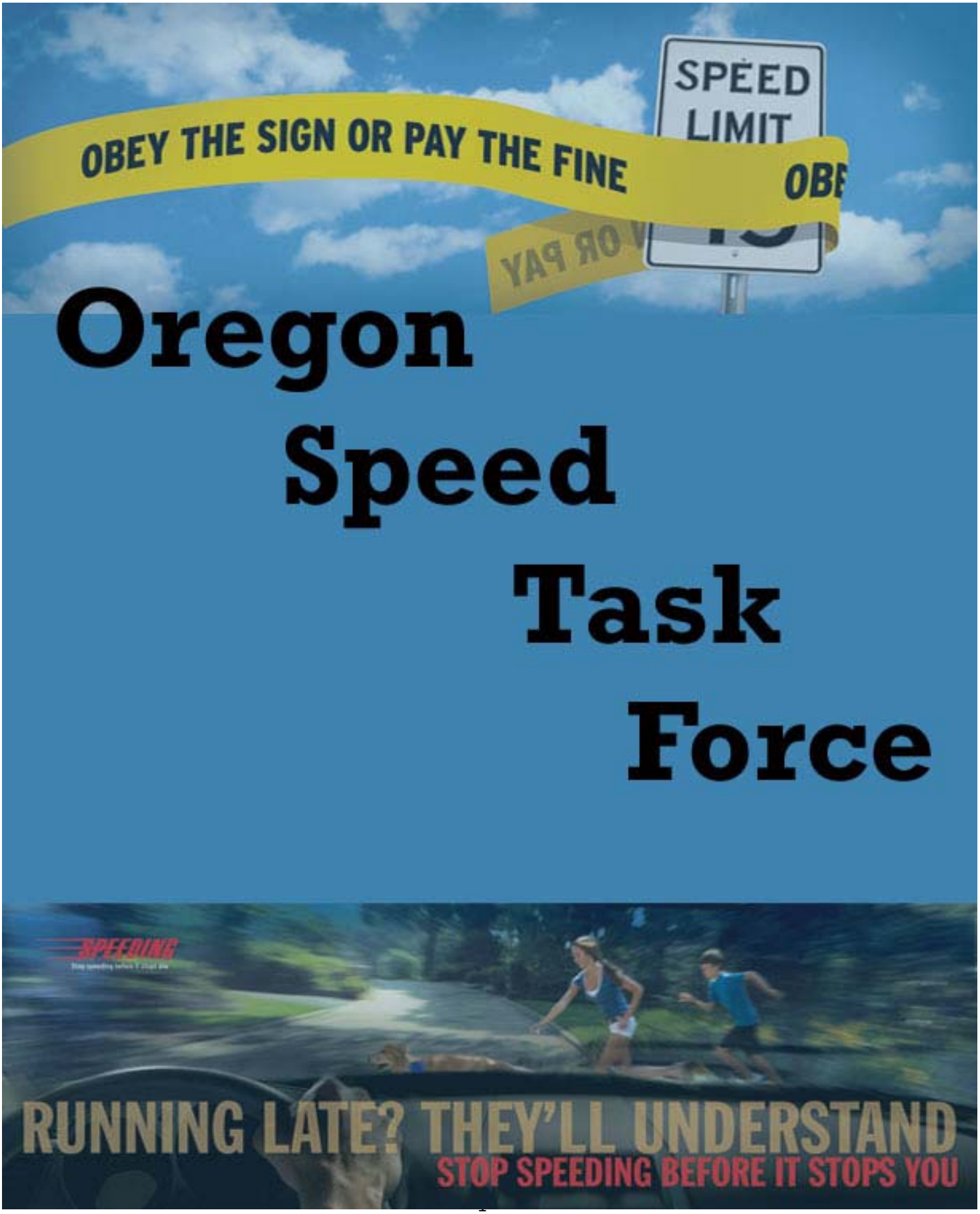
OBEY THE SIGN OR PAY THE FINE
SPEED LIMIT
Oregon Speed Task Force
SPEEDING
RUNNING LATE? THEY'LL UNDERSTAND
STOP SPEEDING BEFORE IT STOPS YOU

OREGON
SPEED TASK FORCE
Participants

February 9, 2010

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SUMMARY: The Oregon Speed Task Force, created by the Oregon Transportation Safety Committee, has been tasked with researching speed related crash problems and counter-measures currently in use. In the last 5 years, 1,236 people have died and 41,112 people have been injured in crashes that were speed related on Oregon roadways. This is Oregon's number one fatal crash problem.

TABLE OF CONTENTS

1. Introduction…… **4**

2. Priority Recommendations……. **8**

3. Enforcement……. **12**

4. Engineering…… **17**

5. Driver's License Points Systems…….. **20**

6. Education…… **26**

References/Footnotes……. **30**

Appendix……. **32**

Oregon Speed Related Fatalities Ranking by County
Oregon Speed Related Injuries Ranking by County
Oregon Speed Related Fatalities by Percentage of Total Crashes
Oregon Speed Related Injuries by Percentage of Total Crashes

INTRODUCTION

Speeding has typically been defined as exceeding the posted speed limit or driving too fast for the conditions present. According to the Oregon Department of Transportation, speeding has been identified as the contributing factor in 48% of all traffic deaths in 2007(1). This is substantially above the national rate of approximately one-third of all fatal motor vehicle crashes. The difference in rates can, in part, be attributed to how Oregon indentifies speed related crashes versus how US DOT identifies speed related crashes. US DOT only counts the fatal motor vehicle crash as "speed related" when police charge a driver with a speed related offense, when a reconstruction of the crash is completed or when the crash report gives the analyst compelling evidence of speed involvement.

Speeding is a complicated mix of problems involving a number of factors that include but are not limited to public attitudes, road user behaviors, vehicle performance and design, roadway design and characteristics, posted speed limits and enforcement strategies(2). Its resultant crashes also have an impact on EMS resources and a direct impact on societal costs.

In response to the issue of speed related crashes, the Oregon Transportation Safety Committee created a "Speed Task Force" in an attempt to seek solutions through research to this long standing problem. Several individuals were chosen who represented a diverse cross-section of disciplines in order to best review the problems of speeding and attempt to identify possible means of addressing them. These individuals include an Orthopedic Surgeon, Engineering Professor, Trauma Center Nurse, Commander of the State Police Patrol Services, President of a large media and communications firm, Circuit Court Judge, Oregon's Governors Highway Safety Representative and several others. The focus of the work will include Law Enforcement, Media and Educational Outreach, Engineering and Emergency Medical Services issues in Oregon. Additionally, National and International best practices research will be conducted. This will lead to the development of a comprehensive final report to the Oregon Transportation Safety Committee based on information learned from the research and committee meetings.

BACKGROUND

In Oregon, 48% of all 2007 traffic fatalities involved speeding (216 of 455 traffic deaths). This data includes exceeding the posted speed limits or driving too fast for the present conditions(3). Over 50% of Oregon's total traffic deaths occurred on the rural highway

system. In 2006, speed-related fatal crashes cost Oregonians $560,000,000 in socio-economic costs(2). It equates to a daily cost to Oregonians of over $1,530,000. According to Intercept Research Corporation's "Transportation Safety Survey" in 2007, speeding was the most observed traffic safety issue by Oregon citizens(3). Nationally, NHTSA reported in the year 2004, society incurred an estimated total socio-economic costs of $40.4 billion as a result of speed-related motor vehicle crashes. Approximately 30% of all fatal motor vehicle crashes across the country are speed related which equates to 13,192 lives lost(3). The difference in percentages between Oregon and NHTSA can be attributed to how each identifies speed related crashes.

