



A Tradition of Stewardship
A Commitment to Service

NAPA COUNTY GRAND JURY

2010-2011

Final Report on

CITY OF NAPA

**AUTOMATED RED LIGHT
ENFORCEMENT**

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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 (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

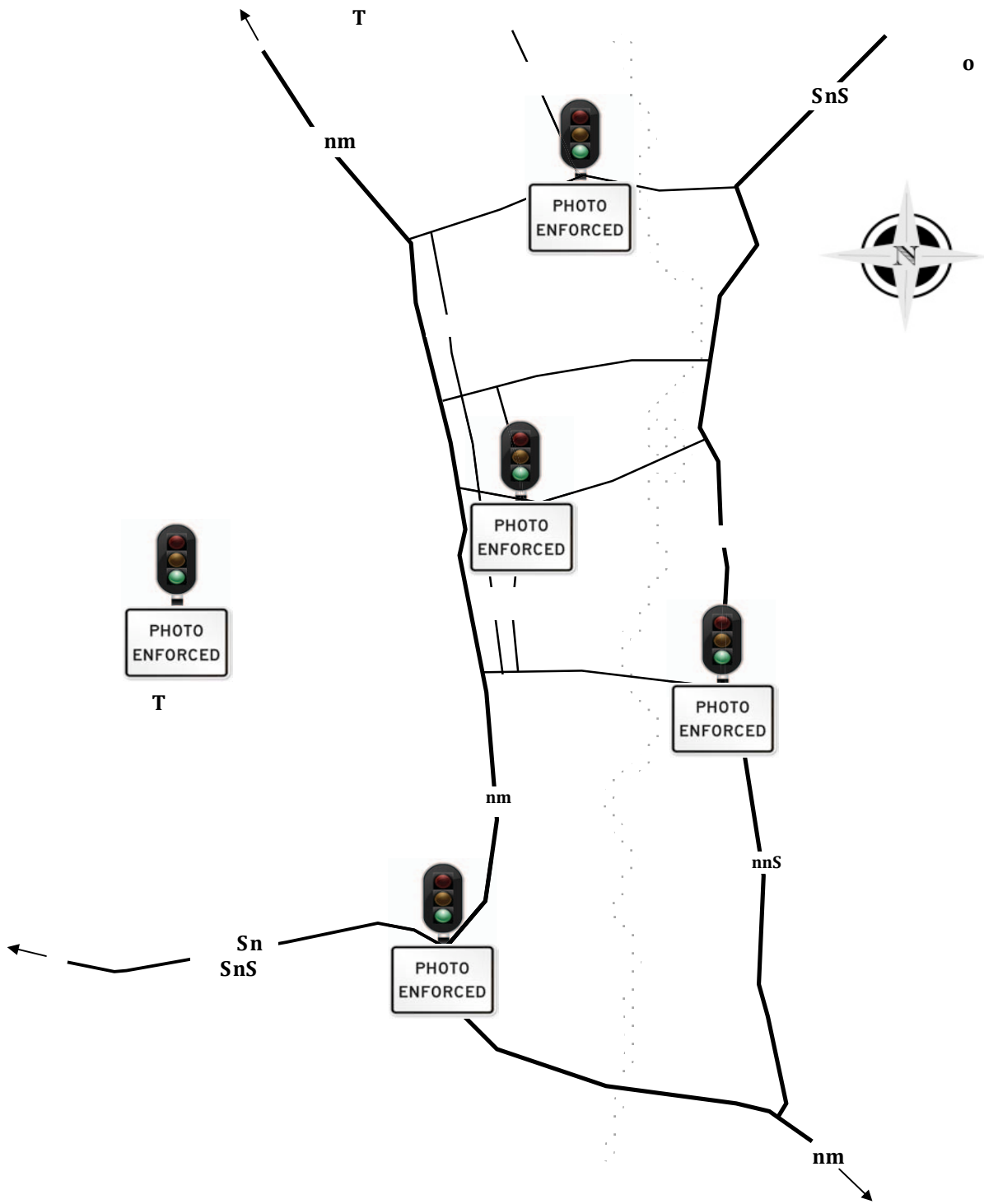


Figure 1

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.

Date	City of Napa Action
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:

DISTRIBUTION OF RED LIGHT CITATION FINES AND FEES WITH FUND RECIPIENTS AND PURPOSE			
Description	Amt.	Recipient	Purpose
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
Total	\$475.00		

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.

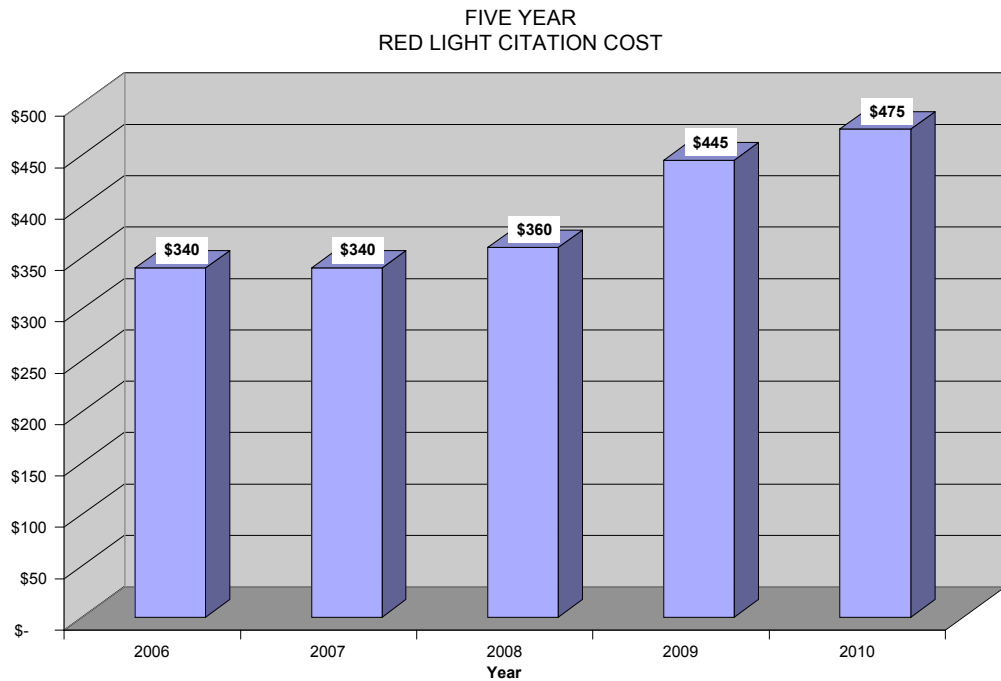


Figure 2

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
Total	5489	3789	9278

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

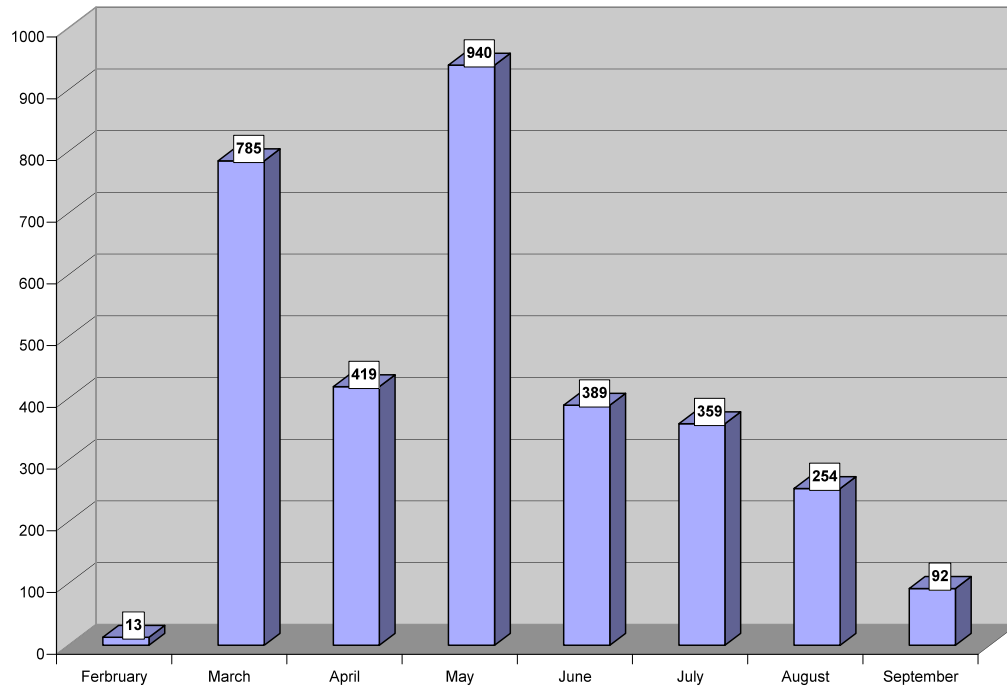


Figure 3

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.

