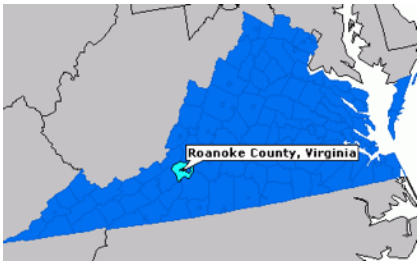
OCCUPANT PROTECTION

Stretching across 250.52 square miles, Roanoke County is located in the Commonwealth of Virginia and part of the Roanoke Metropolitan Statistical Areas in the southwestern part of the state. While significant areas of the County are rural and mountainous, most of the residents reside in the suburbs near the independent cities of Roanoke and Salem. Roanoke County is part of the Roanoke Valley which also includes Botetourt County, City of Roanoke, City of Salem, Craig County, Franklin County, and the Town of Vinton. The cities of Roanoke and Salem are located within the boundaries of Roanoke County as is the incorporated Town of Vinton while the remaining jurisdictions surround the County. According to the 2015 census, Roanoke County has a population of 94,409 while there are a total of 312,118 people residing in the Roanoke Valley.



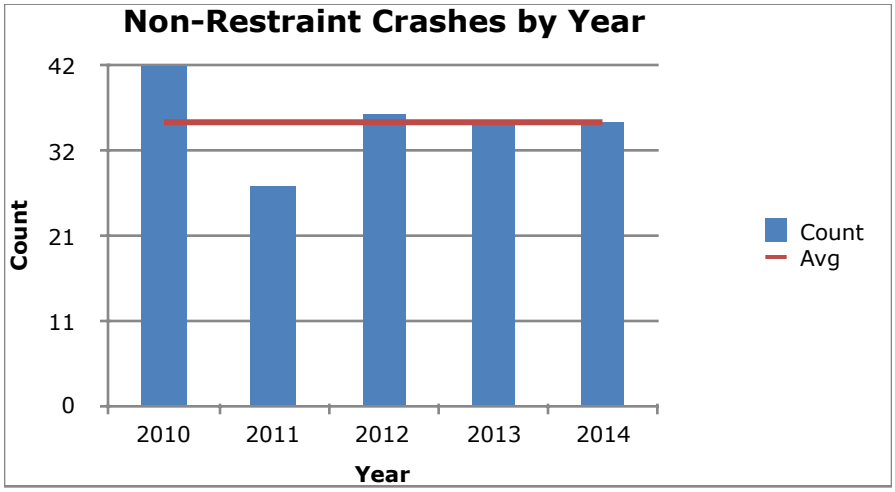
Roanoke County has several major roadways running through its boundaries including Interstates 81 and 581, US routes 11, 220, 221, and 460, as well as seven state routes that serve to connect the ten jurisdictions that are adjacent to Roanoke County.

The Roanoke County Police Department consists of 140 sworn full-time officers, 14 full-time civilians, and 2 part-time civilians. In terms of traffic enforcement, the Department has 83 officers assigned to patrol and four full-time traffic officers.

It is important to note that Virginia's occupant protection laws are two tiered. There is a secondary OP law for persons at least 18 years of age which requires law enforcement to find another violation before stopping a vehicle. However, there is a primary law for persons under the age of 18.

Problem Identification

The table below shows the number of unrestrained crashes for the past five years.



