

Electronic Red Light Safety Program

2010 Program Update



Carolann Wicks

Secretary

Delaware Department of Transportation

February 26, 2010





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DEPARTMENT OF TRANSPORTATION
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CAROLANN WICKS, P.E.
SECRETARY

February 26, 2010

Members of the Joint Finance Committee
On Capital Improvement
P.O. Box 1401
Dover, Delaware 19901

Dear Senators and Representatives,

In accordance with Section 118 of Senate Bill 155 of the 144th General Assembly of the State of Delaware, the Department of Transportation (DelDOT) hereby submits an update of the Electronic Red Light Safety Program (ERLSP).

Red light running (RLR) is a serious traffic safety problem nationwide. According to the Federal Highway Administration's report *Safety Evaluation of Red Light Cameras*, red light running is estimated to produce more than 100,000 crashes and approximately 1,000 deaths per year in the United States.

DelDOT's number one priority is safety of both motorists and pedestrians using our roads. Our research shows the ERLSP has reduced the incidence of crashes at red lights by 15 percent over the last five years.

The department is entering its sixth year of the program. Updates and progress on ERLSP are identified in the executive summary and following pages. If you would like more information on the program, please contact Brett Taylor, Financial & Legislative Policy Advisor, at (302) 760-2492 or Brett.Taylor@state.de.us.

Sincerely,

Carolann Wicks
Secretary

CW:jbt

cc: Cleon Cauley, Senior Policy Advisor, Governor's Office
Stephen Kingsberry, Executive Director, DTC
Don Weber, Chief Traffic Engineer
Kathy English, Director, Finance
Brett Taylor, Financial and Legislative Policy Advisor
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2009 Electronic Red Light Safety Program Update

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2009 Electronic Red Light Safety Program Update

Program Update Report

Section 98 of the Fiscal Year 2010 Bond Bill (Senate Bill 155) of the 145th General Assembly contains the authorizing language to continue DelDOT's Electronic Red Light Safety Program (ERLSP) on an open-ended basis and proceeds to outline guidance for the program's operation in the ensuing paragraphs.

The Electronic Red Light Safety Program is an electronic monitoring system located at specific intersections with historically high incidences of red light running related crashes. The technology utilizes a camera which is tied to the traffic signal device to detect movement of vehicles into intersections after a signal turns red. The technology takes a picture of the violator's license plate to identify the vehicle. Using this information a violation notice is generated and sent to the registered owner of the vehicle.

Crash Data

The "before" and "after" crash study summarized in prior year reports to the legislature was updated to quantify the safety benefits of the ERLSP at the twenty intersections with the enforcement technology. The review of crash data identifies significant reductions in crashes, specifically angle and red light running crashes, indicating that the safety benefits of the ERLSP continue to be realized by the traveling public. Specifically:

- **Total crashes** were reduced by 15 percent in the "after" period
- **Angle crashes** were reduced by 54 percent in the "after" period
- **Red light running crashes** were reduced by 45 percent in the "after" period
- **Rear end crashes** were reduced by 16 percent in the "after" period

Contractor Transition

Prior to 2010, Nestor Traffic Systems, Inc. was the contractor supporting the ERLSP. Nestor filed for Chapter 11 bankruptcy and was placed into receivership in June 2009. Subsequently, American Traffic Solutions, Inc. acquired Nestor as part of court-approved auction in September 2009. The acquisition impacted the department in a number of ways, including:

a) Delaying the installation of cameras at the ten new intersections authorized from the previous year. The new company introduced a new design team to formulate the intersection specifications;

b) Providing the opportunity to utilize updated camera technology. ATS is offering the installation of newer technology, including video capture of violators at the intersection. DelDOT will be implementing the new technology at the ten new intersections as well as retrofitting the current intersections.

c) Delaying the implementation of delinquent violation recovery. Upon learning that the new company, ATS, provides collection services, DeIDOT delayed its implementation until more information about how the transition would occur. DeIDOT is discussing with ATS use of ATS's collection system to recoup revenue from delinquent violators. This process will be in place by the end of the fiscal year.

