


POLICY DIRECTIVE

TR-0011 (REV 9/2006)

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.**

POLICY DIRECTIVE**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.

ADA Notice

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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

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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.

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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

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