



A Tradition of Stewardship  
A Commitment to Service

## **NAPA COUNTY GRAND JURY**

**2010-2011**

**Final Report on**

**CITY OF NAPA**

**AUTOMATED RED LIGHT  
ENFORCEMENT**

# TABLE OF CONTENTS

Letter to Presiding Judge	
Letter to the Citizens of Napa County	
Map of the City of Napa Automated Red Light Intersections	1
Automated Red Light Enforcement	2
Summary	2
Background	3
i) City of Napa ARLE Implementation Timeline	4
ii) Existing ARLE System Implementation	5
iii) Red Light Citation Fine and Associated Costs	5
iv) ARLE Citations Issued	7
v) Yellow Light Change Intervals	8
vi) Yellow Light Change Interval and California Law	9
vii) Right Turn Movements and Accidents	10
viii) Caltrans ARLE Approval Process	10
ix) ARLE System Costs and Indirect Impacts	11
x) Benefits of ARLE systems	11
Discussion	12
i) Enforcement Clarity and Consistency	12
ii) Reasonableness and Compliance	13
iii) Public Safety and ARLE Enforcement	14
iv) Fines, Penalties, and Fees	14
v) Refunds of Citations	15
Findings	15
Recommendations	16
Request for Responses	17
Commendations	17
Glossary	18

Methodology	19
Appendix	21
I. Caltrans Traffic Operations Policy Directive 09-03	
II. California Vehicle Code (CVC) 21453 (a)(c), 21455.5, and 21455.7	
III. Customer Management Report (Napa) Redlight Incidents 29-May 2009 to 30 Sep- 2010 by Redflex Traffic Systems, Inc	
IV. Napa Police Department Reports 2010 – Traffic Accident Statistics	
V. Napa County Counsel’s letter to the California Attorney General	
VI. Red Light Trial Statistics from Napa County Superior Court	
VII. City of Napa Traffic Collision History Report	



A Tradition of Stewardship  
A Commitment to Service

**NAPA COUNTY GRAND JURY**  
**P.O. BOX 5397**  
**NAPA, CALIFORNIA 94581**

February 25, 2011

The Honorable Diane Price  
Presiding Judge  
Superior Court of the State of California  
County of Napa  
825 Brown Street  
Napa, CA 94459

RE: Final Report - Automated Red Light Enforcement

Dear Judge Price,

Pursuant to Sections 933(a) of the California Penal Code, the 2010 -2011 Napa County Grand Jury submits to you its Final Report on the Automated Red Light Enforcement. Our investigation of this subject was conducted in a manner consistent with the California Penal Code, this Court's Charge, and the historic role of the Grand Jury, to protect the interests of the residents of Napa County.

This is the first in a series of final reports we will be issuing before the term ends. I would like to acknowledge the hard work and dedication of the Grand Jurors, which our report reflects. It is a privilege and pleasure to work with them.

Respectfully submitted,

A handwritten signature in cursive script that reads "Judith Bernat".

Judith Bernat  
Forewoman  
2010-2011 Napa County Grand Jury



A Tradition of Stewardship  
A Commitment to Service

**NAPA COUNTY GRAND JURY**  
**P.O. BOX 5397**  
**NAPA, CALIFORNIA 94581**

To the Residents of Napa County:

In order to fulfill the Grand Jury's mandate to investigate local governmental agencies, to assure they are being administered efficiently, honestly, and in the best interest of Napa County residents, the 2010-2011 Grand Jury investigated the Automated Red Light Enforcement systems (ARLEs) within the City of Napa.

The City of Napa Police Department currently oversees four ARLE intersections. Three of the four intersections operate effectively and without irregularities. The fourth intersection, the intersection at SH 29/12/121, exhibited a high volume of right turn citations during the first three months of operation.

After the yellow light timing interval was adjusted and the Napa Police Department informally adopted enforcement practices that strictly comply with the California Vehicle Code, the number of ARLE citations diminished and stabilized.

