

Maryland SafeZones

Work Zone Automated Speed Enforcement Program

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Overview

- Program goals
- Rules and regulations
- Citation processing
- Pilot program
- Long term program
- Program results
- Challenges



Program Goals

- Change driver behavior using an integrated 3-E approach
- Promote awareness of speed-related safety issues
- Enhance worker and motorist safety by the reduction of or normalization of speeds in work zones



Space constrictions often limit law enforcement space constructions often munician emortement officers' ability to perform traditional traffic stops in work zones. The Maryland SafeZones program places automated speed enforcement technology in construction work zones to encourage drivers to travel at safer speeds. The overriding goal of the SufeZones program is to change driver behavior in work zones making these areas safer for workers. drivers and their passengers.

SafeZones basics:

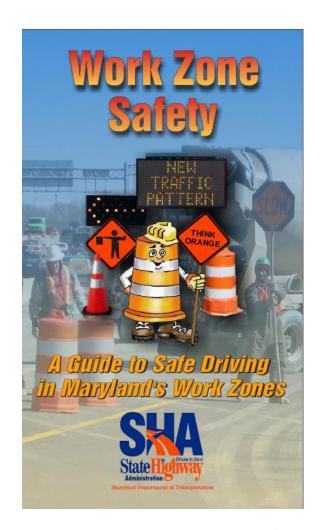
- The law authorizing automated speed enforcement in work zones became effective
- SafeZones mobile enforcement vehicles can be used in work zones on expressways and controlled access highways with a 45 mph
- · Larger signs will be posted to give drivers adequate advance notice of work zones with automated speed enforcement.
- SPEED PHOTO ENFORCED SafeZones mobile enforcement vehicles will rotate among eligible work zones throughout the State. The equipment will be tested for proper function at each work zone prior to deployment.
- According to a recent Insurance Institute of Highway Safety study, on Montgomery County roads with automated speed enforcement and warning signs, there was a 70 percent reduction in drivers traveling more than 10 mph over the speed limit.

SafeZones Customer Service 1-877-578-7440 www.safezones.maryland.gov



Maryland's Safezones Program

- Good WZ design
- Train All workers in safety
- New products
- Motorist information thru media/ITS
- WZ inspections
- Promote safety and mobility
- Enforcement





Rules and Regulations

- Expressways and controlled access highways (45 mph and greater)
- At least 12 mph over the posted speed limit
- Conspicuous signing
 - 4 approach warning signs (2 on each side of roadway)
 - General notice signs
 - Speed limit signs
 - Speed display trailer
- ASE System continuously manned during deployment
- System tested prior to and after each deployment



Rules and Regulations

- Photos of rear license plate
- Citations reviewed, approved and signed by a law enforcement officer
- Civil penalty, with a fine of \$40 and no points
- Warning Period
 - 41 days in Pilot Program
 - 21 days for each new longterm work zone (began Oct. 2010)



CITATIO

WORK ZONE SPEED MONITORING SYSTEM TRANSPORTATION ARTICLE §21-810

Mail Date: 11/01/09

John Q. Citizen 1234 Main Street Baltimore, MD 21227

Please take notice that the vehicle described and pictured herein was detected and recorded by a work zone speed monitoring system exceeding the posted speed limit by at least 12 mph in violation of Title 21, Subtitle 8 of the Transportation Article. The pictured vehicle was traveling at the speed listed below at the place, date, and time specified. Therefore, under Maryland State Law TA 21-810, as the registered owner(s) or lessee (six months or more) you are liable for the violation. Unless you elect to go to court, a civil penally in the amount of \$40.00 must be peald by the date due shown on this notice.

PAYMENT OF THE PENALTY AMOUNT FOR THE VIOLATION IS AN ADMISSION OF LIABILITY; HOWEVER, IT WILL NOT RESULT IN POINTS ON YOUR DRIVING RECORD AND CANNOT BE USED TO INCREASE YOUR INSURANCE RATES.

WARNING: FAILURE TO PAY THE PENALTY SHOWN OR TO CONTEST LIABILITY AS DESCRIBED IN THE NEXT PARAGRAPH IS AN ADMISSION OF LIABILITY AND MAY RESULT IN THE REFUSAL OR SUSPENSION OF THE MOTTOR VEHICLE REGISTRATION.

