



**OREGON DEPARTMENT OF TRANSPORTATION**

Research Unit  
200 Hawthorne, Ste., B-240  
Salem, OR 97301

**SPR Quarterly Progress Report**  
October 1, 2007 through December 31, 2007

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Date January 22, 2008

**TO:** Technical Advisory Committee Members:  
Rene Renteria, Oregon Department of Transportation  
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**FROM:** Norris Shippen, Research Coordinator (ph: (503) 986-3538)

**1. Project**

Mechanistic Pavement Design Input Parameters  
SPR-642

**2. Key Dates**

Start Date for ODOT: October 2005  
Completion Date for ODOT: February 2008

**3. Principal Investigator**

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**4. Progress**

- An attempt to collect data at the I-5 MP 239 site was made on December 13, 2007. However, problems with the WIM box prevented being able to successfully collect all data required. Hence, data collection efforts were abandoned for this visit to the site.
- The raw data files of strain measurements collected during three sites visits on June 20, 2006, June 7, 2007, and September 4, 2007 were reduced to strain magnitude induced by each axle of approximately 270 trucks. The reduced data was categorized according to each row of strain gages in the strain gage arrays.
- Correlating the axle weights from WIM data collected during the site visits mentioned above to the reduced strain data was initiated.
- The photos of the approximately 270 trucks mentioned above were analyzed to determine:
  - Tread width of single tires,

- Tread width of dual tires,
- Axle width (center-to-center spacing of outside tires), and
- Offset of truck from the fogline.
- The raw data files of strain measurements collected on May 31, 2007 were reduced to strain magnitude induced by ODOT's falling weight deflectometer positioned over individual strain gages.
- A literature search and review was conducted to obtain information on wheel wander and truck tire pressures.

**5. Problems**

- Progress has been slow in part due to not having a Graduate Research Assistant to help with the project.
- The subgrade soil samples have not yet been received by OSU.

**6. Work Planned for Next Quarter**

- Collect data from the I-5 MP 239 site in January and February. Conduct the analyses of the data collected.
- Write the final report for the project.

**7. Finances -SPR Project Summary**

<b>VENDOR</b>	<b>FY'06</b>	<b>FY'07</b>	<b>FY'08</b>	<b>TOTALS</b>
ORIGINAL BUDGET				\$ -
<b>REVISED BUDGET</b>	\$ 41,544	\$ 70,700	\$ 12,743	\$ 124,987
EXPENDITURES - VENDOR	\$ 41,544	\$ 70,700	\$ 5,084	\$ 117,328
<b>BALANCE</b>	\$ -	\$ -	\$ 7,659	\$ 7,659

<b>ODOT</b>	<b>FY'06</b>	<b>FY'07</b>	<b>FY'08</b>	<b>TOTALS</b>
ORIGINAL BUDGET	\$ 40,000	\$ 80,000	\$ 40,000	\$ 160,000
<b>REVISED BUDGET</b>	\$ 9,023	\$ 30,062	\$ 15,977	\$ 55,062
EXPENDITURES - ODOT	\$ 9,023	\$ 30,062	\$ 3,489	\$ 42,574
<b>BALANCE</b>	\$ -	\$ -	\$ 12,488	\$ 12,488

<b>PROJECT</b>	<b>FY'06</b>	<b>FY'07</b>	<b>FY'08</b>	<b>TOTALS</b>
ORIGINAL BUDGET	\$ 40,000	\$ 80,000	\$ 40,000	\$ 160,000
<b>REVISED BUDGET</b>	\$ 50,567	\$ 100,762	\$ 28,720	\$ 180,049
EXPENDITURES - PROJECT	\$ 50,567	\$ 100,762	\$ 8,573	\$ 159,902
<b>BALANCE</b>	\$ -	\$ -	\$ 20,147	\$ 20,147