

Office of Research and Library Services Monthly Report

March 2007

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ORLS PROGRAM NEWS

Saying Goodbye

Tom Hanson began working for the Public Transportation Division on April 2nd after three years with the Office of Research and Library Services. Tom served as our Contracts and Finance Manager with a little Research Management thrown in.

Through Tom's efforts, we have modernized many of the office administrative activities and improved access to project information. This includes shifting a significant amount of the project records to electronic documents and databases, working with Lysle Heap of Division Services to develop a 'checkbook' for our SPR funds in order to better track the federal funds and Transportation Pooled Fund projects, organizing and reducing our paper records, and establishing master agreements with more universities for quicker contracting. Tom also provided management for projects such as the Rich Passage Fast Ferry and provided research support to his customers in Public Transportation, Ferries, Rail, and Aviation.

Tom also gained a national reputation as a 'go to' person for the Transportation Pooled Fund program. If other states had questions on the process or were having difficulty resolving issues, they frequently called Tom. He worked closely with the FHWA Office of Budget and Finance to develop a new approach to the administration of funds in the program. That approach is being tested on a project led by Minnesota at this time.

We're going to miss Tom. His responsiveness to the contract and finance demands of the office, his so easy to work with manner, his team spirit, his passion for community involvement, and his cooking have all been appreciated. We wish him the best in his

new position and his new home. We look forward to having him serve as an ambassador for research and library services in the public transportation community.

Thank you, Tom. It's been an honor to work with you.

Thank Goodness!

Fortunately we won't be long without someone to fill Tom's position. Tim Carlile accepted the position of Business Manager for ORLS. Tim will manage and help us continue to improve the business functions of ORLS. His position is critical to every activity of the office as all contracts and agreements, budget actions, and other administrative functions will be under his leadership. His first day in ORLS will be April 23rd.

Tim's education and experience are well suited to this position. He has a B.A. in Accounting and Business Management from Saint Martin's College, and is a licensed CPA and Certified Government Financial Manager. Tim has worked in state government for 28 years. He worked as an accountant in the Department of General Administration and the Employment Security Department. He served as the Financial Systems Coordinator at the Office of Financial Management, the Controller at the Department of Fisheries, and a Senior Fiscal Analyst with the House of Representatives. At WSDOT, Tim spent five years as the Financial Manager of the Budget Office before transferring to the Government Relations Office.

I feel fortunate to be able to draw on this experience and believe that Tim's knowledge, experience, and communication skills will be assets for WSDOT Research and Library Services and for many of you as our customers. We look forward to working with him.

WSU TRAC Staff to Assist with Synthesis Research Topics

Susan Lewis has been hired by the Washington State University Washington Transportation Center (TRAC) office to assist ORLS with Synthesis research topics. Susan is an experienced researcher and writer. She is currently working on a survey and update of state transportation research programs for presentation at the National Research Advisory Committee (NRAC) Meeting in Seattle hosted by WSDOT from August 6-9, 2007. Synthesis reports provide current information on topics of interest. Department employees may contact [Kathy Lindquist](#) at 360-705-7976 to request a Synthesis report.

The Show Me State Shares their Research Management Methods

Leni Oman was invited to participate in and serve as Team Lead for the Missouri DOT (MODOT) Research Peer Exchange. Peer Exchanges are required to be conducted approximately every three years as a way to share and continually improve research management practices. Other organizations participating in the Exchange included New York State and Minnesota DOTs, the Research and Innovative Technology Administration, the Transportation Research Board, Missouri Transportation Institute, University of Missouri-Columbia, and University of Missouri Rolla.

The Peer Exchange focused on best practices on implementing research results ways to identify and address research needs within a DOT, and practices in partnering with National University Transportation Centers. MODOT also sought suggestions on improvements that could be made in their working relationship with the Missouri Transportation Institute.

Take home points for WSDOT to consider included:

- Add the value of NCHRP projects to agency participants spreadsheet
- Develop incentives program for innovative ideas.
- Development of an expertise directory – ask Vice Provosts.
- Develop list of faculty interested in conducting quick turn around research.