During the time of the bankruptcy there were no serious delays in the basic operating process, including the issuance of violations and revenue collection.

Violations

The violation fine for the ERLSP is \$112.50. According to Title 21, Delaware Code, §4101(d), the base fine is \$75 for a traffic light violation captured by a monitoring system. The department increases the fine by \$10 for each 30-day period past the event, up to \$30 for 90 days. In addition, Title 11 Delaware Code §4101 requires that any fines or fees levied for violations of Title 21 include an additional 50 percent surcharge or, in the case of the ERLSP, an additional \$37.50.

In calendar year 2009, 41,249 Notices of Civil Violation were issued for red light running. This is a 1.1 percent increase (40,809) from calendar year 2008.

ERLSP Violation Data
Calendar Year 2008 vs. 2009

	Violations			Revenue Collected		
	<u>2008</u>	<u>2009</u>	<u>Diff.</u>	<u>2008</u>	<u>2009</u>	<u>Diff.</u>
State	21,709	20,192	-7.0%	\$ 2,122,990	\$ 2,003,291	-5.6%
Dover	12,253	13,858	13.1%	\$ 1,163,235	\$ 1,326,155	14.0%
Newark	4,371	5,618	28.5%	\$ 425,102	\$ 526,980	24.0%
Seaford	1,404	1,118	-20.4%	\$ 139,170	\$ 109,724	-21.2%
Elsmere	<u>1,072</u>	<u>463</u>	<u>-56.8%</u>	<u>\$ 99,292</u>	<u>\$ 56,874</u>	<u>-42.7%</u>
Total	40,809	41,249	1.1%	\$ 3,949,789	\$ 4,023,024	1.9%

The Notices of Civil Violation are sent to the registered owner of the vehicle. Unlike traditional violations cited by a police officer, the camera violations are considered a civil offense and not a criminal offense. Because of this, the violation and fine do not impact a motorist's insurance rate or accumulate points on their driving record.

Cash Flow

Although the ERLSP's priority is safety, and not revenue generation, the program continues to generate more money than its cost. The total receipts collected through the program in calendar year 2009 was \$5,461,147. These receipts total more than the gross value of violations issued during the year due to collection of past due violations.

The costs of the program are deducted from the gross receipts prior to the distribution of revenue to jurisdictions. ERLSP's costs for calendar year 2009 totaled \$2,004,929. Costs for the program included:

- \$22,645 was paid to Whitman Requardt & Associates (WRA) for engineering support.
- \$1,157,312 was paid to Nestor Traffic Systems (NTS) for recording and processing red light violations.
- \$824,974 was paid to American Traffic Solutions (ATS) for those months following acquisition of NTS.

Of fine payments received, \$2,336,378 was retained by the Transportation Trust Fund (TTF), collected from violations occurring in unincorporated areas. Under terms of DelDOT's operating agreements with four program partners:

- \$780,942 was paid to the City of Dover for the six enforced intersections within its jurisdiction.
- \$1,756 was paid to the Town of Elsmere for the single enforced intersection within its jurisdiction.
- \$290,403 was paid to the City of Newark for the two enforced intersections within its jurisdiction.
- \$7,327 was paid to the City of Seaford for the single enforced intersection within its jurisdiction.

These amounts are net of expenses.

Court Data

In calendar year 2009, of the 41,249 violations, 209 cases of red light violation were scheduled for trial. Of these, 80 were upheld by the court and 14 were dismissed. When appeals do occur, most of the appeals are settled prior to a hearing in court due to the quality of evidence collected by the technology. The balance of violators, totaling 115, who were scheduled for trial and did not appear are held responsible for the payment by the court.

Affidavits

Under 21 Del. Code §4101 (d) (9), Delaware law permits a registered vehicle owner to divert responsibility for a video offense if another driver was operating their vehicle at the time the violation occurred.

