

Technical Memorandum No. 3.8

Florida's 2003 Intelligent Transportation System Strategic Plan Update

Automated Vehicle Monitoring and Enforcement

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Version 2



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Automated Vehicle Monitoring and Enforcement*

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List of Acronyms

AAA	American Automobile Association
DHSMV	Department of Highway Safety and Motor Vehicles
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
<i>FS</i>	<i>Florida Statutes</i>
ITS	Intelligent Transportation Systems
TEOO	Traffic Engineering and Operations Office

1. Introduction

One of the primary roles of intelligent transportation systems (ITS) is to utilize appropriate technology to help reduce traffic crashes and improve adherence to traffic laws. It should be noted that automated traffic law enforcement is not intended to replace traditional law enforcement personnel, nor to mitigate safety problems caused by deficient road design, construction, or maintenance. Rather, it provides enforcement at times and locations when police manpower is unavailable or its use raises safety concerns.

The use of photographic and electronic technology as a substitute for traditional traffic law enforcement has become well publicized both inside and outside the United States. The goal of automated enforcement is to apply the technology in areas that have high crash sites or in other high-risk locations. It is also employed in situations where traffic law enforcement personnel cannot be utilized, either due to the pressing needs of other police activities or where inherent onsite safety problems make traditional enforcement difficult.

Most automated enforcement laws apply to red light violations; however, some laws authorize enforcement for speed, and a few authorize enforcement for any offense for which automated detection is suitable. Automated enforcement laws vary significantly from state to state; some authorize enforcement statewide, whereas others permit it only in specified communities.

The purpose of this *Technical Memorandum* is to identify and address the key automated vehicle monitoring and enforcement issues, and the legal and statutory impediments to the implementation of these strategies. These core actions will be incorporated in the update of *Florida's Intelligent Transportation System Strategic Plan*.¹

¹ Florida Department of Transportation, *Florida's Intelligent Transportation System Strategic Plan – Final Report* (August 1999). Available online at <http://www.dot.state.fl.us/trafficoperations/its/>.

2. Background

Numerous automated enforcement methods are available today that share their origins with ITS technologies, notably vehicle detection, video surveillance, and advanced traffic management techniques. In law enforcement, these ITS applications are utilized in policing variable speed zones, red light running, illegal railroad gate crossings, and overweight trucks, as well as reducing conflicts between pedestrians, cyclists, and vehicles. Each of these ITS technologies has the capability to be used as an enforcement device, that is, to detect and identify the violator; issue a citation; and collect a fine. The rationale often used to incorporate these devices has been to provide:

- Automated enforcement of traffic laws
- Policing at times and locations when police manpower is unavailable
- An increase in the number of citations issued
- Public awareness of the number of violators
- A new revenue stream

In recent years, the trend has been for these types of enforcement devices (e.g., detection of motorists running red lights) to initially increase the number of rear-end collisions and decrease the number of side collisions at intersections. Because the location of these devices is fixed, the initial number of detected violations at a particular intersection is high relative to violations six months later – as is the revenue stream. This is important to note because the goal and performance metric of automated enforcement technology is too often measured in violations.

Current research by the Federal Highway Administration (FHWA) is focusing on the utilization of automated enforcement technology to decrease the number and severity of crashes. Much of the data being collected references violations and the estimated number of crashes that automated enforcement technology has prevented. What appears to be missing is substantive data on the number of collisions at critical intersections that have been prevented due to the presence of automated enforcement technology. Ideally, data will need to be gathered at key intersections for pre- and post-automated enforcement technology installations.

Therefore, one may reasonably assume that, in the near future, the performance metric for automated enforcement will be measured in collision reductions. It is recommended that the Florida Department of Transportation (FDOT) Traffic Engineering and Operations Office (TEOO) strongly consider using automated enforcement technology as a *safety perspective*, as opposed to a violation perspective. Initial actions for the FDOT ITS Program are provided based on this assumption.

3. Automated Enforcement Trends

The use of an automated enforcement technology can help communities enforce traffic safety laws by photographing the vehicles of drivers who intentionally enter an intersection after the signal has turned red, illegally cross a railroad gate, speed, or otherwise violate traffic safety laws.

Thirty-six states have chosen not to legislate any automated enforcement measures, while only 15 have created specific legislation. Of the 15 states that have passed legislation, 2 of these will repeal those laws over the next 2 years. These and other differences are summarized in Table 3.1.