NCHRP 2008 Research Problem Statements Selected

Leni Oman attended the Standing Committee on Research (SCOR) meeting March 20-22 in Washington DC and participated in the NCHRP selection process. Of the 145 continuing and new projects, 23 continuing projects and 44 new projects have been selected for funding. Eight projects are on the contingency list should funding become available. Of the 23 problem statements submitted by WSDOT, two were funded. The two receiving funding are:

- B-27 Initial Cost Benefits of Quieter Pavements Compared with other forms of Noise Mitigation - submitted by Mia Waters
- Design Layout for Cable Barrier Systems - submitted by Dave Olson

Other WSDOT projects also received favorable ratings but were not funded due to related projects not referenced or those currently underway and limited funding. Other WSDOT problem statements were developed and submitted through AASHTO committees.

SCOR also continued to work on updating their strategic plan. There was an excellent Strengths, Weaknesses, Opportunities and Threats discussion as well as a brainstorm about issues and needs in transportation research. This information is being compiled and cross-referenced with the newly formed AASHTO Research Advisory Committee (RAC) Task Groups. The RAC Task Groups will address:

- RAC Administration
- Research Funding
- Value of Research
- Education and Training
- Research Coordination and Collaboration
- Program Management and Quality
- Future Needs

A short term Task Group has also been convened on Peer Exchanges. It is anticipated that these Task Groups will develop draft materials for use by SCOR.

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LIBRARY ACTIVITIES

Seek and Ye Shall Find

WSDOT Library has hired cataloger Anne Whitney to enrich existing WSDOT Research publications records with subject headings from the Transportation Research Thesaurus (TRT). This will allow users to use this [controlled vocabulary](#) to [search the Research Reports](#) database. It is expected that her work will vastly improve the ability of searchers to find relevant materials in a timely way.

The work on the Research Reports database serves as a pilot project for developing a method by which to conduct this work, build a controlled vocabulary that meets the agency's need. We believe it will demonstrate the usefulness of controlled vocabularies which can be applied to other information sources (documents, web pages and more) within WSDOT. Anne is also contributing additional terms to the Transportation Research Thesaurus (TR). The TRT is a controlled vocabulary developed through the Transportation Research Board and the National Transportation Library to improve the indexing and retrieval of transportation information. Use and improvement of the TRT helps transportation professionals from around the world find, use, and distribute transportation information.

Jeremy Bertrand, Communications Office, is assisting the WSDOT Library with this project in the development of a design template and search functionality.

Paying It Forward

In the past month WSDOT Library acquired professional materials requested by the Staff Development office, the Communications Office, and the Design Office's Cost Risk Estimation Management office. These materials are purchased by the library, paid for by the requesting office, initially made available to that office, and finally added to the library's collections for the benefit of the entire department. In this way, the library is able to leverage the financial resources of various offices to the benefit of WSDOT as a whole.

If your office has a need for information, or specific print, non-print, or online material, please contact the library for assistance. Not only can your materials often be purchased at a discounted price, you can help to build information resources used by the department statewide.

Online Collections Milestone

With the addition of 19 journals published by the Institution of Civil Engineers on a trial basis, WSDOT Library now offers access to more than 100 transportation-related periodicals online. An alphabetic list can be viewed on the Library's [Online Journals](#) page, and most of them can be accessed directly from there.

The 19 new journals all represent the proceedings of the Institution of Civil Engineers, and represents primarily European research. As such, these journals compliment our existing online journal collections very nicely.

Library Usage

Circulation – Checked out 55 items to WSDOT employees

Interlibrary Borrowing – Obtained 14 items on behalf of WSDOT employees.

Interlibrary Loans – Lent 23 items to other libraries; unable to fill 8 requests (unable means materials may be in circulation or for reference use only).

Collection – Added 238 new items to WSDOT Library collection

Library Cards – Issued 8 new library cards to WSDOT employees, renewed 4

Web Page (Feb)

- Intranet Total Home Page Views: 586
- Intranet Total Page Views: 1,446
- Average Daily Intranet Page Views: 52

- Popular Intranet Pages: Standards and Manuals; 2007 Staff Legislative Notebook; and Journals, Newspapers, Books, and Reports
- Internet Total Home Page Views: 1,234
- Internet Total Page Views: 2,272