The SH 29/12/121 southbound right turn is especially complex from a yellow change interval timing perspective in that right turns are allowed on a green circular signal (unprotected turn) and a green arrow (protected turn). Prior to May 13, 2010, depending on the phase of the signal, a driver may have had a yellow change interval timing of either 3.2 seconds or 5.4 seconds.

On May 13, 2010, Caltrans modified the yellow light change interval timing for the protected right turn phase from 3.2 seconds to 3.8 seconds. The Caltrans engineer also advised the NPD that the newest version of the CA-MUTCD under review and pending adoption might not allow different yellow light change intervals for the same turning movement. The result of this new change would set the yellow light change interval for all the southbound right turn signal phases (protected and unprotected) to 5.4 seconds.

In light of this information, the NPD implemented a new, informal procedure to be used during the video review of ARLE violations occurring in the southbound right turn lane of SH 29/12/121. Even though the ARLE system may record a violation at a given intersection, a citation is not issued until a member of the NPD reviews the video and agrees with the evidence provided by the ARLE system. Under the informal review procedure, the ARLE system will trigger a violation when a driver enters the intersection from the right turn lane after a yellow change interval of 3.8 seconds. However, the NPD is adding an additional "grace amount" of 1.6 seconds for a total of 5.4 seconds. Drivers who enter the intersection under the 5.4 seconds maximum yellow change interval are currently not being issued citations. The exact date applying this informal procedure was not provided by the NPD.

Yellow Light Change Interval and California Law

The issue of yellow light change intervals and ARLE systems has been controversial in California. In an effort to adopt a consistent standard, the California Legislature adopted CVC Section 21455.7 (See Appendix II). This statute specifically cites approach speeds as the criteria for setting the minimum yellow light change interval times for all ARLE intersections.

Had Caltrans applied the approach speed as the criteria for setting the SH 29/12/121 signal, the southbound right turn yellow change interval would have been set at 5.4 seconds for all signal phases. Because Caltrans does not interpret the approach speed referenced in CVC Section 21455.7 as applying to right turns, the yellow light change for this movement at the SH 29/12/121 intersection was initially set to 3.2 seconds and later increased to 3.8 seconds.

Grand Juries have no authority to investigate state agencies. Therefore, this Grand Jury has requested County Counsel to seek an opinion from the California Attorney General regarding the interpretation of CVC Section 21455.7 (See Appendix V).

Right Turn Movements and Accidents

The primary goal of the ARLE system is to reduce accidents. The Grand Jury has investigated the right turn accident history for the SH 29/12/121 intersection. The Grand Jury specifically chose this intersection because right turn citations are responsible for over 1/3 of all citations issued. The Traffic Collision History Report (Appendix VII) provided by the City's Public Works Department for the SH 29/12/121 intersection dating from January 1, 2004 to December 31, 2008 reported 77 accidents. Only one accident in 77 was associated with a vehicle making a right turn.

Based on this accident history, the ARLE enforcement of right turn stops has limited direct benefit of reducing accidents. Vendors of ARLE systems argue that right turn enforcement has an indirect benefit of reducing accidents through the "halo effect." This effect is a result of drivers in a region becoming more attentive to signal control due to the ARLE systems and citations.

Caltrans ARLE Approval Process

As part of the standard process to install ARLE systems on state highways, Caltrans required that the City submit an encroachment permit. The City contacted Caltrans representatives and followed the procedures for preparing this permit. The permit was accompanied by a report prepared by a representative of the NPD modeled after an example encroachment permit that Caltrans provided.

As part of the investigation, the Grand Jury found that Caltrans has a policy directive for installation of ARLE systems on state highways. Caltrans Policy Directive 09-03 clearly outlines the scope of the engineering study that is required for a local agency to install an ARLE system. This scope includes:

- Analysis of collision history,
- Comparison of collision histories with similar intersections,
- Contact of law enforcement and maintenance personnel for opinion and recommendations,
- Field review of site conditions and observation of driver behavior,
- Evaluation of previous countermeasures to address collisions and driver behavior,

- Identification of possible countermeasures to address collision history and driver behavior,
- Documentation of the study and recommendations to install the ARLE system.

The intent of Policy Directive 09-03 is clear in that it requires a qualified licensed engineer to evaluate the intersection prior to the installation of an ARLE system. By not having a report prepared by a licensed professional for the SH 29/12/121 intersection, the yellow light change interval, existing driver behavior, and alternative countermeasures were not thoroughly considered. A full version of Caltrans' Policy Directive 09-03 is included in Appendix I.

The end result of Caltrans not following Policy Directive 09-03 is that the NPD issued citations for right turn violations before the yellow light interval was lengthened and the procedures for evaluating citations were reviewed and revised.

ARLE System Costs and Indirect Impacts

The ARLE system has both direct costs and indirect impacts to the City and its drivers. The following is a summary of these costs and impacts that the Grand Jury identified in this investigation:

- Redflex Traffic Systems, Inc. monthly cost is \$24,000 for four intersection approaches. Annual total costs for Redflex Traffic Systems, Inc. is \$288,000.
- ARLE-related court trials increased from eight trials per month prior to the ARLE system to 27 trials per month after the ARLE system was installed. (See Appendix VI for raw data provided to the Grand Jury by the Napa Superior Court.)
- Loss of an estimated 3.3 million dollars to the local economy per year. This amount was estimated from the total number of citations issued per year at a cost of \$475 per citation based on the 16 month period from May 2009 to September 2010 as reported in Appendix III. A portion of these funds is returned to the City and some funds are used to pay Redflex costs. The remainder is earmarked for Napa County and various State funds outlined in Table 1.

Benefits of ARLE Systems

Reduction of intersection accidents has multiple benefits including public safety, cost of resources required for response, cost of immediate and ongoing medical treatment, and cost of property loss. Early 2010 reports by the NPD show accidents through October 1, 2010, at 455 (See Appendix IV). To compare this data to prior years, the Grand Jury prorated the nine month data for 2010 to

represent a 12 month period. Figure 4 illustrates the trend in the City’s traffic accidents over four years.

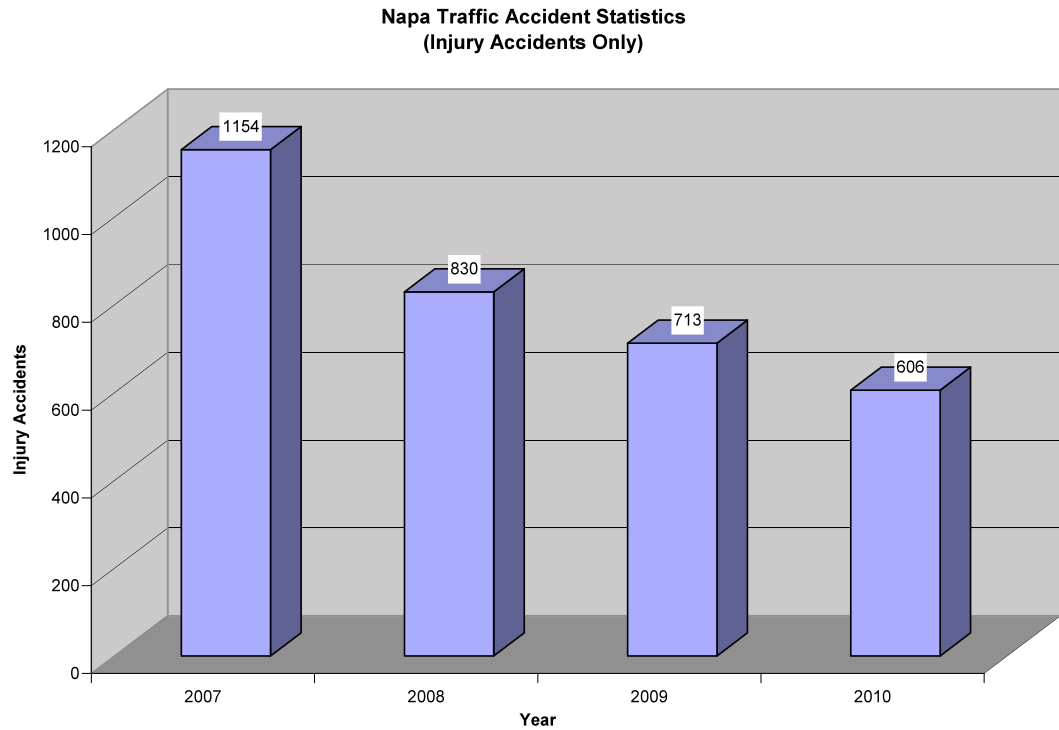


Figure 4

The first ARLE intersection was activated on April 29, 2009. The premise that the ARLE system has resulted in a significant reduction in accidents is yet to be supported. The data more clearly shows that the incidents of injury accidents have been on a steady decline since 2007 with the highest level of decline occurring between 2007 and 2008 prior to the installation of the ARLE system.