OCCUPANT PROTECTION

Non-Restraint Crashes by Year

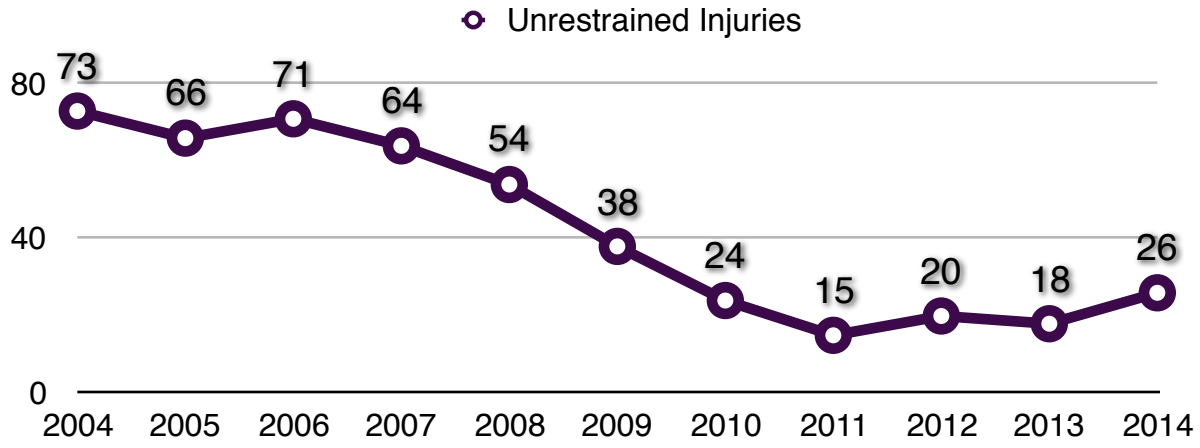
Year	Fatality	Property Damage	Personal Injury	Total
2010	2	16	24	42
2011	1	11	15	27
2012	3	13	20	36
2013	2	15	18	35
2014	0	9	26	35

The table at left provides more information concerning unrestrained crashes over the past five years.

The graph below shows the number of unrestrained fatalities since 2004 in Roanoke County.

Since 2008 there has been a sustained reduction in the number of such deaths.

The graph below shows the number of unrestrained injuries in crashes over the same time period.

