

2014 STUDDED TIRE STUDY - INFORMATION UPDATE

Oregon Department of Transportation

January 2014

Overview

It has been almost 15 years since the Oregon Department of Transportation has completed an analysis of studded tire use and impacts in the state. ODOT is beginning a limited research effort to update the previous effort and identify new information on winter tire use and impacts in the state. This work will provide a current estimate of studded tire use in different parts of the state as well as an updated estimate of ODOT's studded tire repair costs per year to the whole state highway system. We anticipate this work will be completed in the fall of 2014.

Literature Review

The literature review for this study will focus on research and developments in studded tire use since ODOT's last major analysis the "Studded Tires in Oregon, Analysis of Pavement Wear and Cost of Mitigation" published in 2000. This review will include pertinent literature on reduction of service life of pavements and maintenance impacts due to studded tires. It will also include literature dealing with comparisons between studded tires and new non-studded winter tires.

Phone Survey

During February 2014, ODOT is accepting recommendations for additional questions, such as questions related travel alternatives during winter weather, or the use of winter traction tires. Please send any survey recommendations to Norris Shippen at: norris.shippen@odot.state.or.us

To determine studded tire use, a household survey modeled after the previous survey performed for the 2000 study will be conducted by PSU Survey Research Lab. The survey will cover the 2013-2014 winter driving season and questions will include:

1. county of residence;
2. number of cars, trucks, or vans owned by the household, and then, for each (up to 6 vehicles);
3. whether the vehicle is 2-wheel, 4-wheel, or all-wheel drive;
4. whether the vehicle is front-, rear-, or all-wheel drive;
5. whether studded tires were used on that vehicle in the past winter, and if so:
 - a. whether the studs were on 2 or 4 tires;
 - b. month the studs were put on;
 - c. month the studs were taken off (or planned to be taken off);
 - d. the number of days each week that vehicle was used;
 - e. the vehicle's main use (work, leisure, shopping, all-purpose);
 - f. whether the vehicle is used mainly by one or more persons, and if one only; that person's age;
 - g. how long ago the household started using studded tires;
 - h. number of people in the household;
 - i. household income from all sources.

Outreach

ODOT will continue to do outreach with key stakeholders, including AAA Oregon/Idaho, Oregon Trucking Association, legislative staff, and tire industry representatives.

Analysis

ODOT's Pavement Services Unit will review the updated literature review to identify appropriate

analysis methods to measure and calculate the impacts of studded tire use on Oregon's state highway pavements.

ODOT plans to use tire rut data and other pavement condition data (cracking, patching, roughness etc.) from the pavement management database and traffic data from the ODOT traffic database to identify route segments on state highways where studded tire damage appears to affect the service life of the pavement surface, and the magnitude of reduction.

ODOT will look at actual pavement repair project cost data for state highways to determine costs to repair studded tire rutting damage versus repair costs for other factors.

ODOT will use the information developed by the phone survey, tire industry input and the data analysis to:

- estimate annualized pavement repair damage for state highway routes with various levels of studded tire exposure ranging from low to high
- estimate the annualized cost incurred for ODOT's pavement resurfacing program to deal with stud damage relative to other types of damage
- estimate ODOT's studded tire repair costs per year to the whole state highway system.

ODOT anticipates this analysis will be useful in identifying current use and damage and will help state policy makers account for changes in tire technology and consumer choices that have occurred since the year 2000.

Contact Information

For more information on this project please contact:

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