DISCUSSION

Enforcement Clarity and Consistency

The City of Napa followed a careful process of selecting ARLE vendors, evaluating intersections, and conforming to the legal requirements in implementing their ARLE system. Three of the four ARLE intersections were not identified as having deficiencies. These intersections have posted approach speeds of less than 40 MPH.

The fourth intersection at SH 29/12/121 had early deficiencies. These deficiencies are primarily associated with the posted 60 MPH approach speed, lack of engineering study as is required by Caltrans Policy Directive 09-03, and Caltrans' interpretation of CVC Section 21455.7.

After several months of operation and citations, the deficiencies were identified at the SH 29/12/121. The yellow change interval time for one signal phase of the right turn was increased from 3.2 seconds to 3.8 seconds. The NPD also implemented an informal procedure of citing only drivers that would not have stopped even if the yellow change interval was 5.4 seconds.

The basis for the enforcement change was that Caltrans was in the process of reviewing its standards so that all phases of the right turn would have the same yellow change interval timing. If Caltrans had strictly followed CVC Section 21455.7 and based the timing on approach speed, all phases of the right turn would have had a 5.4 second yellow change interval.

Following the change in yellow interval time and enforcement procedures, the average number of right turn citations dropped significantly. To verify that the change in citations was not a result of effectiveness of the ARLE system's ability to modify driver behavior, the Grand Jury also evaluated the right turn citations at the First/Jefferson intersection (See Table 2). The Grand Jury found that the number of right turn citations remained relatively steady over the first eight months of operation at this intersection. There is circumstantial evidence supporting a conclusion that the increase in the yellow light change interval and enforcement procedures reduced the number of ARLE citations at the SH 29/12/121 intersection.

Reasonableness of Compliance

Although the Grand Jury recognizes the NPD's efforts to correct the situation on the SH 29/12/121 intersection, we find it particularly concerning that the yellow light change interval timing is so readily subject to interpretation. Traffic rules require consistency and clarity. How are drivers expected to comply with the law when the experts responsible for the traffic signal timing and enforcement must incrementally make adjustments to "get it right"? The strict application of the CVC for all ARLE intersections in California that bases the yellow change interval time on the posted approach speed would provide the clarity and consistency to allow a responsible driver to understand and comply with the law.

The two yellow timing intervals for the right turn phases at the SH 29/12/121 signal compromise the reasonableness of the ARLE system. In the protected mode (right turn green arrow) the yellow change interval is 3.8 seconds and in the unprotected mode (right turn green circular signal) the yellow change interval is

5.4 seconds. Should the average driver have the detailed knowledge of the CA-MUTCD to know that they need to change driving behavior when approaching the intersection to make a right turn based on the signal phase?

Public Safety and ARLE Enforcement

It is also relevant to note that the Redflex Traffic Systems, Inc. contract with the City requires enforcement of right turns in order for Redflex to guarantee cost neutrality. The fact that traffic accident statistics demonstrate a minimal occurrence of collisions on the right turn movement on the SH 29/12/121 prior to ARLE system is important. Cost neutrality is a guarantee that the ARLE system will generate enough money to pay for itself.

Rather than locating automated enforcement on turning movements that will generate a large number of citations, the public interest may be better served by locating the automated enforcement system on the turning movements that have the greatest occurrence and severity of accidents. The Traffic Collision History Report produced by the City of Napa Public Works Department is an excellent tool for evaluating which movements have accidents and which turning movements are good candidates for ARLE systems (See Appendix VII).

Fines, Penalties and Fees

The Grand Jury has two concerns regarding the cost of an ARLE citation. The first is that right turn penalties do not match the risk of the violation. The second is that the fine has increased and is used to fund ancillary government services.

The total cost of a red light violation is the same whether a driver slowly rolls through a red light for a right turn or whether a driver recklessly drives straight through a red light at a high rate of speed. A total cost of \$475 appears excessive for failing to stop at a relatively safe right turn.

California Assemblyman Jerry Hill who sponsored AB 909 shares this concern. AB 909 would have lowered the cost of a right turn violations at ARLE intersections to \$250. AB 909 was passed by the California Legislature but was not signed by former Governor Schwarzenegger.

The Grand Jury's second concern is the way the total cost of the fine is determined. Tacking on additional penalties and fees to fund other government functions does not provide transparency. It creates a complex accounting and funding process that requires additional resources to manage.

Will the California drivers one day see ARLE traffic violations costing thousands of dollars to supplement other government services? What happens to drivers

who cannot afford to pay these high fees? Do these drivers end up ultimately losing their license and falling into a downward spiral of penalties and court costs? These questions are beyond the scope of the Grand Jury's investigation but are important considerations for City officials when evaluating the continuation of the current ARLE program.

Refunds of Citations

Based upon the Grand Jury's research, the SH 29/12/121 intersection had problems in its first full three months of operation, March, April, and May of 2007 (See Appendix III). During that period, 2,144 citations were issued for right turns on red. Once the yellow light change interval was increased from 3.2 seconds to 3.8 seconds and the City applied an informal enforcement policy of allowing 5.4 seconds, the number of citations dropped. Over the next three month period 1,002 citations were issued.

Based on these statistics, it is conceivable that 1000 drivers received tickets because the yellow change interval timing was set by Caltrans in accordance with the CA-MUTCD rather than the CVC requirements for ARLE intersections. These drivers may not have received citations had the current signal settings and enforcement procedures been in place.

The drivers who were issued tickets during the first full three months of ARLE operation at this intersection deserve a refund because the initial requirements were neither clear nor consistent and the right turn movement has not been shown to cause an increase in the number of accidents. These drivers would no longer be issued citations under current enforcement practices.

FINDINGS

The 2010-2011 Grand Jury finds that:

- F1. The City's ARLE system was established to reduce accidents.
- F2. A disproportionate number of the City's citations are issued for failure to stop on right turns.
- F3. Accidents rarely occur on right turn movements.
- F4. More severe and frequent accidents occur due to drivers failing to stop when traveling straight through intersections.
- F5. The SH 29/12/121 ARLE signal falls under Caltrans' jurisdiction; the City has no authority to set signal timing at this intersection.

- F6. The SH 29/12/121 ARLE system was not studied by a licensed engineer in accordance with Caltrans' Policy Directive 09-03 prior to the installation of the ARLE system.
- F7. The yellow light change interval timing has an effect on the number of citations issued on ARLE intersections.
- F8. CVC Section 21455.7 (b) specifically references approach speed as the criteria for setting minimum yellow light interval times.
- F9. Caltrans did not use approach speeds to set the SH 29/12/121 right turn yellow light change interval time.
- F10. The City and Caltrans recognized deficiencies at the SH 29/12/121 ARLE system.
- F11. The City made enforcement changes in an attempt to correct these deficiencies at the SH 29/12/121 ARLE system.
- F12. Caltrans made adjustments to signal timing in an attempt to correct these deficiencies at the SH 29/12/121 ARLE system.
- F13. Drivers were cited for illegal right turns at SH 29/12/121 prior to the recognition of deficiencies in the yellow light interval timing and prior to the adjustments of enforcement practices.

RECOMMENDATIONS

The 2010-2011 Grand Jury recommends that the:

- R1. City immediately issue a moratorium on ARLE right turn citations at the SH 29/12/121 intersection until such time as the legal requirements for yellow light interval times are firmly established and in place.
- R2. City prepare a traffic engineering study at SH 29/12/121 in accordance with Caltrans' Policy Directive 09-03, within 6 months after the release of this report, to determine if alternative countermeasures or intersection improvements would address driver behavior patterns as an alternative to ARLE.
- R3. NPD review and evaluate all SH 29/12/121 ARLE right turn citations, within 90 days after the release of this report, and determine if a citation would have occurred under the most current enforcement practices.
- R4. City issue refunds, within 6 months after the release of this report, to drivers cited for right turn violations at SH 29/12/121 who would not have been cited if the current enforcement practices were in place.