SPEEDING ISSUES

Driver Issues: Behavior, attitudes, expectations, inattention, distractions and reactions all play a part for the driver in speed related driving problems. According to Dr. Mojie Takallou, Civil Engineering Professor at the University of Portland, driver behavior and attitudes are among the most critical components that need to be influenced before the problem of speeding can be effectively addressed. Driver behavior and attitudes have been developed from the years of exposure to media priorities, law enforcement practices, parental and societal education or lack thereof.

Motor Vehicle Crashes: Crash forces increase exponentially with speed increases(2). The kinetic energy is increased by 40% when the speed is increased from 50 mph to 70 mph. Vehicle safety equipment is crash tested at 35 mph. With the increase in kinetic energy comes the decrease in a vehicle's safety equipment's ability to do its job. Even if the vehicle is well built and has state of the art safety equipment, the human body can absorb only a limited amount of this energy. This is reflected in how much speed change or *delta-V* the human body can absorb. The human body was not designed to go from 70 mph to 0 mph in less than a second. Each traffic crash that occurs can be counted as three events. The first is the vehicle impacting an object, the second is the human body changing speed when coming in contact with the restraint equipment or vehicle interior and the third is the human body's internal organs suddenly changing speed when they move in the direction of the crash forces.

Stopping distances increase dramatically with speed increases. It takes time to perceive and react to a hazard. The distances consist of two components: the distance traveled from the time the driver perceives a hazard to when he or she first applies the brakes and the distance traveled during braking. Drivers at higher speeds travel greater distances during the perception/reaction component and the braking component(4).

Enforcement: Resources of the Oregon State Police, County Sheriff's and City Police have been drastically affected by the current state of our economy. These law enforcement agencies attempt to do the best they can within the budgetary constraints of their jurisdictions. However, when resources continue to be reduced, law enforcement agencies must prioritize the issues they can address in their given communities.

One of the issues that is problematic for law enforcement in their attempt to address speeding is the lack of consistent enforcement efforts across the state. Each agency and community dictate to their respective law enforcement personnel how 'speeding violations' will be addressed. According to Dr. Mojie Takallou, this lack of consistency from one agency to another and possibly one geographic location to another, sends mixed and

confusing messages to the motoring public. The Oregon State Police emphasize teaching their troopers the importance of traffic safety on Oregon roadways. This is instilled through their basic training and supported by their administrative staff. Other law enforcement agencies may dedicate a small group of officers from within to enforce Oregon's speed laws but it is not consistent from agency to agency and officer to officer.

The lack of consistent judicial decisions is also a major issue in efforts to address the problem of 'speeding'. Each judge has their own idea of what a "speeding violation" is based on education, experience and application of the law. This not only sends mixed messages to the public but also can have a direct effect on law enforcement practices in their respective communities.

Health: Survival of speed related crashes can be tied, in part, to the ability of crash victim's rapid access to Oregon's medical trauma system. Survivability is proportionate to the time and distance EMS has to travel to treat and transport those injured in crashes. The urban areas of Oregon tend to have more EMS personnel and equipment in closer proximity to Oregon Trauma Centers than they are available in the rural areas of Oregon. Medical resources are also more readily available in urban areas. In these cases, shorter time and distance can mean the difference between life and death.

Due to differences in EMS care, out-of-hospital times, proximity to major trauma centers, differences in early care for certain injuries, the time required for interhospital transfers, differential effectiveness of the Oregon Trauma System between urban and rural areas and crash characteristics, persons involved in motor vehicle crashes in rural areas will have a disproportionately worse outcome compared with urban crashes(4).

Economic Costs: As summarized earlier, NHTSA estimates that speed related crash costs are in excess of $40 billion nationally. The report by Portland State University in September of 2004, "Impacts and Issues Related to Proposed Changes in Oregon's Interstate Speed Limits", estimates that in 2004 dollars, the societal costs to Oregon for just speed related fatal injuries is in excess of $3 million daily. Using this 2004 dollar figure and the 216 speed related fatalities in 2007, the societal costs for Oregon is in excess of $250 million. This does not take into account the cost of injuries and care (both short term and long term) for speed related crashes not involving fatal injuries.

Environmental: With the recent spike in fuel prices, fuel economy has become a more pressing issue with Oregonians. According to the US Environmental Protection Agency website, www.fueleconomy.org, that for each 5 mph over 60 mph that an average vehicle travels, it's like spending about $0.25 per gallon more. Driving at higher speeds creates higher aerodynamic drag which results in increased fuel consumption. As fuel demand increases so does the price per gallon of fuel. As recently seen in a spike of $4 per gallon fuel prices, those costs can create an economic hardship on Oregon families and businesses.

According to the US EPA "Automobiles and Ozone" Fact Sheet OMS-4, January 1993, vehicle emissions in the form of nitric oxides and carbon monoxide increase as vehicle speed increases over 55 mph. This could have a dramatic affect on efforts of society to move toward "green" environmental solutions.

Conclusion: There are many issues associated with speeding and speed related crashes. The aforementioned issues are just a snapshot of some of the major factors that are a result of 'speeding'. Identification of methods used to address this problem both locally, nationally and, in some respects, internationally is needed to continue the process of looking at what would work best to reduce the carnage and waste caused by excessive roadway speed.

OREGON SPEED TASK FORCE
Priority Recommendations

<u>Priority Recommendation</u>: "Establish the Governor's Advisory Committee on Speed and Aggressive Driving"

Pros: -Allows for long term, diverse group that can continue to provide speed specific research and recommendations to the Governor.

-Provides the Governor with a dynamic and dedicated group of individuals that can assist in addressing speed and aggressive driving issues on Oregon Roads.

Cons: -Complexities of managing a governor's advisory committee such as:

-Committee travel reimbursements, advance public meeting notices, enhanced media involvement and attention, enhanced involvement in legislative sessions for monitoring and proposing bills to address speed and aggressive driving issues.

-This will require additional staff time, some funding and a long term commitment for appointed task force members, committee staff and the ODOT Safety Division.

<u>Priority Recommendation</u>: "Recommend raising the priority regarding the dangerous issues of speeding in public communications"

Pros: -Begins to address public perceptions regarding speeding issues and address one of the primary problems that we face in the public's belief, "It's not me, it's everyone else that is causing the problem."

-Enhancing the priority will slowly begin to provide political support for more serious, graphic and intense media messages focusing on the true consequences of speeding behavior as others such as Europe have done successfully. This enhanced support and publicity focus may inspire other media outlets to carry / disseminate additional spots

Cons: -Long term commitment to multi-year funding for priority media outreach.

<u>Priority Recommendation</u>: "Legislation to Amend Max Speed Statute to include all interstates, highways and roadways in Oregon"

Pros: -Changing Oregon Speed laws to maximum speed limits for all vehicle types on all roadways would provide much-needed clarification to Oregon Speed Laws which are currently not understood by the motoring public. VBR statutes could still be used for weather and road-related scenarios where the speed limit posted is too fast to be safe (Black Ice, heavy Snow, Fog etc.).

-Would eliminate out of state discussions that Oregon's VBR law means a driver can travel at any speed he feels is reasonable and prudent which contributes to Oregon's number one fatal crash problem, "Speed".

Cons: -Overcoming public perception that higher speeds are OK for very rural highways with limited traffic.