If a registered owner identifies another driver as the violator on the affidavit, the identified driver has the same legal options as the registered owner had originally – to accept responsibility and pay the fine or to challenge the allegation in court. Should the identified driver opt for a challenge of the allegation in court, the prosecution must subpoena the registered owner so that

the court has the opportunity to hear from both the registered owner and the identified driver as to who may be responsible for the violation.

During the program years 2004 through 2009, 1,244 affidavits were filed identifying drivers other than the vehicle's registered owner. This represents less than 1 percent of all cited violations during the period. In 2009, 38 affidavits were filed out of a total population of 41,249 violations.

Delinquent Fine Payments

For every 30 days that an ERLSP violation is not paid after the due date, the fine increases by \$10. After 90 days of not being paid, the fine is capped at \$142.50. The fine becomes delinquent after it is 120 days overdue.

Currently, there are 25,171 outstanding violations from a five year period, totaling over \$2,756,895. Delinquencies in calendar year 2009 were 5,097 violations, totaling over \$573,412.50. Approximately 15,145 violations are from in-state registered vehicles. Pennsylvania tags accounted for 3,235 violations and Maryland tags accounted for 3,312 violations.

Currently, in-state violations have their registration placed on hold if there is a delinquent violation. Since the State offers vehicle owners up to five years for registration renewal, many of the violations have yet to cycle through the system. We expect this number to go up since the program has now been in service longer than the registration renewal period. The State does not have a reciprocal agreement with other states since the administrative burden for the Division of Motor Vehicles for processing violation holds for other states would be far greater and more costly than the benefit Delaware would derive from other states doing the same.

The State has asked American Traffic Solutions to assist with the delinquency recovery process. DeIDOT is evaluating a proposal on using ATS services for this purpose and expects to have a decision by the end of fiscal year 2010.

Cross Training of Staff

The program is administered utilizing employees in the Office of the Secretary, the Delaware Transit Corporation and the Traffic Section. In 2008, Delaware Transit Corporation (DTC) cross-trained two employees in the Office of Safety and Security to help administer this program. There are now two staff members in addition to a Safety and Security Officer, who work with the program and attends court challenges. Representatives from DeIDOT's Traffic Section also attend court proceedings to discuss timing of signals if necessary, review vendor plans and oversee field activities related to the program.

New Intersections

In compliance with Paragraph 5 of the Fiscal Year 2008 Bond Bill Epilogue directs DeIDOT "to continue to use recognized safety and accident criteria in determining whether and

where to add any new enforcement locations to this program.” An analysis of more recent crash data was prepared to select the next 10 candidate locations. The most important criteria for the selected intersections were the frequency of angle crashes due to red light running, obtained from crash data from July 2002 to June 2007. Another factor included the intersections’ geometry; in other words, whether the physical design of the intersection would allow for installation of ERLSP equipment.

Ten intersections were identified. Warrants from the appropriate senator and representative of the district wherein a candidate intersection lies were requested and approved for installation of enforcement equipment. The list of intersections is below:

- Naamans Road & Shipley Road/Brandywine Parkway...New Castle County
- Route 2/Kirkwood Hwy & Red Mill Road/Polly Drummond Hill Road...New Castle County
- Route 2/Kirkwood Hwy & Harmony Road...New Castle County
- Route 58/Churchmans Road & Route 1 northbound ramps...New Castle County
- Route 273 & Route 7...New Castle County
- Route 273 & Harmony Road/Gerald Drive...New Castle County
- Old Baltimore Pike & Salem Church Road/Salem Woods Drive...New Castle County
- U.S. 13 & Scarborough Road...Dover/Kent County
- Route 1 & Old Landing Road...Sussex County
- Route 1 & Munchy Branch Road/Miller Road...Sussex County

With the transition from Nestor Traffic Systems to American Traffic Systems, the installation of the new cameras was delayed. The first two intersections with new equipment will be installed by March 31, 2010, with a 30 day warning period thereafter. The intersections will go live on April 30, 2010. These intersections include Route 1 & Old Landing Road and Route 1 & Munchy Branch Road/Miller Road.