- R5. City immediately limits, after the release of this report, future applications of ARLE systems to turning movements that have a clear history of poor safety and excessive accidents.
- R6. City monitors and evaluates the ARLE system for its benefits in reducing accidents and within 6 months after the release of this report publishes its findings in all Napa County newspapers.
- R7. City continues the ARLE program if it clearly and substantially demonstrates that the program economically reduces accidents.
- R8. City issues a letter to drivers, within 6 months after the release of this report, specifying that the moving violation has been rescinded for those drivers cited for right turn violations at SH 29/12/121 who would not have been cited if the current enforcement practices were in place.

REQUEST FOR RESPONSES

Pursuant to Penal Code, Section 933.05, the 2010-2011 Grand Jury requests responses from the following individuals:

- The Police Chief of the City of Napa: F1, F2, F3, F4, F5, F7, F10, F11, F12, F13; R1, R2, R3, R6, R7, R8.
- The Mayor of the City of Napa: F1, F2, F5, F10, F13; R1, R4, R5, R7, R8.
- The City of Napa Public Works Director: F5, F6, F8, F9, F12, F13; R2

The individuals indicated above should be aware that the comment or response of the individuals must be conducted subject to the notice, agenda and open meeting requirements of the Brown Act.

COMMENDATION

The Grand Jury greatly appreciates the City of Napa's cooperation and assistance with this investigation.

GLOSSARY

AB – Assembly Bill

Alternative Countermeasures: Improvements aside from ARLE that will modify driver behavior to conform to the CVC (e.g. signs, flashing lights, replacement of stop control with yields)

ARLE - Automated Red Light Enforcement System

CA - MUTCD – California Manual of Uniform Traffic Control Devices

Caltrans – California Department of Transportation

CVC – California Vehicle Code

DMV – California Department of Motor Vehicles

Halo effect –drivers in a region become more attentive to signal controls due to the ARLE systems and citations issued.

NPD – City of Napa Police Department

Policy Directive 09-03 – Traffic Operations Policy directive 09-03 (See Appendix I)

Protected left turn – A signalized left turn movement allowed by a green arrow

Protected right turn – A signalized right turn movement allowed by a green arrow

Right angle collisions – a collision where one vehicle strikes the side of another (T-bone).

SB – Senate Bill

SH - State Highway

Yellow Change Interval Time - The time, measured in seconds and tenths of seconds, a traffic light is displaying a yellow light; the interval time begins when

the traffic light changes from green to yellow, and ends when the traffic light changes from yellow to red.

METHODOLOGY

Information for this investigation was gathered through numerous interviews with City employees, citizens, document analysis, and internet research. The Grand Jury researched relevant California Vehicle, Government and Penal Codes. In addition, the Grand Jury also took a field trip to the NPD to see how photos of red light violations are reviewed and tickets are issued. This information was used to compile questions for interviews as well as to clarify information learned from interviews.

Interviews conducted with City employees included personnel from:

- City of Napa Police Department
- City of Napa Public Works
- Napa County Superior Court

Websites and Documents reviewed:

- “Red-Light Cameras in Texas, A Status Report.” House Research Organization, Texas House of Representatives, July 31, 2006
- “Reducing Red Light Running Through Longer Yellow Signal Timing and Red Light Camera Enforcement: Results of Field Investigation”, January 2007
- 2009-2010 San Mateo County Grand Jury Report: “Effectiveness of Red Light Traffic Camera Enforcement”
- AB #1022, Chapter 511
- AB #909, August 25, 2010
- Agreement between the City of Napa and Redflex Traffic Systems, Inc. for Automated Photo Enforcement Cameras, June 13, 2008
- CA Department of Transportation
- CA Government Codes: 70372(a), 70373, 76100, 76101, 76104, 76104.6 and 7
- CA MUTCD, Section 4D.10 & Section 4D.26 Part 4
- CA Penal Code Sections 1464, 1465.7

- Caltrans Policy Directive 09-03
- City of Napa, RFP #0701, Red Light Camera System
- CVC Sections 21455.5 – 21455.7, 40518, 40520
- House Research Organization, Texas House of Representatives, Focus Report, July 31, 2006, “Red-Light Cameras in Texas: A Status Report”
- Napa City Council Meeting Summary of Council Actions for June 3, 2008
- Napa City Council, Public Hearing Calendar, Agenda Item No. 16A, June 3, 2008
- Public Hearing Calendar, City of Napa, Agenda Item #16A, June 3, 2008
- Red Light Photo Enforcement Program, Business Rules, Doc No. 3130-001-V1.2, City of Napa
- SB 667 (specifications for official traffic control devices)
- The Gazette, Colorado Springs, Colorado, “What You Need to Know About Red-Light Cameras,” October 10, 2010
- Traffic Infraction Fixed Penalty Schedule provided by the Court
- U. S. Department of Transportation “Red Light Camera Systems: Operational Guidelines,” January 2005
- www.bsa.ca.gov
- www.cityofnapa.org
- www.countyofnapa.org
- www.napavalleyregister.com

APPENDIX

- I. Caltrans Traffic Operations Policy Directive 09-03
- II. California Vehicle Code Sections 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

POLICY DIRECTIVE

TR-0011 (REV 9/2006)

APPENDIX I

TRAFFIC OPERATIONS POLICY DIRECTIVE	NUMBER: 09-03	PAGE: 1 of 6
ROBERT COPP, DIVISION CHIEF (Signature) 	DATE ISSUED: 06/15/09	EFFECTIVE DATE: 06/15/09
SUBJECT: Use of Automated Red Light Enforcement Systems on the State Highway System.	DISTRIBUTION <input checked="" type="checkbox"/> All District Directors <input checked="" type="checkbox"/> All Deputy District Directors - Traffic Operations <input checked="" type="checkbox"/> All Deputy District Directors - Maintenance <input checked="" type="checkbox"/> All Deputy District Directors - Construction <input checked="" type="checkbox"/> All Deputy District Directors - Design <input type="checkbox"/> All Deputy District Directors - Transportation Planning <input type="checkbox"/> Chief, Division of Engineering Services <input checked="" type="checkbox"/> Chief Counsel, Legal Division <input type="checkbox"/> Publications (California MUTCD Website) www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd.htm <input type="checkbox"/> Headquarters Division Chiefs for:	
DOES THIS DIRECTIVE AFFECT OR SUPERSEDE ANOTHER DOCUMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	IF YES, DESCRIBE Traffic Operations Policy Directive 00-01 Automated Red-Light Enforcement Systems - Dated July 7, 2000	
WILL THIS DIRECTIVE BE INCORPORATED IN THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	IF YES, DESCRIBE	

DIRECTIVE

Automated red light enforcement (ARLE) systems may be used at signalized intersections upon a State highway, if such a system meets the requirements contained herein. **The need for an ARLE system shall be determined by a traffic engineering study initiated by either the California Department of Transportation (Department) or by a local agency requesting to install an ARLE on the State highway under an encroachment permit.**

IMPLEMENTATION

This directive contains the requirements for: 1) Installation of ARLE systems on State highways to improve operational efficiency and safety performance at intersections and 2) The encroachment permit process for instances when a local agency wishes to install and manage the operation of an ARLE system at an intersection of a State highway and local road.

The installation of ARLE systems shall be in cooperation with the appropriate law enforcement agency, as they would be responsible for administering the data and issuing traffic citations. The installation of ARLE systems shall be in cooperation with the appropriate local agency when being initiated by the State and the intersection includes a local roadway.

The encroachment permit process allows the evaluation of the proposed system that would be installed on the State highway and provides assurance that the system will not interfere with the operation of the signal. When all the requirements for site approval are met, the local agency shall then prepare and submit the installation documents as required prior to the final approval of the permit. The final approval of the permit shall not be considered until all requirements are met.

GENERAL REQUIREMENTS

1. ARLE systems may be installed, operated, and maintained by either the State or by the local agency. The local agency will operate and maintain the system when installed under an encroachment permit. Administration of the data and issuance of citations generated by observed violations by the ARLE system shall be the responsibility of the appropriate law enforcement agency.
2. The installation of the ARLE system shall be in accordance with California Vehicle Code Section 21455.5.
3. If installed on a State highway by a local agency under an encroachment permit, the following criteria must be met:
 - a. The ARLE system shall be operated independently of Department equipment and systems;
 - b. The traffic signal cabinets shall not be accessed without the presence of a representative from the Department's Traffic Signal Operations or Electrical Maintenance staff;
 - c. Maintenance of the ARLE system must be coordinated with the Department's Electrical Maintenance and/or Traffic Signal Operations staff;
 - d. In the event of future modifications to the traffic signal system by the Department, the local agency is responsible for all relocation and modifications to the ARLE system;
 - e. The Department will provide initial yellow interval information to the local agency installing the ARLE system upon request. Any subsequent need for verification of the yellow intervals will be the responsibility of the local agency.

