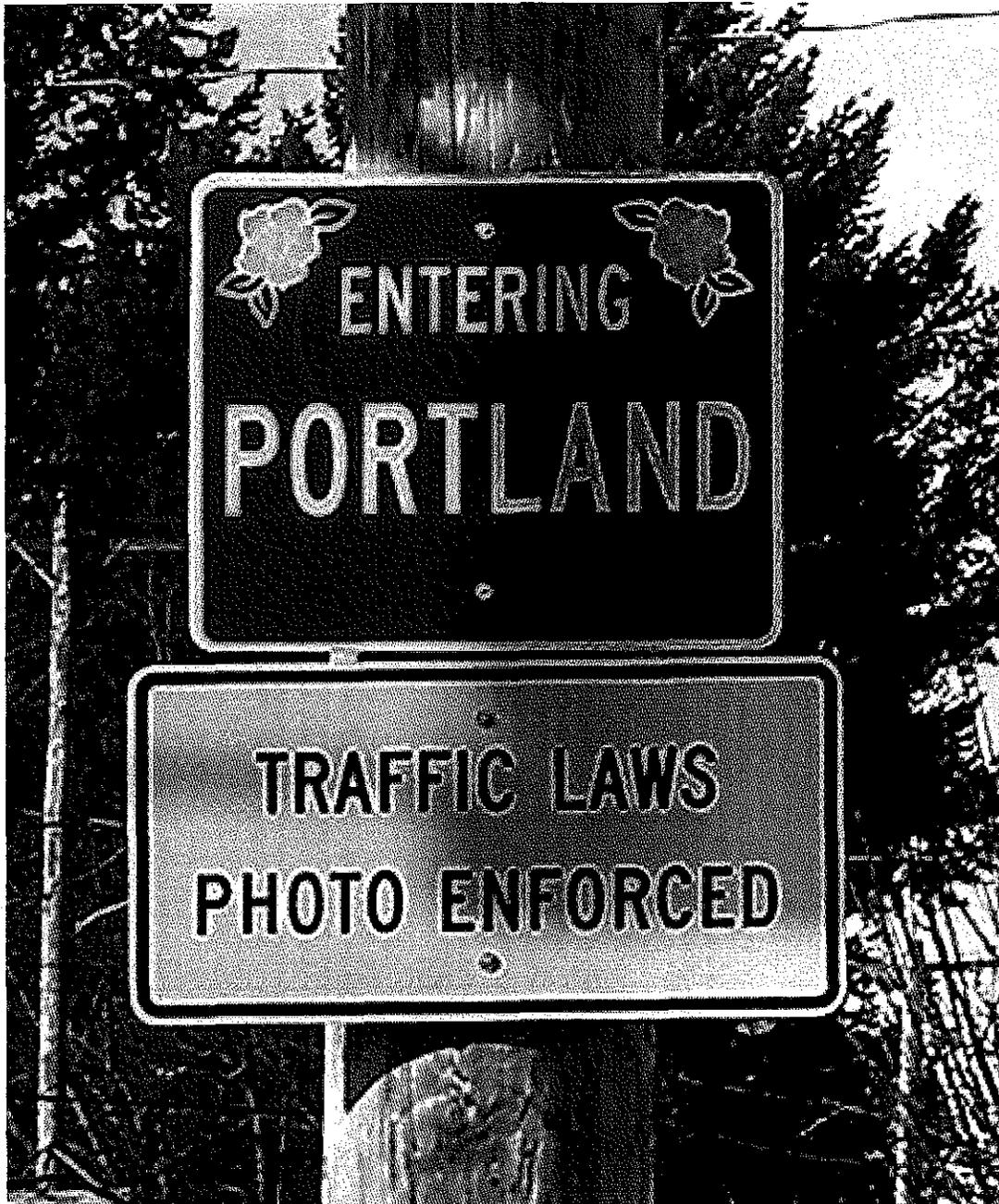


**CITY OF PORTLAND  
PHOTO RADAR PROJECT  
REPORT  
2009-2010**



**Sergeant Todd Davis  
Portland Police Bureau  
Traffic Division**

4735 E. Burnside St.  
Portland, OR 97215  
503-823-2153  
[todd.davis@portlandoregon.gov](mailto:todd.davis@portlandoregon.gov)



## I. BACKGROUND – REPORT REQUIREMENTS

The Oregon Revised Statute authorizing photo radar in cities was amended in the Legislative session of 2005. This amendment required cities using photo radar to conduct a process and outcome evaluation once each biennium.

