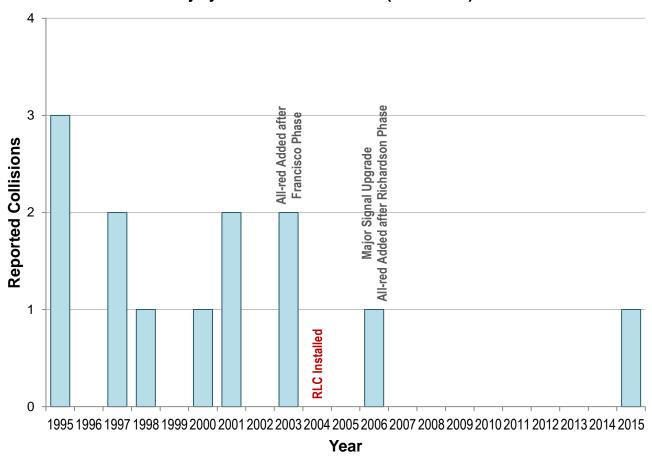


Figure 19: Francisco Street and Richardson Avenue Injury Broadside Collisions (1995-2013)

Figure 19: Francisco Street and Richardson Avenue Iniury Broadside Collisions (1995-2013)

	injury broadshae domisions (1990 2010)																				
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	3	0	2	1	0	1	2	0	2	0	0	1	0	0	0	0	0	0	0	0	1

Geary and Park Presidio Boulevards

Installation Dates: May 2004(Southbound), June 2004 (Northbound, Westbound, Eastbound) Directions Enforced: All Date of Major Signal Upgrade: December 2009 Date of Yellow Light Changes: Other signal modifications of note: August 2003, all-red added.

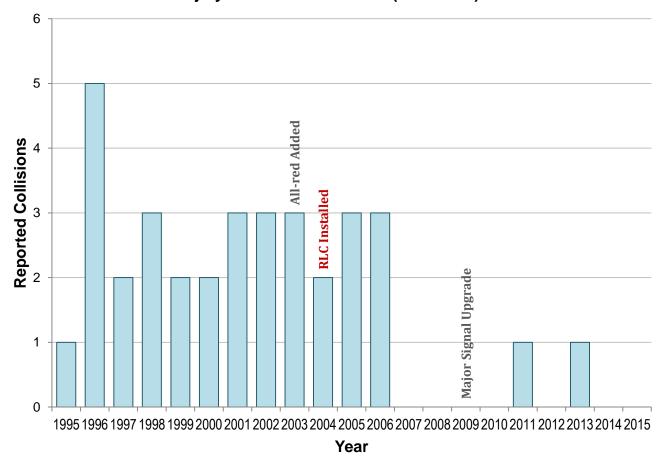


Figure 21: Geary and Park Presidio Boulevards Injury Broadside Collisions (1995-2015)

Figure 21: Geary and Park Presidio Boulevards Injury Broadside Collisions (1995-2013)

						-	njurj	DIU	uusit		more	us (r	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2010)						
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	1	5	2	3	2	2	3	3	3	2	3	3	0	0	0	0	1	0	1	0	0

Hayes and Polk Streets

Installation Dates: September 2000 Directions Enforced: All Date of Major Signal Upgrade: March 2003 Date of Yellow Light Changes: September 1999 Other signal modifications of note: March 2003, all-red added. April 2005, pedestrian signals added.

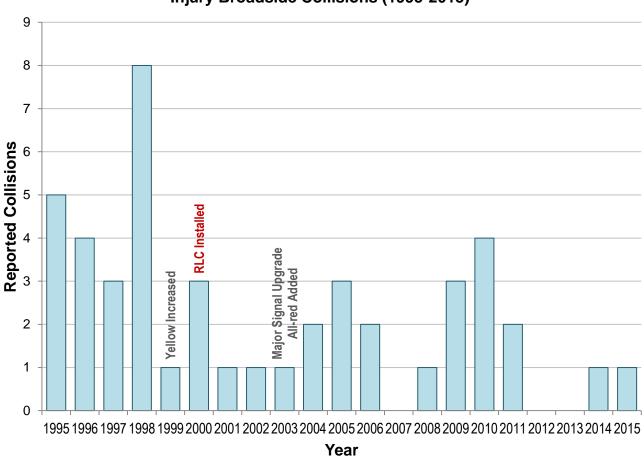


Figure 22: Hayes and Polk Streets Injury Broadside Collisions (1995-2015)