IMPLEMENTATION (cont'd)**REQUIREMENTS FOR SITE APPROVAL**

1. Signal maintenance will be the responsibility of the owner of the roadway, unless otherwise dictated by specific maintenance agreement or permit. If an ARLE system is proposed on a State highway by a local agency under an encroachment permit, a rider to an existing traffic signal maintenance agreement or a new agreement must be executed between the Department and the local agency, which clearly defines the maintenance responsibilities and liability for the ARLE system.
2. A traffic engineering study to determine the need for an ARLE system shall be done by the owner of the roadway or by their agent. If an ARLE system is proposed on a State highway by a local agency under an encroachment permit, a traffic engineering study shall be conducted by the local agency and submitted to the Department. The appropriate district unit shall review the study and make its recommendation to the District Permit Engineer regarding site approval.

The traffic engineering study should consider the following steps:

- Consideration of the original signal warrant (if available) that precipitated the installation of the signal as outlined in the California Manual on Uniform Traffic Control Devices Chapter 4C, Traffic Control Signal Needs Studies
- Analysis of collision data and identification of collision patterns
- Comparison of collision frequency and rates to other similar type intersections in the area
- Contacting parties familiar with the intersection, including law enforcement and maintenance personnel, and determine their observations and comments regarding the collisions
- Field review to observe site conditions and observe drivers to determine their behavior patterns
- Evaluation of previous countermeasure(s) implemented to address collision or driver behavior patterns
- Identification and evaluation of possible countermeasure(s) to address collision or driver behavior patterns
- Documentation of the study and recommendation to install the ARLE system

For additional information regarding the installation of an ARLE system refer to the Federal Highway Administrations Red Light Camera Systems Operational Guidelines, dated January 2005, which can be found at the following web link: http://safety.fhwa.dot.gov/intersections/rlc_guide/index.htm

In all applications of this policy, engineering judgment must be exercised. The objective is to provide uniform applications of ARLE on the State Highway System. If there are any questions regarding implementation, districts should consult with the Headquarters Traffic Operations Liaison

IMPLEMENTATION (cont'd)**REQUIREMENTS FOR INSTALLATION APPROVAL BY LOCAL AGENCIES**

If an ARLE system is proposed on a State highway by a local agency under an encroachment permit, upon meeting the requirements for site approval, a complete set of design drawings and installation plans shall be submitted for review by the Department. These plans shall include the following:

1. All electrical, electronic, civil, and mechanical work pertaining to the ARLE system.
2. All electrical connections must be optically or inductively isolated, per the Department's direction, emanating from the 332/Intelligent Transportation System cabinets.
3. If the existing detection system doesn't meet the requirements for the ARLE system, an independent detection system must be used and installed by the local agency. The detection system specifications shall be provided as part of the complete set of drawings submitted to the Department for site approval.
4. The Department will not provide electrical power to these systems.
5. The system will be installed in separate conduit with distinctively marked pull boxes.

ADA Notice

For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 653-3657 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS89, Sacramento, CA 95814.

DELEGATION

No new delegations of authority are created under this policy.

BACKGROUND

Automated red light enforcement (ARLE) systems can be an effective tool for reducing the intentional running of red lights and decreasing collisions related to red light running.

Per the Texas Transportation Institute, there are more than 100,000 collisions per year in the United States of America involving drivers running a red light resulting in 90,000 injuries and 1,000 fatalities annually. Over half of red light running fatalities are pedestrians and occupants in other vehicles who are hit by red light runners.

Per the National Cooperative Highway Research Program Synthesis 310, California has more local agencies utilizing ARLE systems to enforce red light running violations than any other state.

Various studies have shown that ARLE systems can be an effective tool at reducing intentional running of red lights and decreasing collisions related to red light running. The Insurance Institute of Highway Safety evaluated an ARLE system in the City of Oxnard, California. Based on the Oxnard data, the study concluded that ARLE systems could reduce the risk of motor vehicle crashes, in particular injury crashes, at intersections with traffic signals.

A 2005 Orange County, California government report found that one year after ARLE installation, collisions dropped by 46.7 percent in Garden Grove, 28.2 percent in Costa Mesa, 16.2 percent in Santa Ana, 12.1 percent in San Juan Capistrano and 5.7 percent in Fullerton. "<http://www.stopredlightrunning.com/html/research.htm>"

A 2005 U.S. Federal Highway Administration funded study estimated total societal cost reductions from red light camera programs in seven U.S. cities to be over \$14 million per year, or over \$38,000 for each studied red light camera location, *Safety Evaluation of Red-Light Cameras, FHWA-HRT-05-048*.

Prior to this policy, ARLE systems were installed on the State Highway System only by encroachment permit and administered by others. This policy institutionalizes the use of ARLE systems on State highways by both the State and local agency.

This policy will be retired when it is revised or incorporated into other documentation within the Department.

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DEFINITIONS

When used in this Traffic Operations Policy Directive, the text shall be defined as follows:

- 1) **Standard** – a statement of required, mandatory or specifically prohibited practice. All standards text appears in **bold** type. The verb **shall** is typically used. Standards are sometimes modified by Options.
- 2) Guidance – a statement of recommended, but not mandatory, practice in typical situations, with deviations allowed if engineering judgment or engineering study indicates the deviation to be appropriate. All Guidance statements text appears in underline type. The verb should is typically used. Guidance statements are sometime modified by Options.
- 3) Option – a statement of practice that is a permissive condition and carries no requirement or recommendation. Options may contain allowable modifications to a Standard or Guidance. All Option statements text appears in normal type. The verb may is typically used.
- 4) Support – an informational statement that does not convey any degree pf mandate, recommendation, authorization, prohibition, or enforceable condition. Support statements text appears in normal type. The verbs shall, should and may are not used in Support statements.

ATTACHMENTS

None

VEHICLE CODE**SECTION 21453, 21455.5, .6, & .7**

21453. (a) A driver facing a steady circular red signal alone shall stop at a marked limit line, but if none, before entering the crosswalk on the near side of the intersection or, if none, then before entering the intersection, and shall remain stopped until an indication to proceed is shown, except as provided in subdivision (b).

(b) Except when a sign is in place prohibiting a turn, a driver, after stopping as required by subdivision (a), facing a steady circular red signal, may turn right, or turn left from a one-way street onto a one-way street. A driver making that turn shall yield the right-of-way to pedestrians lawfully within an adjacent crosswalk and to any vehicle that has approached or is approaching so closely as to constitute an immediate hazard to the driver, and shall continue to yield the right-of-way to that vehicle until the driver can proceed with reasonable safety.

(c) A driver facing a steady red arrow signal shall not enter the intersection to make the movement indicated by the arrow and, unless entering the intersection to make a movement permitted by another signal, shall stop at a clearly marked limit line, but if none, before entering the crosswalk on the near side of the intersection, or if none, then before entering the intersection, and shall remain stopped until an indication permitting movement is shown.

(d) Unless otherwise directed by a pedestrian control signal as provided in Section 21456, a pedestrian facing a steady circular red or red arrow signal shall not enter the roadway.

21455.5. (a) The limit line, the intersection, or a place designated in Section 21455, where a driver is required to stop, may be equipped with an automated enforcement system if the governmental agency utilizing the system meets all of the following requirements:

(1) Identifies the system by signs that clearly indicate the system's presence and are visible to traffic approaching from all directions, or posts signs at all major entrances to the city, including, at a minimum, freeways, bridges, and state highway routes.

(2) If it locates the system at an intersection, and ensures that the system meets the criteria specified in Section 21455.7.

(b) Prior to issuing citations under this section, a local jurisdiction utilizing an automated traffic enforcement system shall commence a program to issue only warning notices for 30 days. The local jurisdiction shall also make a public announcement of the automated traffic enforcement system at least 30 days prior to the commencement of the enforcement program.

(c) Only a governmental agency, in cooperation with a law enforcement agency, may operate an automated enforcement system. As used in this subdivision, "operate" includes all of the following activities:

(1) Developing uniform guidelines for screening and issuing violations and for the processing and storage of confidential information, and establishing procedures to ensure compliance with those guidelines.

