SPEED AWARENESS

2016 National Law Enforcement Challenge

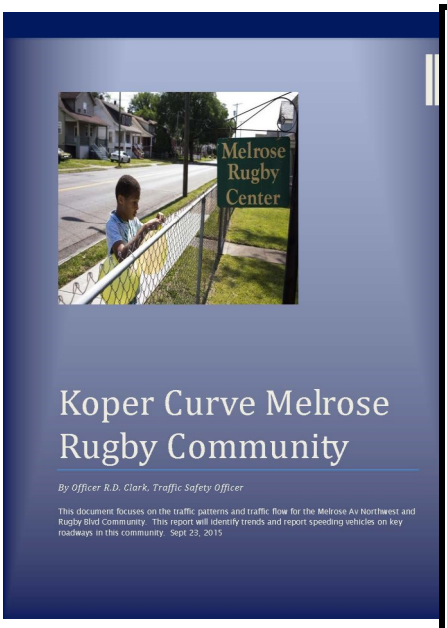
PROBLEM IDENTIFICATION:

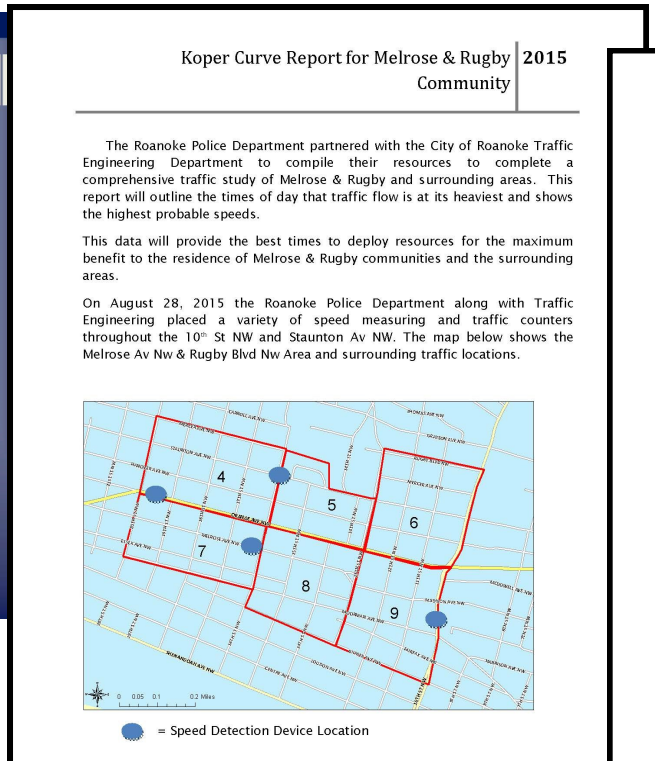
When we looked at our speed related crash problems, we saw issues not only on our major highways, such as Route 220, but also in higher populated neighborhoods that yield higher traffic and higher concentrations of crime. In short, the problems we identified in 2015 could be better addressed using a Koper Curve and DDACTS [Data Driven Approaches to Crime and Traffic Safety] model. Careful analysis showed that our overtime efforts in speed enforcement should be focused during the evening and nighttime hours [1500 to 0000], with special emphasis on Mondays, Thursdays, Fridays, and Saturdays.

In order to properly identify problem areas, the department sought input from the following:

- Citizens in impacted areas.
- Partnerships with employees in the City of Roanoke Traffic Engineering Department.
- Attending community meetings and events in impacted areas.
- TREDS [Traffic Records Electronic Data System].
- The department's four crime analysts in ISTAR [Intelligence, Statistics, Technology, Analysis, and Research]. ISTAR is responsible for all data collection and analysis for the department.
- Traffic Safety Officer Rick Clark completed traffic surveys for the Patterson Avenue area, the Melrose-Rugby area, and the Shenandoah-Lansdowne area.