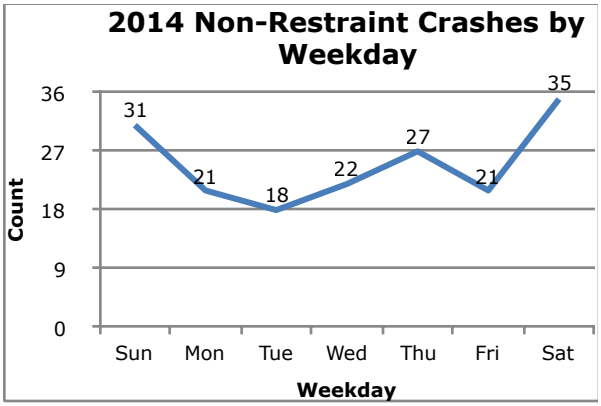


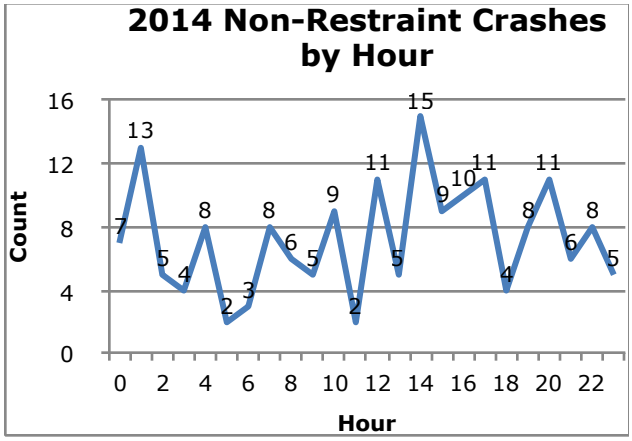
OCCUPANT PROTECTION

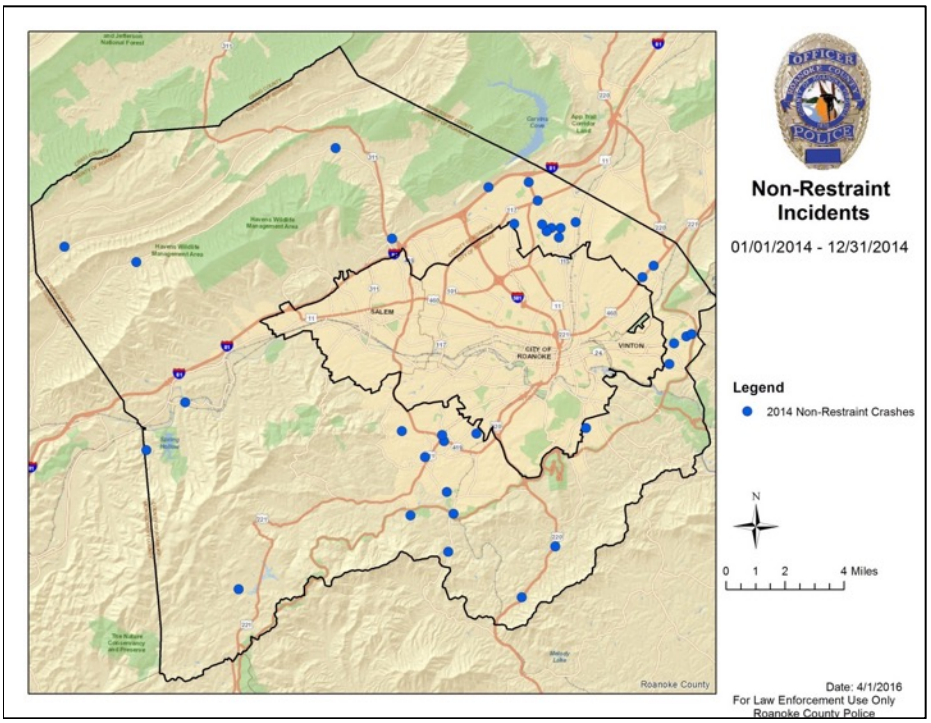
In addition to analyzing crash reports, the Department conducted numerous seat belt surveys during 2014 and used the data to assist in planning appropriate enforcement locations and times. Over the course of the year, officers conducted 62 seat belt surveys with 26 of them targeting middle and high school students/parents and the rest on other roads of the County based upon unrestrained crashes. At year's end, the average seat belt use rate was 90% at schools and 85% on all other roads which meant an 87% average use rate.

Planning

The analysis of 2014 crash reports showed the majority of crashes (35%), especially those resulting in serious injuries or fatality, involving an unrestrained occupant occurred between the hours of 1200 and 1800 while 38% occurred on Saturdays and Sundays. As such, a substantial amount of enforcement was planned during those times and on the weekends. Below are graphs from the year end crash analysis to support the enforcement plans.







The map at left, which was reproduced for this report, was generated during the 2014 crash analysis and was utilized in the planning of where to deploy occupant protection enforcement during 2015.

OCCUPANT PROTECTION

In addition to the previous mapping of unrestrained crashes during 2014, a five year analysis revealed the roads listed on the next page had the highest number of unrestrained crashes and specific enforcement was planned for 2015 to address each.

Non-Restraint Crashes: Top Streets

Street Name	2010	2011	2012	2013	2014	Total
Williamson Rd	1	4	2	3	0	10
Bent Mountain Rd	4	1	3	1	0	9
Catawba Valley Dr	0	0	5	2	0	7
Franklin Rd	2	1	1	1	2	7
Plantation Rd	1	0	1	1	4	7
Brambleton Ave	3	0	3	0	1	7
Electric Rd	4	0	0	1	1	6
Bradshaw Rd	1	0	2	1	2	6
Challenger Ave	2	0	0	1	2	5

The Department's efforts concerning occupant protection directly supported the Virginia Highway Safety Plan (VHSP) for 2015 in several ways. Listed below are the key points to the VHSP and the support generated by the Roanoke County Police Department.