Technical Input Provided

- Provided information on when the Tukwila interchange between I-5 and I-405 was completed – contracting firm in Seattle
- Located information about a seismic hazard map for Packwood, WA – Seattle area citizen
- Provided contact information for finding out about eminent domain cases filed by WSDOT – Seattle-area law firm
- Found a standard on Methods for the Examination of Water and Wastewater – Veterans Administration official from the Eastern Region
- Found a safety video and an ASTM standard – L&I Library
- Found a paper from the International Snow Science Workshop held in 1998 – Librarian at the University Centre in Svalbard, Norway
- Provided links to information on the relationship between facilities improvement and increased bicycle use – Thunderhead Alliance, San Francisco
- Provided access to an electronic version of a Transportation Research Record article – Private citizen in central Washington
- Located information on the history of the gas tax in Washington and bill number for some of the legislated changes – Legislature

Questions from WSDOT Staff

- Conducted a review of research on cable median barrier done outside Washington State – Office of Research & Library Services
- Located an electronic version of an article from *Governing* magazine – Secretary of Transportation
- Located an article published by the American Concrete Institute – Bridges and Structures
- Located information on gas tax increase distributions for specific counties from 1984 and 1990 – Governmental Relations Office
- Located an article on history of floating bridges from Structural Engineering International – Bridges and Structures
- Requested materials from the State Library be delivered to HQ – Environmental Services
- Located information on the Mather Memorial Parkway Design Guide Manual – Highways & Local Programs
- Found a Puget Sound Business Journal article – Communications
- Found a Vancouver Sun article – Construction
- Provided a standard on Design & Control of Concrete Mixtures – Design Office
- Provided access to building codes online – Northwest region project office
- Provided the GDHS and Traffic Engineering Manual – Urban Corridors

- Found the guide Specifications For Seismic Design Of Highway Bridges – Urban Corridors

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RESEARCH PROJECT NEWS

Three new research project agreements and three modifications

- GCA5175 was transmitted for signature to US Fish and Wildlife Service. This \$160,000 project will provide for surveys of juvenile Salmonid and Salmonid predators for the SR520 Lake Washington Bridge replacement project. Roger Tabor will be the Principal Investigator and it expected that the project will be completed by December 31, 2007.
- GCA5179 was transmitted for signature to Washington Department of Fish and Wildlife. This agreement provides \$4,000 to be provided by WDFW to share in the cost of providing a seminar entitled “Eelgrass Workshop”.
- GCA5191 was transmitted for signature to the University of Maine for a \$100,000 project to develop a three dimensional model for the analysis of flexible pavement structures. The Principal Investigator is Dr. William Davids and the work is expected to be completed in June, 2009
- A two month time extension was granted to GCA4417 – Two Lane Rural Road Safety. The time extension will allow for additional before-after evaluation. This project is led by Dr. Ida Van Schalkwyk at Arizona State University.
- A two month time extension was granted to T4118 07 – Student Studies at the University of Washington. The wrong end date had been used in the original task order. Mark Hallenbeck is the administrator of the program for UW.
- Task Order T1242 30 Rapid Pavement Construction Case Studies was granted a two month time extension to allow for further review and comment on the final report. Steve Muench, UW, is the Principal Investigator.

Pooled Fund Project News

An update of the projects being closed by FHWA has increased the amount to be returned to WSDOT to approximately \$4,000.

ORLS has contributed \$10,000 to TPF-5(158) FHWA Traffic Noise Model on behalf of the Environmental Services Office.

One New Research Report Published

WA-RD 636.1 In–[Service Evaluation of Major Urban Arterials with Landscaped Medians-Conditions as of 2004](#), University of Washington, February 2007, Anna St. Martin, John Milton, Mark Hallenbeck, and Jennifer Nee.

Three Research Reports Requested

The following research reports were requested from ORLS. Other reports are downloaded from the website or requested through the WSDOT Library or through other libraries that have added our reports to their collection.

Requested by private consultants and vendors

WA-RD 253.2 [Ferry Landing Design Phase 1](#), University of Washington, October 1993, Charles T. Jahren and Ralph Jones.

WA-RD 267.2 [Ferry Landing Design Criteria II: Vessel Characteristics and How They Influence Ferry Land Design](#), University of Washington, October 1993, Barbara Adele Scarpelli, and Charles T. Jahren.

WA-RD 324.1 [Foundation – Soil Interaction Analysis of Bridges – Volumes I and II](#) Dames & Moore, April 1993, Inca Engineers.