As an indication of the thoroughness of Officer Clark's surveys, see the following examples:



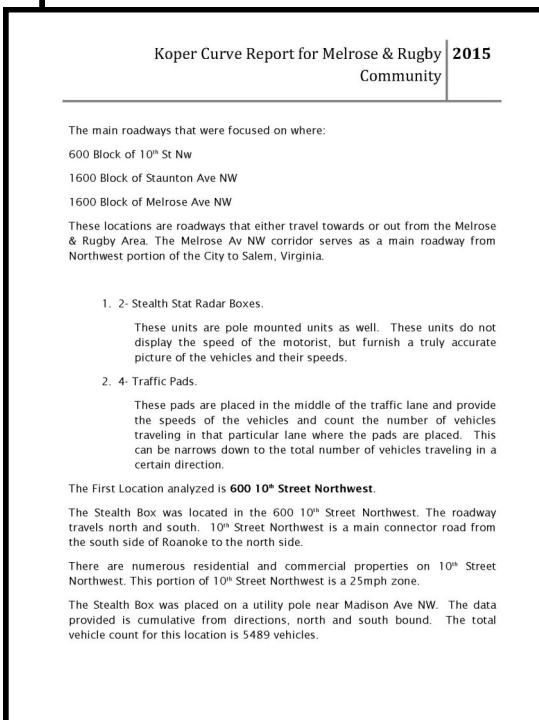


Koper Curve Report for Melrose & Rugby Community | 2015

The Roanoke Police Department partnered with the City of Roanoke Traffic Engineering Department to compile their resources to complete a comprehensive traffic study of Melrose & Rugby and surrounding areas. This report will outline the times of day that traffic flow is at its heaviest and shows the highest probable speeds.

This data will provide the best times to deploy resources for the maximum benefit to the residence of Melrose & Rugby communities and the surrounding areas.

On August 28, 2015 the Roanoke Police Department along with Traffic Engineering placed a variety of speed measuring and traffic counters throughout the 10th St NW and Staunton Av NW. The map below shows the Melrose Av Nw & Rugby Blvd Nw Area and surrounding traffic locations.



Koper Curve Report for Melrose & Rugby Community | 2015

The main roadways that were focused on where:

600 Block of 10th St Nw

1600 Block of Staunton Ave NW

1600 Block of Melrose Ave NW

These locations are roadways that either travel towards or out from the Melrose & Rugby Area. The Melrose Av NW corridor serves as a main roadway from Northwest portion of the City to Salem, Virginia.

1. 2- Stealth Stat Radar Boxes.

   These units are pole mounted units as well. These units do not display the speed of the motorist, but furnish a truly accurate picture of the vehicles and their speeds.

2. 4- Traffic Pads.

   These pads are placed in the middle of the traffic lane and provide the speeds of the vehicles and count the number of vehicles traveling in that particular lane where the pads are placed. This can be narrows down to the total number of vehicles traveling in a certain direction.

The First Location analyzed is **600 10th Street Northwest**.

The Stealth Box was located in the 600 10th Street Northwest. The roadway travels north and south. 10th Street Northwest is a main connector road from the south side of Roanoke to the north side.

There are numerous residential and commercial properties on 10th Street Northwest. This portion of 10th Street Northwest is a 25mph zone.

The Stealth Box was placed on a utility pole near Madison Ave NW. The data provided is cumulative from directions, north and south bound. The total vehicle count for this location is 5489 vehicles.

Officer Clark's analysis included recommendations that could be considered during the planning phases for each Koper Curve/DDACTS area. Examples are below:

Koper Curve Report for Melrose & Rugby Community **2015**

Speed – the speed limit is set at 25mph zone. The 85th percentile of the vehicle was traveling at 29mph. The 50th percentile of vehicles was traveling at 24mph. This made the average speed for this location 23.43mph. The maximum speed that was recorded on the Stealth Stat Box was 46mph. This time was recorded at 8:45pm. There is no speeding trend at this time in the 600 10th Street Northwest. Out of the 5400 vehicles counted there was only 3 vehicles that were going over 40mph.

The second location was the 1600 Staunton Ave Northwest.

The second Stealth Box had a major crash and lost the data from this location and the lost all of its data within the memory.

The City of Roanoke Transportation Department deployed their traffic pads in the 1600 block of Melrose Ave NW. The pads record traffic flow in a straight line. There are two pads, one for each direction.

The results are that peak volume of traffic for the eastbound traffic flow was 2913 vehicles traveling east bound at the speeds between 30-34mph. The Melrose Ave NW is posted at 25mph. The counts lasted 96hrs before the pads were removed. The traffic total volume was 8358 vehicle traveling eastbound. The 85th percentile of vehicles was traveling at 36.44mph.

Speeding – The vehicles that were traveling at speeds higher than 40mph during a period time is between 3:00pm to 4:00pm. The next day highest times were from 10:00am to 11:00am, 1:00pm to 2:00pm, and 3:00pm to 4:00pm, and at 5:00pm to 6:00pm. All the days the counters were out these times are the highest volume of speeders traveling over 40mphs.