(2) Performing administrative functions and day-to-day functions,

including, but not limited to, all of the following:

(A) Establishing guidelines for selection of location.

(B) Ensuring that the equipment is regularly inspected.

(C) Certifying that the equipment is properly installed and calibrated, and is operating properly.

(D) Regularly inspecting and maintaining warning signs placed under paragraph (1) of subdivision (a).

(E) Overseeing the establishment or change of signal phases and the timing thereof.

(F) Maintaining controls necessary to assure that only those citations that have been reviewed and approved by law enforcement are delivered to violators.

(d) The activities listed in subdivision (c) that relate to the operation of the system may be contracted out by the governmental agency, if it maintains overall control and supervision of the system. However, the activities listed in paragraph (1) of, and subparagraphs (A), (D), (E), and (F) of paragraph (2) of, subdivision (c) may not be contracted out to the manufacturer or supplier of the automated enforcement system.

(e) (1) Notwithstanding Section 6253 of the Government Code, or any other provision of law, photographic records made by an automated enforcement system shall be confidential, and shall be made available only to governmental agencies and law enforcement agencies and only for the purposes of this article.

(2) Confidential information obtained from the Department of Motor Vehicles for the administration or enforcement of this article shall be held confidential, and may not be used for any other purpose.

(3) Except for court records described in Section 68152 of the Government Code, the confidential records and information described in paragraphs (1) and (2) may be retained for up to six months from the date the information was first obtained, or until final disposition of the citation, whichever date is later, after which time the information shall be destroyed in a manner that will preserve the confidentiality of any person included in the record or information.

(f) Notwithstanding subdivision (e), the registered owner or any individual identified by the registered owner as the driver of the vehicle at the time of the alleged violation shall be permitted to review the photographic evidence of the alleged violation.

(g) (1) A contract between a governmental agency and a manufacturer or supplier of automated enforcement equipment may not include provision for the payment or compensation to the manufacturer or supplier based on the number of citations generated, or as a percentage of the revenue generated, as a result of the use of the equipment authorized under this section.

(2) Paragraph (1) does not apply to a contract that was entered into by a governmental agency and a manufacturer or supplier of automated enforcement equipment before January 1, 2004, unless that contract is renewed, extended, or amended on or after January 1, 2004.

21455.6. (a) A city council or county board of supervisors shall conduct a public hearing on the proposed use of an automated enforcement system authorized under Section 21455.5 prior to authorizing the city or county to enter into a contract for the use of the system.

APPENDIX II

(b) (1) The activities listed in subdivision (c) of Section 21455.5 that relate to the operation of an automated enforcement system may be contracted out by the city or county, except that the activities listed in paragraph (1) of, and subparagraphs (A), (D), (E), or (F) of paragraph (2) of, subdivision (c) of Section 21455.5 may not be contracted out to the manufacturer or supplier of the automated enforcement system.

(2) Paragraph (1) does not apply to a contract that was entered into by a city or county and a manufacturer or supplier of automated enforcement equipment before January 1, 2004, unless that contract is renewed, extended, or amended on or after January 1, 2004.

(c) The authorization in Section 21455.5 to use automated enforcement systems does not authorize the use of photo radar for speed enforcement purposes by any jurisdiction.

21455.7. (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 Traffic Manual of the Department of Transportation.

(b) For purposes of subdivision (a), the minimum yellow light change intervals relating to designated approach speeds provided in the Traffic Manual of the Department of Transportation are mandatory minimum yellow light intervals.

(c) A yellow light change interval may exceed the minimum interval established pursuant to subdivision (a).

Customer Management Report (Napa) Redlight Incidents

29-May-2009 to 30-Sep-2010

Operator Id: %

APPENDIX III

	NPA-1212-01	NPA-BRTR-01	NPA-JEFI-01	NPA-SOIM-01	TOTAL
Total Violations	8057	1145	3191	2101	14494
Less Uncontrollable Factors					
Obstruction	1329	37	51	130	1547
Driver Obstruction/Duckers					
Motor Cycle Helmet	13	1	1	2	17
Plate Obstruction	236	47	49	60	392
Vehicle Obstruction	31	5	7	30	73
Police Rejects					
Driver ID - Poor Driver Image -	8	2	2	6	18
Driver ID - Poor Driver Image -	11	1	1	3	16
Driver ID - Poor Driver Image -	1	0	0	0	1
Emergency Vehicle Responding	13	105	21	7	146
Invalid Offense	168	7	4	15	194
Non Violation - Green Light	4	0	0	1	5
Non Violation -Vehicle Behind	41	2	4	16	63
On or Passed the Stop Bar (PD).	2	1	0	2	5
Plate Unidentifiable	4	0	2	1	7
Police Discretion	804	19	62	30	915
Safe Turn On Red	753	0	77	0	830
Weather Conditions	1	1	2	0	4
Policy/Weather					
Extended Vehicle	104	50	54	61	269
Sun Glare	219	47	71	90	427
Weather/Nature	18	3	4	1	26
Yellow with Red Light	4	2	0	0	6
Registration Issues					
Out of Country Plate	8	0	2	2	12
Paper Plates	142	14	58	29	243
Total	3914	344	472	486	5216
Sub Total Violations	4143	801	2719	1615	9278

95

APPENDIX III

Less in Progress Available For Prosecution 0 4143 0 801 1 2718 0 1615 1 9277

Less Rejects

Camera Malfunction	Face Camera Flash	1-00%	7-01%	7-00%	0-00%	15-00%
	Face Camera Focus Blurry	79-02%	0-00%	0-00%	3-00%	82-01%
	Face Camera No Flash	1-00%	6-01%	0-00%	0-00%	7-00%
	Face Not in Frame	86-02%	1-00%	3-00%	15-01%	105-01%
	Image Missing	0-00%	1-00%	12-00%	0-00%	13-00%
	Misc Camera Issue	91-02%	7-01%	39-01%	7-00%	144-02%
	Plate Burn Out	13-00%	1-00%	23-01%	0-00%	37-00%
	Plate Not in Frame	8-00%	0-00%	0-00%	8-00%	16-00%
	Rear Plate Camera Blurry	43-01%	6-01%	3-00%	4-00%	56-01%
	Rear Plate Flash Inappropriate	2-00%	0-00%	4-00%	3-00%	9-00%
	Rear Plate No Flash	1-00%	0-00%	0-00%	5-00%	6-00%
	Scene Image Flash Inappropriate	0-00%	0-00%	1-00%	0-00%	1-00%
	Scene Image No Flash	1-00%	0-00%	0-00%	7-00%	8-00%
Police Rejects	Driver Unidentifiable images poor	57-01%	2-00%	7-00%	1-00%	67-01%
	Incorrect Speed	13-00%	0-00%	0-00%	3-00%	16-00%
	No Images	0-00%	0-00%	0-00%	2-00%	2-00%
	No Video	0-00%	0-00%	0-00%	1-00%	1-00%
	Plate Unclear	1-00%	0-00%	1-00%	0-00%	2-00%
	Red-light not visible in	0-00%	11-01%	3-00%	0-00%	14-00%
Process Issues	Too Old	10-00%	0-00%	8-00%	10-01%	28-00%
Total		407-10%	42-05%	111-04%	69-04%	629-07%

Notices Printed 3736-90% 759-95% 2607-96% 1546-96% 8648-93%

RIGHT TURN ON RED CITATIONS

Approach	Month	Count
NPA-1212-01		
	February	13
	March	785
	April	419
	May	940
	June	389
	July	359
	August	254
	September	92
NPA-1212-01 Total		3251
NPA-JEFI-01		
	January	44
	February	51
	March	73
	April	69
	May	75
	June	80
	July	53
	August	72
	September	21
NPA-JEFI-01 Total		538
Grand Total		3789

*Note January through September 13, 2010

Napa Police Department
Traffic Accident Statistics
Break Down by Involvement Type and Injury Class
(Injury Accidents Only)