The remaining eight intersections will be installed on a staggered schedule with final intersections installed by May 30, 2010. Each intersection will have a 30 day warning period after installation prior to going live and generating violations..

Current Intersections

The current 20 intersections will be retrofitted with new ATS technology once the new intersections have been implemented. This will potentially increase the number of violations being captured and reduce the number of violations being discarded due to poor quality of evidence or downtime. This retrofit will occur during the summer of 2010.

2010 Report

DelDOT recommends an updated status report be submitted to the Joint Legislative Committee on Capital Improvement no later than February 28, 2011.

2010 Electronic Red Light Safety Program Update

Crash Data Analysis

DelDOT's statewide Electronic Red Light Safety Program (ERLSP) has resulted in significant reductions in crashes, specifically angle and red light running crashes, which are typically the most severe types of crashes. In February 2007, DelDOT produced the first ERLSP report for the legislature. Results compared a 36-month period before installation to an "after" period based on staggered installation/start-up dates. Current crash data at the twenty intersections equipped with enforcement technology has been reviewed for an "after" period through June 2009, ranging from 45 to 59 months. The average "after" period was approximately four years. The following types of crashes were reviewed for the "before" and "after" periods:

- **Total crashes** include all crashes occurring within the vicinity of the intersection.
- **Angle crashes** include right angle crashes, as well as left-turn crashes caused by motorists proceeding through a red light. Crashes caused by motorists turning left on a "permissive" signal indication (i.e., a circular green or flashing red arrow) are not included in angle crashes.
- **Red light running crashes** include crashes where a law enforcement officer cited at least one driver for disregarding a traffic signal.
- **Rear end crashes** include crashes when the rear vehicle fails to stop and strikes the front vehicle.

Crash data was reviewed to determine the overall reduction in crashes for the four crash types. The following is a summary of the results:

- **Total crashes** were reduced by 15 percent in the "after" period
- **Angle crashes** were reduced by 54 percent in the "after" period
- **Red light running crashes** were reduced by 45 percent in the "after" period
- **Rear end crashes** were reduced by 16 percent in the "after" period

Data was also reviewed to determine whether individual intersections had crash reductions in the "after" period for the four crash types. The following is a summary of the results:

- 14 of 20 of intersections (70 percent) had fewer **total crashes** per year during the "after" period than during the "before" period
- 19 of 20 intersections (95 percent) had fewer **angle crashes** per year during the "after" period than during the "before" period. The one intersection that had an increase in angle crashes during the "after" period had one angle crash reported during the most recent study period between July 2008 and June 2009.
- 15 of 20 intersections (75 percent) had fewer **red light running crashes** per year during the "after" period than during the "before" period

- 14 of 20 intersections (70 percent) had fewer *rear end crashes* per year during the “after” period than during the “before” period

As demonstrated by the significant reduction in angle and red light running crashes, the safety benefits of the ERLSP continue to be realized by the traveling public. Additionally, rear end crashes have decreased despite many studies that have concluded that red light enforcement cameras may increase rear end crashes. As the duration of the “after” evaluation period continues to expand, the results of the “before” and “after” studies will become more statistically reliable. As such, DelDOT will continue to monitor crash data at the locations equipped with enforcement technology.

Figures 1 through 4 following this section depict the average number of crashes per year for the four crash types at each of the twenty intersections with enforcement technology.