Recommendations

By placing unmarked vehicle, laser operator or both within this location to deter the speeders in this area, due to the fact that there is a park near and the vehicle traveling eastbound are heading towards that park.

Koper Curve Report for Melrose & Rugby Community **2015**

Orange Ave Northwest from 8th Street Northwest to 20th Street Northwest recorded thirty-eight (38). The causative factors were Disregard Red Light, Fail to Yield on Left turn & Fail to Maintain Control. Most of the reported crashes appear to be at Orange Ave Nw & 11th Street NW.

The Staunton Ave NW & Orange Ave NW speed data is unavailable at this time. The Stealth Stat Box that was used for these two locations suffered an unrecoverable data loss. The laptops within the unit went through a hard reset after having trouble powering up. The laptop reverted back to its basic initialization and the speed detection software all had to be restored.

The Roanoke Police Department is actively seeking replacement cost for the two units or repairing and upgrading cost of these two devices. Both Stealth Stats were purchased in 2005.

Koper Curve Report for Melrose & Rugby Community **2015**

The results are that peak volume of traffic for the eastbound traffic flow was 2405 vehicles traveling west bound at the speeds between 30-34mph. The Melrose Ave NW is posted at 25mph. The counts lasted 96hrs before the pads were removed. The traffic total volume was 7404 vehicle traveling eastbound. The 85th percentile of vehicles was traveling at 38.41mph.

Speeding – The vehicles that were traveling at speeds higher than 40mph during a period time is between 6:00pm to 7:00pm. The next day highest times were from 7:00am to 8:00am, 12:00pm to 1:00pm, and 1:00pm to 2:00pm, and at 5:00pm to 6:00pm. All the days the counters were out these times are the highest volume of speeders traveling over 40mphs. On Sunday there were 8 vehicles between 12:00pm to 1:00pm that were traveling at speeds between 40-44mph. On the same day, there were 7 vehicles traveling at speeds between 40-44 at 3:00pm to 4:00pm.

Recommendations

By placing unmarked vehicle, laser operator or both within this location to deter the speeders in this area, these vehicles has just left the park area and heading towards Salem.

Crash Data:

The crash data was pulled from January 1, 2015 to August 31, 2015.

10th Street Northwest from Rugby Blvd NW to Gilmer Ave NW recorded Six (6) crashes on 10th Street NW. The Causative factors on these crashes are Improper Lane Change, and Following too close.

Melrose Ave Northwest from 10th Street Northwest to 20th Street Northwest recorded Eight (8) crashes. The causative factors were Stop Sign, Improper Lane Change, Hit and Run, and Fail to Maintain Control.

Staunton Ave Northwest from 10th Street Northwest to 20th Street Northwest recorded Three (3) crashes. The causative factors were Fail to Maintain Control, Fail to signal when entering highway, and Disregard Stop Sign.

POLICY:

Attached in a separate PDF file are operational directives [in order in PDF file]: Officer Contact with Traffic Violators (62.1.5), Traffic Crash Investigation (63.1.1), Vehicle Operation and Vehicular Pursuits (41.2.2), Traffic Enforcement Data Collection and Evaluation (61.3.1), Traffic Law Enforcement (62.1.1), RADAR/LIDAR Speed Enforcement (62.1.11).