-If the word, "maximum", "speed limit" or "maximum speed limit" is a required part of a speed sign under any new law, there will likely be discussion regarding the additional costs for new signs.

<u>Priority Recommendation:</u> "Recommend establishing statewide standards and enhancing the availability and use of the current electronic citation and traffic crash reporting software and its' interface to the current web-based reporting system"

Pros: -Provide standards for electronic issuance and data transmission of e-citations and e-crash report data for all police agencies. Data can be transmitted to multiple partners simultaneously such as: Courts, DMV, ODOT Crash Analysis and Reporting.

-Enhance police agencies efficiency and reduce exposure to traffic while issuing a traffic citation. By reducing issuance time for citations, more speeding traffic violators could be contacted and issued speeding and other hazardous driving violations in a patrol shift, addressing more speeding drivers through efficiency gains.

-Current crash reporting program includes geospatial analysis system that allows real-time reporting. Each police agency can query their database and determine where problem locations are in their jurisdictions and address crash problems as they are emerging instead of a year or more later.. Agencies can choose to utilize e-commerce module for crash reports purchases by attorneys, insurance companies etc. Data from both e-crash and e-citation

systems are transferred electronically to backend systems saving significant and staff time and money.

Cons: -Fiscal impact up front. Requires individual agency investment and buy-in.

-Statewide program will require long-term commitment, significant fiscal investment and multi-agency management team creation.

(Note: Conversation regarding this topic is still to be added to the final report.)

<u>Priority Recommendation</u>: "Recommend incorporating speeding issues in all traffic safety training and education"

Pros: -Potential for increasing consistent awareness for speed related issues across the state and potential for increased speed related compliance.

Cons: -Requires commitment from all entities involved in traffic safety training and Education.

<u>Priority Recommendation</u>: "Recommend independent review of traffic violator points system through Oregon DMV"

Pros: -Provides violators with a better understanding their license status with DMV

Cons: -Will need to encourage DMV to consider the concept of a Points System versus violations system currently in use.
-Will have a fiscal impact on the state and DMV.
-AAMVA is moving to recommend states not use points systems.
-Lacking research on effectiveness of this type of license system.

<u>Priority Recommendation:</u> "Recommend expanded state-wide use of Photo Radar"

Pros: -Allowing all jurisdictions to utilize photo radar will create a large deterrent to speeding behavior.

-Will assist with providing consistent speed enforcement message in all Jurisdictions that utilize the technology – even those jurisdictions without many police officers could benefit.

Cons: -Fiscal Impact to install systems.
- Need police officer to operate and approve citations.

<u>Priority Recommendation</u>: "Recommend to all Oregon employers to commit to speeding policies and education re: Hazards of Speeding for all employees"

Pros: -Large number of state drivers and vehicles on roadways adhering to speed laws begin to set example for all other drivers.

-Begins to address attitudes and behaviors that speeding is not an acceptable driving behavior.

Cons: -Solicits leaders and business owners in the state to commit to address speed-related driving behavior within their organizations.

ENFORCEMENT

INTRODUCTION

Enforcement is one of the primary cornerstones of any traffic safety program. In 2007, 216 of the 455 traffic fatalities were attributed to speed. This is about an 18 percent decrease in the number of traffic fatalities from 2005 when was 262 speed related traffic fatalities. In the same time period, speed related convictions rose by approximately 17 percent (1). It can be argued, in part, that speed enforcement efforts of Oregon Law Enforcement was one of the primary reasons for this reduction of the number of persons killed on Oregon roadways.

Enforcement's primary role is to gain compliance of designated speed laws through deterrence. To gain compliance with Oregon's speed laws, the driving public must have a perception of apprehension and punishment. Some drivers will comply with speed laws simply because it's the right thing to do. Others will comply because it's the law. Most, however, will comply because they don't want to encounter the police and face possible monetary sanctions. Finally there are those drivers who do not perceive apprehension and feel the established speed limits don't apply to them. Despite the larger number of speed related convictions in 2007 (176,259), drivers continue to speed in some form or another.

Oregon law enforcement employs several methods of technology to accomplish their speed enforcement goals. The utilization of the different technologies depends on the resources available for each jurisdiction. If Oregon law enforcement utilizes speed measurement devices in order to take action (citation) in a speed law violation, then they are required by Oregon Revised Statute 810.420(2) A police officer may not issue a citation based on a speed measuring device unless the officer has taken and passed a training course, approved by the law enforcement agency that employs the officer, in the use of the speed measuring device. This training does not require a formal course such as the one offered at the Department of Public Safety, Standards and Training. The training could be offered informally by a designated officer of a particular agency as long as that agency approves this method.

TECHNOLOGY

RADAR (Radio Detection and Ranging)

RADAR is the primary method and device in the enforcement of speed laws. RADAR uses radio wave frequency changes to measure speed. It is utilized by the officer in a stationary position along a roadway. It can, however, be utilized in a moving mode whereby the officer mounts the unit on the dash with a series of brackets and if so programmed. There are also specific vehicle dash mounted RADAR units that can have an antenna in the front and back windows simultaneously. The officer then has to manually select the direction of use. This allows the officer to be driving in one direction and measure the speed of a target vehicle's approach or departure. Some RADAR units have the capability of measuring speed in the same direction as the police vehicle or as it is overtaking the police vehicle from behind. This technology must be used in conjunction with the officer's visual estimation of speed as a confirmation of that speed. The officer has to take into account issues such as terrain, obstructions present, weather and other vehicles present.

LIDAR (Light Detection and Ranging):

LIDAR is commonly referred to as Laser. Instead of using radio waves, LIDAR uses light wave frequency change to measure speed. The officer needs to be in a stationary position to facilitate operation. LIDAR is substantially more vehicle specific than RADAR. The beam of light is typically 3 to 4 feet wide at 1,000 feet. Most typical LIDAR speed readings are in the 500-800 foot range. This allows for the identification of specific vehicles that may be speeding. LIDAR can now be used in conjunction with "Distance Between Cars" (DBC) technology to address tailgating violations. All that is required is an addition of a computer chip that allows for multiple speed readings that include time and distance between vehicles.

VASCAR (Visual Average Speed Computer and Recorder):

VASCAR has been used on a limited basis in Oregon. It calculates the time it takes to travel between a known distance and converts it to a particular speed that vehicle was traveling. It does not emit any radio or light waves that could potentially be detected by a target vehicle containing a RADAR/LIDAR detector.

AIRCRAFT:

Aircraft has been used in Oregon, primarily by the Oregon State Police, to enforce speed laws. It requires a pilot and observer. The observer uses stop watches to time how long it takes a vehicle to travel between two points that have been measured and marked along a given stretch of roadway. That time is then converted to miles per hour. The observer records the information and radios waiting patrol units on the ground to make the traffic stop and take the appropriate enforcement action. The Oregon State Police have often worked areas with local law enforcement in order to accomplish this form of speed enforcement.

PACE:

Pacing is another option available to law enforcement in order to enforcement its state's speed laws. This requires the officer to drive his vehicle behind a target speeding vehicle at a constant distance for a set length of time. The officer utilizes his speedometer to identify the speed of violator vehicle being followed. This is limited by the accuracy of the officer's police vehicle speedometer.

SPEED CAMERAS:

This involves the use of an unmanned RADAR unit and a computer controlled cameral that takes a picture of the vehicle showing the license plate and driver. The pictures are reviewed by law enforcement personnel and compared to the driver's license picture of the registered owner of the vehicle photographed. If they match, a citation is mailed to the registered owner/violator.