This Grand Jury has carefully investigated this matter and has developed a set of findings and recommendations with the objective of representing the public interest. One key recommendation is that the city refund fines and fees to drivers cited for right turn violations at the SH 29/12/121 intersection who would not have received a citation under the current enforcement practices.

The Napa County Office of County Counsel has reviewed this final report. The Napa County Superior Court Presiding Judge, pursuant to California Penal Code Section 933(a), has found that this report complies with California Penal Code Part 2 Title 4. This report has been accepted and filed as a public document by the County Clerk.

Copies of this report are available for review in the Napa City-County Library and online at [www.napa.courts.ca.gov](http://www.napa.courts.ca.gov) (follow the link to Grand Jury).

It is an honor and privilege to serve you during the 2010-2011 Grand Jury tenure.

We hope you find this report informative.

Respectfully submitted,

The 2010-2011 Napa County Grand Jury

# NAPA ARLE INTERSECTIONS

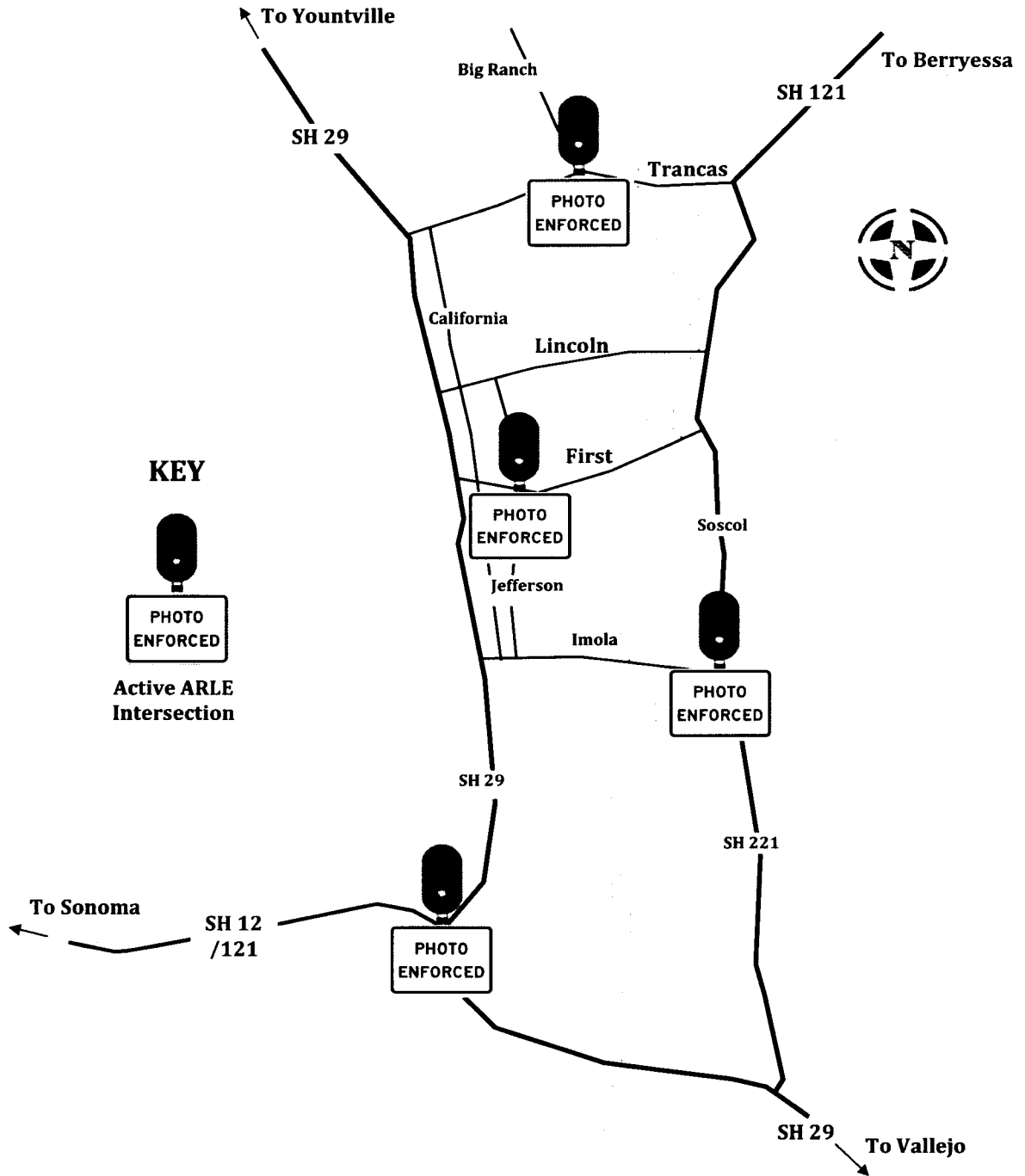


Figure 1

# **AUTOMATED RED LIGHT ENFORCEMENT**

## **SUMMARY**

The City of Napa operates Automated Red Light Enforcement systems (ARLEs) at four intersections (See Figure 1). The Napa Police Department (NPD) selected these intersections because of their accident histories. In installing these ARLE systems, the NPD adhered to the California legal requirements and California Department of Transportation (Caltrans) directives (See Appendix I). Despite the fact that the NPD was thorough in meeting the installation requirements, the SH 29/12/121 ARLE intersection has critical deficiencies. These deficiencies resulted in financial impacts to drivers who were cited for right turn violations. The Grand Jury report investigates the City's ARLE system and recommends remedies for the deficiencies at the SH 29/12/121 intersection.

The SH 29/12/121 ARLE intersection is within the state highway system. Caltrans does not allow work or improvements within the state highway without an encroachment permit. The NPD obtained an encroachment permit to complete the ARLE improvements by adhering to the instructions and guidance provided by Caltrans' staff.

This investigation found that Caltrans did not follow their own internal policy directives in issuing encroachment permits for the ARLE improvements within the state highway. Consequently, the ARLE system at SH 29/12/121 has the following deficiencies:

- Lack of an engineering study to address probable design deficiencies and/or alternative countermeasures.
- Lack of clarity as to the legal requirements for setting the yellow change intervals.
- Two right turn phase cycles that provide different and confusing yellow change interval times.

The cost of a red light violation is a minimum of \$475 which includes fine, fees, and court costs (See Table 1). Some of these fees are collected for the State for various purposes through a complex funding process set by the California Penal and Government Codes. There is questionable financial incentive for the City to employ an ARLE system due to loss of funds to our local economy. It is also relevant to note that the Redflex Traffic Systems, Inc. (Redflex or ARLE) contract with the City requires enforcement of right turns in order for Redflex to guarantee

cost neutrality. Cost neutrality is a guarantee that the ARLE system will generate enough money to pay for itself.

Considering the cost of a red light violation, it is essential that ARLE systems strictly comply with state law and that the law is clearly and consistently applied. The Grand Jury has determined that one aspect of ARLE law relating to setting yellow light change intervals is ambiguous and subject to interpretation. The Grand Jury has requested that the Napa County Counsel obtain an opinion from the California Attorney General regarding the California Vehicle Code Section 21455.7(CVC) so that ambiguities in the law are clarified.

The public must have confidence that ARLE systems meet their principal objective of improving traffic safety. This investigation includes an evaluation of the City of Napa accident statistics and ARLE citations (See Appendix VII). These statistics indicate that accidents have declined steadily over the last five years and the ARLE system has yet to demonstrate a significant reduction of accidents. The data also indicate that ARLE citations often occur for right turn movements which have very low incidents of accidents.

Based on the findings revealed in this investigation, the Grand Jury proposes several recommendations. One recommendation is that the City refund fines and fees to drivers who were issued citations at the SH 29/12/121 ARLE intersection during the first three months of operation who would not have received a citation under current enforcement practices.