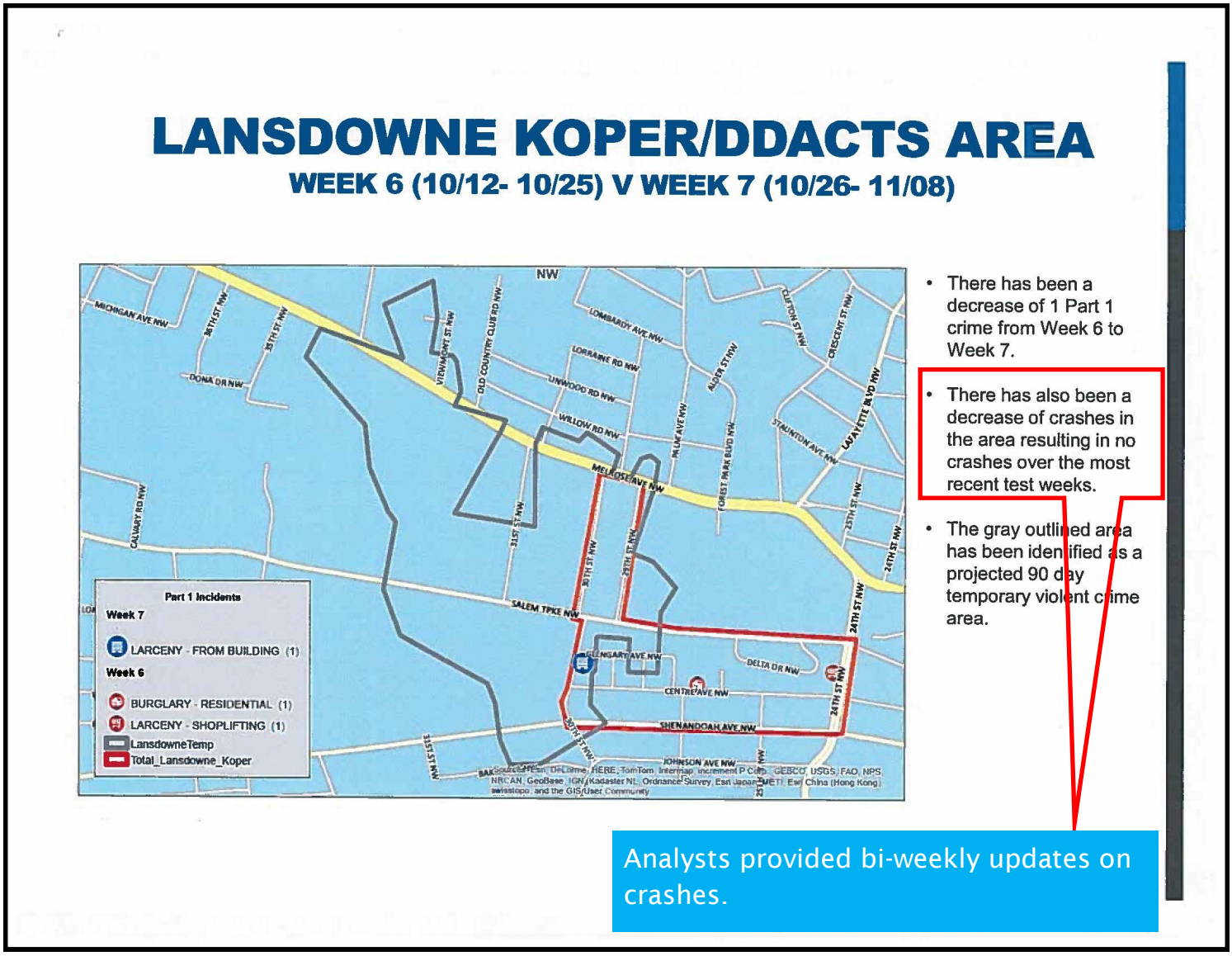
PLANNING:

Officer Clark, along with command staff, officers in the field, and crime analysts in ISTAR, developed extensive operational plans using Koper Curve and DDACTS techniques to reduce the speed problems in each of the three identified areas.