Figure 22: Hayes and Polk Streets Injury Broadside Collisions (1995-2013)

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	5	4	3	8	1	3	1	1	1	2	3	2	0	1	3	4	2	0	0	1	1

Lake Street and Park Presidio Boulevard

Installation Dates: May 2004 (Northbound), June 2004 (Southbound) Directions Enforced: Northbound and Southbound Park Presidio Boulevard Date of Major Signal Upgrade:

Date of Yellow Light Changes: August 2003

Other signal modifications of note: March 2002, Pedestrian signals installed. August 2003, all-red increased. July 2010, all signals upgraded to 12" heads.

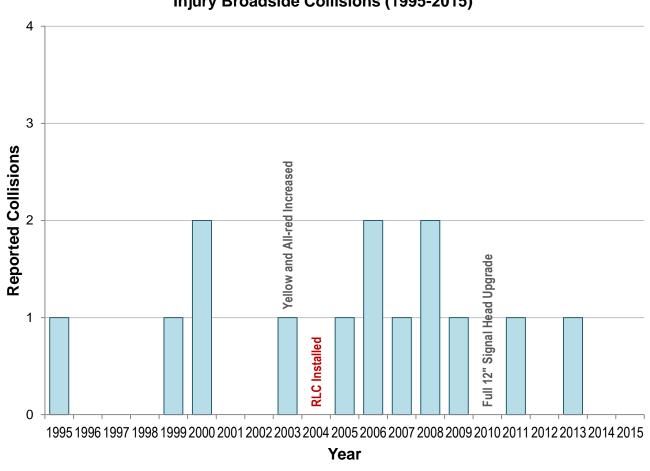


Figure 23: Lake Street and Park Presidio Boulevard Injury Broadside Collisions (1995-2015)

Figure 23: Lake Street and Park Presidio Boulevard Injury Broadside Collisions (1995-2013)

						1	njurj	DIU	ausio		115101	13 (1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2015)						
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	1	0	0	0	1	2	0	0	1	0	1	2	1	2	1	0	1	0	1	0	0

Marina Boulevard and Lyon Street

Installation Dates: May 2004

Directions Enforced: Eastbound Marina Boulevard

Date of Major Signal Upgrade:

Date of Yellow Light Changes:

Other signal modifications of note: June 2012, all-red added after Lyon and Mason phases, pedestrian signals added crossing Lyon and Mason. Doyle Drive construction and re-alignment in 2012.

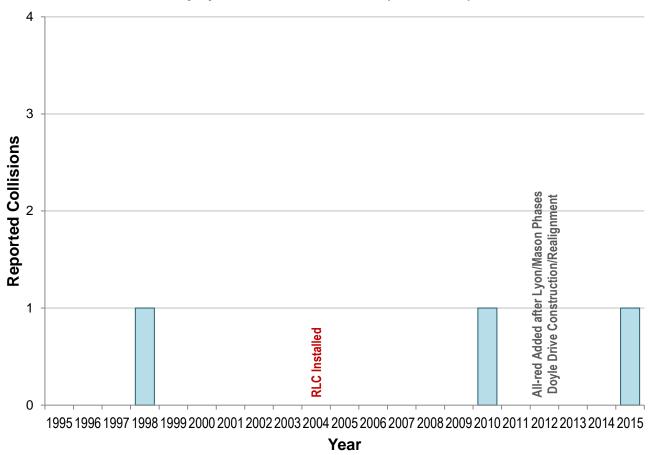


Figure 24: Marina Boulevard and Lyon Street Injury Broadside Collisions (1995-2015)

Figure 24: Marina Boulevard and Lyon Street Injury Broadside Collisions (1995-2013)

							J · J	-				- (
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1

SUSTAINABLE STREETS DIVISION Automated Photo Enforcement Program

Oak Street and Octavia Boulevard

Installation Date: December 2009

Directions Enforced: Northbound Octavia Boulevard, Eastbound Oak Street Date of Major Signal Upgrade: July 2005 (Octavia Boulevard opening) Date of Yellow Light Changes: September 2010

Other signal modifications of note: December 2001, all-red added, pedestrian signals installed.