ISSUES WITH MAINTAINING/INCREASING SPEED ENFORCEMENT:

Funding: There is little to no direct funding established for speed enforcement. Law Enforcement agencies, that are able to maintain a dedicated traffic enforcement team, can direct these resources to speed enforcement. Most law enforcement agencies are not able to maintain a dedicated team of officers and must rely on those officers filling their time between calls with selected traffic enforcement. If this does happen, it's because those officers have an interest in traffic safety. Oregon's economy is currently in a downturn and available resources are dwindling. Law Enforcement agencies will tend to prioritize their enforcement actions to crime related issues and traffic enforcement, let alone speed enforcement, is relegated to the back burner.

Equality: Speed enforcement has not garnered the same attention as DUII (Driving Under the Influence of Intoxicants) or Safety Belt enforcement. Although more people having been killed in speed related crashes, DUII involved fatal crashes and deaths as a result of not wearing safety belts are commonly and openly reported in the media.

Integrity: Speed enforcement devices have routinely been accepted in Oregon's courts as accurate. This leaves open that the application of these devices by police officers that is commonly attacked.

Consistency: While close to 200,000 people are convicted of speeding each year, the enforcement parameters vary widely and send mixed messages to the driving public. There is no uniform method speed enforcement. These changes are from law enforcement agency to law enforcement agency and even from officer to officer.

Training: In Oregon, speed measurement training has been developed by the National Highway Traffic Safety Administration. This training is offered to recruit police officers at the Basic Police Academy (DPSST) as an optional class. It has also been offered as a regional training opportunity in classroom settings across this state. A unique online speed measurement training course was developed in concert between ODOT and DPSST. This was available to any officer to complete via the internet and it allowed the officer to complete that training in his/her own jurisdiction without have to locate and travel to that training.

Staffing: Staffing for speed enforcement activities is limited by the law enforcement agencies available resources and enforcement priorities. As previously mention, funding is a key issue. In Oregon's current

economic downturn, these resources are often reallocated to other criminal activities. At the end of 2008, Oregon had approximately 5,400 certified police officers. This is about 1.43 officers per 1,000 population which is well below the level of 2.2 officers per 1,000 as recommended by the International Association of Chiefs of Police. Oregon's population has continued to increase but the number of officers in the state has remained relatively static.

Fines: Traffic fines are set by the Oregon Supreme Court. For speed violations, they are broken down by four categories; A, B, C or D violations. Each violation is set by the number of miles per hour over the posted speed (i.e. 'D' violations = 1-10 over, 'C' violations – 11-20 over, etc). Each violation as a designated monetary amount set for the violator to pay. The court has the limit option of reducing the set fine by up to 25%.

Perceptions: Perceptions by the public are often set by the enforcement limitations employed by police officers. If officers don't stop violators unless they are exceeding the posted speed limits by 10 or 15 miles per hour, the public perceives that they can travel at those speeds above the limits without fear of enforcement action being taken. These perceptions are then passed from person to person and from parent to children. This belief is perpetuated over time and leads the driver to believe it is OK to drive faster.

Automation: E-ticketing is now an automated project that allows the officer the ability to prepare traffic citations with more speed, accuracy and the ability to process the citation through the entire justice system with less errors and duplicity.

PROSECUTION

The prosecution of speed related violations are typically the responsibility of the officer issuing the citation. If the violator decides to contest the citation, they request a court date in order to appear before a judge. The officer is then subpoenaed. The officer is then placed in the unique position of not only prosecution the violation but must also step into the role as a state's witness. This is a difficult task for the officer who may or may not get any type of courtroom training. The officer must be able to remain unbiased in order to hold credibility with the court. If the officer displays a personal interest in the case, he/she can lose his credibility and, therefore, lose the case.

In the prosecution of the violation, the officer only has to prove the case by the preponderance of the evidence. The burden of proof is substantially less than the proof of beyond a reasonable doubt in criminal cases. In violation cases, credibility of the officer can mean the difference between conviction and acquittal.

ADJUDICATION

Traffic violations can be tried in Circuit Court, Justice Court, Municipal Court or Tribal Court. This depends greatly on each jurisdiction. Generally speaking, State Police and County Sheriff's will issue Uniform Citations to Appear into the Circuit Court of county of violation. Justice Courts are utilized primarily by County Sheriff's in locations that they have been established. Municipal Courts, which have been established in particular cities, are utilized by City Police.

One of the differences between Circuit Courts and Justice Courts are the distribution of assessed fines collected. In Circuit Courts, about 50% of these fines are sent to the State of Oregon and the other 50% stays in that jurisdiction. In Justice Courts, almost all the fines collected remain in that jurisdiction. In some cases, the Justice Courts in particular jurisdictions rely heavily on fines generated in order to fund local budgets. This does nothing to dispel the notion that law enforcement is issuing citations in order to support those budgets.

Oregon needs law enforcement agencies to continue enforcing speed related laws in order to impact the speed related fatal crashes and speed related injury crashes. The most realistic impediment to impacting traffic safety is the current state of our economy. As resources dwindle, priorities change and traffic safety takes a back seat to crime reduction. If Oregon can supply the same sustained efforts to impact the problem of speeding that it did to address DUII and Occupant Protection, we can reduce the number of speed related fatalities.

Traffic Engineering - Speed

INTRODUCTION

Traffic engineering is a branch of civil engineering that uses engineering techniques to achieve the safe and efficient movement of people and goods. This is generally accomplished through planning, geometric design and traffic operations of roads, streets and highways(1). Traffic surveys and studies are conducted. Field investigations are completed. Data is collected and analyzed. Appropriate traffic control devices are or are not put in place to address particular issues.

Traffic engineering for the state of Oregon is housed under the Oregon Department of Transportation (ODOT), Technical Services Branch, Traffic Roadway Section. There are four disciplines in the Traffic Engineering unit. The Investigations Group is responsible for maintaining the ODOT Traffic Manual and provides technical support to the State Traffic Engineer. The Traffic Signals Operations Program provides engineering expertise for the identification, selection, implementation, evaluation and monitoring of traffic signal and traffic signal system operational improvements. The Highway Safety Program responds to a federal requirement for a formalized decision-making process and policy direction. The Speed Zoning Program is responsible for establishing speed zones on all highways in Oregon.(2) ODOT's regional traffic engineering staff conduct engineering investigations to determine recommendations for safe speeds on local roads and streets.

Oregon has followed the Federal Highway Administration's "Manual on Uniform Traffic Control Devices" (MUTCD) through the Oregon Traffic Manual. With the permission of the FHWA, Oregon has published deviations from the MUTCD where there are conflicts with Oregon statute.

Speed has become a critical issue in the arena of traffic safety. When people or objects begin moving on highways or roadways, the risk of safety begins. When drivers increase their speed, critical safety concerns rise. Energy and forces increase and can reach a point where safety equipment cannot effectively do its job. This increases the potential for serious injuries or death. The faster the vehicle's speed, the less time drivers have to process roadway information and formulate a response. This increases the possibility that the driver will not be able to safely respond to avoid safety issues. The increase in speed also causes the increase in stopping distance. With the average reaction and perception time of most individuals at approximately 1.5 sections, as speed increases so increases the distance a vehicle will travel before the driver reaction

can take place. One of our biggest problems in addressing speed is that drivers neither completely understand this or even respect these issues. Traffic Engineering is just one method of attempting to address the safety concerns that can occur with speed.