If you wish to contest this citation, your request for a court date must be received at least five days prior to the payment due date shown below. If you appear in court, the maximum amount you can be charged is a \$40.00 fine and court costs. Instructions for payment and contesting the citation are on the reverse of this notice. Recorded images are evidence of a violation of the Maryland Law prohibiting exceeding the maximum posted speed limit.

Citation Number: GB123456789 Violation Date: 10/01/09 Vehicle Speed: 63 Due Date: Mail Date + 30 Location: Test Location

Vehicle Tag: MD 180M797 Violation Time: 13:54:59 Posted Speed: 50 Amount Due: \$40

CERTIFICATE

I am a police officer employed by the Maryland State Police and certify that the work zone speed monitoring system was operated in compliance with the requirements of Subsection B of TA 21-810. Based on inspection of the recorded images shown on this citation, the motor vehicle was operated in violation of Title 21, Subtitle 8 of the Transportation Article. Swort or affirmed by:

Approver: ______ ID# _____



Send Check or Money Order Payable to: STATE OF MARYLAND Post Office Box 10427 Rockville, Maryland 20849

NAME & ADDRESS OF REGISTERED OWNER:

J.Q. Citizen 1234 Main Street Baltimore, MD 21227





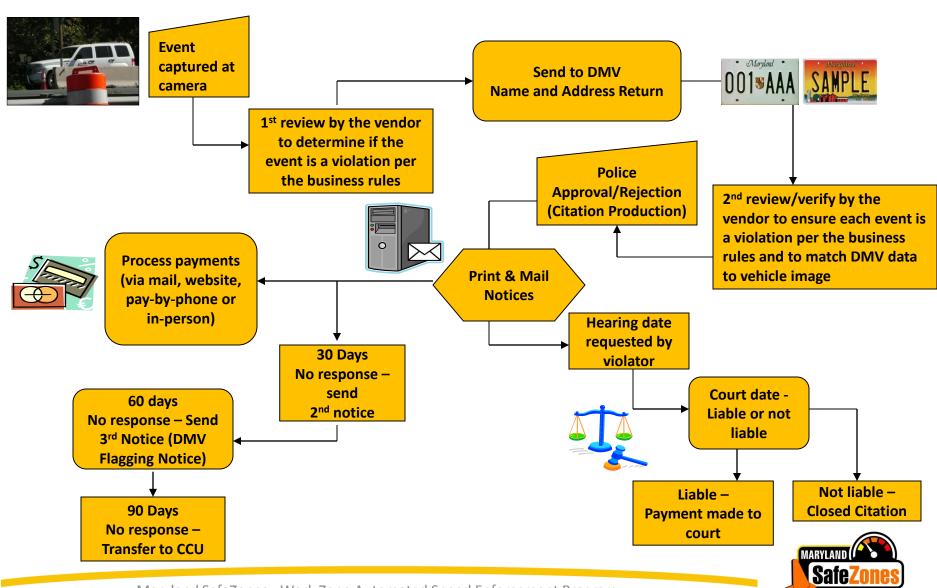
PAYMENT OPTIONS - SEE REVERSE

Maryland SafeZones: Safer Speeds. Safer Work Zones. A Public Safety Program of the State of Maryland

Citation Number: GB123456789	
Date Due	Fine Amount Due
12/1/09	\$40



Operational Processing Flow Chart



Automated Speed Enforcement

Pilot Program

- Oct. 5, 2009 to June 30, 2010
- Issued warnings until November 15, 2009
- Two (2) mobile enforcement vehicles
- Radar-based technology
 - Integrated lidar in 1st vehicle in April 2010, 2nd vehicle in June 2010
- Five(5) work zones nearly 55,000 citations and warnings issued
 - I-695 @ Charles Street
 - I-95 ETL (I-895 to I-695)
 - I-95 @ the ICC (MD 198 to MD 202)
 - I-695 @ Liberty Road
 - MD 295 between I-195 and I-695