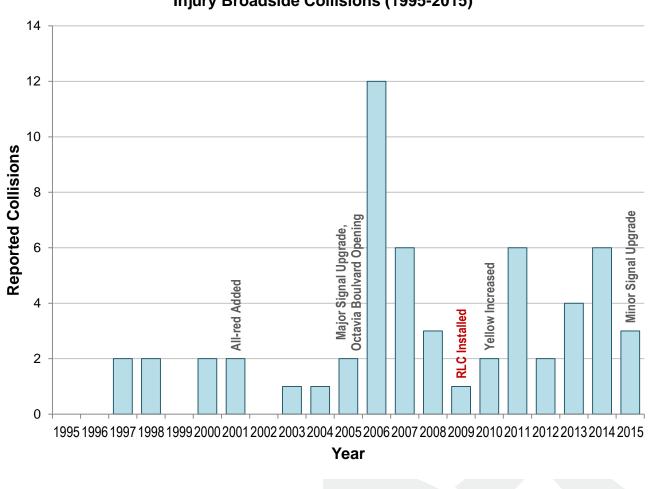


Figure 25: Oak Street and Octavia Boulevard Injury Broadside Collisions (1995-2015)

						Fig	gure 2	25: 0	ak St	reet a	and C)ctavi	ia Boi	uleva	rd						
						Ι	Injury	y Bro	adsid	le Col	llisio	ns (1	995-2	2013)						
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	0	0	2	2	0	2	2	0	1	1	2	12	6	3	1	2	6	2	4	6	3

SUSTAINABLE STREETS DIVISION Automated Photo Enforcement Program

Pine and Polk Streets

Installation Dates: June 2000 Directions Enforced: Westbound Pine Street Date of Major Signal Upgrade: April 2002 Date of Yellow Light Changes: September 1998, October 2010 Other signal modifications of note: April 2002, all-red added.

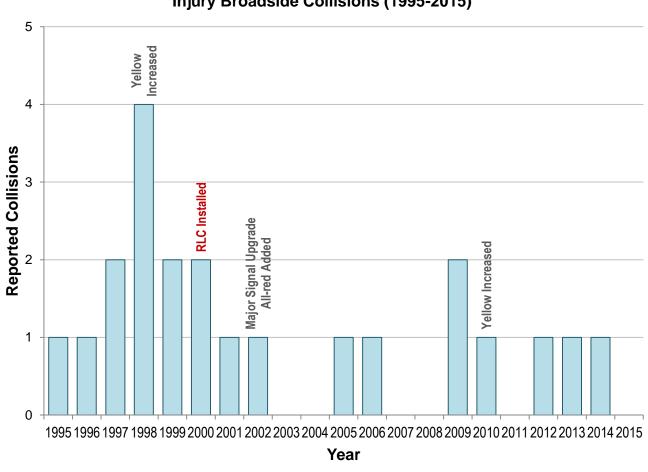


Figure 26: Pine and Polk Streets Injury Broadside Collisions (1995-2015)

Figure 26: Pine and Polk Streets Injury Broadside Collisions (1995-2013)

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	1	1	2	4	2	2	1	1	0	0	1	1	0	0	2	1	0	1	1	1	0

ATTACHMENT C

CANDOR FROM OFFICIALS

City of Stockton, California (cameras installed in 2004, closed in 2015): "Staff determined the program was not cost neutral for the city and found no evidence that it has significantly reduced traffic collisions. In February 2015, we sent Redflex a letter stating we were terminating the contract." Stockton police spokesman Joe Silva in 6-5-15 Stockton Record article.

http://www.recordnet.com/article/20150605/NEWS/150609770 (archived copy)