In Oregon, there are two speed zone standards in place: Basic Rule and Posted Speed Zones. The Basic Rule is the idea that people should drive at a speed that is reasonable and prudent for the conditions present. This does not permit drivers to drive faster that posted speeds. Oregon statute does designate the following speed zone standards:

- 15 mph-alleys, narrow residential roadways
- 20 mph-business districts, school zones
- 25 mph-residential districts, public parks, ocean shores
- 55 mph-open and rural highways (all vehicles); trucks, school buses, worker transport buses on interstate highways
- 65 mph-autos on interstate highways

Speed zone change requests can be submitted by cities or counties to ODOT for review and investigation. The requests are forwarded to ODOT's Traffic Roadway Section. If an agreement cannot be reached, the request can then go to the Speed Zone Review Panel. Currently the primary factor for establishing speed zones is the utilization of the **85th percentile speed.** This is the speed that 85 percent of the vehicles are traveling, either at or below this level. In recent years, there is a sentiment that the 85th percentile standard is not a reliable method of establishing speed zones. Posted speed zones are not the only method available to encourage the drivers to operate their vehicles at appropriate speeds. Traffic engineers have other techniques available to them to accomplish this goal.

Traffic calming techniques can be effectively used to this end. This doesn't mean that traffic calming techniques should be used to restrict drivers to slower speeds but rather to encourage legally established speeds. Traffic calming for local streets may include speed bumps or humps and traffic circles or roundabouts. Traffic calming for arterial highways could include pedestrian islands, curb extensions, wide sidewalks or streetscaping. Other strategies like narrowing lanes, on-street parking, bicycle lanes, textured pavement, chicanes or lane reductions can have an effect on lowering vehicle speeds but creates other safety concerns. Street closures are also an option but the result can be to divert traffic to other local streets and create an entire new set of problems. Traffic control devices such as stop signs or signals can control vehicle speeds but is generally discouraged because they are generally not effective. They tend to create other traffic safety and driver frustration related problems.

There are other tools available that can have a temporary effect on vehicular speed. Portable speed display trailers have been in use around the state, primarily by law enforcement agencies, to keep the focus on local road speeds. The use of Variable Message Signs, such as the one in place on Interstate 5 near Myrtle Creek, are a reminder to the motoring public that speeding could be an issue on this particular section of roadway. These signs remind drivers to slow down and post the speed of approaching vehicles on a visible overhead display board.

Safe speeds in curves are posted as advisory speeds when the safe recommended speed for that curve is 10 mph or more below the posted speed for that stretch of roadway. These recommended speeds can be

affected by roadway geometry and/or crash history. Curve ahead or turn signs are used to advise the drivers of impending roadway geometry changes that could be affected by speed.

Perceptual countermeasures are available as a short term remedy to speed related problems. Patterned road surfaces such as painted transverse road markings can give the perception of travelling faster that one actually is. Center and edge line markings, narrowed lane widths or lane width reductions and delineators or plastic guideposts are also ways to impact speed on local roadways.

Engineering countermeasures need to take into account the balance of the safety of the motoring public with the smooth and efficient flow of traffic. Physical engineering designs can only go so far with the addition of public education and enforcement. It still takes the combination of all three "E's" to have the biggest impact on traffic safety and especially speed related problems.

Driver's License Point Systems

A **point system** is one in which a state's Motor Vehicles Division typically issues *points* to drivers on conviction for traffic offenses. A jurisdictional court may also be involved in assigning points to drivers for certain offense convictions. Points are usually added to a driver's record over a specified length of time. In some cases, points can be subtracted when a time period has elapsed for that particular offense. Traffic offenses, such as speeding or disobeying traffic signals, are each assigned a certain number of points. When a driver is determined to be guilty of a particular offense, the corresponding number of points are added to the driver's total. When the driver's total exceeds a certain threshold, the driver may face additional penalties. This accumulation of too many points over a given period of time can lead to fines and/or suspension or revocation of the driver's license. The primary purpose of such point systems is to identify and deter repeat offenders of traffic laws.

Oregon does not have a license points system in place. According to ODOT Driver and Motor Vehicle Services, they can revoke a person's driver's license as a Habitual Offender if the person has 20 or more convictions for traffic violations as listed under Oregon Administrative Rule 735-064-0220. This is far in excess of most states that utilize a point system in their attempt to deter repeat traffic offenders. Oregon does have traffic offenses in which license suspensions will occur.

The American Association of Motor Vehicle Administrators Regional Office in Scottsdale, AZ, was contacted for assistance in surveying states regarding their use of driver's license point systems. AAMVA is an association representing the state and provincial officials in the United States and Canada to administer and enforce motor vehicle laws. Sheila Prior, AAMVR Operations, advised that they did not keep records or information regarding state's point systems. She did, however, offer to assist by contact all member states and conducting a survey of these states to ascertain who utilized point systems and asked for any information regarding these point systems in use. The survey was sent out on May 27th, 2009. The following is a synopsis of the speed related results of that survey by AAMVA as of June 3rd, 2009. As of this report, 38 state's point systems have been compiled. In addition to these responses, 9 states indicated that they did not have a driver's license point system.

STATE	MPH >Spd Limit	Points	Suspension Points	Time	DL Suspension
Alabama	25 mph or less	2	12-14 points	2 yrs	60 days
	26 mph or more	5	21-23 points	2 yrs	180 days
			24+ points	2 yrs	365 days
Alaska	3-9 mph	2	12 points	1 yr	TBD
	10-19 mph	4	18 points	2 yrs	TBD
	20+ mph	6			
	School Zone	6			
Arizona*	Speeding	3	8-12 points	1yr	3 mos+
				Traffic Sch	
			13-17 points	1 yr	3 mos
			18-23 points	1 yr	6 mos
			24+ points	3 yrs	12 mos
Arkansas	0-10 mph	3	14-17 points	3 yrs	3-6 mos
	11-20 mph	4	18-23 points	3 yrs	6 mos-1 yr
	21-30 mph	5	24+ points	3 yrs	1 yr
California*	Speed N/A		4+ points	1 yr	Negligent Op
			6+ points	2 yrs	30/60/90 days
			8+ points	3 yrs	
Colorado*	5-9 mph	1	12+ points	1 yr	less than 1 yr
	10-19 mph	4	18+ points	2 yrs	
	20-39 mph	6			
	40+ mph	12			
Connecticut	Speeding	1	10 points	2 yrs	30 days
			2nd 10 points	5 yrs	Until pts < 11
Delaware*	1-9 mph	2	12 points	2 yrs	2 mos
	10-14 mph	4	14 points	2 yrs	4 mos
	15-19 mph	5			
	20+ mph	5+			
	25+ mph				1 mo
	Each additional 5 mph				1 mo each

Florida	1-15 mph	3	12 points	1 yr	30 days
	16+ mph	4	18 points	1.5 yrs	90 days
			24 points	3 yrs	1 yr
Georgia	15-18 mph	2	15 points	2 yrs	TBD
	19-23 mph	3			
	24-33 mph	4			
	34+ mph	6			
Idaho	1-15 mph	3	12-17 points	1 yr	30 days
	16+	4	18-23 points	2 yrs	90 days
			24+ points	3 yrs	6 mos
Illinois*	1-10 mph	5	15-44 points	1 yr	2 mos
	11-14 mph	15	45-74 points	1 yr	3 mos
	15-25 mph	20	75-89 points	1 yr	6 mos
	25+ mph	50	90-99 points	1 yr	9 mos
			100-109 points	1 yr	1 yr
			110+ points	1 yr	Revoke
Indiana	1-15 mph	2	18 or more points	2 yrs	30-365 days
	16-25 mph	4			
	26+ mph	6			
Iowa*	Speeding N/A		6-7 points		2 yrs
	Habitual Offenders only		8-9 points		3 yrs
			10-12 points		4 yrs
			13-15 points		5 yrs
			16+ points		6 yrs
Kentucky*	<15 mph	3	12 points	2 yrs	1st-6 mos
	16+ mph	6			2nd-1 yr
					3rd-2 yrs
Maine*	<15 mph	3	12 points	1yr	up to 15 days
	15-29 mph	6			