A copy of the amended Statute is included below:

*(3) A city that operates a photo radar system under this section shall, once each biennium, conduct a process and outcome evaluation for the purposes of subsection (4) of this section that includes:*

*(a) The effect of the use of the photo radar system on traffic safety;*

*(b) The degree of public acceptance of the use of photo radar system;*

*and*

*(c) The process of administration of the use of the photo radar system.*

*(4) By March 1 of the year of each regular session of the Legislative Assembly:*

*(a) The Department of Transportation shall provide to the Legislative Assembly an executive summary of the process and outcome evaluations conducted under subsection (3) of this section; and*

*(b) Each city that operates a photo radar system under this section shall present to the Legislative Assembly the process and outcome evaluation conducted by the city under subsection (3) of this section.*

*[1995 c.579 1; 1997 c.280 1; 1999 c.1071 1; 2005 c.686 3]*

## **II. PHOTO RADAR AND ITS EFFECT ON TRAFFIC SAFETY**

### **A. BACKGROUND**

Photo radar is a method of traffic speed enforcement that is used to detect speeding violations and record identifying information about the vehicle and driver automatically. Violation evidence is processed and reviewed in an office environment and violation notices are delivered to the registered owners of identified vehicles after the alleged violation occurs, rather than at the time of the offense.

The City of Portland received authority from the 1995 Legislature to conduct a two year test of photo radar. After a successful test phase, the Legislature extended the use of photo radar. The City of Portland is now in its fifteenth year of photo radar operation and the program is a cornerstone of Portland's efforts to reduce speeding.

The time period of this report encompasses our transition to using digital technology in the photo-enforcement program. Initially only one of our primary photo-radar vans was updated and equipped with state-of-the-art digital equipment, replacing the film based technology used since the beginning of the program.

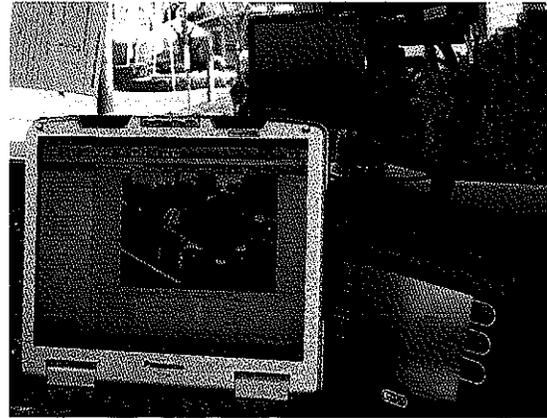
By initially only equipping one photo-radar van with digital equipment, we were able to compare the use of the digital technology alongside our second primary photo-radar van which was equipped with film cameras.

The comparison of the two technologies was enlightening. The digital equipment has out-performed the outdated film-based equipment in every way. Most notable is the quality of the high-resolution violation photos. The images are far superior to the images generated by the film cameras. These higher-quality images are posted securely on-line for the violator to view upon receipt of a photo-radar citation, eliminating the need for citizens to make appointments to come to the Traffic Division to view higher quality violation photos.

In addition to higher quality of the violation images, the use of digital technology has all but eliminated officer-error in our deployments, increasing the issuance rate of citations by over 25 %. We no longer lose entire photo-radar deployments due to the positioning of the photo-radar van

or to weather and/or lighting conditions. The deploying officer can now instantly detect and correct any of these problems.