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MULTIMODAL TRANSPORTATION RAC

Freight Data Framework Research Project

The goal of this project is to develop a framework for the state of Washington that will aid in developing freight policy plan for freight system needs and support freight project delivery and performance evaluation. Two separate half-day meetings were held on March 5 in Seattle and March 12 in Spokane. Freight data users and producers were in attendance. Attendees were briefed on the purpose of the project and a matrix of existing data sources was developed. Discussion addressed freight data uses/needs for policy, program planning and project analysis purposes. Gaps that exist in the availability and quality of freight information were then identified and potential solutions suggested. The project is scheduled for completion by June 30, 2007.

Managing Pedestrian Safety I: Injury Severity Draft in Review

The Final Draft of the research project, Managing Pedestrian Safety I: Injury Severity, by Anne Vernez Moudon and doctoral students at the University of Washington was completed and in review by WSDOT staff and selected peer researchers. The research study concentrated on the severity of injuries and fatalities related to pedestrian travel on State Routes in King County, Washington. A thorough review of the literature on pedestrian safety and injury severity preceded the analytical work. The Final Report will be completed on March 31, 2007.

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PROJECT DELIVERY RAC

Improving Predictions for Camber in Precast, Prestressed Concrete Bridge Girders

The draft report was received from the University of Washington (Professors Stanton and Eberhard) earlier this month and sent onto the Bridge Office for review. The final report will be available within the next month.

Constructability Software Traffic Modeling Workshop (SPR-3(098))

The FHWA sponsored a traffic modeling and construction simulation workshop to discuss/exchange ideas to improve the knowledge on the state of the art and to better inform States and the FHWA on a series of tools and options to manage congestion impacts related to construction projects. This workshop will be held in Sacramento, CA on March 20th and 21st. Attendees from WSDOT included Phil Fordyce, Shuming Yan,

Janice Hamil, and Brian Walsh. Overall, the meeting went very well and the meeting minutes will be posted on the web.

Subsurface Drainage Technical Advisory Committee Meeting (TPF-5(151))

A Technical Advisory Committee (TAC) meeting was held on March 28th in Washington. This was the first meeting of the pooled fund member states, which include: California, Maryland, Mississippi, Montana, New Hampshire, Ohio, Pennsylvania, Texas, Washington, and Wyoming. The researchers, Balasingham Muhunthan from WSU and Roger Beckie from The University of British Columbia, were present. The TAC meeting was to discuss the scope of work and where each of the states are in respect to using subsurface drainage. The researchers will modify the scope of work based on the discussion.

Tire/Pavement Noise Research Consortium (TPF-5(135))

The first Technical Advisory Committee (TAC) meeting was held in Austin, TX on March 5th and 6th. Members from the pooled fund states, FHWA, and Volpe were in attendance. The member states include: FHWA, Kansas, Minnesota, Montana, North Carolina, Ohio, Texas, and Washington. Linda Pierce and Mia Waters attended from WSDOT. Discussions revolved around what each of the states are currently doing, what is planned in the near future, and how to work together so as not to duplicate efforts.

Region Materials Engineers Annual Meeting

Kim Willoughby attended the Region Materials Engineers meeting on March 26th and 27th. Topics covered included research in materials and pavements and the Materials Laboratory's strategic directions for 2007-2009.

Materials Laboratory Technote Now Available

The Materials section produced a technote on the student study that was funded by the Research Office and performed this past summer. The research was conducted on the Internal Angle of the Superpave Gyratory Compactor to determine if the precision of materials properties could be reduced. The results will be shared with the Washington Asphalt Pavement Association and further steps discussed in the near future. The technote can be found at the following website:

<http://www.wsdot.wa.gov/biz/mats/Pavement/Technotes/AngleTechnoteFeb2007.pdf>.

FHWA-Supported Research through Washington State University

Three different research projects that are ongoing at WSU were discussed on March 8th at the Bridge Office. Dave McLean and the respective graduate students presented the progress on the first two projects listed below and Dave Pollock presented, for discussion, the future directions of the follow-on project for the third project listed below. All three projects have an end date of December 31, 2007.

- Non-Circular Column Retrofit
- Precast, Prestressed Concrete Girder Blast
- Non-Destructive Testing of Concrete Bridges Using Thermography and Ground-Penetrating Radar

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