APPENDIX:

Graphs on Crash Data by Intersection

Figure 1: Total Intersection Crashes by Year

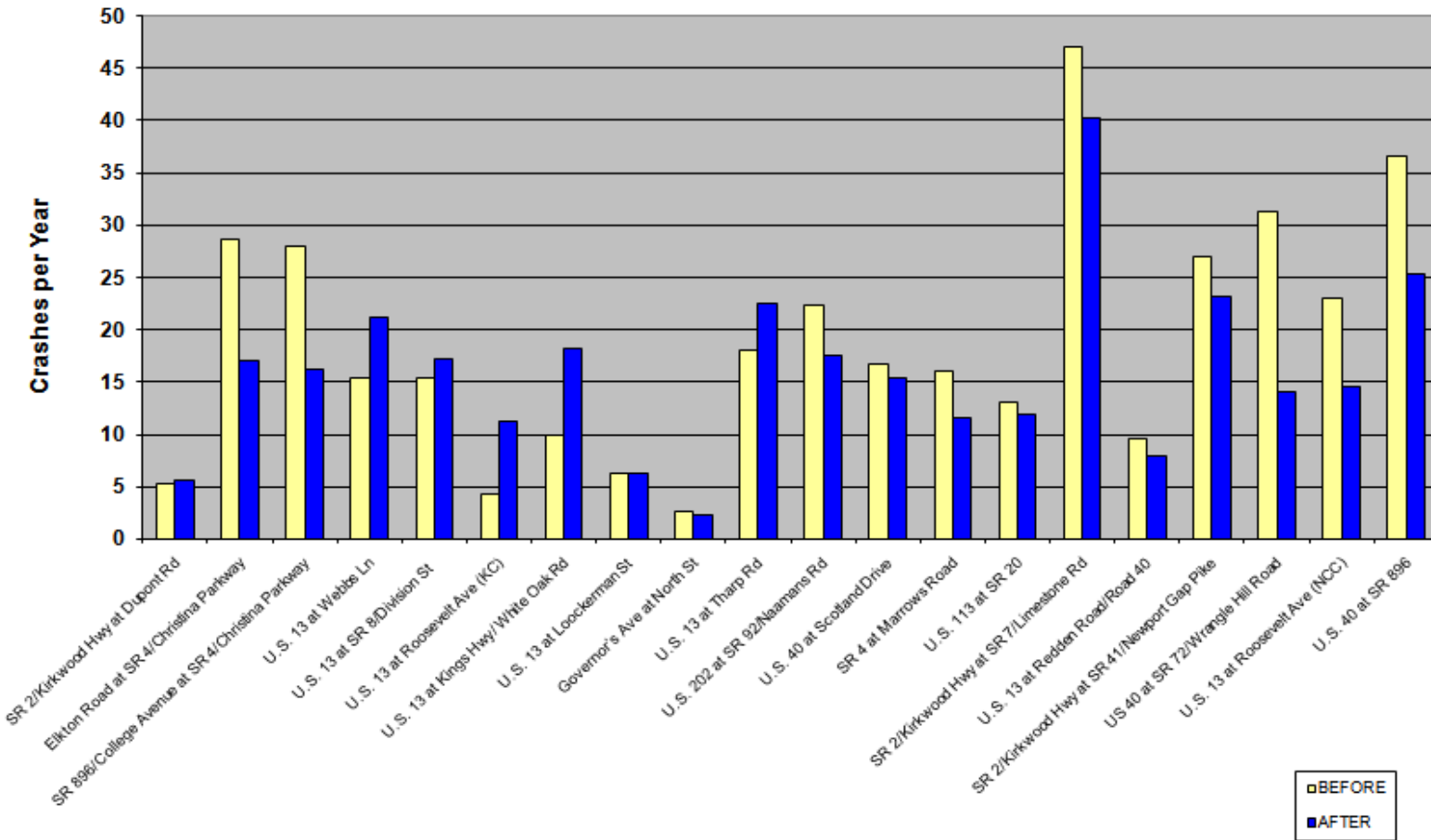


Figure 2: Angle Crashes by Year

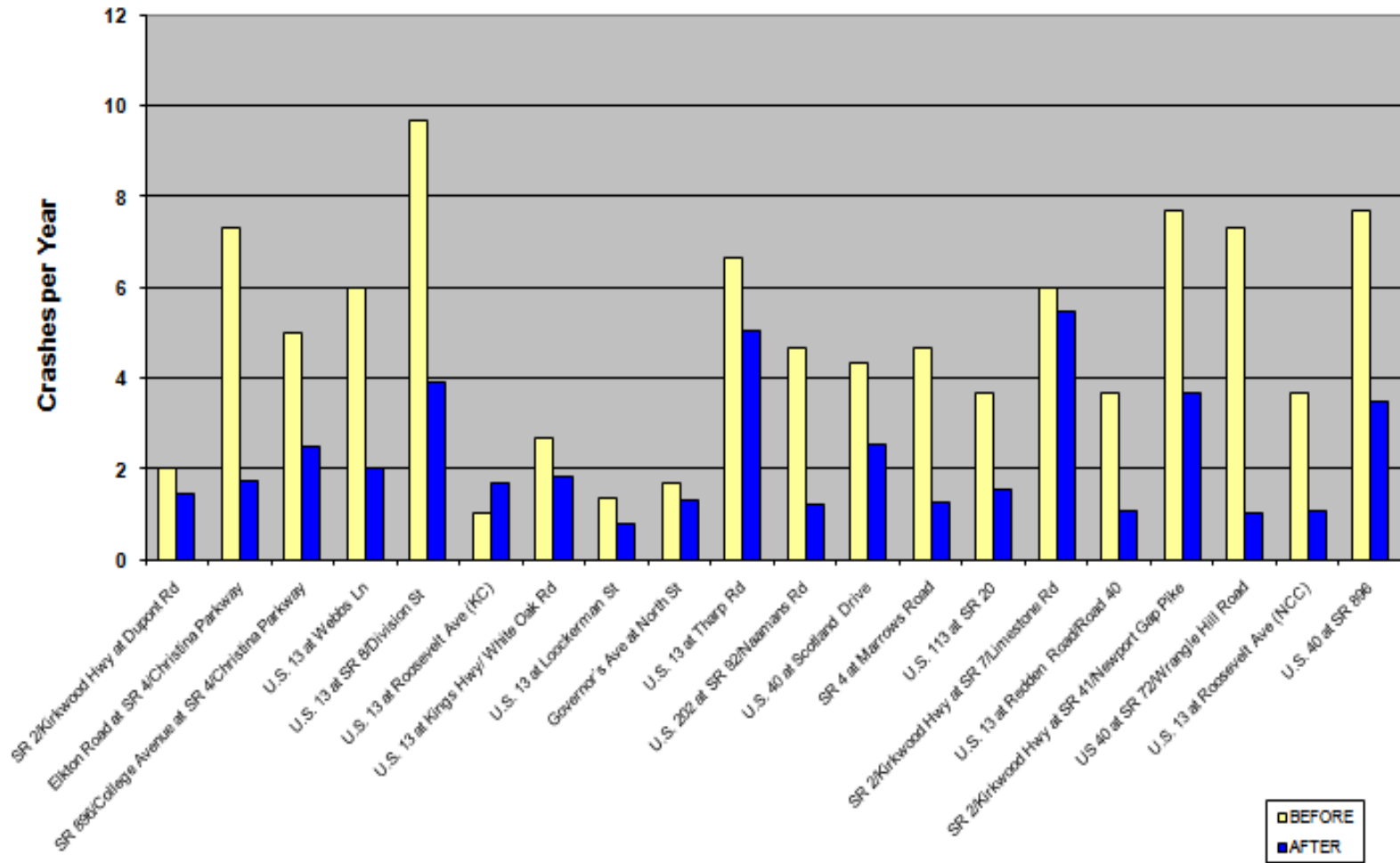


