



RESEARCH NOTES HIGHWAY DIVISION RESEARCH SECTION

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RSN 86-1

EFFECT OF INCREASING TRUCK TIRE PRESSURES TO BE STUDIED

Controlling the effects of increased truck tire pressures is the subject of a cooperative study between the Department of Transportation and Oregon State University. This study will survey existing tire pressures and axle loadings, and evaluate the ability of current asphalt mix designs to limit pavement rutting and cracking. Recommendations will be given for designing mixes and pavements that resist damage from heavier loads and higher tire pressures.

The study is necessary because increasing tire pressures is a common practice by truck drivers to lower rolling resistance and improve fuel economy. Frequently, the higher tire pressures are accompanied by heavier loads. This puts added pressure on the pavement. To assess the situation in Oregon, on-the-road tire pressures and load weights will be surveyed. Then, tire contact pressures, the source of pavement damage, can be determined.

Highway rutting being worse than predicted is another reason for the study. Rutting may occur because the designed mix is incapable of dealing with higher pressures, or testing may not have revealed the mixes would deform at certain levels in the pavement. Researchers will analyze the results of these tests and perform new tests to determine if existing mixes are likely to deform under higher pressures.

After reviewing the test results, recommendations can be made for altering the mix and/or the pavement design to resist heavy loads and high tire pressures. Thus, the study should produce designs for longer-lasting and longer-wearing pavements that will resist increasing tire contact pressures.

For more information on this research project contact:
Oregon State Highway Division, Research Section. 1174 Chemeketa N.E., Salem, OR 97310; or Transportation Research Institute, Department of Civil Engineering, Oregon State University. Corvallis, OR 97331.

The title of the project is: "Procedures for Controlling the Effect of Increased Tire Pressures on Asphalt Concrete Pavement Damage".

SUMMARIES AND ABSTRACTS OF CURRENT HIGHWAY RESEARCH