

Red-light Camera Programs and Effects

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for Highway Safety

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Overview







NCDOT requested a review of current information related to red-light cameras (RLC) and red-light running

- Review of research on safety effects of RLC programs
- Information on city-operated RLC programs
- Cost effects of officer-issued red-light citations

Memo with more details provided to NCDOT in April 2019

Review of Research on the Safety Effects of Red-light Cameras

North Carolina Studies



Study	Location	All crashes	Rear end	Sideswipe
Pulugurtha and Otturu, 2014	Charlotte			
Burkey and Obeng, 2004	Greensboro			

Automated Speed Enforcement

Moon and Hummer, 2010	Charlotte			
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Review of Research on the Safety Effects of Red-light Cameras

Other Locations: 10 crash based studies reviewed

	Number of Studies Showing Decrease 	Number of Studies Showing Increase 
Red Light Running Crashes	3	0
Right Angle Crashes	6	1
Rear End Crashes	0	5
Fatal or Injury Crashes	6	1

Review of Research on the Safety Effects of Red-light Cameras

Comparison to Traffic Signals

Crash Type	Traffic Signal	Red-Light Camera
Right angle	 52% decrease	 19% to 67% decrease (median decrease 26%)
Fatal or Injury	 32% decrease	 10% to 21% decrease (median decrease 18.5%) <i>One study showed 22% increase</i>
Rear end	 58% increase	 0% to 34% increase (median increase 14.5%)

Information on City-Operated RLC Programs

Are there cities that operate their own RLC program (i.e., no contractor)?

- Contacted 30 mid-to-large cities known to have RLC programs
- 11 cities provided feedback
- Finding: All cities use a contractor to run some or all aspects of their RLC program

Information on City-Operated RLC Programs

Combination city/contractor programs

- Conducted in larger cities (New York, Philadelphia, Chicago, Toronto)
- City of Wilmington operates in this manner
- City provided oversight and handled certain aspects (e.g., reviewing citations, issuing fines, selecting locations for the cameras)
- Contractor handled equipment installation and maintenance

Cost Effects of Officer-issued Red-light Citations

What is the total financial cost to drivers if they get a ticket from an officer?

- Drivers convicted of red light running would suffer higher financial consequences from an officer-issued citation than a RLC fine
- Fine (\$50) + Court costs (\$183)
- Insurance premium increases:
 - Geico: \$140 increase per month for 6 months
 - Progressive: \$33 to \$50 increase per month for 3 years
 - Allstate: 20-30% rate increase for 3 years