Our second primary photo-radar van was upgraded with digital technology the following year. Our third photo-radar van, which is still equipped with film-based equipment, is seldom used and will be phased-out of operation this year.



The goals of the Portland Police Bureau's Photo-Enforcement program remain unchanged: **Reduce Speeding, Reduce Crashes, Save Lives**

## **B. PHOTO RADAR DEPLOYMENT**

The Portland City Council, through City Ordinance #172517, has directed the Police Bureau to deploy the photo radar vans in school zones, highway work zones, residential streets, and other streets determined to have an unusually high number of crashes or speeding complaints.

The Traffic Division's emphasis on photo-enforcement has been:

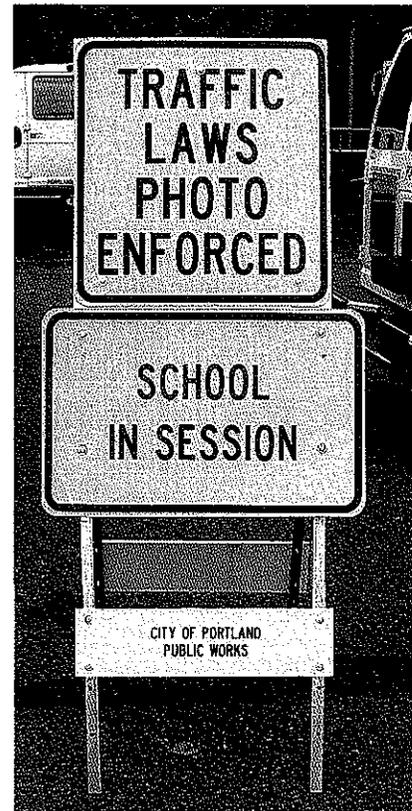
- School zones
- Work zones
- Residential areas
- SAFE zones \*

\*Strategic And Focused Enforcement

## School Zones

The Portland Police Bureau remains dedicated to the safety of the numerous school zones throughout our city. Photo-radar has been used extensively for speed enforcement in school zones city-wide. Requests for photo-radar deployments in school zones have come from school administrators, school resource officers, neighbors living near schools, and parents of children attending the schools. We have strived to fulfill every request for a school zone deployment that we have received.

We have upgraded our deployment signage to comply with the state law in regards to school zones without flashing beacons. The new signs, meeting the dimensions required under ORS, indicate 'SCHOOL IN SESSION' in addition to the standard admonishment that photo-radar is being deployed. These signs are placed 100-400 yards prior to any photo-deployment in non-beaconed school zone.



## State Highway Work Zone

In the spring and fall of 2009, the Portland Police Traffic Division partnered with O.D.O.T. in a test project using photo-radar in a state highway work zone. After researching several O.D.O.T. projects, it was decided that the N.W. Yeon St. reclamation project would be the ideal project within the City of Portland in which to test effectiveness of using photo-radar in a state highway work zone.

This project encompassed a 3.2 mile stretch of N.W. Yeon St, which is also state highway 30. The project included the complete grinding and resurfacing of highway 30 throughout the entire length of the project. The

work was done predominately at night, with lane reductions taking place nightly. The use of photo-radar in this work zone was done in strict compliance with ORS.811.439, Section 4:

**Sec. 4. Highway work zone.** (1) *The Department of Transportation may operate photo radar within a highway work zone that is located on a state highway, except for a highway work zone located on an interstate highway.*

(2) *The department, at its own cost, may ask a jurisdiction authorized to operate photo radar under ORS 810.438 (1) or the Oregon State Police to operate a photo radar unit in a highway work zone on a state highway, except for a highway work zone located on an interstate highway.*

(3) *A photo radar unit operated under this section may not be used unless a sign is posted announcing that photo radar is in use. The sign posted under this subsection must be all of the following:*