- ✦ To implement a statewide, high visibility seat belt enforcement campaign for two weeks in May 2015 and one in November 2015.
  - The Department participated in both of these 'Click It or Ticket' campaigns through enforcement as well as an intensive media blitz during the May campaign. Through the Department's leadership role with the Blue Ridge Transportation Safety Board, several regional enforcement and educational initiatives were conducted during both periods.
- ✦ Conduct pre-and-post mobilization observational surveys of safety belt use by June 2015.
  - The Department conducted 52 seat belt use surveys last year in the County with 18 performed by June 2015. During the Spring 'Click It or Ticket' campaign, the use rates were publicized through social media and through morning announcements at middle and high schools.
- ✦ Combine selective enforcement of seat belt laws with enforcement of alcohol-related laws during nighttime hours.
  - The Department's Traffic Unit trained in strategies for enforcement of nighttime occupant protection violations. Officers working the Department's 31 sobriety checkpoints were reminded the importance of spotting violations and best practices for interviewing to secure a violation. In total, 23% of all OP citations occurred during nighttime hours through 2015.
- ✦ To conduct 50 occupant protection selective enforcement activities.

OCCUPANT PROTECTION

- During 2015, the Department conducted 40 license checkpoints to target occupant protection as well as 80 occupant protection enforcement patrols throughout the County.

Training

The table below shows the training received by officers during 2015 as well as the three years prior related to occupant protection. The refresher training for occupant protection enforcement was directed towards all uniformed officers and consisted of line-up training as well as an e-mailed electronic presentation which was sent out prior to the two 'CIOT' enforcement waves. The advanced crash training ranged from Level One Crash Training to Crash Data Retrieval System. Additionally, the four traffic officers received refresher training throughout the year concerning enforcement techniques and identifying seat belt use during crash investigations and nighttime enforcement.

	2015	2012-2014
OP Enforcement Refresher	90	90 yearly (approx.)
Officers receiving Advanced Crash Reconstruction Training Classes	6	17

The figure at left is the cover page for the electronic presentation for the refresher for OP enforcement. The presentation outlined Virginia's occupant protection laws and offered enforcement tips. At the request of member agencies, the presentation was regionally marketed by adding the logos for the Blue Ridge Transportation Safety Board (BRTSB) and the Blue Ridge Regional Crash Investigation Team (BRRCIT) and e-mailed to all participating law enforcement agencies throughout central and southwestern Virginia. Additionally, several of the non-law enforcement members of the BRTSB requested the electronic presentation so that they could use some of the topics for electronic media.

Public Information and Education

The Roanoke County Police Department maintains a strong relationship with the Roanoke County Schools which provided many educational opportunities during 2015 concerning occupant protection. In total, the Department conducted more than 50 traffic safety presentations in the County high and middle schools during the year. Many of the presentations were part of the Department's award winning 'Why Math Matters' program. The program, which began in 2005, is done by a Department crash reconstructionist and the students are shown how major crashes are investigated based upon physics and mathematics. The program is tailored to physics and math classes with each receiving a discipline specific presentation that includes occupant protection. A major emphasis is placed upon the three collisions in a crash-

vehicle, body, and internal. Additionally, every Driver's Education class in the County's five high schools was given a 90 minute presentation concerning teen driver safety with a strong emphasis on occupant protection issues. The SRO at each high school worked closely with the Youth of Virginia Speak Out About Traffic Safety (YOVASO) in support of each traffic safety program promoted throughout the State and a mock car crash was performed at each high school. Additionally, each high school hosted the 'Partnering for the Privilege' presentation for both parents and new drivers. This program is a joint venture between the Allstate Foundation, YOVASO, Roanoke County Schools, and the Roanoke County Police Department and is conducted each school year to educate parents and new drivers about the risks associated with teen drivers. Part of the Department's presentation focused on the typical teen fatal crash in southwestern Virginia- driving too fast, running off the road, and a lack of seat belts. Each agency that assists with the program addressed teen driver safety from their unique perspective then the parent of a teen killed in a crash speaks to the audience providing a powerful closing. Because the audience consists of both teens and their parents and in some cases extended families, an emphasis is also placed on adult occupant protection and child safety restraints.

Each of the County's five School Resource Officers (SRO) in the high schools promoted seat belt use by their students throughout the school year. Each of the schools is active in the YOVASO (Youth of Virginia Speak Out About Traffic Safety) program which was started in 2001 under the direction of the Blue Ridge Transportation Safety Board. At least one officer from the Department has been on the YOVASO Advisory Board since 2001. Due to the success of the YOVASO program, the Virginia Highway Safety Office has been pushing the program statewide. During 2015, the County's SROs participated in each of the four major YOVASO campaigns that promoted seat belt use including Arrive Alive, Save Your Tailgate, Mission:Possible, and Steer Into The New Year. Additionally, each SRO actively supported the Click It or Ticket campaign through classroom discussions, posters, and staged crashes. With the assistance of student groups, each SRO conducted at least four seat belt surveys during the school year.