City of Laguna Woods, California (cameras installed in 2005, closed June 2014): "Staff studied incidents over a 10-year period of time and found that the number of collisions related to signal violations at the two photo enforced intersections fluctuated slightly, but did not change in any significant manner after initiation of the red light photo enforcement program." City Manager Christopher Macon in staff report prepared for 5-28-14 council item.

http://www.highwayrobbery.net/TrcDocsLagunaWoodsContr2014MayStaffRep.pdf

City of Walnut, California (cameras installed in 2007, removed in 2014): "The statistical review of the RedFlex camera program did not reflect a reduction of traffic accidents, nor could the data support the cameras made the intersections safer." Mayor Tony Cartagena in 5-19-14 San Gabriel Valley Tribune article. <u>http://www.sgvtribune.com/general-news/20140519/walnut-city-council-votes-to-end-red-light-camera-program (archived copy)</u>

City of Riverside, California (cameras installed in 2006, closed Sept. 2014): "Upon review CalTrans has determined that the accident rates do not warrant the camera systems at any of the five CalTrans locations and has requested their removal." Riverside Director of Public Works/City Engineer Thomas J. Boyd, in report prepared for Public Safety Committee meeting of 6-18-12, page 2-3. Source: http://www.highwayrobbery.net/TrcDocsRivers2012JuneStaffRepCloseProg.pdf

More from Riverside: "It's impossible to attribute causality to one thing. I don't know whether and to what degree the red light cameras have contributed to a reduction in traffic crashes." Chief of Police Sergio Diaz.

Source: 7-14-12 Press Enterprise article: <u>http://www.pe.com/articles/-716731--.html</u> (archived copy)

More from Riverside: "I have spoken publicly against the program several times in the past, once before the public safety committee and twice before the entire council. Each

time, I expressed my dislike of the general concept of the program, the unethical tactics used to collect fees, inconclusive data regarding their effectiveness and the realization of corporate profits at the expense of our citizens. My position on these matters has not changed." Retired 28-year Riverside fire captain, in letter submitted for the Oct. 2, 2012 city council meeting.

Source:

http://www.highwayrobbery.net/TrcDocsRiversideContractOpinionByRetdFireCapt.pdf

City of Poway, California (cameras installed in 2004, removed in 2013): "On March 5, 2013, the City Council addressed the potential termination of the program and directed staff to turn off the cameras and evaluate the program's safety benefit for a six month period." "During the six month period preceding the March 9, 2013 turn-off date, there was a total of eight [later corrected to seven] at these three intersections. During the six month period after the March 9, 2013 turn-off date, there were five accidents. This represents a decrease in accidents of 37.5% [later corrected to 28.6%]. There were no serious injury accidents during this period." City Manager, in report submitted for 10-15-13 city council meeting.

Source:

http://www.highwayrobbery.net/TrcDocsPowayContr2013octStaffRepAndTwoSupps.pdf

City of El Cajon, California (cameras installed in 2002, removed in 2013): "On February 26, 2013 the El Cajon City Council voted to suspend the "Agreement" with Redflex Traffic Systems, Inc. for a period of six months." "The data shows that from February 27, 2013 to August 31, 2013, while the cameras were covered, there were 39 reported collisions at red-light photo enforcement intersections as compared to 36 reported collisions during the same time period in 2012." "Based on these comparisons, the overall increase in traffic collisions is statistically insignificant." Chief of Police, in report submitted for 9-24-13 city council meeting. Source:

http://www.highwayrobbery.net/TrcDocsElCajonContr2013SeptStaffRep.pdf

City of Emeryville, California (cameras installed in 2004, removed in 2012): "Staff also analyzed the number of accidents for the same seven year period and found that the red light cameras did not significantly impact the number of accidents." "Finance has estimated that elimination of the program would result in a \$200,000 per year savings to the City." Chief of Police Kenneth James, in reports submitted for 5-15-12 city council meeting.