Table 3.1 – Summary of Automated Enforcement Laws by State

Category	Number of States	Technology
No Statewide Automated Enforcement	26	
No Specific State Statutes	6	
Miscellaneous State Statutes	4	Photo Radar Specifically Prohibited
Subtotal	36	
Statewide Automated Enforcement	6	Red Light Cameras and Photo Radar
Jurisdictions or Municipalities within a State Having Automated Enforcement ^a	9	Red Light Cameras and Photo Radar
Subtotal	15	
TOTAL	51	

^a This category includes two states whose enforcement laws will be repealed in 2004 and 2005: New York (12/01/04) and Virginia (07/01/05). The totals include the District of Columbia.

A few states treat automated enforcement citations just like parking tickets in that the registered vehicle owner is liable. Similarly, just as parking tickets do not result in points and are not recorded on a driver's record, many states do not assess points or make a record of automated enforcement citations. Detailed descriptions of the differences in automated enforcement laws can be found in *Appendix A*.

Many states impose only a civil fine for traffic law violations enforced via the automated traffic law enforcement system and rely on an initial presumption of guilt. This approach is not new, as it is typically utilized for the enforcement of parking violations. As with parking violations, no record of the traffic law violations resulting from automated traffic law enforcement are placed in drivers' licensing files for possible point assessment or licensing action. Indeed, any attempt to unfavorably influence guilty persons' driving privileges through the use of this system could raise due process of law concerns.

Typically, the law contains provisions to ensure that automated traffic law enforcement is not used as a revenue generator for the system vendor. Compensation that a law enforcement agency pays for an automated traffic enforcement system is to be based only on the value of the equipment or the services provided – not on the number of traffic citations the agency issues or the revenue the system generates. To help further this goal and improve highway safety, the laws often state that revenue derived from automated traffic law enforcement projects may be utilized solely to fund highway safety functions.

4. Automated Vehicle Monitoring and Enforcement in Florida

Both the Florida House and Senate have attempted to pass bills related to automated enforcement. In May 2004, both bills were defeated. Specifics include:

- **House Bill 0377: Relating to Traffic Control Devices** – This bill, introduced in December 2003, revises jurisdictional provisions to provide for devices to enforce traffic control signals. This bill also provides for enforcement of traffic control signals by the FDOT, and the development of training and qualification standards for signal enforcement officers.²

This bill died in the Committee on Transportation. As a result, the bill was not subjected to a Senate staff analysis, nor was it ever voted on in committee.

- **Senate Bill 2414: Relating to the Active Construction Work Zone Act** – This bill was introduced in March 2004 and cited as the *Active Construction Work Zone Safety Act of 2004*. It provides that the Florida Department of Highway Safety and Motor Vehicles (DHSMV) will review and approve photo speed detection system requirements and testing procedures. The bill requires obedience to the posted speed limit in active zones; requires advance warning signs to notify drivers of photo speed detection systems; and provides for the training and qualification of photo speed detection officers.³

Unlike the previous bill, this bill was subjected to a Senate staff analysis and received a favorable vote by the Committee on Transportation. It included an amendment to clarify a violation of section 316.0795 of the *Florida Statutes (FS)*,⁴ as a “...non-criminal traffic infraction, not a moving violation.”⁵ The Criminal Justice Committee voted unfavorably and the bill died.

² The Florida House of Representatives, *H. 0377: Relating to Traffic Control Devices* (May 2004). Available online at <http://www.flsenate.gov/Session/>.

³ The Florida Senate, *S. 2414: Relating to Active Construction Work Zone Act* (July 2004). Available online at <http://www.flsenate.gov/Session/>.

⁴ FLA. STAT. §316.0795, *Traffic Control Signal Devices* (2003). Available online at <http://www.flsenate.gov/Statutes/>.

⁵ The Florida Senate, *S. 2414: Senate Staff Analysis and Economic Impact Statement*, 4. Available online at <http://www.flsenate.gov/Session/>.