At left, POII Hartwell has two high school students helping him with a seat belt survey as students arrive at school. At right, additional students were at a drop off point handing out both DUI and OP literature in gift bags that also contained treats, such as 'Lifesavers'.

At right, Northside HS students sign a pledge to 'Arrive Alive', a comprehensive campaign dealing with OP, speeding, distracted and impaired driving.

In addition to the high school activities, the five additional SROs assigned to the County's middle schools also were very active in promoting seat belt use among their students, parents, and faculty. They actively supported the YOVASO programs targeting seat belt use by middle school students by developing YOVASO groups in their schools and assisting in activities during the school year. PSAs during announcements, posters, handing out brochures, and classroom lectures all came together to push the students to always buckle up. During 2015, the Department's 'Why Math Matters' presentation was modified for use in the middle school

science classes. The presentation involved a media rich PowerPoint presentation in the schools auditorium as well as a mock car crash in the parking lot. While half of the classes would be in the auditorium, the other half would be in the parking lot then they would rotate. While the auditorium part was lecture, the outside portion allowed students to interact with an officer and the staged crash. The presentations lasted 90 minutes and were performed during each of the four blocks of the school day on two consecutive days allowing hundreds of students to attend. What began as an outreach to the science class quickly evolved to teachers from other disciplines bringing their students as well. During the Fall of 2015, the Department conducted the presentation at each of the County's five middle schools and at six other middle schools in Southwestern Virginia, as the photo at right depicts.

In 2012, the Department developed the 'ScanEd' program to compliment efforts concerning teen traffic safety. 'ScanEd' is an interactive, hands-on approach to teaching teens the dangers associated with unsafe driving. The Department has an enclosed trailer packed with items to perform a presentation in the school parking lot including a crashed car, motorcycle, and dummy. After speaking with the students, they are then paired up and given an iPad. More than 30 QR (quick response) codes, similar to bar codes, are placed on the vehicles, dummy, signs, traffic light, beer can, etc. and are associated with a private network created using a laptop and wireless router. Using a bar code scanner on the iPads, the students can then self-learn as they scan the QR codes and an appropriate video or slideshow will play. For example, scan a QR code on the driver door and a video will play concerning the dangers associated not wearing a seat belt. Scan a QR code on a cell phone and a video will play that graphically depicts the risks of distracted driving. Though the entire presentation, including the presentation and the 'ScanEd', concern many different aspects of teen driving, a very strong emphasis is placed on occupant protection as it plays a very common role in serious teen crashes in our area. The program has become one of the Department's most popular means of reaching teens, based upon feedback from teachers, students, and parents, as it combines hands-on learning with technology.

During 2015, the Department used the 'ScanEd' program with an estimated 4,000 students in Southwestern Virginia including at the YOVASO (Youth of Virginia Speak Out About Traffic Safety) leadership conference with representatives throughout the Commonwealth of Virginia.

In addition to the 'ScanED' program, the Department also has an air bag simulator that is used during traffic safety presentations as another way of promoting seat belt use. A seat from a passenger vehicle was placed on a portable sled with a metal frame dash which allows air bags to be mounted. A rope was connected to the sled to allow presenters to provide some rotation to the sled during the air bag detonation which is more indicative of real world crashes and causes even more movement of the dummy. Because the dummy is not seat belted, typically it will be pushed out of the seat during deployment which, when combined with the effect of sunglasses, hats, and cell phones being launched, provides a tremendous visual for the

audience. The demonstrations are a crowd favorite and provide a tremendous talking point concerning the need to wear seat belts. During 2015, the Department detonated more than 25 air bags during traffic safety presentations.