(7) *Located on the state highway on which the photo radar unit is being used.*

(b) *Between 100 and 400 yards before the location of the photo radar unit.*

(4) *The department shall, once each biennium, conduct a process and outcome evaluation for the purposes of subsection (5) of this section that includes:*

(7) *The effect of the use of photo radar on traffic safety;*

(b) *The degree of public acceptance of the use of photo radar; and*

© *The process of administration of the use of photo radar.*

(5) *The department shall report to the Legislative Assembly by March 1 of each odd-numbered year.*

(6) *As used in this section, "highway work zone" has the meaning given that term in ORS 811.230. [2007 c.634 §4]*

**Sec. 5. Highway work zone; citation.** (1) *Notwithstanding any other provision of law, when a jurisdiction or the Oregon State Police uses photo radar in a highway work zone:*

(7) *A citation for speeding may be issued on the basis of photo radar if the following conditions are met:*

(7) *The photo radar unit is operated by a uniformed police officer.*

(B) *The photo radar unit is operated out of a marked police vehicle.*

© *An indication of the actual speed of the vehicle is displayed within 150 feet of the location of the photo radar unit.*

(D) *The citation is mailed to the registered owner of the vehicle within six business days of the alleged violation.*

(E) *The registered owner is given 30 days from the date the citation is mailed to respond to the citation.*

(F) *One or more highway workers are present. For the purposes of this subparagraph, "highway workers" has the meaning given that term in ORS 811.230.*

(G) *The jurisdiction operating photo radar complies with the requirements described in section 4 of this 2007 Act.*

(b) *A rebuttable presumption exists that the registered owner of the vehicle was the driver of the vehicle when the citation is issued and delivered as provided in this section.*

© *A person issued a citation under this subsection may respond to the citation by submitting a certificate of innocence or a certificate of nonliability under subsection (3) of this section or may make any other response allowed by law.*

(2) A citation issued on the basis of photo radar may be delivered by mail or otherwise to the registered owner of the vehicle or to the driver. The citation may be prepared on a digital medium and the signature may be electronic in accordance with the provisions of ORS 84.001 to 84.061.

(3)(a) A registered owner of a vehicle may respond by mail to a citation issued under subsection (1) of this section by submitting, within 30 days from the mailing of the citation, a certificate of innocence swearing or affirming that the owner was not the driver of the vehicle and by providing a photocopy of the owner's driver license. A jurisdiction that receives a certificate of innocence under this paragraph shall dismiss the citation without requiring a court appearance by the registered owner or any other information from the registered owner other than the swearing or affirmation and the photocopy. The citation may be reissued only once, only to the registered owner and only if the jurisdiction verifies that the registered owner appears to have been the driver at the time of the violation. A registered owner may not submit a certificate of innocence in response to a reissued citation.

(b) If a business or public agency responds to a citation issued under subsection (1) of this section by submitting, within 30 days from the mailing of the citation, a certificate of nonliability stating that at the time of the alleged speeding violation the vehicle was in the custody and control of an employee, or was in the custody and control of a renter or lessee under the terms of a rental agreement or lease, and if the business or public agency provides the driver license number, name and address of the employee, renter or lessee, the citation shall be dismissed with respect to the business or public agency. The citation may then be issued and delivered by mail or otherwise to the employee, renter or lessee identified in the certificate of nonliability.

(4) If the person named as the registered owner of a vehicle in the current records of the Department of Transportation fails to respond to a citation issued under subsection (1) of this section, a default judgment under ORS 153.102 may be entered for failure to appear after notice has been given that the judgment will be entered.

(5) The penalties for and all consequences of a speeding violation initiated by the use of photo radar are the same as for a speeding violation initiated by any other means.

(6) A registered owner, employee, renter or lessee against whom a judgment for failure to appear is entered may move the court to relieve the registered owner, employee, renter or lessee from the judgment as provided in ORS 153.105 if the failure to appear was due to mistake, inadvertence, surprise or excusable neglect.