Maryland	10-29 mph	2	8 points	2 yrs	Suspension
	30+ mph	5	12 points	2 yrs	Revocation
	20 over 65 limit	5			
Michigan*	10 or less mph	2			Varies
	11-15 mph	3			
	16+ mph	4			
Missouri	Speed – State Viol.	3	8 points	1.5 yrs	30 days (1st)
	Speed – Local Viol.	2			60 days (2nd)
					90 days (3rd)
Montana*	Speeding	3	30+ points		Revoked
Nebraska*	1-11 mph	1	12 points	2 yrs	6 mos-1st
	10-15 mph	2			3 yrs if:
	15+ mph	3			2nd w/i 5yrs
	35+ mph	4			
New Hampshire*	<25 mph	3	12 points	1 yr	30 days or less
	25+ mph	4	18 points	2 yrs	60 days or less
			24 points	3 yrs	1 yr or less
New Jersey	1-14 mph	2			TBD
	15-29 mph	4			
	30+ mph	5			
New York	1-9 mph	3	11 or more points	1.5 yrs	31 days
	10-20 mph	4			
	21-30 mph	6			
	31-40 mph	8			
	41+ mph	11			
North Carolina*	<55 mph	2	12 points	3 yrs	60 days or less
	55+ mph	3			2nd 6 m or less
					3rd 1 yr or less

North Dakota	1-15 mph	1	11+ points		7 days/pt. >11
	16-20 mph	3			
	21-25 mph	5			
	26-35 mph	9			
	36-45 mph	12			
	46+ mph	15			
Ohio*	Speeding N/A	Points assigned by Judges not Bureau of Motor Vehicles			
Oklahoma*	<25 mph	2	10 points		1st- 1 mo
	25+ mph	3			2nd- 3 mos
					3rd- 6 mos
					4th- 1 yr
Pennsylvania	6-10 mph	2	11+ points		5 days/pt. (1st)
	11-15 mph	3			10 days/pt.(2nd)
	16-25 mph	4			15 days/pt.(3rd)
	26-30 mph	5			1 yr (4th+)
	31+ mph	5			
	School Zone	3			
So. Carolina	1-10 mph	2	12-15 points		3 mos.
	11-24 mph	4	16-17 points		4 mos.
	25+ mph	6	18-19 points		5 mos.
			20+ points		6 mos.
So. Dakota	Speed not included		15 points	1 yr	60 days (1st)
			22 points	2 yrs	6 mos. (2nd)
					1 yr. (3rd)
Tennessee	1-5 mph	1	12 points	1 yr	TBD
	6-15 mph	3			
	16-25 mph	4			
	26-35 mph	5			
	36-45 mph	6			
	46+ mph	8			

Texas	10% over limit	2	6 points	Lic. Surcharge $100	
				$25 each add. Point	
			4 moving viol.	1 yr.	
			7 moving viol.	2 yrs.	
Utah*	10< mph	35	300-399 points		3 mos
	11-20 mph	55	400-599 points		6 mos
	21+ mph	75	600+ points		1 yr
Vermont	1-10 mph	2	10 points	2 yrs	10 days
	11-20 mph	3	15 points	2 yrs	30 days
	21-30 mph	5	20 points	2 yrs	90 days
	31+	8			
Virginia	1-9 mph	3	18 points	1 yr	90 days
	10-19 mph	4	24 points	2 yrs	90 days
	20+ mph	6			
West Virginia	5-9 mph	2	12-13 points	2 yrs	30 days
	10-14 mph	3	14-15 points	2 yrs	45 days
	15+ mph	5	16-17 points	2 yrs	60 days
	School Zone	6	18-19 points	2 yrs	90 days
			20+ points	2 yrs	until only 11 points on record
Wisconsin	1-10 mph	3	12 points	2 yrs	TBD
	11-19 mph	4			
	20+ mph	6			

<u>States w/o Point Systems</u>

Hawaii
Kansas
Louisiana
Minnesota
Mississippi
Oregon
Rhode Island
Washington
Wyoming

Education

INTRODUCTION:

Education is one of the primary tools of the 4 'E's of Traffic Safety. They include Education, Engineering, Enforcement and Emergency Medical Services. If effectively structured, it has the ability to help change driver attitudes and behaviors. This, in turn, can assist in reducing injury and fatal crashes on Oregon roadways. Each of the 4 'E's needs to work together to have a profound effect on highway safety. Education, however, provides one of the best opportunities to impart the virtues of all these primary tools of traffic safety.

Education of the driving public, in Oregon, is accomplished through a number of means. It begins with the training and education of young, first time drivers through either a number of driver education courses and/or through parent training. There are opportunities for older drivers to receive training and education through private organization such as AARP. Between and including these two identified sets of drivers are those who violated traffic laws. They are provided opportunities to attend educational courses on traffic safety in order to mitigate their violations and/or in addition to court ordered sanctions. Drivers are provided continued education through print, radio and television media. Public Service Announcements and billboards are examples of this type of media. Police enforcement of traffic laws, either through warning contacts or enforcement contacts affords another opportunity to educate drivers. The judiciary has an opportunity to educate drivers through adjudications. Traffic engineers provide a form of education the public addressing of particular traffic problems. There are also Traffic Engineers who provide education and training to law enforcement in an effort to raise awareness of traffic related issues and reinforcement the importance of the Enforcement component of Traffic Safety. Emergency medical services personnel have provided the driving public education through courses in the real world results of poor driving habits. They also provide law enforcement training in identifying traffic crash injury causations to order to assist in crash investigations. Dedicated medical personnel also provide education actions. As we can see, all of the 4 'E's are extensively involved with trying to affect the attitudes, behaviors and actions of drivers on our roadways through various methods of education and training. Education of drivers, from potential novice to senior drivers is available in

one form or another. One of our biggest obstacles, educating drivers, is overcoming long developed and misinformed beliefs, attitudes and behaviors that typically begins before we ever start driving. It continues through our entire driving experience.

DRIVER EDUCATION

Youth driver education (under 18 yrs of age), in Oregon, begins with obtaining an instruction permit for the first 6 months. This person must obtain 50 hours of supervised driving by someone who is at least 21 yrs old and has at least 3 yrs of driving experience plus either a formalized driver education course approved by the Oregon Department of Transportation or an additional 50 hours of supervised driving for a total of 100 hours of driver training with a licensed driver(1). Although parent driver training has some advantages, an August 2007 NHTSA Parent-Taught Driver Education Evaluation from Texas indicated that: "Many other parents are highly motivated to be their child's primary driving instructor, have the best interests of their children at heart, but simply are not equipped with the requisite aptitudes, attitudes and experience to do so successfully. Still other parents who opt to participate in the program are neither appropriately equipped nor motivated."(2)

Senior driver education is offer by private organizations such as AARP (American Association of Retired Persons). They offer driver education courses that was formerly called "55 Alive". It is now referred to the AARP Driver Safety Program. It's been offered as classroom training for nearly 25 years and now is available as online training. Among other benefits, senior drivers can obtain insurance discounts for the program completion.