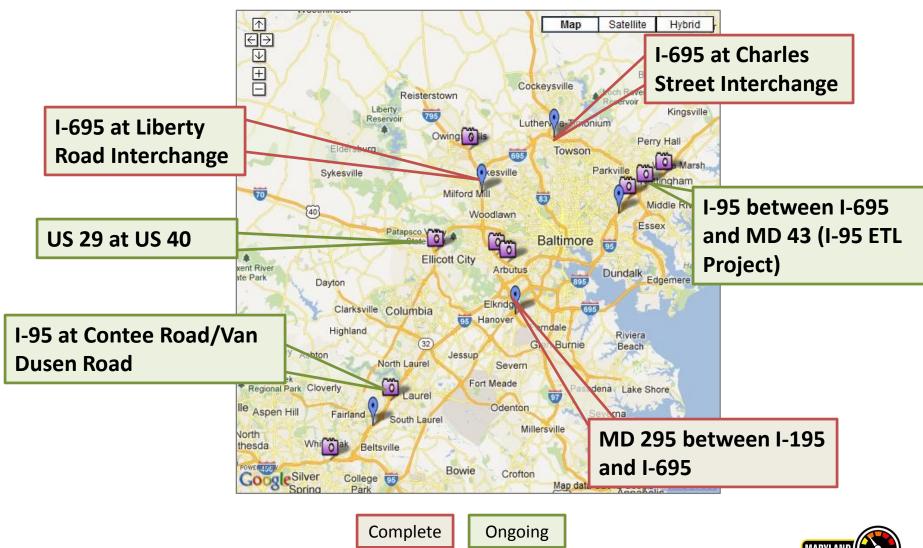
Long Term Program

- Seven (7) enforcement vehicles (plus one spare)
- Laser-based enforcement technology
- Five (5) deployments per vehicle per week
- Double shifts
 - Daytime AM (6 AM to 3 PM)
 - Nighttime PM (8 PM to 5 AM)
- Deploy on any day of the week
- Rotate vehicles based on work zone activity





ASE Work Zones – Location Map



Program Operations

Project Selection

- Expressways/controlled access highway, min. posted speed
 45 mph
- Worker exposure/motorist hazards
 - Lane shifts, lane width reduction, lane splits, closed shoulders, shortened acceleration/deceleration lanes, rough pavement, etc.

Project Coordination

- Construction Contractor: Phase changes, construction activities, vehicle location
- ASE Contractor: Deployment schedules, customer service, back-office work, courts
- Design Engineer: Signing, vehicle location and protection, contract pay items

ASE Equipment Location

- Considerations for ASE Vehicle and Speed Display Trailer Placement:
 - Protection
 - Behind barrier/guiderail (most desirable)
 - Behind traffic control devices (TCDs) in lane closure configuration (less desirable)
 - Behind TCDs on shoulder (least desirable)
 - Location
 - Construction activities and work zone set-up impact available locations
 - Safe entry/exit
 - Functionality of ASE System
 - Grade/elevation
 - Line of sight

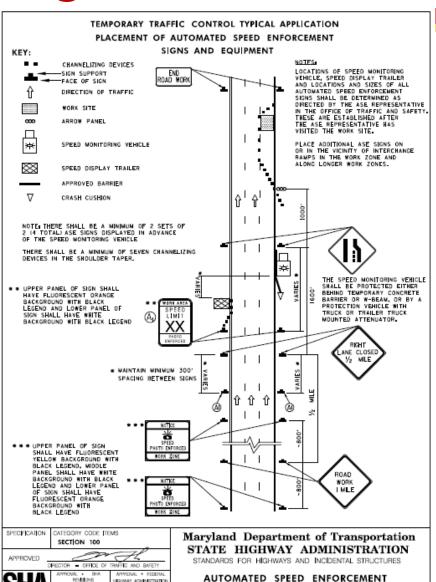


Advance Warning Signs

- Two sets of signs, each set comprised of two signs
- One on each side of the roadway
- Cover ALL approaches to the ASEV







MD 104.06-26

TYPICAL LAYOUT

STANDARD NO.