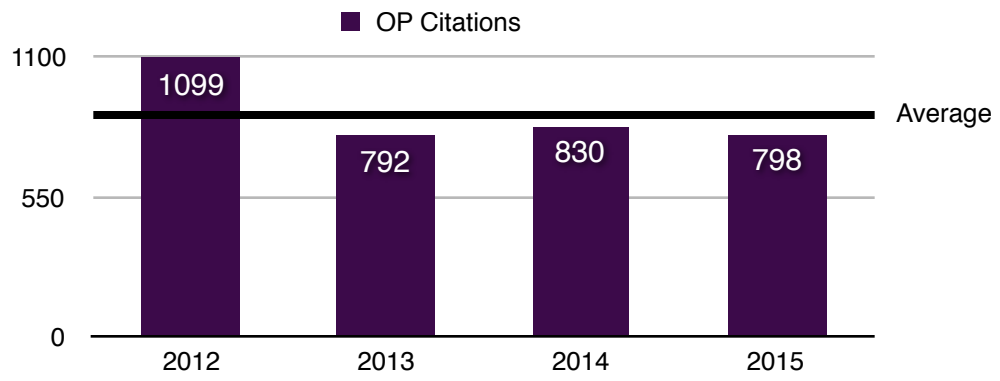
A large percentage of the Department's public education targeting adult occupant protection is done through the Department's Facebook site which has a large number of followers. Posters, press releases, and causal reminders were posted throughout the year. However, the Department's programs that were initially developed to target young students have also been used for adult audiences. The 'ScanEd' program as well as the air bag sled have been used at several adult events to include civic groups, business employee safety days, and the Department's Citizen Police Academy. In addition, two area commercial trucking companies have one of the Department's Motor Carrier certified officers speak to their drivers yearly concerning different aspects of traffic safety with a strong emphasis on wearing seat belts.

Through its leadership role with the Blue Ridge Transportation Safety Board (BRTSB), the Department led or assisted in several traffic safety enforcement and public informational/ educational initiatives during 2015 concerning occupant protection. The BRTSB is a multi-jurisdictional, multi-discipline board made up of law enforcement, businesses, insurance, traffic engineers, and safety advocates all joined together to improve traffic safety throughout southwestern Virginia since 1988. Through the BRTSB, the Department coordinated several occupant protection campaigns, such as the '460 Blitz' which focused of OP violations and speeding the Friday of the Memorial Day weekend. The Board's non-law enforcement members supported the efforts by promoting the campaigns through electronic media. The Department led several regional enforcement and educational efforts during the two 2015 'Click It or Ticket' mobilizations including the below Twitter initiative. The below screenshot came from a local radio station.

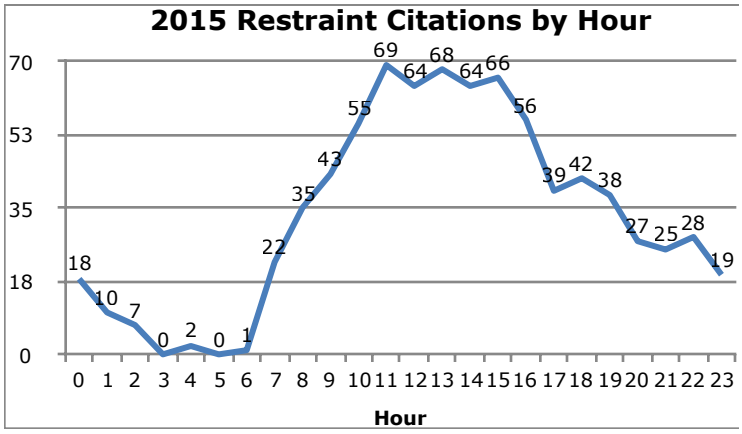
Enforcement

The table on the following page shows the number of occupant protection citations (seat belt and child seat) issued by the Department's officers over the last four years. Of the 798 OP citations issued during 2015, only 81 (9.7%) were issued during grant funded patrols and checkpoints leaving the vast majority of OP enforcement being accomplished through Department funding.