Violator driver education is offered by private enterprise at various locations are the state and is accepted by only certain court jurisdictions or judiciary. Courts will send the traffic violators to these course offerings as a form of diversion in order to mitigate their violation and/or in addition to other dispositions. While they do offer a form of driver education, it is not accomplished prior to the violation. There is no documentation that crash or violation rates are affected by the completion of these courses. The goal is simply and hopefully to prevent future occurrences. It also is to help dispel misinformation that affects attitudes and behaviors.

The private driver education businesses, in addition to providing youth driver training, also offer driver training and education for other older individuals that have delayed obtaining a driver's license or who come from another area/country where this was not available.

LAW ENFORCEMENT EDUCATION

New law enforcement officers begin their traffic safety education at the Department of Public Safety, Standards and Training (DPSST) Basic Police Academy in Salem, OR. They are offered limited mandated traffic courses during a 16 week training program. They received limited training in traffic laws and traffic stops. They receive the full NHTSA DWI Detection and Standardized Field Sobriety Testing (SFST) training. They also receive a basic traffic crash investigation course. There are voluntary NHTSA speed measurement courses (RADAR, LIDAR) offered after Basic Police classes during the academy training. This has to receive the prior approval from the officer's agency head.

Experienced officers can receive traffic safety from DPSST through the Regional Traffic Safety Training Coordinator. This position is supported by ODOT Transportation Safety Division grants. These courses included SFST, Radar, Lidar, Basic Crash Investigation, Mobile Video In-car Camera and Traffic Supervisor training. Also, an online speed measurement course is available for those officers with limit time availability due to issues such as department resource allocation problems.

Officers also have traffic grants that afford them the opportunity to receive traffic safety training, during their grant meetings or conferences. This advanced traffic safety training is taught by medical personnel, traffic engineers and others with expert backgrounds in various traffic safety areas.

"Traffic Law Enforcement for the 21st Century" is an excellent educational training that has been available and provided by Dr. Mojie Takallou, Professor of Civil Engineering at the University of Portland. This training provides a background in traffic safety issues and the benefits of traffic law enforcement in addressing these issues. Dr. Takallou has travelled Oregon providing this training to any law enforcement agency willing. It has help to addressed preconceived attitudes officers and their administrators have developed over time. The Oregon State Police has made this training a requirement of their new Troopers.

MEDIA

Print, radio, TV and communication type media can provide a great source of traffic safety education. Positive reports of traffic incidents and their probable causations inform the public. They include whether or not speed, alcohol, drugs where suspected or safety belts not used. Public Service Announcements such as the ones produced by Gard Communications for ODOT also provide an opportunity to educate and affect attitudes/behaviors of drivers. In order for these public service announcements to be most effective, they must(4):

*Have Public Support
*Be a good law
*Create awareness of law
*Must be enforcement of law
*A perceived risk of apprehension
*Have a committed team
*Sustained publicity

These PSAs are visible in news print, on billboards, public transportation vehicles, played on radio stations and played on television. This provides the greatest opportunity for exposure to the general public especially those who drive on Oregon roadways.

MEDICAL

Dedicated medical personnel are involved in educating the driving public along with their own peers. There are programs put together by Doctors and Nurses who have seen the results of bad driving.

"Trauma Nurses Talk Tough (TNTT) was developed in 1986 by three trauma nurses who wanted to put an end to the carnage they saw every day as a result of unnecessary injuries and deaths. Today, the wide-reaching impact of these programs has helped save countless lives through community education and advocacy."(5) This program is available through Legacy Emanuel Medical Center in Portland.

Physicians are also involved in traffic safety education of the public and their own peers. Dr. Jeffrey Runge MD, former NHTSA Administrator and Dr. John Tongue MD, Orthopedic Surgeon at Meridian Park Hospital are just a couple of notables who have been actively involved in traffic safety education.

OREGON DEPARTMENT OF TRANSPORTATION, Transportation Safety Division

The ODOT TSD has very diverse traffic safety programs that address a variety of traffic safety issues for the State of Oregon. Their primary goal is reducing injury and fatal traffic crashes. These traffic safety programs are overseen by program managers. The program managers help implement new traffic safety programs for their particular disciplines, manage traffic grants to the public and partner agencies to help them with traffic safety issues in their jurisdictions, monitor legislative efforts to create or modify existing traffic laws and provide traffic safety information. These partnerships are responsible for Oregon's continued efforts in reducing injury and fatal crashes year after year.

There are many other public and private organization involved in educating the public about traffic safety and the solutions to the problems faced by the drivers of Oregon. These educational opportunities are incorporated in the 4 'E's of Traffic Safety; Education, Engineering, Enforcement and EMS. Continued efforts with public traffic safety education, utilizing all possible avenues, is necessary to continue the reduction in injury and fatal crashes.

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4. "Traffic Law Enforcement for the 21st Century", Dr. Mojie Takallou, Civil Engineer, University of Portland, Oregon

ENGINEERING:

1. Oregon Department of Transportation, Technical Services Branch, Traffic Roadway Section: http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/highway_safety.shtml
2. Federal Highway Administration, "Manual on Uniform Traffic Control Devices" http://mutcd.fhwa.dot.gov/
3. Oregon Revised Statutes, Chapter 811.100 (Speed Laws) http://www.leg.state.or.us/ors/811.html

DRIVER'S LICENSE POINT SYSTEMS:

1. Oregon Department of Transportation, Driver and Motor Vehicle Services Division, Salem, OR http://www.oregon.gov/ODOT/DMV/
2. American Association of Motor Vehicle Administrators, Scottsdale, AZ http://www.aamva.org/

EDUCATION:

1. Oregon's GDL Program: http://www.oregon.gov/ODOT/DMV/news/nr_20071004.shtml

2. August 2007 NHTSA Parent-Taught Driver Education in Texas: A Comparative Evaluation
   4.2 Recommendations for Texas Driver Education p. 149

3. AARP: http://www.aarp.org/families/driver_safety/driver_program/a2004-06-21-whatisds.html

4. Gard Communications Presentation in Minutes of Oregon Speed Task Force, August 2009

5. "Trauma Nurses Talk Tough" website: http://www.traumarn.com/page6.html

APPENDIX

Oregon Speed Related Fatalities

Counties	2004 Fatalites	2005 Fatalities	2006 Fatalities	2007 Fatalities	2008 Fatalities	5 Year Fatalities	Ranking
Baker	4	8	3	3	4	22	
Benton	2	3	3	4	2	14	
Clackamas	8	17	14	22	16	77	4
Clatsop	5	5	3	2	0	15	
Columbia	3	5	2	7	4	21	
Coos	10	8	4	2	5	29	
Crook	1	2	1	1	1	6	
Curry	3	0	0	2	3	8	
Deschutes	12	10	13	4	11	50	9
Douglas	10	16	13	6	15	60	8
Gilliam	3	4	0	0	1	8	
Grant	2	0	2	2	3	9	
Harney	1	4	1	3	0	9	
Hood River	7	2	1	5	2	17	
Jackson	25	13	7	8	13	66	7
Jefferson	6	7	3	6	6	28	
Josephine	5	6	8	10	10	39	
Klamath	11	9	15	5	6	46	10
Lake	0	4	1	5	4	14	
Lane	21	16	22	11	12	82	3
Lincoln	3	8	5	4	4	24	
Linn	11	13	17	16	11	68	6
Malheur	5	7	1	9	3	25	
Marion	23	26	22	18	11	100	2
Morrow	0	0	2	0	0	2	
Multnomah	29	22	20	26	17	114	**1**
Polk	10	5	2	1	2	20	
Sherman	1	1	0	3	3	8	
Tillamook	8	8	1	2	7	26	
Umatilla	7	3	4	3	4	21	
Union	5	0	3	1	3	12	
Wallowa	0	1	2	0	1	4	
Wasco	1	3	7	2	1	14	
Washington	19	13	19	11	12	74	**5**
Wheeler	1	1	0	1	0	3	
Yamhill	2	12	6	10	13	43	
Year Totals	264	262	227	215	210	1178	