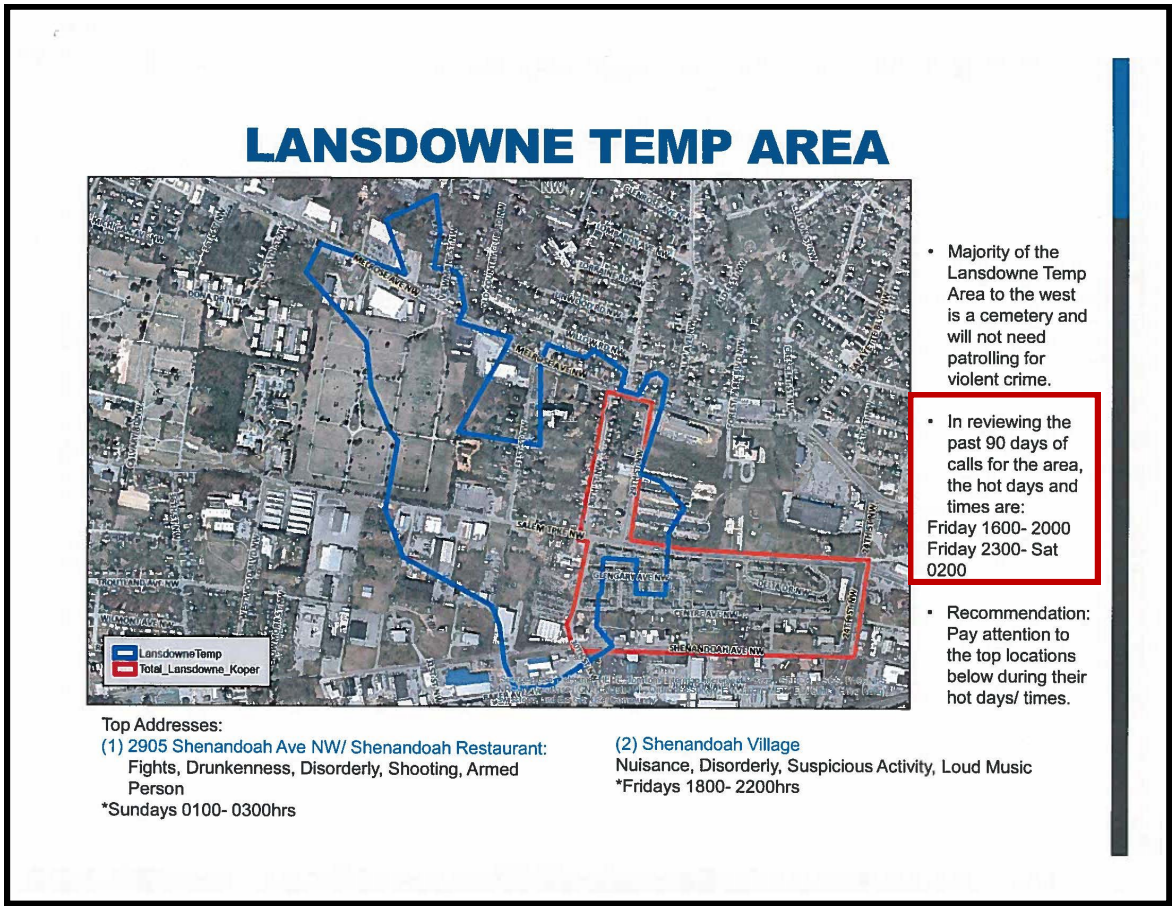
The specific target areas included: the **Patterson Avenue** area, the **Melrose-Rugby area**, and the **Shenandoah-Lansdowne area**.

All operational plans included specific information as to the time and day when the problems were occurring. To ensure follow-up and implementation, it was decided that officers, command staff, and crime analysts would meet bi-weekly to check progress and discuss strategy.

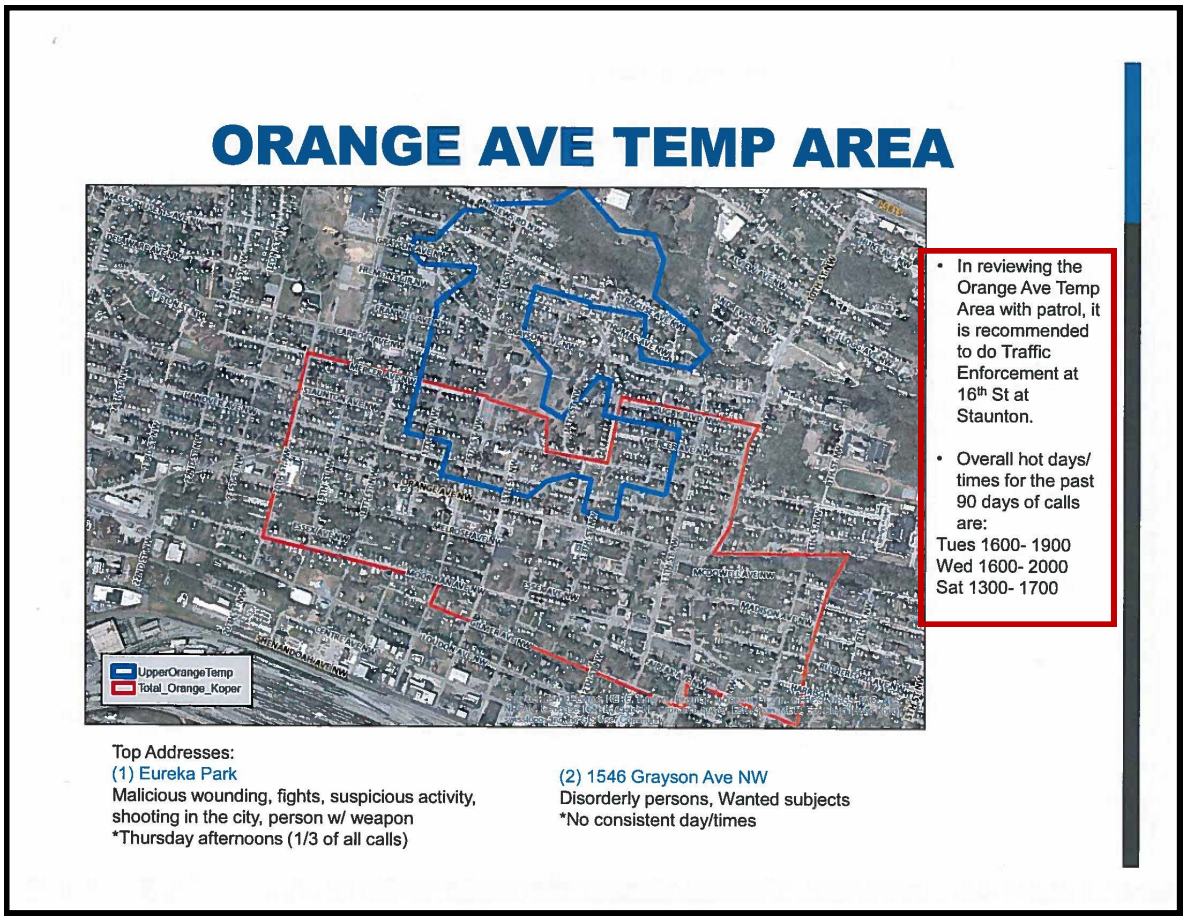
Follow-up plans were specific to target areas to ensure implementation, as seen in the picture below:



Plans outlined hot spots, dates and times. See photo below [detail in red box]:



Plans provided detailed recommendations. See photo below [detail in red box]:



STRATEGIC HIGHWAY SAFETY PLAN SUPPORT:

The Department supported the Virginia Strategic Highway Safety Plan by doing the following:

1) Used DMV overtime grants to pay for additional enforcement

2) Used speed radar trailer to mitigate citizen complaints

3) Developed and implemented plans to address speed and safety related concerns

4) Utilized TREDS, iSTAR, and speed surveys to track and analyze crash statistics

TRAINING:

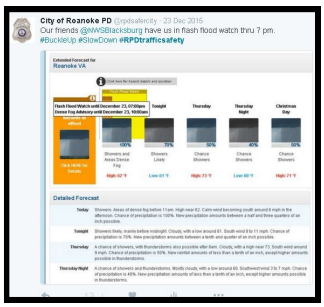
Title	Date(s)	Attendance
Radar/Lidar Instructor Recert	6/29/15	4
Radar/Lidar Basic Instructor School	9/1/15—9/4/15	3
Crash Data Recovery School	6/29/15—6/30/15	1
In-Service, Speeding	Various	124
Initial Radar/Lidar Certification	Various	22

Half of the entire force of sworn officers are required to go through in-service training every year (124 of the 248 sworn officers in 2015). Part of that instruction includes speed-related scenario training, such as enforcement and pursuits. All rookie officers leave the academy certified in radar and lidar detection (two academy classes in 2015 for a total of 22 officers). All 121 officers assigned to the patrol division are RADAR/LIDAR certified.

PUBLIC INFORMATION & EDUCATION:

Traffic Safety Friday: The department offers a traffic safety tip every Friday on its social media pages. The communications are sometimes shared by the media. A speed related "Traffic Safety Friday" is offered as an example to the right:

Special Weather Statements: Whenever severe weather is in the forecast, we work with our partners at the National Weather Service to issue social media alerts to our citizens that driving conditions could be impacted and requesting that they remember to slow down. An example of one of our Special Weather Statements is to the right:



Back to School Patrols: The department worked together with the Roanoke city school system to place extra patrols in school zones as students headed back to class during the third week in August 2015. Using data driven analysis, iSTAR identified certain school zones that were specific speed problem areas. The department used social media and partnered with the local NBC affiliate, WSLS, to demonstrate how speed impacts stopping distance. A screenshot of the report is provided below:

Operation 460 Blitz: The department partnered with thirteen other law enforcement agencies to place special focus on the Route 460 corridor during Memorial Day weekend. Speed was among the enforcement focuses. **Several adjoining law enforcement agencies were identified as partners for the operation, including the Roanoke County Police Department, the Bedford Police Department, and the Lynchburg Police Department. The partnerships helped spread awareness about the enforcement.** The department also notified the public using its social media pages. The local CBS affiliate, WDBJ, helped get information out to drivers about the event. **Date: May 20, 2015.**

Drive 2 Safe Lives: The department participated in the nationwide Drive 2 Save Lives campaign in 2015. **Partners included Virginia State Police and law enforcement agencies around the region. The partnerships helped increase awareness of the campaign.**

Drive Sober or Get Pulled Over: The department joined the statewide Drive Sober or Get Pulled Over campaign from **August 21, 2015 to September 7, 2015.** The department partnered with three television news agencies and the Roanoke Times to get the word out that speeding, impairment, and other risky behaviors from drivers would not be tolerated. Officers issued 76 speeding summonses during overtime operations during that time frame.

