TEAM DeIDOT’s Lessons Learned
Governor’s Highway Safety Association
2017 Annual Meeting
September 19, 2017
ERLSP program overview

- Statewide program launched in 2004
- 102 monitored approaches at 46 intersections
- Lease agreement with “turnkey” vendor
- Safety data-driven selection process, not revenue-based
- Transparent reporting
- Favorable public relations among elected officials, citizens, and media
Publicly-available information

- Map of enforced signals
- Annual reports
- “How to” video
- Site selection guidelines, reports, meeting minutes, etc.
- Violation payment and appeal FAQs
Site Selection Process

- Sites ranked by crash data
  - Red light running crashes
- Any other engineering solutions?
  - Yellow time adjustments
  - Backplates
  - Others
- Site visits to determine feasibility
- Capture violation data
- Final screening

Electronic Red Light Safety Program
Intersection Selection Process
January 26, 2016

Initial Screening
1) Intersections are first ranked (highest to lowest) by the total number of red-light running crashes by approach using the most recent five years of available crash data. Summary crash data is used (i.e., individual police reports are not reviewed during this step). This includes existing ERLSP intersections with approaches that are not currently monitored.

2) The following intersections are eliminated from further consideration during the current selection process:
   a) Locations that were eliminated from consideration in prior years due to site constraints (see Step 5 below)
   b) Locations where remedial improvements were installed during or after the crash study period that would reduce the potential for red-light running crashes (e.g., signal reconstruction or intersection improvements project)

3) Cameras are installed on an intersection approach; therefore, the top-ranked intersections (typically intersections with 5 or more red-light running crashes during the study period) identified in Steps 1 and 2 are then re-ranked (highest to lowest) by the highest number of "at-fault" crashes by approach based on a review of police reports.

4) The top-ranked intersections are evaluated to determine whether other types of engineering solutions could address the red-light running crashes.
   a) If the engineering solutions can be implemented in a relatively short time period, they are implemented based on availability of funding and the intersection is eliminated from consideration during the current selection process.
   b) If DelDOT Traffic determines that the solutions cannot be implemented in a timely manner or may require a capital project, the intersection in question may still be considered for red light camera installation.
   c) For all intersections under consideration, required yellow change and red clearance interval times are calculated and updated based on DelDOT's revised engineering practices which went into effect as of February 26, 2015 (Traffic Design Manual - 2015 Edition).

5) Site visits are performed to determine whether it is feasible to install and operate ERLSP equipment at the remaining candidate intersections. Factors considered include:
   a) Compatibility with site conditions/infrastructure
Site selection process

2015 Electronic Red Light Safety Program
Identification of Candidate Locations
August 27, 2015

Initial Screening

1) Intersections are first ranked (highest to lowest) by the total number of red-light running crashes by approach using the most recent five years of available crash data during this step. The includes existing ERLSP intersections with approaches that are not currently monitored.

2) The following intersections are eliminated from further consideration during the current selection process:
   a) Locations that were eliminated from consideration in prior years due to site constraints (see Step 5 below).
   b) Locations where remedial improvements were installed during or after the crash data period that would reduce the potential for red-light running crashes (e.g., signal reconfiguration or intersection improvements project).
   c) Intersections not addressed in an approach.

3) The top-ranked intersections typically identified in Step 1 are then re-ranked (highest to lowest) by the number of "at-fault" crashes by approach based on a review of police reports.

4) The top-ranked intersections are evaluated to determine whether other types of engineering solutions could address the red-light running crashes.
   a) Engineering solutions can be implemented in a relatively short time period, they are implemented based on availability of funding and the implementation is eliminated from consideration during the current selection process.
   b) If DelDOT determines that the solutions cannot be implemented in a timely manner or may require a capital project, the intersection in question may be considered for red light camera installation.
   c) For all intersections under consideration, requires yellow shone, clear, and red light clearance intervals are calculated and qualified based on DelDOT's revised Design Manual - 2015 Edition (http://www.dot.state.pa.us/design languag_forms/mainsite/traffic_design/index.aspx).