## **BACKGROUND**

In June of 2006, the City of Napa initiated a program to install red light cameras at critical intersections within the City. The focus of the program was to select intersections that have high incidents of violations and accidents. Overall, the goals of the City's ARLE systems are to:

- Reduce the number of fatalities, serious injuries and property damage that result from traffic collisions,
- Improve the safety of motorists and pedestrians at locations where cameras are in place,
- Improve overall motorist and pedestrian safety and awareness citywide through a coordinated outreach and educational effort.

The specific requirements for implementing an ARLE system are outlined in CVC Section 21455.5 (See Appendix II). Two of the ARLE intersections are



located on the State highway system. The NPD sought the assistance of a consultant and equipment vendor to implement the ARLE system.

## **City of Napa ARLE Implementation Timeline**

The NPD followed the timeline below in implementing the ARLE system.

<b>Date</b>	<b>City of Napa Action</b>
7/18/2006	The City Council directed staff to pursue a red light photo enforcement program.
11/20/2007	City staff issued a Request for Proposal for red light photo enforcement services.
6/3/2008	The City Council held a public hearing and approved Resolution R2008 107 authorizing a contract for City staff and Redflex Traffic Systems, Inc. (Redflex or ARLE) to proceed.
6/13/2008	The NPD contracted with Redflex to furnish equipment, licenses, applications, enforcement monitoring and enforcement assistance.
4/29/2009	The ARLE intersections at First/Jefferson and Big Ranch/Trancas became operational and after the required 30 day warning period the City began issuing citations.
7/29/2009	The City of Napa submitted an encroachment permit to Caltrans to install ARLE systems at Soscol/Imola and SH 29/12/121.
11/2/2009	Caltrans issued an encroachment permit to the City.
1/10/2010	The ARLE at Soscol/Imola (SH 221/121) became operational and after the required 30 day warning period the City began issuing citations.
2/27/2010	The ARLE at SH 29/12/121 became operational. After the required 30 day warning period, the City began issuing citations.
4/13/2010	Caltrans increased the yellow change interval time on the southbound right turn lane at SH 29/12/121 from 3.2 to 3.8 seconds.

The length of time that was necessary to implement the ARLE system indicates the NPD made a thorough and meticulous effort to implement a successful program.

## **Existing ARLE System Implementation**

As a result of the City's efforts, there are currently four operational ARLE intersections;

- Big Ranch/Trancas
- Soscol/Imola (SH 221/121)
- First Street/Jefferson
- State Highway 29/12/121

Figure 1 shows the locations of these intersections

The City monitors one approach at each of the ARLE intersections. Depending on the configuration of an intersection, each approach may have up to three turning movements. For example, the SH 29/12/121 is monitored in the southbound direction and the cameras identify violations on the through and right turn movements. The northbound and eastbound approaches of this intersection are not monitored by cameras. Failure to stop when traveling in the northbound or eastbound directions at the SH 29/12/121 intersection would not result in a photo enforced citation.

The effectiveness of ARLE systems relies on the public perception that approaches at numerous non-ARLE intersections throughout the City are photo monitored. Many drivers mistake the non-ARLE intersections with infrared signal override receivers and signs as photo enforced equipment. This condition is called the "halo" effect and is promoted by ARLE vendors such as Redflex and has the potential to influence driving behavior.

## **Red Light Citation Fine and Associated Costs**

Failure to stop at a traffic light is a violation of CVC Sections 21453 (a) (c) (See Appendix II). The base fine for this violation is \$100.00. The actual cost is a minimum of \$475.00. The additional fees are a result of fines and penalties added on by the California Legislature (See Table 1). The Grand Jury acquired the fee schedule from the Napa County Superior Court in an attempt to develop a complete understanding of the fines and penalties associated with this citation.

After three attempts to clarify the fines with the Court, it became clear that the process of allocating fines associated with CVC Sections 21453 (a) (c) is extremely complex and not well understood by even the officials charged with collecting and distributing these funds. The Grand Jury encourages readers to

review the referenced sections of the Penal Code and Government Code for a greater appreciation of this complexity.

