



OREGON DEPARTMENT OF TRANSPORTATION

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

**SPR Quarterly Progress Report**  
July 1, 2008 through September 30, 2008

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Date        October 22, 2008

**TO:**        Technical Advisory Committee Members:  
              Rene Renteria, Oregon Department of Transportation  
              Norris Shippen, Oregon Department of Transportation  
              Jim Huddleston, Asphalt Paving Association of Oregon  
              Anthony Boesen, Federal Highway Administration

**FROM:**    Norris Shippen, Research Coordinator (ph: (503) 986-3538)

**1.        Project**

Mechanistic Pavement Design Instrumentation  
SPR # 672

**2.        Key Dates**

Start Date for ODOT:  
Completion Date for ODOT:

**3.        Principal Investigator**

Todd Scholz  
School of Civil and Construction Engineering  
100 Merryfield  
Oregon State University  
Corvallis, OR 97331

**4.        Progress**

- Installed two weigh-in-motion (WIM) piezoelectric strips, one induction loop, and three axle sensors on the surface of the pavement on US97 (Redmond Bypass) and routed the cables from the sensors to the aluminum box on the side of the highway on the night of August 22 and early morning of August 23. Also installed temperature probes at various depths in the hot-mix asphalt layer.
- Acquired data using the new data acquisition software at the I-5 MP 239 (Dever-Conner exit) site on September 23 to test the software. Took pictures of several trucks

to compare the offset determined from the photos with the offset determined from the axle sensors so as to validate the offset determined from the axle sensors.

- Travelled to the Redmond site on September 25 to finalize instrument and data acquisition setup, to verify that all instruments were functioning properly, and to acquire WIM data, axle sensor data, strain data, and temperature data.
- Hired two graduate students to assist with the project; one to concentrate on data acquisition and reduction, and the other to assist with finalizing the previous project (for M-E design inputs).

**5. Problems**

- Nothing significant.

**6. Work Planned for Next Quarter**

- Continue development of the data acquisition software to strive towards full automation.
- Collect data at the I-5 and Redmond sites.
- Reduce and analyze data collected.
- Conduct FWD testing of the Redmond site and obtain field samples (Cores) for laboratory testing.

**7. Finances**

**SPR Project Summary**

<b>VENDOR</b>	<b>FY'08</b>	<b>FY'09</b>	<b>FY'10</b>	<b>FY11</b>	<b>TOTALS</b>
ORIGINAL BUDGET					\$ -
<b>REVISED BUDGET</b>	\$ -	\$ 48,500	\$ 28,281		\$ 76,781
EXPENDITURES - VENDOR	\$ -	\$ -	\$ -	\$ -	\$ -
<b>BALANCE</b>	\$ -	\$ 48,500	\$ 28,281	\$ -	\$ 76,781

<b>ODOT</b>	<b>FY'08</b>	<b>FY'09</b>	<b>FY'10</b>	<b>FY11</b>	<b>TOTALS</b>
ORIGINAL BUDGET	\$ 87,500	\$ 87,500			\$ 175,000
<b>REVISED BUDGET</b>	\$ 2,205	\$ 4,500	\$ 2,500		\$ 9,205
EXPENDITURES - ODOT	\$ 2,205	\$ 4,642	\$ -	\$ -	\$ 6,847
<b>BALANCE</b>	\$ -	\$ (142)	\$ 2,500	\$ -	\$ 2,358

<b>PROJECT</b>	<b>FY'08</b>	<b>FY'09</b>	<b>FY'10</b>	<b>FY11</b>	<b>TOTALS</b>
ORIGINAL BUDGET	\$ 87,500	\$ 87,500	\$ -	\$ -	\$ 175,000
<b>REVISED BUDGET</b>	\$ 2,205	\$ 53,000	\$ 30,781	\$ -	\$ 85,986
EXPENDITURES - PROJECT	\$ 2,205	\$ 4,642	\$ -		\$ 6,847
<b>BALANCE</b>	\$ -	\$ 48,358	\$ 30,781	\$ -	\$ 79,139