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Senate Bill 2414's *Senate Staff Analysis and Economic Impact Statement* indicates that the bill had no constitutional or technical deficiencies. However, there was a single issue with the economic impact of the bill as related to the government sector impact. The government sector impact stated, "The counties where the offenses occur will receive 25 percent of the collected fines. The bill does not specify what the counties must do with the money."⁶

It is important to note that many states have incorporated language on the use of collected fines. For example, it is generally recognized that no portion of any fine collected through the use of automated traffic enforcement may be utilized as the implementing jurisdiction's general revenue. Revenue derived from automated enforcement should be utilized solely to fund highway safety functions and projects, which may include automated enforcement program costs. The enforcement program costs that may be funded by revenues derived from citation fines are limited to equipment acquisition; installation and replacement; program administration; public information campaigns and education; and periodic program evaluations of compliance, public awareness, and safety.

⁶ *Senate Staff Analysis and Economic Impact Statement*, 4.

5. Initial Actions for the Florida Department of Transportation Intelligent Transportation Systems Program

Successful implementation of automated enforcement will require a significant outreach to the traveling public. The traveling public fully understands that there are critical intersections within Florida that have an excessive number of accidents and collisions. The addition of automated enforcement using ITS technologies at these intersections can provide the public with the safety and the accountability (i.e., citations issued to vehicle owners for violations) required.

What the traveling public does *not* fully understand is the role of red light cameras and photo radar as safety devices. More often than not, they see these devices as surreptitious police tools able to capture and fine speeders and red light runners, who are unable to confront their electronic “accusers.” The goal is to refocus the public’s perception of these technologies from generators of citations and revenue to effective methods of reducing needless injuries and deaths caused by reckless drivers.

The strategy of how best to legislate and implement effective automated enforcement must be driven by a successful outreach program that focuses on “safety” versus “violations.” It is generally accepted that safety is a value worthy of concern in planning ITS services because, in the long run, public acceptance of intelligent automated enforcement capabilities will depend largely on public confidence.

The purpose of this *Technical Memorandum* is to review existing ITS automated enforcement legislation and to make recommendations for further actions by the FDOT. The remainder of this section identifies key actions for the TEOO’s ITS Section to take in implementing automated traffic enforcement policies and standards in Florida.

The FDOT should:

- Lead the research and development of a strategic ITS automated enforcement plan and standards. This strategic plan will specifically address the identification of best practices and major tasks to be performed.
- Determine the process for implementing automated enforcement in Florida. The two major alternatives are: (1) to develop automated enforcement legislation first; or (2) to include a strong public outreach program in the strategic plan based on safety concerns; establish demonstration sites at key intersections; evaluate the data; share the data with the public; and develop automated enforcement legislation last.

- Ensure that a major section in this strategic plan addresses the process of public outreach. A structured, effective outreach program will inform the general public about such topics as automated enforcement public information campaigns and education, as well as periodic evaluations of the program's impact on compliance, public awareness, and safety.
- Determine performance measures to ensure that the public outreach program implemented is having the desired effect.
- Focus on applying the technology only at locations with high crash rates due to traffic violations where it is impractical or unsafe to use traditional enforcement methods, or where traditional enforcement methods have failed to deter high crash rates.
- Consider involving a private partner for the automated enforcement public outreach program, such as the American Automobile Association (AAA), whose corporate headquarters are in Lake Mary, Florida. The AAA's Foundation for Traffic Safety has taken a national leadership role in promoting safer streets and highways.
- Expand its relationship with the FHWA to develop an outreach and model deployment of automated enforcement technology. The goal of the deployment is to reduce the accidents and collisions on the most dangerous intersections in Florida.
- Develop a formal policy and public outreach plan for the use of automated enforcement technology to reduce accidents and collisions in a county or municipality. This formal policy should include the proper legal wording so that an automated enforcement pilot project can be presented to a county or municipality for its approval and implementation.
- Withhold the introduction of any new or modified automated enforcement legislation until such time that the technology has been proven to reduce the number of needless injuries and deaths caused by reckless drivers.