Source:

http://web01.emeryville.org/sirepub/pubmtgframe.aspx?meetid=87&doctype=agenda (archived copy) City of Los Angeles (cameras installed in 2000, removed in 2011): "It was completely wrong." "It was strictly designed to bring in revenue and didn't do anything for public safety." Councilmember Dennis Zine, who prior to his twelve years (termed out) on the council served 28 years with the LAPD, 18 years of which was on motors. Source: Los Angeles Daily News, 3-27-12, <u>http://www.dailynews.com/general-news/20120328/red-light-scofflaws-will-catch-a-break</u> (archived copy)

City of San Bernardino, California (cameras installed in 2005, removed in 2012): "It was the consensus of the Council that the City has lost business because of the red light cameras and they're not making the City any safer." Minutes, 1-24-11 city council meeting. <u>http://www.highwayrobbery.net/TrcDocsSanBernContr2011JanMins.pdf</u>

City of El Monte, California (cameras installed in 2003, removed in 2008): "A comparison of traffic collisions at Redflex monitored intersections vs. non-Redflex monitored intersections revealed that there is no statistical difference in the number of traffic collisions because of Redflex monitoring." Chief of Police Ken Weldon, in memo presented at 10-21-08 council meeting.

http://www.highwayrobbery.net/TrcDocsElMonteContrTerminateWeldonMemo.pdf

More from El Monte: "We're spending a lot of staff time on this just to gain \$2000 a month." "It doesn't reduce accidents -- that's what our studies and results have come back." City Manager James W. Mussenden. Source: Granicus video of council meeting of 10-21-08, at 1:28:40, available on City's website at <u>http://www.ci.el-monte.ca.us/IWantto/View/VideosonDemand.aspx</u>

City of Upland, California (cameras installed in 2003, removed in 2009): "The system appears to have little influence on the number of red light related collisions at monitored intersections. At times, rear end collisions have actually increased." Chief Steve Adams, in memo presented at 3-9-09 council meeting. Source: <u>http://www.highwayrobbery.net/TrcDocsUplandStaffReport2009Mar9.pdf</u>

City of Whittier, California (cameras installed in 2004, removed in 2010): "Initially, the red-light program did change behaviors because it did lessen the number of red-light violations but over the long term it didn't appear to lessen the number of injury accidents." Assistant City Manager Nancy Mendez. Source: 12-6-10 Whittier Daily News http://www.highwayrobbery.net/TrcDocsWhittierArticleProgTerminated.pdf City of Loma Linda, California (cameras installed in 2006, removed in 2010): "I believe these red light cameras are ways for city governments to legally extort money from their citizens." "The month after we lengthened the yellow light by one second, the number of violations that we have seen dropped by 90 percent." Mayor Rhodes Rigsby, M.D. Source: KABC - TV, 12-3-10,

http://abclocal.go.com/kabc/story?section=news/local/inland_empire&id=7824510 (archived copy)

City of Gardena, California (cameras installed in 2005, removed in 2011): "Our research in Gardena has revealed there is no significant traffic safety impact as a result of the use of the red light cameras. At almost every intersection where we have cameras, collisions have remained the same, decreased very slightly, or increased depending on the intersection you examine. When combining the statistics of all the intersections, the overall consensus is that there is not a noticeable safety enhancement to the public." Chief of Police Edward Medrano, in memo presented at 2-9-10 council meeting. Source: http://www.highwayrobbery.net/TrcDocsGardenaContr2010staffRepFull.pdf

City of Bell Gardens, California (cameras installed in 2009, removed in 2012): "To date, 95% of the funds collected from verifiable violations have been paid to RedFlex Traffic Systems for operating the cameras. The remaining 5% of funds collected have been utilized to partially offset costs of personnel to manage the system. The red light camera program has contributed to a moderate decrease in the overall number of accidents; however, no change in the overall number of injury accidents. Furthermore, the police department has recognized unanticipated personnel costs to manage the program. Based on this analysis, the red light camera program is not significant enough of a community safety benefit to justify the continuation of the program beyond the existing three (3) year agreement term that expires on March 29, 2012." Staff report presented at 9-26-11 council meeting.

http://www.highwayrobbery.net/TrcDocsBellGdnsContr2011staffRep.pdf

City of Hayward, California (cameras installed in 2008, removed in 2013): "In response to Council Member Zermeño's question for reasons why cities chose to drop out of the Red Light Camera program... City Manager David commented that another reason was the lack of strong evidence in the industry that red light cameras were effective in reducing collisions." Minutes, 10-11-11 council meeting.