(7) As used in this section, "highway work zone" has the meaning given that term in ORS 811.230. [2007 c.634 §5]

**Sec. 6.** Sections 4 and 5 of this 2007 Act are repealed on December 31, 2014. [2007 c.634 §6]

One of the provisions of 811.439 in regards to using photo-radar in a state highway work zone is that *one or more highway workers must be present*. To ensure compliance with this provision, the officers deploying photo-radar on any given date would check-in with the project manager to ensure that work was being conducted. The officer would then visually verify the

presence of one or more “highway workers” and record that in a notation on the photo-radar deployment log.

This test project went smoothly and photo-radar was deployed intermittently for the duration of the project which ran from April, 2009 through September, 2009. Photo-radar was used at several locations throughout this work zone. This project also coincided with our first use of digital technology and allowed us to compare the use of digital photo-radar alongside of the vans equipped with film cameras.

This project was deemed a success. There were 2,065 violations recorded in the five months of this test project. This number was reached with an average of 8 photo-radar deployments each month, with each deployment being no more than four hours in duration. This is an average of 43 violations recorded per deployment, or 10.75 per hour.

We are currently using photo-enforcement intermittently in another O.D.O.T. State highway work zone project, the highway 99-E/viaduct project taking place in southeast Portland. While this project has been on-going for over 3 years, we just recently added a consistent component of photo-enforcement in addition to the traditional methods of enforcement in use thus far. The addition of photo-enforcement in this work zone has been extremely effective and has proven to be a very efficient use of police resources.



## SAFE Zones

SAFE zones are areas that have been identified as locations having a high number of speeding violations and speed related crashes. There are currently 18 SAFE zone locations in the City of Portland. Not all SAFE zone locations meet the criteria for photo-enforcement.

### **Current photo-radar enforced SAFE zone locations:**

122<sup>nd</sup> Ave./ NE Halsey St. to SE Powell Blvd.  
SE Division St./ SE 82<sup>nd</sup> Ave. to SE 122<sup>nd</sup> Ave.  
39<sup>th</sup> Ave. / NE Glisan St. to SE Powell Blvd.  
NE Sandy Blvd./ NE 37<sup>th</sup> Ave. to NE 57<sup>th</sup> Ave.  
82<sup>nd</sup> Ave./ NE Sandy Blvd. to SE Lambert St.  
N Interstate Ave./ N Going St. to N Lombard St.  
SE Washington St. to Stark St./ SE 92<sup>nd</sup> Ave. to SE 106<sup>th</sup> Ave.  
Burnside St./ NW 23<sup>rd</sup> Ave. to NE 28<sup>th</sup> Ave.  
SE Powell Blvd./ SE 21<sup>st</sup> Ave. to SE 52<sup>nd</sup> Ave.  
Broadway to Weidler / NE MLK jr. Blvd. to N. Larrabee Ave.  
SE Foster Rd./ SE 82<sup>nd</sup> Ave. to I-205  
Morrison Bridge / speed and lane changes on steel grating  
SW Barbur Blvd / SW Terwilliger to SW Capitol Hwy  
Hyw 26 / SE 12<sup>th</sup> Ave. to SW Hood (either end of Ross Island Br.)