Appendix A

Automated Enforcement Laws as of May 2004

Table A.1 – Automated Enforcement Laws by State

State	Location	Violations	Citation Issued to Whom	Liability	Image	Traditional Enforcement Penalties	Records / Points / Penalties	Defenses	Privacy
Alabama	No automated enforcement in this state.								
Alaska	No automated enforcement in this state								
Arizona	No specific statute; red light and speed cameras are in use in Phoenix, Tempe, and Chandler. Traditional enforcement penalties include a maximum of \$250 and the points on the driver's record.								
Arkansas	No automated enforcement in this state.								
California ^e	Statewide	Red light; ^a rail crossing	Registered Owner	Driver or owner if owner does not identify driver	Plate and driver	\$100 Fine / 1 Point	Penalty same as traditional citation	Driver not owner if owner identifies driver	Photo may be used only for purposes of the act; available only to owner and alleged driver
Colorado ^e	Statewide	Any traffic violation ^b	Registered Owner	Driver	Plate and driver				
Connecticut	No automated enforcement in this state.								
Delaware ^e	Statewide	Red light	Registered Owner	Owner	Two or more images of the vehicle	\$75-\$230 Fine	Not a conviction; not recorded; not to be used for insurance purposes; maximum fine \$50 plus costs	Owners of commercial vehicles must identify driver or be held responsible	Not addressed
District of Columbia ^e	Entire Jurisdiction	Moving Infractions	Registered Owner	Owner	Not addressed	\$75 Fine / 2 Points	Penalty same as for traditional citation	Driver not owner supported by affidavit; driver yielding to emergency vehicle; funeral procession or responding to officer direction	Not addressed
Florida	No automated enforcement in this state.								
Georgia ^e	Statewide	Red Light	Registered Owner	Owner	License plate, intersection, and light	\$1,000 Max. Fine / 3 Points	No points assessed; not part of record; not moving violation; not criminal conviction; not used for insurance purposes; \$70 maximum fine	Owner not driver	Images and information are not part of the public record.
Hawaii	No automated enforcement in this state.								
Idaho	No automated enforcement in this state.								
Illinois ^e	Municipalities with 1,000,000 or more residents	Red light violations resulting in crash, leaving the scene of an accident, or reckless driving resulting in bodily injury	Not addressed	Not addressed	Photo of vehicle and tag	\$500 Max. Fine	Penalty same as for traditional citation	Not addressed	Not addressed
	Chicago (by homerule ordinance)	Red Light	Registered Owner	Owner	Photo of vehicle and tag	\$500 Max. Fine	\$90 Fine	Light violation occurred as part of a funeral procession; vehicle or plates were stolen	Not addressed
Indiana	No automated enforcement in this state.								

Table A.1
(CONTINUED)

State	Location	Violations	Citation Issued to Whom	Liability	Image	Traditional Enforcement Penalties	Records / Points / Penalties	Defenses	Privacy
Iowa	No automated enforcement in this state.								
Kansas	No automated enforcement in this state.								
Kentucky	No automated enforcement in this state.								
Louisiana	No automated enforcement in this state.								
Maine	No automated enforcement in this state.								
Maryland ^e	Statewide	Red Light	Registered Owner	Owner	Rear of vehicle and tag; two or more photos, micro-photos, electronic images, videotape, or any other medium	\$500 max. Fine / 2 Points	Not a moving violation; no points; no record; treated as parking violation; may not be considered by insurers; max. \$100 civil penalty	Light violation occurred in order to yield to an emergency vehicle or as part of a funeral procession; vehicle or plates were stolen; light not properly positioned or visible; owner not operator by providing name of operator and address	Not addressed
Massachusetts	No automated enforcement in this state.								
Michigan	No automated enforcement in this state.								
Minnesota	No automated enforcement in this state.								
Mississippi	No automated enforcement in this state.								
Missouri	No automated enforcement in this state.								
Montana	No automated enforcement in this state.								
Nebraska	No automated enforcement in this state.								
Nevada ⁵	The use of photographic, video, or digital equipment is prohibited unless it is handheld by an officer, or installed within a law enforcement agency vehicle or facility. Traditional enforcement penalties include a maximum fine of \$1,000 and 4 points on the driver's record.								
New Hampshire	No automated enforcement in this state.								
New Jersey ^e	Photo-radar enforcement is prohibited in this state.								
New Mexico	No automated enforcement in this state.								
New York ^e (repealer effective 12/1/2004)	Cities with a population of 1,000,000 or more are limited to 50 intersections within each city	Red Light	Owner	Owner	Photographs, micro-photographs, videotape, other recorded images, requires 2 or more images	\$100 Max. Fine / 3 Points	\$50 with a possible \$25 fine for failure to respond to a notice of liability. Imposition of liability is not the equivalent of a conviction; not part of driver record; may not be used for insurance purposes	Vehicle stolen; vehicle leased or rented by another; owner responsible even if not driving but may seek indemnification by driver, driver already convicted	Not addressed

Table A.1
(CONTINUED)