OCCUPANT PROTECTION



As previously stated, the analysis of 2014 crash reports showed the majority of crashes involving an unrestrained occupant occurred between the hours of 1200 and 1800 while 38% occurred on Saturdays and Sundays. Subsequently, more than 70% of grant funded OP enforcement patrols and checkpoints were deployed during these timeframes. The graph at right shows the number of unrestrained citations issued by hour during 2015. In total, 41% were written between 1100 and 1600 hours.



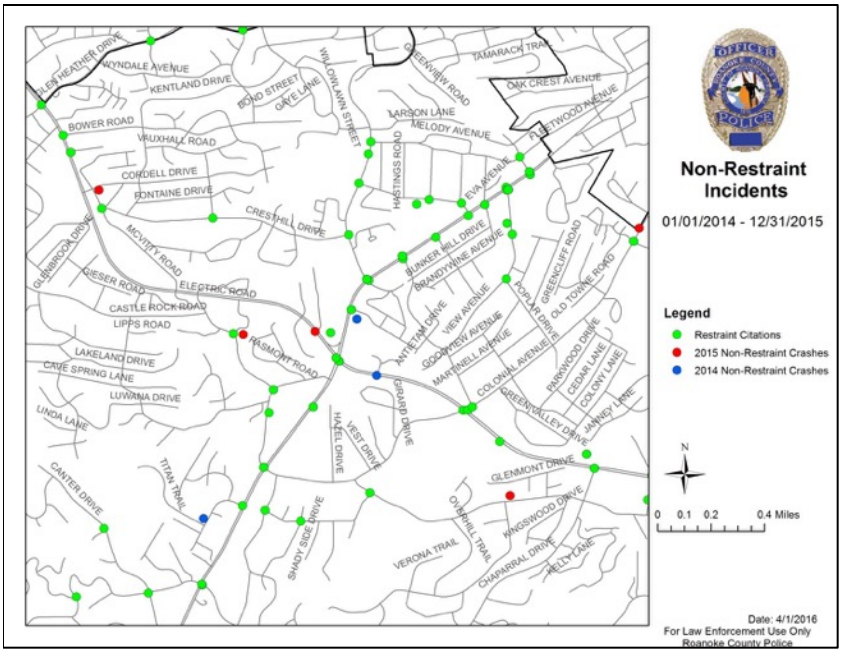
For the two week Spring 'Click It or Ticket' campaign, the Department conducted eight license and sobriety checkpoints complimented with 52 saturation patrols during day and nighttimes.

Outcomes

The table below shows the number of unrestrained crashes by type in 2015 as compared to the three year average of 2012-2014.

	2012	2013	2014	Three Year Average	2015
Unrestrained Property Damage	13	15	9	12.3	8
Unrestrained Injuries	20	18	26	21.3	26
Unrestrained Fatalities	3	2	0	1.6	2
Total Unrestrained Crashes	36	35	35	35.3	36

OCCUPANT PROTECTION



During the year end analysis of 2015 crashes, a map was generated of the entire county showing 2014 and 2015 unrestrained crashes as well as the locations of where citations had been issued for OP violations during 2015 to see if problems had been addressed. The map at left depicts such data from a section of the County. Please note that all areas where an unrestrained crash had occurred was represented by at least one citation.

Throughout the year, the Department conducted 52 seat belt surveys throughout the County. The overall seat belt use rate increased from 87% in 2014 to 88% in 2015, which was much higher than the Virginia rate of 80%.

Recognition

In terms of recognition, each year the officer that contributes the most to the Department's goal of increased occupant protection is recognized with a letter of commendation from the Chief of Police. For his efforts in 2015, Police Officer II S. Hoopes was recognized for having issued a total of 293 citations for seat belt and child safety seat citations, which was 173 more than the next officer. He also assisted in numerous traffic safety presentations at schools, businesses, and other civic opportunities to promote occupant protection.

Additionally, the Department was recognized for its efforts during the Spring 2015 'Click It or Ticket' campaign by the Virginia Highway Safety Office for both the Highest Seat Belt Usage Rate and the Most Improved Seat Belt Usage Rate.