### **C. IMPROVEMENTS IN TRAFFIC SAFETY**

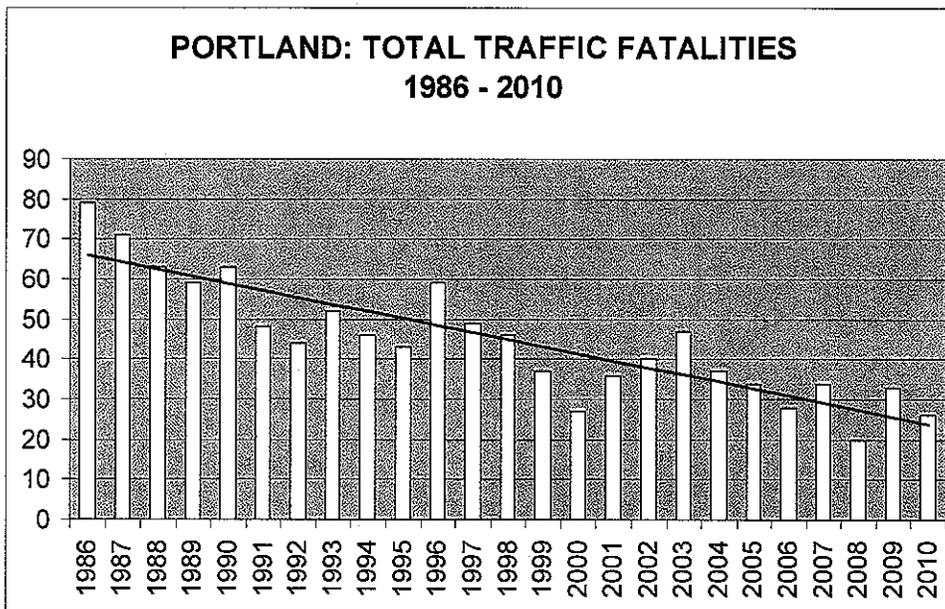
The City of Portland's photo radar program has been very successful in reducing speeds within the city boundaries. In 2005, Dr. Christopher M. Monsere, a research assistant professor in the Department of Civil & Environmental Engineering, Portland State University, conducted a study where data was collected from the actual photo radar vans for the time frame of 1996 to 2004.

This data included the total number of vehicles passing the van, the number of citations issued, and the percentage of vehicles passing the van that were in violation of the speed limit.

While the data shows that the number of vehicles passing the photo radar vans increased by approximately 6.5% during the listed time frame, it also

shows that the number of speed limit violations decreased by 5.8%. This study also shows that the number of issued citations dropped by 3.6%.

The trend is clearly visible that with increasing exposure to photo radar vans, the percent of vehicles that were exceeding the posted speed limit has been decreasing. A possible interpretation of this trend is that photo radar vans are decreasing vehicle speeds; in turn, this could be assumed to be decreasing speed related crashes. There are other interpretations of course. People are now more familiar with the photo radar vans and their deployments and learn to slow down. The table below illustrates the decline in fatal crashes since the inception of the photo-enforcement program.



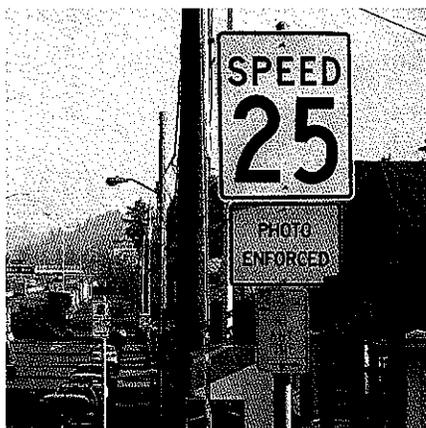
Today the photo radar program has proven itself to be consistent and reliable. The table below shows the program statistics from the last two years. Please note that in 2010, the number of enforcement hours decreased by over 600 hours compared to the previous year. The number of vehicles monitored and violations captured also decreased correspondingly. However, the number of citations issued increased by 966.

The decrease in deployment hours was due solely to budgetary issues experienced by the Portland Police Bureau and the Traffic Division. The budget concerns have greatly affected our ability to staff the photo-enforcement program. The increase in the number of citations issued reflects the higher issuance rate since transitioning to digital equipment.