State	Location	Violations	Citation Issued to Whom	Liability	Image	Traditional Enforcement Penalties	Records / Points / Penalties	Defenses	Privacy
North Carolina ^e	Albemarle, Charlotte, Chapel Hill, Cornelius, Durham, Fayetteville, Greensboro, High Point, Huntersville, Lumberton, Matthews, Nags Head, Newton, Pineville, Raleigh, Rocky Mount, Spring Lake, Wilmington	Red Light	Owner	Owner	Photo, video, electronic	\$100 Max. Fine / 3 Points	Noncriminal violation; no points; \$50 civil penalty or, if not paid, \$100	Owner not operator but must furnish name and address of operator; vehicle stolen	Not addressed
North Dakota	No automated enforcement in this state.								
Ohio	No specific statute exists. Red light cameras are authorized by ordinance in Toledo and Dayton. The owner is liable, but there is no criminal conviction, it is not placed on the operating record, and no points are assessed. In Toledo, there is a maximum \$75 fine and in Dayton there is a maximum \$250 fine. Traditional enforcement penalties include a maximum of \$100 and 2 points on the driver's record.								
Oklahoma	No automated enforcement in this state.								
Oregon ^e	Cities with 30,000 or more people; in cities with 30,000 to 300,000, technology is limited to 8 intersections per city; in cities with more than 300,000, it is limited to 12 intersections in the city	Red light (photo radar authorized by a separate provision, 4 hours per day §810.438)	Registered Owner or Driver, if identifiable	Registered Owner	Photographs; digital images	\$300 Max. Fine	Penalty same as for traditional citation	Owner may submit a "certificate of innocence"; owner employer, business, rental agency may certify that the vehicle was being operated by employee or lessee and must provide name and address and driver license number of operator	Not addressed
Pennsylvania ^e	Philadelphia ^d	Red Light	Registered Owner	Owner	Photographs	\$25 Fine / 3 Points	\$100 max. fine; not on operating record	Owner not driver; vehicle stolen; did not own vehicle at time of violation	Images and information are not part of public record
West Virginia	No automated enforcement in this state.								
Wisconsin ^e	Photo-radar enforcement is prohibited in this state.								
Wyoming	No automated enforcement in this state.								

^a The system must be identified with signs visible to traffic approaching from any direction or the signs must be posted at all major entrances to the city. The intersections where a red light camera is present must have a minimum yellow light change interval established in accordance with the Traffic Manual of the Department of Transportation. Warning notices are required for the first 30 days after implementation. Public announcement is required at least 30 days prior to implementation.

^b Photo radar may only be used in school zones, residential neighborhoods, or along a street bordering a municipal park. If the violation is the first photo radar offense and the vehicle was traveling 10 miles per hour (MPH) or less over the posted speed limit, only a warning may be issued.

^c A fine may not be used to compensate a vendor or lessor for equipment. The cost must be based on the value of the equipment, not on the number of citations issued or revenue generated.

^d Red light cameras are only permitted to be installed at the following intersections: U.S. Route 1 at Grant Avenue; U.S. Route 1 at Red Lion Road; U.S. Route 1 at Cottman Street; Kensington Avenue at Clearfield Street; Richmond Street at Allegheny Avenue; Richmond Street at Castor Avenue; Aramingo Avenue at New York Street; Thompson Street at Lehigh Avenue; and Broad Street at Washington Avenue.

^e The code citation for the statutes are as follows: Cal. Vehicle Code §§210, 21455.5, 21455.6, 40518 – 40521 (West 2000); Colo. Rev. Stat. Ann. §42-4-110.5 (West 1997); Del. Code Ann. Tit. 21, §4101(d) (1995); D.C. Code Ann. §40-751 (1998); Ga. Code Ann. §40-6-20 (2001); 625 Ill. Comp. Stat. Ann. 5/11-306(c)(5), 5/1-105.5 (West 1993); Md. Ann. Code art. 21 §202.1, 207 (2000); Nev. Rev. Stat. Ann. 484.910 (Michie 1998); N.J. Stat. Ann. §39:4-103.1 (West 1990); N.Y. Vehicle and Traffic Law §1111-a (Consol. 1992); N.C. Gen. Stat. §160A-300.1 (1997); 1999 Oregon Laws 1999, 851 §1-3; 75 Pa. Cons. Stat. Ann. 3166; Utah Code Ann. §41-6-52.5 (2001); Va. Code Ann. §46.2-833.01 (Michie 1998; Wis. Stat. Ann. §349.02 (West 1999).