Figure 3: Red Light Running Crashes By Year

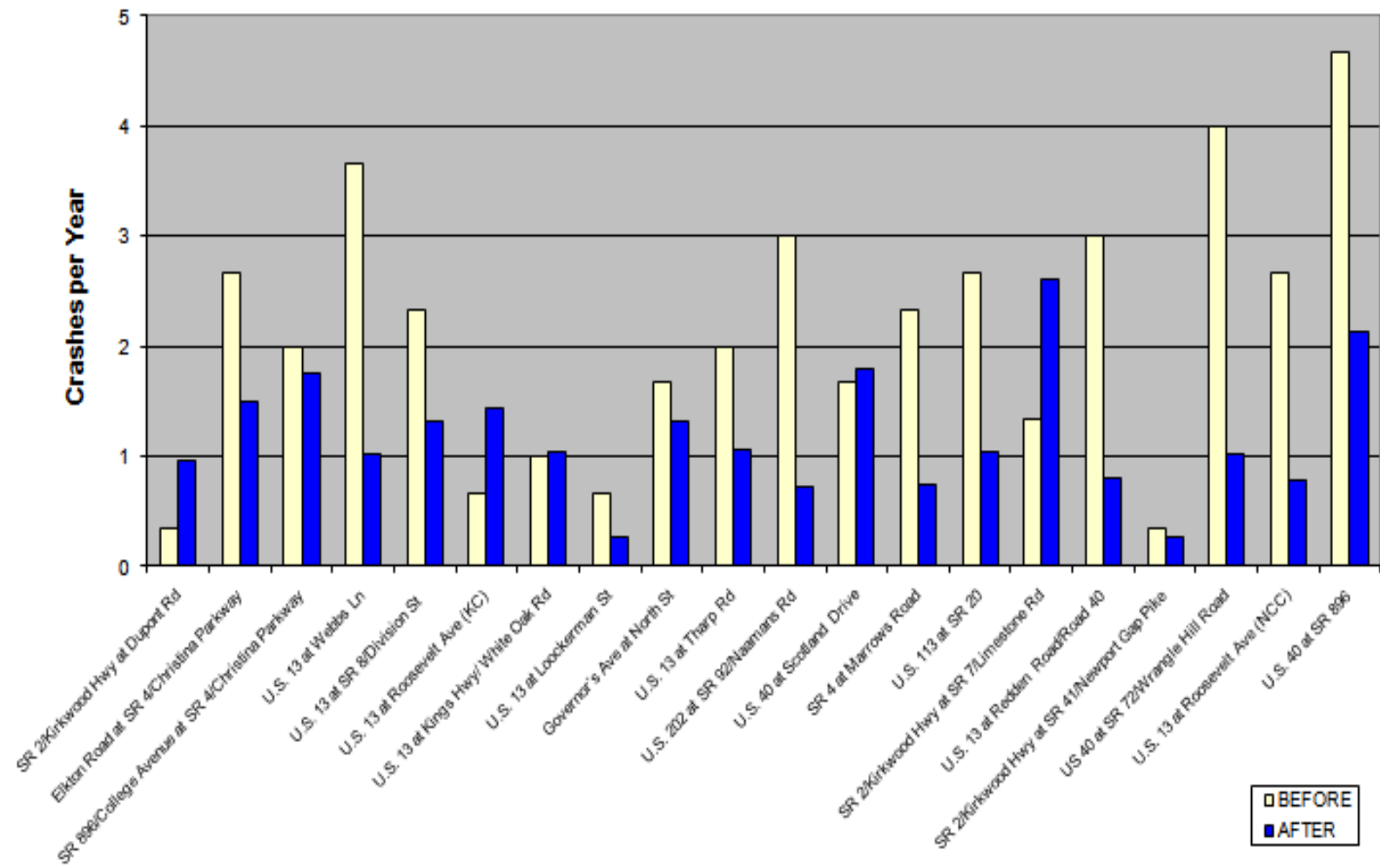


Figure 4: Rear End Crashes by Year