http://www.highwayrobbery.net/TrcDocsHaywardStaffRep2011Oct11mins.pdf

More from Hayward: "There is no concrete data that supports the fact that red light cameras are supposed to reduce collisions." "That's not been our experience here in Hayward. We've had much better results with a redeployment of our motor officers. I think that having that personal contact with our community members makes a lasting impression. It's an opportunity for us to change behavior when it's wrong versus getting a ticket in the mail 2-4 weeks down the road." Hayward Police Chief Diane Urban, during 3-5-13 city council meeting.

http://sanfrancisco.cbslocal.com/2013/03/06/hayward-to-get-rid-of-red-light-cameras/ (archived copy)

City of Hawthorne, California (cameras installed in 2004, still operating as of 2015): "The hope is that driving behavior is corrected, not just through that intersection but through the rest of the time you're driving here." "You need to study accidents overall. Some of the data that you don't have is accidents for their entirety in our city. You know what, you're right, they're not going down. I wish they were." Hawthorne Police Captain Keith Kauffman, during 3-13-12 city council meeting.

http://highwayrobbery.net/redlightcamsdocsHawthMain.html#Council2012

City of Escondido, California (cameras installed in 2004, removed in 2013): "Staff's analysis is, the data on accident rates is inconclusive." "We didn't find any change between photo enforced intersections and citywide. You're just as likely to be injured at a photo enforced intersection as you are citywide. So we didn't find anything to demonstrate that severity had been reduced." "Photo enforcement has the highest cost of all the countermeasures." Escondido Assistant Director of Public Works Julie Procopio. Source: Video of council meeting of 8-21-13, at 1:26:50, available on City's official archive site, at http://escondido2.12milesout.com/

Measures							
Counter Measure	Crash Reduction Factor *	Cost per Intersection /Year					
Left Turn Protected Phasing	27%	\$5,000					
Retroreflective Backplates	13%	\$2,000					
Countdown Pedestrian Heads	20%	\$4,800					
Improve Signal Coordination	27%**	\$2,400					
Automated Enforcement (RLPE)	12%	\$89,800					
FHWA study estimates							

Effectiveness of Other Counter

FHWA study estimates Right Angle Crashes Only

Slide shown by staff at 8-21-13 Escondido council meeting

More from Escondido: "Some of the best footage of really drastic collisions comes from red light cameras." "The cameras are there, the collisions still happen." Councilwoman Olga Diaz. Source: Video of council meeting of 8-21-13, at 1:30:00.

City of South Gate, California (cameras installed in 2003, removed in 2013): "The most disappointing thing from staff's perspective is the lack of change in behavior at the intersections." "If you look at the statistics that were provided by RedFlex, you didn't see a dramatic impact in the behavior over the years. In fact, a limited correlation between the implementation of RedFlex and the change in behavior. That's disappointing in the deployment, not just in this city, but everywhere." City Manager Michael Flad at council meeting of 9-10-13. Source: audio clip audio of full item

City of Moreno Valley, California (cameras installed in 2008, removed in 2009, City of Riverside camera on shared border removed in 2012 at Moreno Valley's request): "We took the heat without having any control over it." "I'm happy to see all those red light cameras go. ...The few people that like them just haven't looked at the reality of what it does. It takes away the discretion of a police officer." Moreno Valley Mayor Richard Stewart. Source: Riverside Press Enterprise article 8-6-12 http://www.pe.com/articles/camera-654226-riverside-city.html (archived copy)

City of Glendale, California (cameras installed in 2008, removed in 2012): "In short, the nearly 4-year-old red-light camera program became 'cumbersome' and not 'the best use of our resources,' Capt. Carl Povilaitis said." Source: Glendale News-Press article of 3-13-12 <u>http://www.glendalenewspress.com/news/tn-gnp-0314-glendale-police-shut-down-redlight-camera-program,0,1343078.story</u> (archived copy)

The San Mateo County (California) Superior Court (beginning in 2005 nine cities in the County installed cameras and four still were operating cameras as of 2015): "Are we doing right by the public?" "It's questionable whether the trade-offs are appropriate." "There's a balance there, and I don't think we have found it." CEO John Fitton, San Mateo Superior Court, on 11-13-09.

