



OREGON DEPARTMENT OF TRANSPORTATION

Research Section
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Salem, OR 97301

SPR Quarterly Progress Report
April 1, 2009 through June 30, 2009

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Date: July 23, 2009

TO: Technical Advisory Committee Members:
Rene Renteria, Oregon Department of Transportation
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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: 5/1/2008
Completion Date for ODOT: 11/30/2009

3. Principal Investigator

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

4. Progress

- Tom Hammer (faculty research assistant) was trained and took over data collection duties.
- Continued development of a lab-based training station (to simulate field measurements).

- Data was collected at both I-5 and Redmond sites as indicated in the following table:

Location	Date	Strain	WIM
Dever-Conner	6-May-09	Yes	Yes
Dever-Conner	10-Jun-09	Yes	Yes
Redmond	21-May-09	Yes	Yes
Redmond	1-Apr-09	Yes	Yes
Redmond	22-Apr-09	Yes*	Yes
Redmond	25-June-09	Yes	Yes

*Including measurements under FWD loading

- The longitudinal and transverse locations of the strain gages at the Redmond site were established on the surface of the pavement and each location was tested using ODOT's FWD on April 22nd.
- Core Samples were obtained on April 22nd at the Redmond location.
- FWD data has been plotted in order to display strain gage location influences.
- FWD data has been back-calculated to yield individual layer moduli.
- Program used to pick strain gage values has been verified using manual graph interpretations.

5. Problems

- The StrainBook data acquisition system suffered damage to some of the electronic components due to connecting the unit to the wrong posts of the car battery power source.

6. Work Planned for Next Quarter

- Have the StrainBook repaired.
- Continue data collection and reduction activities when the StrainBook is returned.
- Instrument another project (S. Medford Interchange project, if possible).

7. Finances

SPR Project Summary

VENDOR	FY'08	FY'09	FY'10	FY11	TOTALS
ORIGINAL BUDGET					\$ -
REVISED BUDGET	\$ -	\$ 32,500	\$ 44,281		\$ 76,781
EXPENDITURES - VENDOR	\$ -	\$ 16,523	\$ -	\$ -	\$ 16,523
BALANCE	\$ -	\$ 15,977	\$ 44,281	\$ -	\$ 60,258

ODOT	FY'08	FY'09	FY'10	FY11	TOTALS
ORIGINAL BUDGET	\$ 87,500	\$ 87,500			\$ 175,000
REVISED BUDGET	\$ 2,205	\$ 12,454	\$ 2,500		\$ 17,159
EXPENDITURES - ODOT	\$ 2,205	\$ 12,454	\$ -	\$ -	\$ 14,659
BALANCE	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500

PROJECT	FY'08	FY'09	FY'10	FY11	TOTALS
ORIGINAL BUDGET	\$ 87,500	\$ 87,500	\$ -	\$ -	\$ 175,000
REVISED BUDGET	\$ 2,205	\$ 44,954	\$ 46,781	\$ -	\$ 93,940
EXPENDITURES - PROJECT	\$ 2,205	\$ 28,977	\$ -		\$ 31,182
BALANCE	\$ -	\$ 15,977	\$ 46,781	\$ -	\$ 62,758