Involvement Type	2010 Thru 10/1*	2009	2008	2007
Year to Date Total	455*	713	830	1154
Pedestrian & Motor Vehicle	29	39	39	30
Fatal Injury	0	1	1	1
Severe Injury	2	3	4	3
Complaint of Pain	18	24	16	14
Other Visible Injury	9	13	14	10
No Injury	32	47	44	40
Total Number of Occupants	86	126	119	93
Accident (Hit & Run)	3	9	10	7
Accident Involving Drinking Drivers	1	2	1	3
Other Vehicle & Motor Vehicle (motorcycle, moped)	18	25	42	43
Fatal Injury	0	0	0	0
Severe Injury	2	1	4	3
Complaint of Pain	5	10	14	13
Other Visible Injury	10	11	22	19
No Injury	21	28	47	52
Total Number of Occupants	42	56	90	94
Accident (Hit & Run)	4	4	7	7
Accident Involving Drinking Drivers	0	1	2	0
Motor Vehicle & Fixed Object	62	102	117	127
Fatal Injury	0	1	1	1
Severe Injury	2	8	4	4
Complaint of Pain	9	14	21	18
Other Visible Injury	7	9	14	17
No Injury	48	87	75	94
Total Number of Occupants	79	143	155	168
Accident (Hit & Run)	21	36	49	52
Accident Involving Drinking Drivers	16	31	23	25
Motor Vehicle Only	346	547	632	954
Fatal Injury	1	0	1	1
Severe Injury	4	6	6	11
Complaint of Pain	155	238	312	333
Other Visible Injury	36	70	91	91
No Injury	419	735	884	1547
Total Number of Occupants	714	1241	1514	2274
Accident (Hit & Run)	142	259	275	301
Accident Involving Drinking Drivers	32	59	51	73
Totals for All Accidents	455	713	830	1154
Fatal Injury	1	2	3	3
Severe Injury	10	18	18	21
Complaint of Pain	187	286	363	378
Other Visible Injury	62	103	141	137
No Injury	520	897	1050	1733
Total Number of Occupants	921	1566	1878	2629
Accident (Hit & Run)	170	308	341	367
Accident Involving Drinking Drivers	49	93	77	101



A Tradition of Stewardship

ROBERT WESTMEYER
County Counsel

+

MINH C. TRAN
Assistant County Counsel

+

SILVA DARBINIAN
Chief Deputy

+

LAURA J. ANDERSON
JACQUELINE M. GONG
ROBERT C. MARTIN
ROBERT W. PAUL
JENNIFER YASUMOTO
ARRIE R. GALLAGHER
CHRIS R.Y. APALLAS
SUSAN B. ALTMAN
THOMAS CAPRIOLA

PATRICIA L. TYRRELL
JAYNE HERMAN
SUSAN McGUIGAN

Deputies

+

CHERI HUBER
Privacy Officer

+

LINDA McSWEENEY
Office Manager

+

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707-259-8220

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APPENDIX V

COUNTY of NAPA

OFFICE OF COUNTY COUNSEL

November 3, 2010

Susan Lee, Supervising Deputy Attorney General
Opinion Unit
455 Golden Gate Ave., Suite 11000
San Francisco, CA 94102

Re: *Request for Attorney General Opinion- Vehicle Code 21455.7*

Dear Ms. Lee:

This office respectfully requests a formal opinion from the Attorney General's Office on the following questions:

Question 1: Does Vehicle Code Section 21455.7 require that Caltrans and local agencies base minimum yellow cycle times on designated approach speeds?

Question 2: Does Vehicle Code Section 21455.7 allow Caltrans and local agencies to interpret minimum yellow cycle times based on other provisions of the Manual of Uniform Traffic Control Devices such as turning movement and type of signal mode that may change over time?

The questions posed involve questions of law and will not require the Attorney General's Office to determine questions of fact. Resolution of these questions is of statewide concern.

Set forth below is a brief discussion of the questions presented and relevant authorities this office believes bear on the issue.

Traffic signal yellow cycle times can have a significant impact on the number of violations issued under automated red light enforcement (ARLE) systems. Controversies related to ARLE systems have existed since their application in California. These controversies prompted the California Legislature to enact section 21455.7 of the California Vehicle Code, which states that yellow lights cannot be shorter than those provided in the Caltrans Traffic Manual. In particular, Vehicle Code section 21455.7 provides:

(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 Traffic Manual of the Department of Transportation.

Susan Lee

Re: *Request for Attorney General Opinion*

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(b) For purposes of subdivision (a), the minimum yellow light change intervals relating to designated approach speeds provided in the Traffic Manual of the Department of Transportation are mandatory minimum yellow light intervals.

(c) A yellow light change interval may exceed the minimum interval established pursuant to subdivision (a).

A small change in the length of the yellow light can have a significant effect on the number of violations. Under the current Uniform Manual of Traffic Control Devices, the minimum yellow light change interval for a left or right turn phase is 3 seconds, regardless of how high the posted speed limit is. Caltrans has determined that a 3 second yellow change interval is applicable because the movement in question is a "protected phase" movement. This interpretation is based on the opinion that subsection (b) of California Vehicle Code 21455.7 only applies to "through" movements and that the Manual of Uniform Traffic Control Devices specifies a minimum interval of 3 seconds for a "protected phase" right turn movement. This interpretation results in an extraordinary high number of citations for left turns and right turns. Additionally, in disregarding the posted speed limit and applying a blanket minimum 3 second interval, Caltrans does not take into account the speed at which a vehicle is traveling and the time it would take for that vehicle to stop or slow down.

Please feel free to contact me at (707) 259-8250 if I can be of further assistance or offer further clarification of this issue. Thank you in advance for your attention to this matter.

Very truly yours,



Silva Darbinian
Chief Deputy County Counsel

**RED LIGHT TRIAL STATISTICS
FROM NAPA COUNTY SUPERIOR COURT**

	Statute starts with (VC21453)		
#1	Number of cites 2 years prior to Photo Red Light	1469	6-4-07 to 6-3-09
#2	Number of Photo Red Light to date	6616	Total
#3	Number of non-photo Red Light since implementation	737	Since 6-4-09
#4	Number of trials for Red Light 2 years prior to implementation of Photo Red Light	199	Cases filed 6-4-07 to 6-3-09
#5	Number of Photo Red Light trials held to date (Total)	326	Cases filed 6-4-09 to 9-15-10
	Dismissed/Acquitted	33	
	Convicted	293	
#6	Number of non-Photo Red Light trials heard since implementation	97	Cases filed 6-4-09 to 9-15-10

**City of Napa, Public Works Dept
Transportation Engineering Division**

APPENDIX VII

Traffic Collision History Report

11/15/2010
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**Location: Rt 121 / Rt 29 (1)
Date Range Reported: 1/1/2004 - 12/31/2008**

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
1254517	1/25/04	14:39	0	In Int.	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	1	0
1264573	2/10/04	16:28	30	South	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	1	0
1295410	2/26/04	16:17	10	South	Rear-End	Other Motor Vehicle	North	Slowing/Stopping	North	Stopped in Road	Unsafe Speed	0	0
1345047	3/18/04	09:28	0	In Int.	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	1	0
1335166	3/23/04	22:22	0	In Int.	Broadside	Other Motor Vehicle	South	Proceeding Straight	East	Proceeding Straight	Traffic Signals and Signs	0	0
1335163	3/25/04	05:33	0	In Int.	Broadside	Other Motor Vehicle	West	Making Left Turn	South	Proceeding Straight	Auto R/W Violation	0	0
1376884	4/16/04	16:02	12	South	Rear-End	Other Motor Vehicle	South	Stopped in Road	South	Slowing/Stopping	Unsafe Speed	0	0
1384484	4/19/04	08:33	20	North	Rear-End	Other Motor Vehicle	South	Slowing/Stopping	South	Slowing/Stopping	Following Too Closely	0	0
1462240	6/3/04	16:52	8	West	Rear-End	Other Motor Vehicle	East	Proceeding Straight	East	Stopped in Road	Unsafe Speed	2	0
1536589	6/22/04	11:05	0	In Int.	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Other	0	0
1505276	6/25/04	08:05	0	In Int.	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Following Too Closely	0	0
1687041	8/3/04	12:49	10	South	Rear-End	Other Motor Vehicle	North	Slowing/Stopping	North	Slowing/Stopping	Unsafe Speed	0	0
1565703	8/6/04	17:27	0	In Int.	Broadside	Other Motor Vehicle	North	Making Left Turn	East	Proceeding Straight	Auto R/W Violation	0	0
1924885	9/4/04	11:31	0	In Int.	Broadside	Other Motor Vehicle	South	Proceeding Straight	East	Proceeding Straight	Traffic Signals and Signs	0	1

