

State Transportation Advisory Committee

Automated Red-Light Enforcement (ARLE)

2017 Program Evaluation



STC BRIEFING – June 2017

Study Background and Purpose

- The Pennsylvania State Transportation Advisory Committee (TAC) study addresses several requirements of Act 101 of 2016 to conduct an independent and objective assessment of the ARLE program (described to the right).
- The report examines ARLE's effectiveness in improving safety by reducing vehicle crashes and injuries at intersections due to red-light running.
- ARLE is currently in operation at 30 intersections in the City of Philadelphia and three intersections in Abington Township, Montgomery County.

ARLE uses cameras at signalized intersections to identify red-light-running violations. Tickets are issued to vehicle owners after a thorough review of the infraction.

Findings in Brief

- ARLE improves safety by reducing crashes.
- Safety benefits vary by intersection.
- ARLE works effectively in both large and smaller municipalities.
- ARLE can be feasible even where violation fines do not cover operating costs.
- Pennsylvania's ARLE law is comprehensive, avoiding the pitfalls of other states.
- Seventeen municipalities meet eligibility requirements for ARLE.
- Statutory population thresholds, however, exclude many large municipalities.
- Only two municipalities (Philadelphia and Abington Township) have implemented ARLE.
- Public perception appears to be a significant barrier to further implementation.
- The ARLE Funding Program has provided more than \$50 million in safety grants statewide using ARLE net revenue.

Recommendations Highlights

Consider legislative amendments to:

- Expand the number of eligible counties.
- Eliminate the requirement of municipal police force accreditation.
- Index the violation fine to inflation.
- Require the system administrator to provide supporting financial documents with the local quarterly reports.
- Require PennDOT approval to eliminate ARLE intersections.

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Study Approach

- Collected data on program administration and procedures, ARLE intersections, collection of fines, program expenses, violation trends, financial performance, and number of crashes and injuries.
- Evaluated safety benefits, program costs, ARLE Funding Program, allocation of program funds, and safety improvement projects
- Conducted municipal surveys and interviews to determine opportunities and challenges for program expansion in non-ARLE municipalities.
- Reviewed ARLE programs in other states for best practices.



Recommendations Highlights (continued)

Establish ARLE program evaluations.

Effective public program design and delivery typically entails periodic evaluations of program goals and objectives, cost-effectiveness, public satisfaction, performance measurement, etc.

Continue ARLE program promotion.

Municipalities with current ARLE programs should consider additional intersections where implementation may aid in reducing red-light-running crashes. Also, assist other eligible municipalities in implementing an ARLE program.

Consider statewide contracting for ARLE to encourage municipal participation.

Many eligible municipalities may lack the expertise to contract as effectively as possible with vendors. The opportunity for cost savings through a statewide contract could provide economies of scale for each

municipality and would reduce their time and cost associated with the contracting process.

Require local match for ARLE-funded projects.

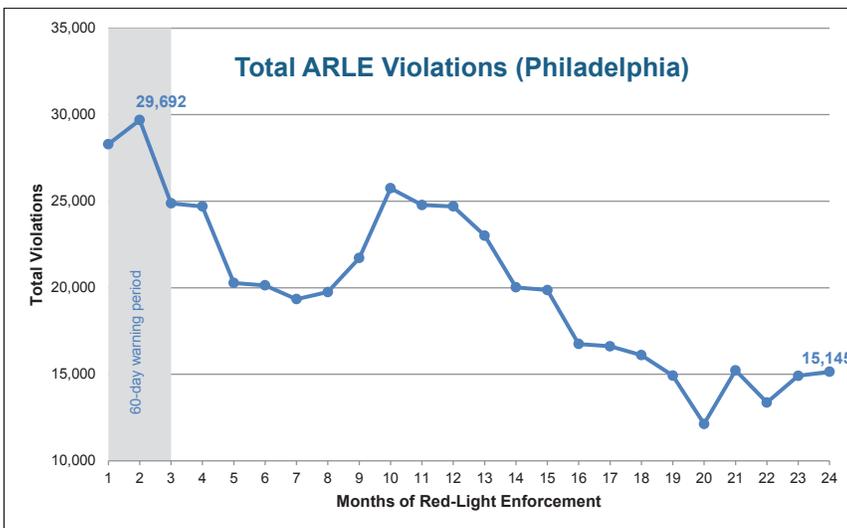
Requiring a local match may encourage municipalities to prioritize projects and help stretch the funding to support additional safety improvements.

Reinvest ARLE revenue into program.

PennDOT should consider reinvesting a portion of ARLE net revenues into initiatives that would encourage more municipalities to implement ARLE.

Provide targeted ARLE information and awareness for elected officials and municipalities.

Use existing training venues and platforms such as PennDOT's Local Technical Assistance Program (LTAP) for PA's municipal officials, many of which can be used to raise awareness of the ARLE program.



Left Top: Violations in the first 24 months of red-light enforcement at the 21 Philadelphia ARLE intersections that were operational by 2012. ARLE violations typically decrease over the two years following implementation, then level off.

Left Bottom: Excerpt of ARLE crash data from one intersection profile sheet (Broad and Vine Streets in Philadelphia). Data sheets on each ARLE intersection in Pennsylvania are provided in the Appendix to the full report.

Below: ARLE intersection in Abington Township.

Crash Counts, average per year (before ARLE, after ARLE, percent change)

All Crashes			Injury Crashes					
BEFORE	AFTER	CHANGE	All Causes			Red-Light Running		
BEFORE	AFTER	CHANGE	BEFORE	AFTER	CHANGE	BEFORE	AFTER	CHANGE
18.3	13.7	-25%	8.6	6.7	-22%	1.8	1.3	-26%

Crash History (per year)

Statistics for the period between 04/01/2007 and 03/31/2015