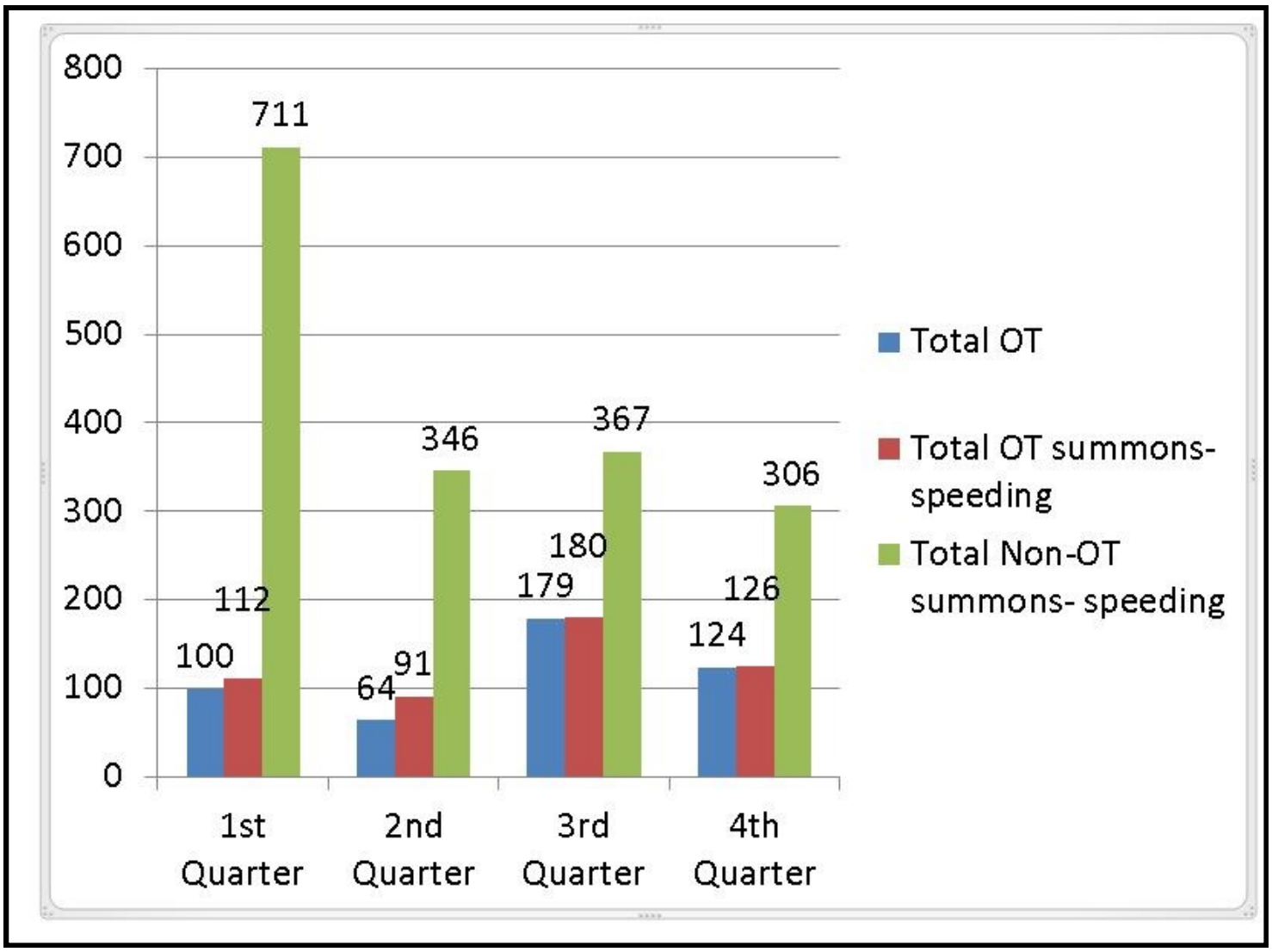
Second Annual Spring Traffic Safety Rally:

On **April 8, 2015** the department partnered with Drive Smart Virginia, the Roanoke County Police Department, and Virginia Western Community College [VWCC] Campus Safety for the Second Annual Spring Traffic Safety Rally on campus at VWCC. Drive Smart Virginia brought its distracted driving simulator from Richmond. The Roanoke County Police Department set up a cone course in one of the parking lots. Officers rode in the Roanoke County Police's golf cart as participants had to test message something to a facilitator. Participants were allowed to go through the course once distraction-free, then type and send the text message during the next lap. Each participant's lap time and how many cones they knocked down were compared between how smoothly it went with no distractions to how chaotic it sometimes got when they were operating with distractions. About 150 people attended the event. Each participate got coupons from our partners at Chik-Fil-A.

