New Jersey’s Red Light Running Program
Case Study - Newark

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Outline

- Background on NJ’s & Newark’s Program
- What does the Data tell us?
- Post-Program
- Lessons Learned
- Food for Thought
NJ RLR Program

- 5-Yr Pilot Program legislated in 2008
- NJDOT to administer the program
- 83 Intersections in 25 Municipalities
- NJDOT developed an Application Process
  - Crash, Volume, Citation Data
- Annual Report to the Legislature
Newark RLR Program

- 1\textsuperscript{st} Municipality with approved locations Dec. 2009
- 19 Intersections with 46 camera approaches
- 2 intersections with 5 years of data; 10 intersections with 4 years of data; 14 intersections with 3 years of data
- 40-83\% reduction in All Crashes
- 33-83\% reduction in Rear-End Crashes
- 50-100\% reduction in Right-Angle Crashes
Post-NJ RLR Program

- Program ended Dec. 2014
- No Legislative action to continue the Program
- No Legislative report issued in 2014 or 2015 (5 year summary)
- Newark cameras remained active for 5 months after program ended (no violations issued, but 116% increase in RLR violations in first 3 months)
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Newark RLR Program
Newark RLR Program

Citations by Months In Service, All Intersections

- Bergen St. and Avon Ave.
- Bergen St. and W. Runyon St.
- Broad St. & Market St.
- Broad St. & Murray St.
- Broad St. & Raymond Blvd.
- Raymond Blvd. & Broad St.
- Court St. & Dr. MLK Jr. Blvd.
- Dr. MLK Jr. Blvd. & Court St.
- Delancy St. & Stockton St.
- Stockton St. & Delancy St.
- Doremus Ave. & Wilson Ave.
- Wilson Ave. & Doremus Ave.
- Lockwood St. & Raymond Blvd.
- Raymond Blvd. & Lockwood St.
- Market St. & McCarter Hwy(Rt 21)
- McCarter Hwy(Rt 21) & Market St.
- Market St. & Mulberry St.
- Mulberry St. & Market St.
- Market St. & University Ave.
- Market St. & Washington St.
- Washington St. & Market St.
- Market St., Raymond Blvd. & Prospect St.
Newark RLR Program

Citations by Months In Service, Activated 12/2009 to 12/2011

- Broad St. & Murray St.
- Broad St. & Raymond Blvd.
- Raymond Blvd. & Broad St.
- McCarter Hwy(Rt 21) & Market St.
- Raymond Blvd., Market St. & Prospect St.
- McCarter Hwy(Rt 21) & South St.
- McCarter Hwy(Rt 21) & Lafayette St.
- McCarter Hwy(Rt 21) & Edison Pl.
- Raymond Blvd. & Raymond Plaza West
Newark RLR Program

Citations by Months In Service, Activated 1/2011 to 12/2011

- Stockton St. & Delancy St.
- Doremus Ave. & Wilson Ave.
- Wilson Ave. & Doremus Ave.
- Market St. & McCarter Hwy(Rt 21)
- Market St. & Washington St.
- Washington St. & Market St.
Newark RLR Program

Citations by Months In Service, Activated 1/2012 and Later

- Court St. & Dr. MLK Jr. Blvd.
- Dr. MLK Jr. Blvd. & Court St.
- Lockwood St. & Raymond Blvd.
- Raymond Blvd. & Lockwood St.
- Market St. & Mulberry St.
- Washington St. and Central Ave.
Newark RLR Program

Detections at All Intersections (Jan - May 2014)
Newark RLR Program

Detects at All Intersections (Jan - May 2015)
Newark RLR Program
Newark RLR Program

Detection Trends by Months In Service (Jan - May 2014)
Newark RLR Program

Detection Trends by Months In Service (Jan - May 2015)
Newark RLR Program

Monthly Crashes by Intersection

- Raymond Blvd and Lockwood St
- Dr. MLK Jr. Blvd and Court St
- Doremus Ave and Wilson Ave
- Market St and University Ave
- Market St and Washington St
- Stockton St and Delancy St
- Raymond & Raymond Piz West
- Mulberry & Market
- McCarter & South
- McCarter & Market
- McCarter & Lafayette
- McCarter & Edison
- Broad & Murray
- Broad & Raymond
- Broad & Market
Newark RLR Program
Newark RLR Program
Newark RLR Program

Right Angle Crashes

-2008 - 2014

-2008 - 2014

Right Angle
Linear (Right Angle)
Newark RLR Program
Newark RLR Program
Newark RLR Program
Newark RLR Program
Newark RLR Program

Yearly Intersection Crashes

CRASHES

<table>
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<th>Year</th>
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<td>141</td>
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<td>2014</td>
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<td>2015</td>
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Newark RLR Program

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<th>Crash Type</th>
<th>Human Capital Crash Costs</th>
<th>Comprehensive Crash Costs</th>
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<tr>
<td>Rear End – Signalized Intersection</td>
<td>$16,700</td>
<td>$26,700</td>
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<tr>
<td>Rear End – Unsignalized Intersection</td>
<td>$10,900</td>
<td>$13,200</td>
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<tr>
<td>Sideswipe/Overtaking</td>
<td>$17,600</td>
<td>$34,000</td>
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<tr>
<td>Angle – Signalized Intersection</td>
<td>$24,300</td>
<td>$47,300</td>
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<tr>
<td>Angle – Unsignalized Intersection</td>
<td>$29,700</td>
<td>$61,100</td>
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<tr>
<td>Pedestrian/Bike at an Intersection</td>
<td>$72,800</td>
<td>$158,900</td>
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<tr>
<td>Pedestrian/Bike Non-Intersection</td>
<td>$107,800</td>
<td>$287,900</td>
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<tr>
<td>Head-On – Signalized Intersection</td>
<td>$15,600</td>
<td>$24,100</td>
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<tr>
<td>Head-On – Unsignalized Intersection</td>
<td>$24,100</td>
<td>$47,500</td>
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<tr>
<td>Fixed Object</td>
<td>$39,600</td>
<td>$94,700</td>
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<tr>
<td>Other/Undefined</td>
<td>$24,400</td>
<td>$55,100</td>
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Newark RLR Program

*Based on Highway Safety Manual, 1st Edition, Vol. 1, Table 4A-2*
NJ RLR Program

- Documented positive safety results in Newark
- Similar results from around the State at other locations
- NJ’s experience similar to those around the country
- Support from both law enforcement & the traffic engineering community as a viable safety tool
NJ Lessons Learned

- Dedicated DOT Staff
- 1 Central Unit for Administration
- Locations established under the SMS (crash priority)
- Specific citation in Statute
- Analysis of crashes beyond RA, RE (pedestrian, left-turn)
- Consistent criteria (ex: intersection area of influence)
Food for Thought

- Use of Technology for Enforcement Absent Law Enforcement Personnel
- Public Understanding & Acceptance
- Champions & Legislative Support
- Revenue Generation
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