Oregon Speed Related Injuries

Counties	2004 Injuries	2005 Injuries	2006 Injuries	2007 Injuries	2008 Injuries	5 Year Injuries	Ranking
Baker	2	11	6	11	7	37	
Benton	7	11	19	15	3	55	
Clackamas	83	81	71	68	290	593	1
Clatsop	7	14	10	11	11	53	
Columbia	6	12	10	5	9	42	
Coos	10	17	11	5	9	52	
Crook	5	5	6	5	5	26	
Curry	7	2	3	1	1	14	
Deschutes	27	28	23	21	33	132	8
Douglas	38	35	42	26	19	160	6
Gilliam	4	6	2	1	2	15	
Grant	7	7	7	4	6	31	
Harney	6	3	5	3	3	20	
Hood River	7	1	9	7	8	32	
Jackson	23	26	23	11	16	99	10
Jefferson	7	8	13	6	4	38	
Josephine	20	14	13	13	3	63	
Klamath	33	18	27	31	7	116	9
Lake	0	3	4	6	1	14	
Lane	40	42	78	40	24	224	5
Lincoln	13	16	14	15	17	75	
Linn	33	51	25	34	15	158	7
Malheur	21	21	9	15	6	72	
Marion	61	89	61	53	29	293	3
Morrow	6	1	1	1	1	10	
Multnomah	70	64	85	61	48	328	**2**
Polk	26	12	16	14	11	79	
Sherman	2	5	3	8	3	21	
Tillamook	6	20	14	10	7	57	
Umatilla	8	19	12	17	10	66	
Union	11	4	8	12	9	44	
Wallowa	1	3	2	2	4	12	
Wasco	9	13	9	5	8	44	
Washington	49	56	58	59	20	242	4
Wheeler	0	3	5	0	1	9	
Yamhill	15	26	15	15	21	92	
Year Totals	670	747	719	611	671	3418	

Oregon Speed Related Fatalities

Counties	2004 Spd Fatals	2005 Spd Fatals	2006 Spd Fatals	2007 Spd Fatals	2008 Spd Fatals	5 Year Spd Fatals	5 Year Fatals	Percent of Total
Baker	4	8	3	3	4	22	29	75.86%
Benton	2	3	3	4	2	14	32	43.75%
Clackamas	8	17	14	22	16	77	154	50.00%
Clatsop	5	5	3	2	0	15	43	34.88%
Columbia	3	5	2	7	4	21	42	50.00%
Coos	10	8	4	2	5	29	53	54.72%
Crook	1	2	1	1	1	6	17	35.29%
Curry	3	0	0	2	3	8	19	42.11%
Deschutes	12	10	13	4	11	50	103	48.54%
Douglas	10	16	13	6	15	60	143	41.96%
Gilliam	3	4	0	0	1	8	11	72.73%
Grant	2	0	2	2	3	9	12	75.00%
Harney	1	4	1	3	0	9	14	64.29%
Hood River	7	2	1	5	2	17	23	73.91%
Jackson	25	13	7	8	13	66	136	48.53%
Jefferson	6	7	3	6	6	28	43	65.12%
Josephine	5	6	8	10	10	39	88	44.32%
Klamath	11	9	15	5	6	46	104	44.23%
Lake	0	4	1	5	4	14	21	66.67%
Lane	21	16	22	11	12	82	198	41.41%
Lincoln	3	8	5	4	4	24	42	57.14%
Linn	11	13	17	16	11	68	122	55.74%
Malheur	5	7	1	9	3	25	32	78.13%
Marion	23	26	22	18	11	100	156	64.10%
Morrow	0	0	2	0	0	2	9	22.22%
Multnomah	29	22	20	26	17	114	204	55.88%
Polk	10	5	2	1	2	20	52	38.46%
Sherman	1	1	0	3	3	8	12	66.67%
Tillamook	8	8	1	2	7	26	45	57.78%
Umatilla	7	3	4	3	4	21	53	39.62%
Union	5	0	3	1	3	12	15	80.00%
Wallowa	0	1	2	0	1	4	10	40.00%
Wasco	1	3	7	2	1	14	26	53.85%
Washington	19	13	19	11	12	74	152	48.68%
Wheeler	1	1	0	1	0	3	5	60.00%
Yamhill	2	12	6	10	13	43	72	59.72%
Year Totals	264	262	227	215	210	1178	2292	51.40%

Oregon Speed Related Injuries

Counties	2004 Injuries	2005 Injuries	2006 Injuries	2007 Injuries	2008 Injuries	5 Yr Speed Injuries	5 Yr Total Injuries	Percent of Total
Baker	2	11	6	11	7	37	54	68.52%
Benton	7	11	19	15	3	55	170	32.35%
Clackamas	83	81	71	68	290	593	1308	45.34%
Clatsop	7	14	10	11	11	53	143	37.06%
Columbia	6	12	10	5	9	42	120	35.00%
Coos	10	17	11	5	9	52	155	33.55%
Crook	5	5	6	5	5	26	54	48.15%
Curry	7	2	3	1	1	14	43	32.56%
Deschutes	27	28	23	21	33	132	387	34.11%
Douglas	38	35	42	26	19	160	410	39.02%
Gilliam	4	6	2	1	2	15	19	78.95%
Grant	7	7	7	4	6	31	49	63.27%
Harney	6	3	5	3	3	20	40	50.00%
Hood River	7	1	9	7	8	32	62	51.61%
Jackson	23	26	23	11	16	99	476	20.80%
Jefferson	7	8	13	6	4	38	94	40.43%
Josephine	20	14	13	13	3	63	249	25.30%
Klamath	33	18	27	31	7	116	264	43.94%
Lake	0	3	4	6	1	14	40	35.00%
Lane	40	42	78	40	24	224	558	40.14%
Lincoln	13	16	14	15	17	75	168	44.64%
Linn	33	51	25	34	15	158	353	44.76%
Malheur	21	21	9	15	6	72	105	68.57%
Marion	61	89	61	53	29	293	571	51.31%
Morrow	6	1	1	1	1	10	24	41.67%
Multnomah	70	64	85	61	48	328	1833	17.89%
Polk	26	12	16	14	11	79	216	36.57%
Sherman	2	5	3	8	3	21	31	67.74%
Tillamook	6	20	14	10	7	57	121	47.11%
Umatilla	8	19	12	17	10	66	153	43.14%
Union	11	4	8	12	9	44	76	57.89%
Wallowa	1	3	2	2	4	12	21	57.14%
Wasco	9	13	9	5	8	44	88	50.00%
Washington	49	56	58	59	20	242	792	30.56%
Wheeler	0	3	5	0	1	9	15	60.00%
Yamhill	15	26	15	15	21	92	252	36.51%
Year Totals	670	747	719	611	671	3418	9494	36.00%