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Location: Rt 121 / Rt 29 (1)
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Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
1664726	9/16/04	10:13	1	South	Hit Object	Fixed Object	North	Slowing/Stopping			Other Than Driver or Ped	0	0
1641244	9/19/04	10:50	0	In Int.	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	0	0
1641228	9/25/04	14:59	0	In Int.	Rear-End	Other Motor Vehicle	North	Slowing/Stopping	North	Stopped in Road	Unsafe Speed	0	0
1678444	10/10/04	14:39	30	South	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	4	0
1678468	10/11/04	13:50	15	North	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	0	0
1723127	11/10/04	08:43	15	North	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	1	0
1756340	12/4/04	19:11	12	West	Rear-End	Other Motor Vehicle	East	Proceeding Straight	East	Stopped in Road	Unsafe Speed	0	0
1847082	1/24/05	10:04	10	North	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	0	0
1847070	1/27/05	19:12	0	In Int.	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Slowing/Stopping	Unsafe Speed	0	0
1861504	2/1/05	07:37	60	West	Rear-End	Other Motor Vehicle	East	Slowing/Stopping	East	Stopped in Road	Unsafe Speed	1	0
1906441	2/27/05	15:47	50	North	Hit Object	Fixed Object	North	Ran Off Road			Unsafe Speed	0	0
1916356	3/6/05	16:13	0	In Int.	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	2	0
1916352	3/6/05	18:49	0	In Int.	Rear-End	Not Stated	North	Making Left Turn	North	Making Left Turn	Unsafe Speed	1	0
1924203	3/15/05	13:22	20	South	Rear-End	Other Motor Vehicle	North	Slowing/Stopping	North	Slowing/Stopping	Following Too Closely	0	0

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Location: Rt 121 / Rt 29 (1)
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Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
1944594	3/24/05	20:25	0	In Int.	Head-On	Other Motor Vehicle	North	Making Left Turn	East	Stopped in Road	Auto R/W Violation	0	0
1946714	3/25/05	13:20	20	North	Rear-End	Other Motor Vehicle	North	Stopped in Road	North	Proceeding Straight	Unsafe Speed	0	0
1944590	3/25/05	16:42	15	North	Rear-End	Other Motor Vehicle	South	Slowing/Stopping	South	Stopped in Road	Unsafe Speed	0	0
1997858	4/8/05	09:11	0	In Int.	Overtaken	Non-Collision	North	Slowing/Stopping			Unsafe Speed	1	0
1995105	4/29/05	07:22	0	In Int.	Rear-End	Other Motor Vehicle	East	Proceeding Straight	East	Slowing/Stopping	Unsafe Speed	1	0
2001037	5/4/05	17:43	0	In Int.	Sideswipe	Other Motor Vehicle	East	Proceeding Straight	East	Slowing/Stopping	Unsafe Lane Change	1	0
2069191	6/1/05	13:01	0	In Int.	Head-On	Other Motor Vehicle	South	Proceeding Straight	North	Making Left Turn	Other Hazardous Movement	0	0
2123452	6/29/05	16:19	0	In Int.	Broadside	Other Motor Vehicle	South	Proceeding Straight	East	Making Left Turn	Traffic Signals and Signs	0	0
2188175	8/5/05	11:18	0	In Int.	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	1	0
2211352	8/25/05	14:49	0	In Int.	Rear-End	Other Motor Vehicle	North	Slowing/Stopping	North	Stopped in Road	Unsafe Speed	1	0
2242773	8/27/05	11:36	150	South	Rear-End	Other Motor Vehicle	North	Changing Lanes	North	Stopped in Road	Unsafe Speed	0	0
2229954	9/2/05	22:10	0	In Int.	Broadside	Other Motor Vehicle	South	Proceeding Straight	Not Stated	Making Left Turn	Traffic Signals and Signs	0	0
2242679	9/17/05	16:15	75	North	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	1	0
2262795	9/23/05	23:01	0	In Int.	Sideswipe	Other Motor Vehicle	South	Proceeding Straight	East	Making Left Turn	Traffic Signals and Signs	2	0

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**Location: Rt 121 / Rt 29 (1)
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Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
2262742	9/26/05	15:45	0	In Int.	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	0	0
2262763	9/29/05	16:45	0	In Int.	Broadside	Other Motor Vehicle	South	Proceeding Straight	East	Stopped in Road	Driving Under Influence	2	0
2271943	10/10/05	15:53	0	In Int.	Rear-End	Other Motor Vehicle	East	Merging	East	Stopped in Road	Unsafe Speed	0	0
2301493	10/26/05	10:32	15	South	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	0	0
2301441	10/31/05	13:33	40	South	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Other	0	0
2319723	11/6/05	14:39	0	In Int.	Hit Object	Fixed Object	West	Making Right Turn			Unsafe Speed	0	0
2353728	12/1/05	16:50	0	In Int.	Rear-End	Other Motor Vehicle	South	Slowing/Stopping	South	Slowing/Stopping	Unsafe Speed	1	0
2390548	12/9/05	10:30	0	In Int.	Broadside	Other Motor Vehicle	North	Proceeding Straight	North	Proceeding Straight	Other	2	0
2390484	12/13/05	13:53	0	In Int.	Sideswipe	Other Motor Vehicle	East	Making Left Turn	East	Making Left Turn	Wrong Side of Road	0	0
2390585	12/14/05	14:42	30	South	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	2	0
2407626	12/23/05	11:44	0	In Int.	Rear-End	Motor Vehicle on Other	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	0	0
2540688	2/27/06	16:15	0	In Int.	Broadside	Other Motor Vehicle	South	Proceeding Straight	East	Making Left Turn	Traffic Signals and Signs	0	0
2556122	3/23/06	10:04	0	In Int.	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Proceeding Straight	Following Too Closely	0	0
2559757	3/28/06	11:29	0	In Int.	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	1	0

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Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
2559705	4/7/06	21:50	10	South	Rear-End	Other Motor Vehicle	North	Slowing/Stopping	North	Stopped in Road	Unsafe Speed	0	0
2629618	5/8/06	17:31	0	In Int.	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	0	0
2689525	6/10/06	22:21	0	In Int.	Sideswipe	Other Motor Vehicle	Not Stated	Proceeding Straight	East	Making Left Turn	Traffic Signals and Signs	2	0
2696862	6/18/06	07:03	0	In Int.	Overtaken	Non-Collision	North	Proceeding Straight	North	Wrong Side of Road	Wrong Side of Road	1	0
2689468	6/19/06	08:56	0	In Int.	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	1	0
2696817	7/3/06	19:36	0	In Int.	Sideswipe	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	1	0
2716608	7/7/06	11:19	20	South	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unknown	0	0
2732656	7/23/06	12:37	30	South	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	2	0
2874959	10/25/06	15:38	0	In Int.	Broadside	Other Motor Vehicle	South	Proceeding Straight	East	Making Left Turn	Traffic Signals and Signs	2	0
2927482	11/17/06	18:00	0	In Int.	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	0	0
2935238	12/12/06	09:05	20	North	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Slowing/Stopping	Unsafe Speed	1	0
3049510	2/26/07	13:11	0	In Int.	Hit Object	Fixed Object	South	Other Unsafe Turning	South	Stopped in Road	Unsafe Speed	0	0
3112256	3/16/07	09:15	50	South	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	0	0
3174326	4/16/07	16:17	0	In Int.	Broadside	Other Motor Vehicle	South	Proceeding Straight	East	Proceeding Straight	Unknown	1	0

**City of Napa, Public Works Dept
Transportation Engineering Division
Traffic Collision History Report**

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Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
3176258	5/8/07	13:15	15	North	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	2	0
3202563	5/23/07	13:03	20	North	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	1	0
3226052	6/13/07	18:49	20	South	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Stopped in Road	Unsafe Speed	1	0
3263281	6/24/07	13:32	10	North	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	2	0
3449717	10/28/07	15:35	0	In Int.	Rear-End	Other Motor Vehicle	North	Proceeding Straight	North	Slowing/Stopping	Unsafe Speed	1	0
3753403	4/10/08	15:49	6	North	Rear-End	Other Motor Vehicle	South	Proceeding Straight	South	Stopped in Road	Unsafe Speed	0	0
3918598	9/27/08	22:38	0	In Int.	Broadside	Other Motor Vehicle	South	Changing Lanes	East	Stopped in Road	Unsafe Speed	4	0

City of Napa, Public Works Dept
 Transportation Engineering Division
 Traffic Collision History Report

Location: Rt 121 / Rt 29 (1)
 Date Range Reported: 1/1/2004 - 12/31/2008

Report No.	Date	Time	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Direct. of Travel 1	Movement Prec. Coll. 1	Direct. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil
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Total Number of Collisions: 77

Settings Used For Query

<u>Parameter</u>	<u>Setting</u>
Street Name	Rt 121
Cross Street	Rt 29 (1)
Starting Date	1/1/2004
Ending Date	12/31/2008
Intersection	Intersection Related