#RPDtrafficsafety:

In 2015 the department also created the Twitter and Instagram hashtag, #RPDtrafficsafety. The social media campaign encouraged drivers to slow down in severe weather, and pay extra attention to their speed around holidays. The hashtag campaign also included pictures and personal stories of officers in order to make a positive connection with the community. An example is to the right:

ENFORCEMENT:



Regular duty time was utilized to focus on problem specific areas. Citizen speed complaints were filtered through the department's traffic safety officer. The traffic safety officer coordinated planning with platoon lieutenants to make sure officers were aware of areas where speed was a concern. Platoon lieutenants assigned platoon sergeants and district officers to run radar and have a presence in areas of concern.

- **2,589 speed citations were issued in 2015.**
- **509 speed citations were issued in target areas in 2015.**
- **509 speed citations were issued during target times in 2015.**
- **10,445 total traffic stops in 2015.**
- **2,109 total speed contacts in target areas**
- **2,109 total speed contacts during target times**

- **The City of Roanoke does not employ any red light cameras or any other type of automated speed enforcement devices.**

The department directed 137 DMV grant funded overtime patrols at speeding issues in 2015. Each patrol was an individual saturation patrol in targeted areas during targeted dates and times. The number of saturation patrols during each quarter is below:

- **1st Quarter: 15**
- **2nd Quarter: 15**
- **3rd Quarter: 82**
- **4th Quarter: 25**

OUTCOMES:

Follow up plans were prepared for each problem specific area to track any reductions in speed and traffic crashes. Command staff and city's transportation and engineering departments were notified of the results of speed surveys involving problem areas to promote future safety discussions.

Overall, the plan reduced traffic crashes in the City of Roanoke by 1.6% compared to 2014.

Follow-ups in the specific areas mentioned in the problem identification and planning sections of this submission were as follows:

Patterson Avenue Koper Curve/DDACTS project:

- 17 crashes before implementation [1/1/15—8/27/15]
- 5 crashes after implementation [8/28/15—12/31/15]

The plan, along with other enforcement, prevention, and community efforts helped reduce violent crime by 28% in the SE quadrant of the city in 2015!

Melrose-Rugby Koper Curve/DDACTS project:

- 53 crashes before implementation [1/1/15—8/31/15]
- 17 crashes after implementation [9/1/15—12/31/15]

The plan helped reduce violent crime in the targeted area by 50% in 2015!

Shenandoah-Lansdowne Koper Curve/DDACTS project:

- 10 crashes before implementation [1/1/15—6/30/15]
- 7 crashes after implementation [7/1/15—12/31/15]

The plan helped reduce violent crimes in the targeted area by 37% in 2015!

OFFICER RECOGNITION:

The following officers received Merit Awards for traffic safety speed enforcement for issuing 100+ summonses in 2015:

- **Officer Kenneth Wilkerson:** 681 summonses issued
- **Officer Terry Dowdy:** 202 summonses issued
- **Sergeant Rob McNiff:** 192 summonses issued
- **Officer Bill Engel:** 162 summonses issued
- **Officer Jacob Hawkins:** 137 summonses issued

In 2013, command staff approved the Harold F. Wallick Traffic Safety Excellence Awards to be given to the officers who go above and beyond the call of duty when it comes to traffic safety. Award winners must meet certain criteria outlined in policy. The award's namesake, Retired Officer Harold F. Wallick, served the department for 25+ years and was known for his extensive legal, prevention, and enforcement knowledge in traffic safety.

2015 Harold F. Wallick Award for Traffic Safety Excellence winners:

- **Officer Kenneth Wilkerson**
- **Officer Cynthia Berrman**
- **Officer Gregory Benton**
- **Officer Billy Wood**
- **Officer Jacob Hawkins**

External Stakeholder Recognition: The Citizens Police Academy Alumni assisted on many traffic safety related outreach and enforcement events. The department honored the group with a special dinner during National Volunteer Week in April. The dinner featured a buffet and was catered by a local restaurant.