

**Statement before the Pennsylvania House  
Committee on Transportation**

**Research on automated speed enforcement**

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The Insurance Institute for Highway Safety is a nonprofit research and communications organization that identifies ways to reduce the deaths, injuries, and property damage on our nation's highways. We are supported by the nation's automobile insurers. I am submitting for the record information from the Institute about the use of automated enforcement technology to reduce speeding on high-risk roads.

### **Speeds are increasing**

Speed limits on many US roads are higher than they used to be, and motorists are going faster — in many cases a lot faster — than the posted limits. In 2003 the Institute surveyed vehicle speeds in six states and found many motorists traveling faster than posted limits.<sup>1</sup> On an urban interstate in the Washington, DC, area with a speed limit of 55 mph, 31 percent of vehicles were traveling faster than 70 mph.

### **New ways needed to reduce speeding on high-risk roads**

The perception of the risk of getting a speeding ticket strongly influences motorists' speed choices. Traditional police enforcement can be an effective method of apprehending motorists who travel at excessive speeds. However, many enforcement agencies do not have sufficient resources to mount effective speed enforcement programs. Staffing levels have not kept pace with the growth in motor vehicle travel. Between 1995 and 2005 the estimated number of vehicle miles traveled in the United States increased by 23 percent,<sup>2</sup> but the number of municipal law enforcement officers grew by 12 percent.<sup>3</sup> Other police priorities such as apprehension of violent criminals and, more recently, anti-terrorism efforts can limit resources available for traffic enforcement. In addition, on multilane roads with heavy traffic moving in both directions, it often is dangerous for police to make traditional traffic stops.

### **Speeding poses multiple risks to everyone on the road**

Speeding is one of the most prevalent factors contributing to motor vehicle crashes.<sup>4</sup> It contributes to both crash frequency and severity.<sup>5</sup> Speed increases frequency because at higher speeds motorists have less time to react and stopping distances are longer, and the probability of severe injury in crashes increases sharply with the impact speeds of the vehicles, reflecting the laws of physics.

The risk to pedestrians — the most vulnerable people on the road — increases dramatically as speed increases. Researchers estimate that about 5 percent of pedestrians would die when struck by a vehicle traveling 20 mph; about 40 percent would die when struck at 30 mph; and

about 80 percent would die when struck at 40 mph.<sup>6</sup> Urban areas are prime candidates for speed enforcement because 72 percent of pedestrian deaths in 2005 occurred in urban areas.<sup>7</sup>

### **How to reduce speeding on high-risk roads**

The challenge is to find better methods of controlling speeds, and speed cameras can help. They photograph motor vehicles going a specified amount above the posted speed limit, and violators are ticketed by mail. Camera systems typically consist of a radar unit to measure speeds and a camera to photograph the vehicles that are violating the speed limit. The time, date, location, and speed of the vehicle are recorded. And to increase the deterrent value, prominently posted signs should be used to alert motorists that cameras are being used.

About 30 US communities use cameras to supplement conventional police enforcement of speed limits, especially on high-risk roads. In 2002 the Institute evaluated the effect of a city-wide speed camera program begun in 2001 by the District of Columbia. The program involved 5 vehicles equipped with cameras rotated among 60 enforcement zones throughout the city. Institute researchers measured travel speeds on 7 neighborhood streets before cameras were deployed and again at the same sites 6 months after deployment. At all of the sites the proportion of motorists going fast enough to warrant a ticket (more than 10 mph above the speed limit) went down dramatically. Reductions at the 7 sites ranged from 38 to 89 percent. Institute researchers also measured travel speeds in Baltimore, Maryland, a nearby city that does not use speed cameras. At the same time DC was experiencing a decrease in travel speeds because of the camera enforcement program, the proportion of motorists going more than 10 mph above the speed limit in Baltimore stayed about the same or increased slightly.<sup>8</sup>

Similar results were found in a pilot speed camera program in Beaverton and Portland, Oregon.<sup>9</sup> Engineers compared vehicle speeds before and after implementation of speed cameras. In Beaverton the percentage of vehicles exceeding the posted limit by more than 5 mph decreased 28 percent on streets with speed cameras. Likewise, in Portland the percentage of vehicles exceeding the posted limit by more than 10 mph decreased by 27 percent on streets with speed cameras.

Longer term studies have evaluated crash effects of automated speed enforcement. Research from British Columbia demonstrates that this method of speed control is effective. Evaluating a program that involved 30 cameras, researchers found a 7 percent decline in crashes and up to 20 percent fewer deaths during the first year cameras were used. The proportion of speeding

vehicles at camera sites declined from 66 percent in the year before camera enforcement began to fewer than 40 percent a year later.<sup>10</sup> Researchers also attributed a 10 percent decline in day-time injuries to speed cameras.

The Transportation Research Board and others have reported the following examples of the successful use of speed cameras:

- Victoria, Australia, launched a speed camera program in 1989. A little more than a year later, the frequency of crashes involving injuries or deaths had decreased by about 30 percent.<sup>5</sup>
- On a stretch of Autobahn A3 between Cologne and Frankfurt, Germany, where speed cameras were deployed, total crashes dropped from about 300 per year to fewer than 30. Injury crashes decreased by a factor of 20.<sup>5</sup>
- Speed cameras were deployed on 64 roads in Norway, producing a 20 percent reduction in injury crashes.<sup>5</sup>
- An evaluation of fixed speed cameras on 30 mph roads in the United Kingdom found the average effect was a 25 percent reduction in injury crashes.<sup>11</sup>

One reason cameras are not used more extensively in this country is that many elected officials believe there is an absence of public support. Concerns have been expressed about privacy, with opponents invoking the “big brother” issue. However, a nationwide survey conducted in 2006 found that 60 percent of US residents favor using cameras to enforce speed limit laws.<sup>12</sup> An Institute survey in Washington, DC, after the speed camera enforcement program began, found a majority (51 percent) supported the enforcement program and only a third of respondents opposed it.<sup>13</sup> An evaluation of the speed camera program in Beaverton and Portland, Oregon, found strong public support for the use of cameras in school zones (88-89 percent) and neighborhoods (74-78 percent). The use speed cameras in Pennsylvania can help police enforce speed limits more effectively.

## References

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