Statistics – July 1, 2010 to December 31, 2015

- Over 2.5 M citations issued
- Issuance rate of 75% for all violations
- Issuance rate of 94% for controllable citations
- Reject reasons:
 - Controllable: clarity of plate, dark environment
 - Uncontrollable: DMV does not return an address, obstructed plate, rentals/leases, unknown vehicle make
- Approx. 83% of citations have been paid
- Collected Revenue: About \$82 million
 - Program administrative and operating costs have not been subtracted from this total

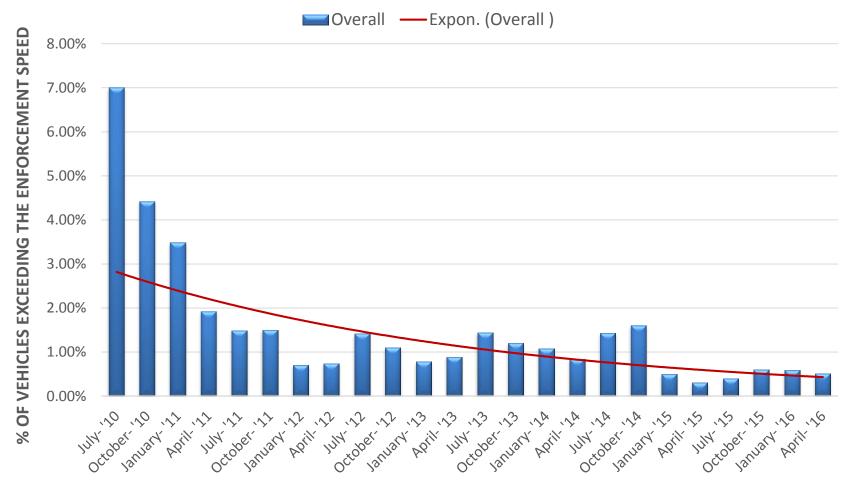
Program Results

- Reduction in the percentage of drivers exceeding the enforcement speed
- Reduction in the percentage of drivers excessively speeding over the enforcement threshold
- Reduction in number of crashes