Source:

http://www.highwayrobbery.net/TrcDocsSanMateoCountyArticles2009Nov13CourtExec Angry.txt

More from the San Mateo Superior Court: "I would advise cities who are contemplating installing red light cameras to move cautiously. I know these systems generate revenue for cities, but safety-wise there are questions about whether the red light cameras reduce accidents." CEO John Fitton, on 2-16-10. Source: KGO-TV,

http://www.abclocal.go.com/kgo/story?section=news/local/peninsula&id=7280823 (archived copy)

From the San Mateo County Grand Jury: "Based on the data provided by the cities, there was no overall trend indicating a noticeable change in accident rates before and after installation of red light cameras." "Recently, the City of San Carlos <u>extended the yellow</u> <u>light time to comply with state standards</u> and found that the number of citations fell dramatically." "As a result the revenue from red light citations could no longer cover the associated costs." Source: 2010 Grand Jury Report <u>http://www.highwayrobbery.net/TrcDocsSanMateoGrandJuryFinalRep.pdf</u>

In Other States

City of Peoria, Arizona (cameras installed in 2008, removed in 2011): "The city will not renew its contract with Redflex Traffic Systems after learning from police that crashes at monitored intersections actually increased during the three-year pilot program.

Collisions at the four intersections with red-light cameras saw an average uptick of 29 percent, Peoria police said in a Tuesday presentation to City Council." Arizona Republic, 9-14-11.

http://www.azcentral.com/news/articles/2011/09/14/20110914peoria-deactivate-red-lightcameras-brk.html

(archived copy)

More from Peoria: "The Red Light Camera Photo Enforcement Safety Program has not met the goal of reducing collisions at the monitored intersections, however, the goal of reducing the frequency of red light violations has been met." Chief of Police Roy W. Minter, in staff report prepared for 9-13-11 council meeting.

"Several basic crash statistics showed that the numbers of key crash events (e.g., fatal crashes, angle crashes, and total crashes) actually increased after the implementation." Soyoung Ahn, Associate Prof. of Civil and Environmental Engineering, in letter included n staff report prepared for 9-13-11 council meeting.

http://www.peoriaaz.gov/uploadedFiles/Peoriaaz/Departments/City_Council/Packets/201 1/091311/09132011_ss_packet_amended.pdf (archived copy)

City of Roswell, Georgia: "When you look at the number of crashes before the cameras were installed compared to after, they're virtually the same." Roswell Transportation Director Steve Acenbrak, in Atlanta Journal-Constitution 11-12-12, http://www.ajc.com/news/news/roswell-looks-past-red-light-cameras/nS4N9/ (archived copy)

Brick Township, New Jersey: "At the end of the day, the statistics I was shown did not convince me that these cameras are making intersections safer." "The strongest argument for keeping the lights is for the revenue they generate, and I feel strongly that government should not be balancing budgets through punitive measures." Mayor John Ducey, in Courier Post 2-10-14 and More Monmouth Musings 2-6-14, http://www.courierpostonline.com/article/20140210/NEWS02/302100019/In-one-

township-mayor-ends-use-red-light-cameras? (archived copy) http://www.moremonmouthmusings.net/2014/02/06/brick-township-ends-its-red-lightcamera-program/#more-20965 (archived copy)

City of Hollywood, Florida (cameras installed in 2010, still operating as of July 2015): "We have seen no substantive change in fatalities between before red light cameras, four years before, and four years after." "We have also seen a dramatic increase in most intersections of twice as much rear end accidents occur after the red light camera implementation as to before the red light camera implementation. As a whole, there have been more accidents at each intersection." "...those locations that we originally picked, we picked them because they were our high accident intersections in the city." "Those intersections still today remain our high accident intersections, therefore requires us to continue to do traffic enforcement there with or without the cameras." Chief of Police Tomas Sanchez at Hollywood, Florida city commission meeting of 7-8-15, beginning at 2:39:50 on City's online video. Transcript

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