



**OREGON DEPARTMENT OF TRANSPORTATION**

Research Unit  
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Salem, OR 97301

**SPR Quarterly Progress Report**  
January 1, 2009 through March 31, 2009

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Date April 1, 2009

**TO:** Technical Advisory Committee Members:

John Svadlenak, ODOT Transportation Economist  
Cole Mullis, ODOT Quality Assurance Engineer  
Mark Winn, ODOT QCCS  
Anthony Boesen, FHWA Representative

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

**1. Project**

Statistical Analysis of QC/QA Data on Construction Projects  
SPR 650

**2. Key Dates**

Start Date for ODOT: July 1, 2007  
Completion Date for ODOT: June 29, 2009

**3. Principal Investigator**

David N. Sillars, Ph.D.  
Associate Professor  
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**4. Progress**

- Initial literature search completed
- Established contacts with ODOT personnel for site visits and interviews
- Revised, expanded literature search completed

- TAC meeting held, decision made to concentrate on modeling the QA/QC processes for key materials, using interview and ODOT process manuals, rather than conducting site visits
- Problems in literature review corrected.
- New PhD student assigned to project.
- TAC meeting held to discuss strategy for moving the work forward. Results include increased focus on establishment of limits for application of statistical process of quality assurance. Further, additional work in suggestions of software for QA analysis would be helpful.
- Investigation into establishment of margin of error computations for statistical tests
- Grad student met with ODOT and researched ODOT manuals of practice and standard specifications to establish process used by ODOT for QA for four basic materials (aggregates, HMAC, PCC-structural, and soils)
- Write-up of ODOT methods is completed
- Receipt of ranges of material quantities from ODOT staff
- Assignment of new student assistants to work on project
- *Development of analysis of ODOT current methods and materials*
- *Preliminary recommendations developed.*
- *Draft final report developed*

## 5. **Problems**

- PhD student involved in project prevented from returning to the U.S. due to visa issues; additional students assigned. Causing slowing in the completion of the project, although progress is being made. Project extended.
- Current project end date expected to be met.

## 6. **Work Planned for Next Quarter**

- Finalization of recommendations
- Final report submittal

## 7. **Finances**

SPR Project Summary: (next page)

<b>VENDOR</b>	<b>FY'07</b>	<b>FY'08</b>	<b>FY'09</b>	<b>FY'10</b>	<b>TOTALS</b>
ORIGINAL BUDGET					\$ -
<b>REVISED BUDGET</b>	\$ -	\$ 50,789	\$ 57,211		\$ 108,000
EXPENDITURES - VENDOR	\$ -	\$ 50,789	\$ -	\$ -	\$ 50,789
<b>BALANCE</b>	\$ -	\$ -	\$ 57,211	\$ -	\$ 57,211

<b>ODOT</b>	<b>FY'07</b>	<b>FY'08</b>	<b>FY'09</b>	<b>FY'10</b>	<b>TOTALS</b>
ORIGINAL BUDGET	\$ 45,000	\$ 83,000			\$ 128,000
<b>REVISED BUDGET</b>	\$ 2,006	\$ 6,890	\$ 6,000	\$ 1,500	\$ 16,396
EXPENDITURES - ODOT	\$ 2,006	\$ 6,890	\$ 5,325	\$ -	\$ 14,221
<b>BALANCE</b>	\$ -	\$ -	\$ 675	\$ 1,500	\$ 2,175

<b>PROJECT</b>	<b>FY'07</b>	<b>FY'08</b>	<b>FY'09</b>	<b>FY'10</b>	<b>TOTALS</b>
ORIGINAL BUDGET	\$ 45,000	\$ 83,000	\$ -	\$ -	\$ 128,000
<b>REVISED BUDGET</b>	\$ 2,006	\$ 57,679	\$ 63,211	\$ 1,500	\$ 124,396
EXPENDITURES - PROJECT	\$ 2,006	\$ 57,679	\$ 5,325		\$ 65,010
<b>BALANCE</b>	\$ -	\$ -	\$ 57,886	\$ 1,500	\$ 59,386