Table 1 represents the Grand Jury’s best assessment of the fines and penalties and their designated purposes:

<b>DISTRIBUTION OF RED LIGHT CITATION FINES AND FEES WITH FUND RECIPIENTS AND PURPOSE</b>			
<b>Description</b>	<b>Amt.</b>	<b>Recipient</b>	<b>Purpose</b>
Criminal Surcharge	\$20.00	State	General Fund
ICNA-State Court Facilities	\$39.20	State	Courthouse Construction
EMS	\$19.60	County	Emergency Services Fund
DNA P.A. GC76104.7-\$1	\$9.80	DOJ	DNA Lab Analysis
DNA P.A. GC76104.6	\$9.80	25% State 75% County	DNA Lab Analysis
State Court Construction	\$9.80	State	Courthouse Construction
State Penalty Assessment	\$68.60	State	General Fund
County Penalty Assessment	\$29.40	County	General Fund
Court Construction	\$39.20	County	Past Court Facility Projects
Jail Construction	\$9.80	County	Detention Facility Construction
Emergency Medical Services	\$19.60	County	Emergency Services Fund
VCF – City of Napa	\$78.40	City	General Fund
VCF - County of Napa	\$19.60	County	General Fund
State Automation Fund	\$7.60	State Courts	Automation of Court Functions
Security Surcharge	\$40.00	State Courts	Courthouse Security
ICNA-Conviction Assess-Inf	\$35.00	State	Courthouse Construction
DNA P.A. GC76104.7-\$2	\$19.60	State	DNA Lab Analysis
<b>Total</b>	<b>\$475.00</b>		

Table 1

*Note: Table 1 provided by the Napa County Courts as of 12/10.  
Table 1 includes application of California Penal Codes: 1463-1464, 1465.7.  
Table 1 includes application of Government Codes: 70372 (a), 70373, 76100, 76101, 76104, 76104.6 & 7.*

In addition to the above costs, persons cited for ARLE violations are subject to California DMV fees, driver training school fees, and potential costs associated with increases in insurance premiums. These additional costs are specific to individual circumstances and are not collected as part of the total fine for an offense.

Although the base fine of \$100.00 has remained the same over the last five years, the additional penalty assessments and fees have steadily increased. The following graph shows the increase in the Napa County Superior Court red light citation costs over the last five years.

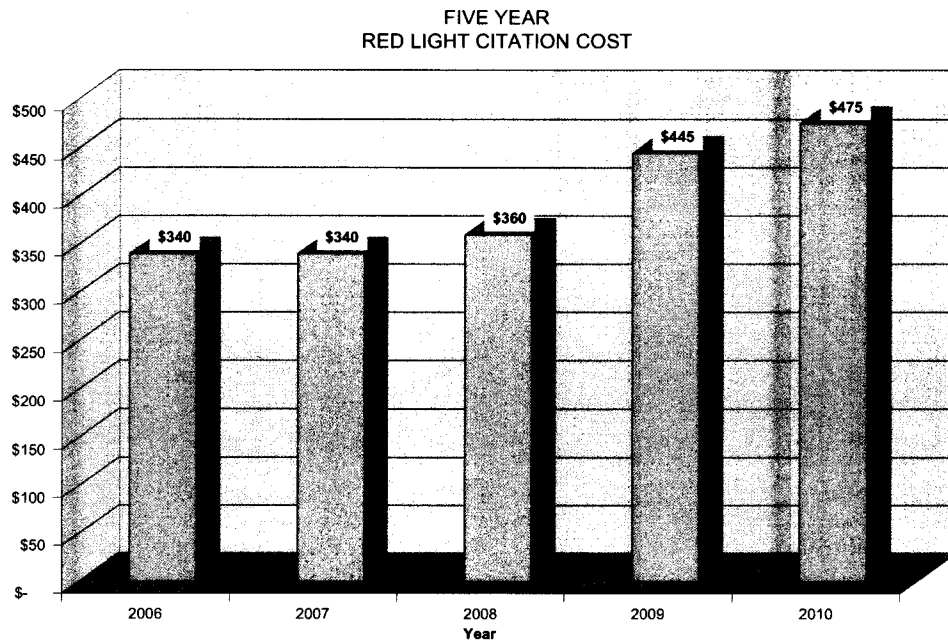


Figure 2

## ARLE Citations Issued

The City provided the Grand Jury with an accounting of the ARLE red light citations issued between May 29, 2009 and September 30, 2010. Appendix III includes the raw data that was evaluated as part of this report. The following table summarizes the number of citations by movement type issued for each of the Napa ARLE intersections:

Intersection	Through	Right Turn	Total
Big Ranch/Trancas	801	0	801
First/Jefferson	2181	538	2719
Soscol/Imola	1615	0	1615
SH 29/12/121	892	3251	4143
<b>Total</b>	<b>5489</b>	<b>3789</b>	<b>9278</b>

Table 2

The number of right turn violations on the SH 29/12/121 is significant relative to the number of citations issued for through movements. Further evaluation also indicates inconsistent numbers of citations issued on a monthly basis. Figure 3 demonstrates the right turn citations issued at the SH 29/12/121 intersection over the first seven month period of operation.

### SH 29/12/121 RIGHT TURN MONTHLY CITATIONS 2010

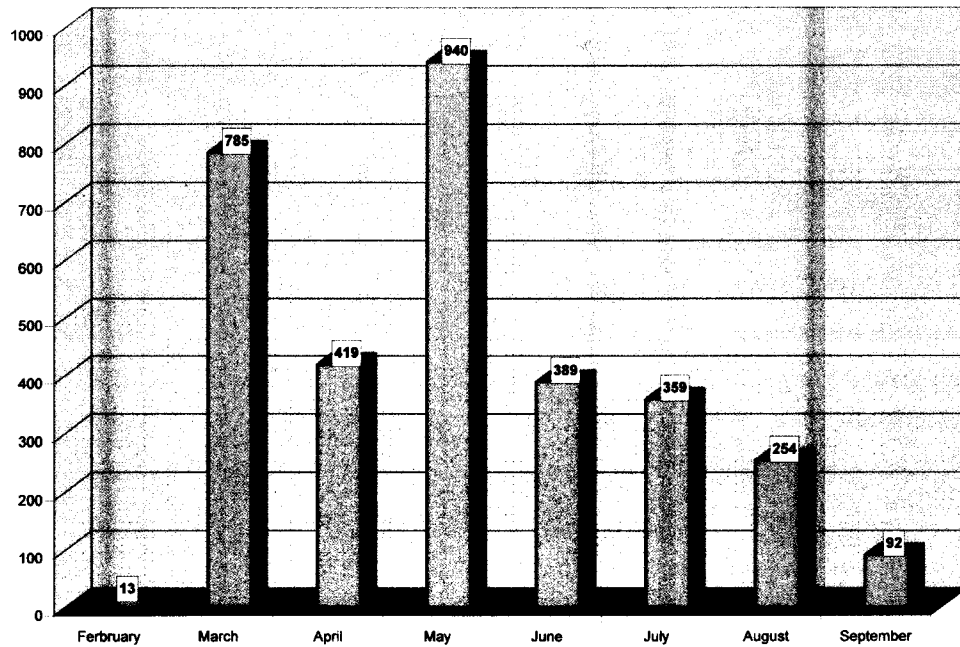


Figure 3

The high volume of right turn violations and the erratic number of monthly citations for the SH 29/12/121 intersection provides evidence of irregularities in the ARLE system at this intersection.

### Yellow Light Change Intervals

Studies such as the 2007 report “Reducing Red Light Running Through Longer Yellow Signal Timing and Red Light Camera Enforcement: Results of Field Investigation” have shown that the number of seconds the yellow light (the yellow light change interval) is activated has a significant impact on the number of red light violations. The standards for setting the yellow change interval timing are contained in the California Manual of Uniform Traffic Control Devices (CA-MUTCD). The CA-MUTCD allows the engineer responsible for setting the timing to evaluate the movement, approach speed, and other factors to set the yellow change interval timing.