5) Site visits are performed to determine whether it is feasible to install and operate ERLSP equipment at the remaining candidate intersections. Factors considered include:
   a) Compatibility with site condition and infrastructure.
Site selection – countermeasures

- DelDOT’s revised yellow change calculations
  - More conservative approach speed assumptions
  - “Before/after” comparison: 38% reduction in red light violations
- Enhanced signal head conspicuity measures
- Dynamic warning systems
Annual reporting

Electronic Red Light Safety Program
Program Report for CY 2016

Delaware Department of Transportation
Jennifer Cohan, Secretary
February 2017

Electronic Red Light Safety Program
Annual Citations Processed: 2012-2016

Electronic Red Light Safety Program Financial Data
2012-2016

Figure 2: Angle Crashes by Year

<table>
<thead>
<tr>
<th>Location</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
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<tbody>
<tr>
<td>SR 2/Kirkwood Hwy at Dupont Rd</td>
<td>50218</td>
<td>50218</td>
<td>50218</td>
<td>50218</td>
<td>50218</td>
</tr>
</tbody>
</table>
- Angle crash reduction: 47%
- Red light running crash reduction: 24%
- Rear end crash increase: 9%
- Approx. $5MM annual revenue
- Consistent with Delaware’s SHSP and #1 emphasis area
Accomplishments

- Recognition by Delaware’s General Assembly as traffic safety experts
  - New sites no longer require legislative approval
  - Annual reporting no longer mandatory
    (although DelDOT elects to continue same reporting structure)

- AAA Mid-Atlantic commendation as nationally-recognized model program for traffic safety
  - Vast public reporting
  - Definitive data-driven selection guidelines
  - Assessment of other engineering countermeasures prior to installing automated enforcement
Accomplishments

- 2014: Re-built entire 51-camera program due to ATS-to-Xerox (now Conduent) transition
- 2015: Obtained legislative support to identify new high-risk sites and expand program
- 2016: Doubled program from 51 to 102 cameras within one construction season
“Turnkey” vendor challenges

- Foresight for exit strategy
- Lack of contractual “hammer” with outgoing vendor, including MOT
- Turf wars over existing infrastructure (“equipment” definition)
- Retrofit scheduling conflicts
- Data retention
- Court appearances after contract expiration
- Contractual addendums and extensions (i.e., lawyers!)
Redflex to pay $20 million to Chicago to settle lawsuit over red-light camera bribery

**FAST ACT:** Red-light, speed cameras lose federal funding
By Tyson Fischer, Land Line staff writer | Tuesday, December 08, 2015

As several state governments address the issue of red-light camera enforcement, the federal government has decided to strip some funding. Under the new highway bill, use of funds under the highway safety improvement program will be prohibited for automated traffic enforcement.

**NEW JERSEY RED LIGHT CAMERA PROGRAM COMES TO AN END**

Chicago's beleaguered former red-light camera vendor, still reeling from the bribery scandal that nearly brought down the international business, has agreed to pay $20 million to the city to settle its lawsuit over the company's admission of wrongdoing.
Don’t make headlines... just kudos

Red-light cameras: Money over safety?

Traffic light cameras were supposed to be safety devices. Instead, they became cash cow.

The city of Wilmington, for example, is not monitoring the camera spots to see if they have had an effect on traffic safety. Instead, the city is using the cameras to hit motorists with fines for rolling turns on red lights. Such turns have the lowest percentage of intersection crashes.

When it comes to the Delaware Department of Transportation, the safety concern with the cameras is more apparent. DelDOT, for example, can cite intersection crash statistics. It can show the effect of the cameras. The city cannot.

A job, like the cameras on red lights, is designed for one purpose, in this case, safety. But revenue creep takes over and the purpose becomes a revenue stream.

An example is the state's involvement in legalized gambling. The state's purpose was to help the Delaware horse-racing industry.

Red-light cameras rake in the green
2016: Amended DE Code required DelDOT’s review of Wilmington’s standalone program

- Citywide safety review
- Identified candidate signals that could provide more significant safety benefits
- Crash data did not support continuation of RTOR monitoring (DelDOT’s ERLSP prohibits RTOR monitoring)

WILMINGTON SUSPENDS RIGHT-TURN-ON-RED CAMERA PROGRAM, REFUNDING OVER $800,000

City of Wilmington Red Light Camera Safety Program
2016 Crash Data Review and Site Analysis
February 1, 2017

In 2016, the 141st General Assembly of the Delaware Legislature amended Title 24, Chapter 61, of the Delaware Code, which requires a City to review light camera programs if they conflict with the Department of Transportation (DelDOT). The City of Wilmington, in response, reviewed the cumulative safety and accident data from 2014 to 2016 and determined that the continued operation of the Wilmington RedLight Camera Safety Program (WRCSP) would not provide significant safety benefits.

DelDOT’s ERLSP prohibits RTOR monitoring. The City of Wilmington investigated the potential benefits of RTOR monitoring at all City intersections but ultimately decided not to continue the program.

In conclusion, the City of Wilmington has suspended its Red Light Camera Safety Program and is refunding over $800,000 to the City's general fund.
Take away – transparency

- Provide engineering support and reasoning
- Defend your argument with available data
- Simply tell the truth
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http://www.deldot.gov/Programs/red_light/index.shtml