	2009	2010
Enforcement Hours	2,971	2367
Vehicles Monitored	1,188,550	1,034,25
Violations Captured	41146	36140
Citations Issued	21275	22241

### **Top 5 Photo-Radar Deployment locations in 2010:**

1. S.E. McLoughlin Blvd @ 3300 Block [Highway 99-E work zone]
2. N.E. Willow St. @ 6100 Block [Residential Street]
3. S.E. 148<sup>th</sup> Ave. @ 2300 block [posted school zone]
4. S.W. Beaverton-Hillsdale Hwy. @ 2500 block [History of speed related problems]
5. S.E 92<sup>nd</sup> Ave. @ 2200 block [posted school zone]



### **III. PHOTO RADAR PROCESS OF ADMINISTRATION**

There are many components to the administrative process of photo radar enforcement. The basic steps involved in issuing a photo radar citation are:

1. Violation detection
2. Violation processing
3. Quality control checks
4. Citation review and approval by the police officer
5. Citation mailing.

1. Violation detection occurs when a police officer operating a marked police vehicle visually observes a violation. The police officer also hears an audible signal indicating the violator speed. The officer maintains an observation log at each deployment and takes notes of each violation.

At least three photographs are generated for each violation. These include the vehicle in the radar beam approaching the police vehicle, a close up photo of the driver in the violation vehicle, and a close up picture of the violation vehicle license plate. The violation vehicle's speed is displayed on a reader board at the back of the photo radar vehicle.

The police officer maintains a check list for each deployment to document that they are following all of the technical procedures for operating the photo radar equipment.

2. Violation processing:

Violation images are downloaded from the laptop computer aboard the photo-radar van each day by our vendor, ACS State and Local Solutions [ACS]. Those images are sent electronically to the vendor's processing facility.

If they can identify the license plate, they send a request to the Oregon Dept of Motor Vehicles (DMV) for the registered owner information. The DMV sends this information back to ACS. The pertinent details of the violation (such as location, date, time, speed, etc.) are reviewed by the vendor along with the registered owner information.

3. The vendor discards violations where there is no gender match to the registered owner or owners. They also discard any violations where the driver is not identifiable due to factors such as glare, face blocked by a visor, etc.
4. Any violations that pass this first screening by ACS are then sent to the issuing police officer as citations. The issuing police officer reviews the citations for accuracy and electronically signs them. The approved citations are sent back to ACS for issuing.

5. ACS then mails this citation, along with a photo from the violation, to the registered owner. This citation must be mailed to the registered owner within six (6) business days to remain in compliance with Oregon law. The registered owner has thirty (30) days to respond to this citation. They are afforded all of the same rights as a defendant would have with any traffic violation. The citation is processed through the State of Oregon Court system. The presumption in Oregon is that the registered owner is the driver at the time of the violation.

If the registered owner was not driving the vehicle when the violation occurred, they may file a Certificate of Innocence with the Circuit Court, at which time the citation will be dismissed. A Certificate of Innocence is included with each citation.

The Police Bureau's photo radar program manager subsequently reviews these Certificates of Innocence for accuracy.

#### **IV. PUBLIC ACCEPTANCE OF PHOTO RADAR**

The City of Portland has been monitoring public opinion of photo radar over the years of deployment and enjoys a strong public acceptance of photo radar as a valuable tool against speeding. In September 1996, a public opinion poll was conducted that showed 74% of city residents approved of photo radar use in neighborhoods. This same poll showed that 89% of city residents approved of photo radar use in school zones.

In 2003, a public opinion poll was conducted by Davis & Hibbitts, Inc. showed that 87% of city residents were concerned about speeding.

Again in 2005, the public opinion firm of Davis, Hibbitts and Midghall, Inc. (DHM) conducted a telephone survey poll of Portland residents. Four hundred interviews were conducted and the purpose of the survey was to assess the impact of photo radar use in school zones. In this survey 68% of the respondents agreed with the use of photo radar in school zones. This survey also showed that 85% of the respondents would drive slower all of the time if they saw photo radar being used at least three times per week.

In 2010 the Portland Police Bureau's photo-enforcement program was selected for review as part of a study done for the National Cooperative Highway Research Program [NHRCP]. Our program was one of only five programs nation-wide to be selected for review. Some of the reasons our program was selected was its longevity, continued success, and our programs continued public support. In that review, we stressed the importance of maintaining the public's trust and running a transparent program.