Decrease in Violation Percentages

Decrease in Violation Percentages

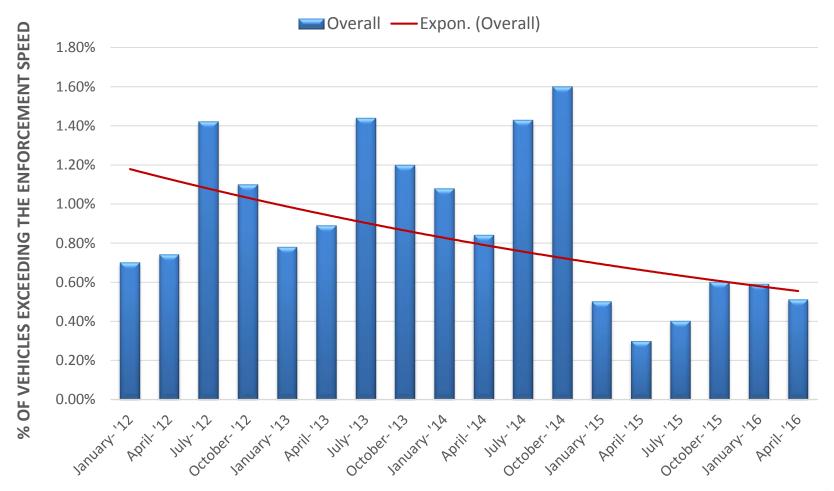


Quarterly Summary from 2010~2016



Decrease in Violation Percentages

Decrease in Violation Percentages

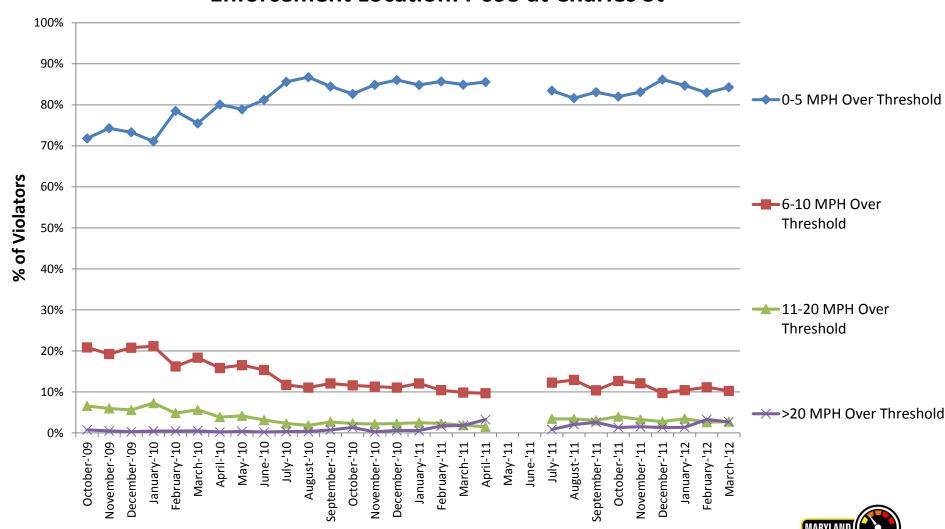


Quarterly Summary from 2012~2016



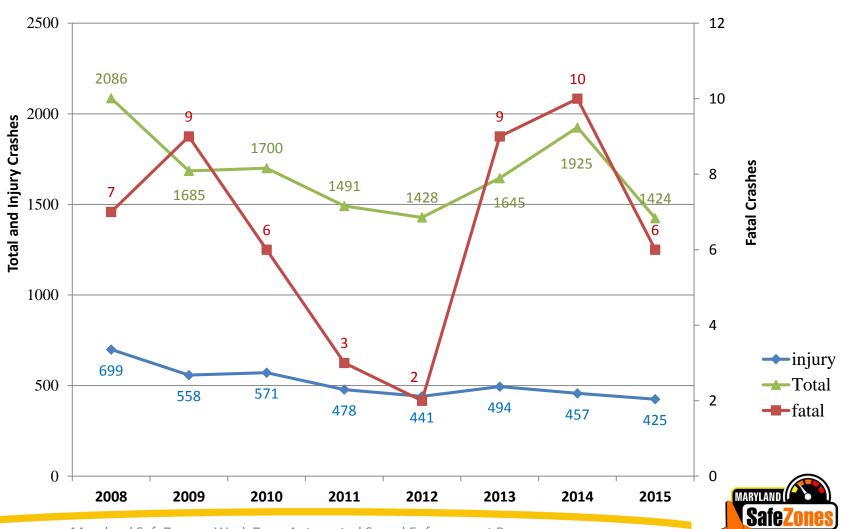
Decrease in Excessive Speeders





Reduction in number of Crashes

Crash Data For All Maryland Work Zones



Automated Speed Enforcement

Challenges

- Customer inquiries
 - Emails, phone calls, FOIA requests, reporter requests, etc.
- Customer curiosity
 - "Friendly" drive-bys or stop-bys
- Operations coordination
 - Scheduling deployments, changing on-the-fly, weather, etc.



Next Steps

- Continue evaluating projects for eligibility
- Continue evaluating efforts to improve operator safety
- Continue to collect and analyze before and after data for program evaluation and improvement
- Potential future legislation?



Media Coverage of Speed Cameras

- County Voids Hundreds Of Speed Camera Citations
- Baltimore needs a speed camera do-over
- Charles sheriff's office suspends use of speed cameras over sign placement issue
- Drivers' videos show
 Morningside speed-camera problems
- Conflicting Reports On Status Of City Speed Cameras



Other WZ ASE Programs in U.S.

Illinois

- \$375 fine, 2nd Offense \$1000 + 90 Day Suspension
- Police Officer sits in vehicle
- Citation issues at Officer's discretion

Oregon

- 11 mph Over Speed Limit
- Normal Speeding Fine + Points

Washington

- 11 mph Over Speed Limit
- \$137 Fine, No Points

Colorado

- 10 mph Over Speed Limit
- \$80 Fine, No Points

Arizona

- Operator Shot and Killed in 2009*
- Program Ended When Contract Lapsed in 2010
- Law Repealed in 2012





Fun Facts

- In 2014, only 0.36% of all citations (905/252,726) were contested
- Only 0.019% (48/252,726) were overturned
- One owner has 68 violations
- People who complain about speeding in their neighborhoods, flash their headlights to warn of a speed trap
- 85% of all drivers think they are better than average



Additional Information

- Safezones Website
 - Enforcement locations
 - Statistics
 - Online payment
 - FAQs
 - Useful resources

http://safezones.maryland.gov



- SHA Website
 - Safety Programs -> Automated Enforcement
 - http://roads.maryland.gov



Contact Information









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