Innovation Put into Practice

The 2004 Showcase of Innovations winner for Best Process, the Portland Metro Area Cooperative Intergovernmental Agreement (PMAT), is being implemented at various locations outside of the metro area. One example of PMAT implementation is a recent Marion County project where a city of Salem crew paved a Marion County road. Prior to paving, the tack coat was placed using an Oregon Department of Transportation (ODOT) District 3 Maintenance Section truck with a distributor trailer. A 5 cubic yard dump truck with a pull box was used in place of a 10 cubic yard truck to lay the mix in a cul-de-sac with a short radius. This prevented the truck from being driven onto the curb and sidewalk.

As can be seen in the photos, the cooperative effort between the three agencies produced a quality job.

Additional information regarding the PMAT process can be obtained by contacting Don Newell with the city of Portland. Don can be reached by email at don.m.newell@co.multnomah.or.us or by telephoning 503.988.5050 extension 29611.

Road Crashes Reduced 42% in Mendocino County, CA

Are you responsible for a large number of low volume roadway miles or for signs and markings on those roadways? Do you think safety is important or are you a public official concerned about roadway safety? If you answered yes to those questions, a program that will showcase low cost safety improvements in Mendocino County is meant for you.

Mendocino County lies on the coast of California, about one hundred miles north of San Francisco. The Mendocino County Department of Transportation (MCDOT) is responsible for just over one thousand miles of roadway and serves a population of 87,000 people inhabiting an area of 3,510 square miles. By implementing a simple, yet thoughtful program they have achieved a 42% reduction in low volume road crashes. While this figure may appear to be beyond the realm of believability to many safety professionals, let’s stretch plausibility even further by mentioning this program has been delivering this benefit for more than 10 years. The program cost is within every county’s reach, including the sparsely populated ones in eastern Oregon.
One of the purposes of the Oregon Technology Transfer (T2) Center is to provide low cost seminars and workshops to our customers. Currently, we are putting together two new classes for the Roads Scholar fall schedule, *Introduction to Survey and Grade Checking* and *Maintenance Math*. We are taking requests for Circuit Rider provided training. Schedules for both the Roads Scholar and Circuit Rider training will be posted on the T2 Center’s website.

We are also working with a number of our partners on fall workshops. In September, the T2 Center will be involved in the 11th Annual Equipment Operator Technical Training School and Skills Demo sponsored by the Oregon Association of County Engineers and Surveyors (OACES). This event will be held on September 14th - 16th at the Douglas County Fairgrounds in Roseburg. The T2 Center will also be co-sponsoring two events with the American Public Works Association (APWA). Those are *Fall Street Maintenance and Collection Systems School* on October 6 - 8 at Eagle Crest, and *Safety in Public Works* on November 17-19 at Newport. Detailed information for these schools can be obtained from the contacts listed on this page or by contacting the T2 Center.

You are invited to experience the entire MCDOT process start to finish at the Mendocino County Road System Traffic Safety Review (RSTSR) Showcase on September 28-29, 2004. At this Showcase, MCDOT staff will share every detail including all the start-up, roadway selection, field review, and deficiency correction processes, as well as their subsequent treatment evaluation, treatment selection methodology and cost-benefit measurement process details.

An integral part of this Showcase experience will be guided visits to previously improved field sites. Each field site will be clearly defined showing the previous condition factors and the corrective measure implemented. Participants, as a group, will review and evaluate prior conditions and the applied corrective action. Upon returning to the Showcase auditorium, each team will share reports and their proposed corrective actions, and everyone will discuss the potential solutions.

The Showcase will be held at the Mendocino College in Ukiah, CA. The registration fee is $125 per person for the two-day Showcase. This includes lunch during the Showcase, a buffet dinner Tuesday night—perfect for renewing or establishing relationships—a complete manual containing illustrations and text of all presentations, and MCDOT sample final report tables.

To register, or for more details, please visit www.pdshowcase.org or call Chris Ritch at the Florida LTAP Center, 352-392-2371 ext. 223, email: chris@ce.ufl.edu or Daiana Mathis at the California LTAP Center, 510-231-5672 email: daianam@berkeley.edu

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*Road Crashes Reduced* (continued from Page 1)
**Pavement Preservation Resources**

Learn more about pavement preservation practices that are working nationwide by consulting the many new resources ranging from guidance checklists to CDs available from the Federal Highway Administration (FHWA).

Two new CDs produced by FHWA and the Foundation for Pavement Preservation (FP²) look at pavement preservation in action across the country. The first CD, Pavement Preservation 2: State of the Practice contains policies, guidance, and technical information from California, Delaware, Michigan, Minnesota, Montana, North Carolina, Ohio, and South Dakota. The CD provides a range of information, from guidelines for statewide preservation programs to examples of innovative funding approaches. Also included are “how-to” technical manuals and details on training courses, videos, fact sheets, and other useful resources.

National Pavement Preservation Forum II: Investing in the Future (Publication No. FHWA-IF-903-019), includes papers and presentations from the 2001 Forum hosted by the California Department of Transportation and FP² in San Diego, California. The CD introduces new pavement preservation products and techniques, and the topics of establishing partnerships, integrating pavement preservation into pavement management systems, and performing education and outreach.

For step-by-step guidance on the use of innovative pavement preventive maintenance processes, turn to FHWA's and FP²'s series of pavement preservation checklists. Topics in the series to date are:

- **Crack Seal Applications**  
  (Publication No. FHWA-IF-02-005)
- **Chip Seal Application**  
  (Publication No. FHWA-IF-02-046)
- **Thin Hot-Mix Asphalt Overlay**  
  (Publication No. FHWA-IF-02-049)
- **Fog Seal Application**  
  (Publication No. FHWA-IF-03-001)
- **Microsurfacing Application**  
  (Publication No. FHWA-IF-03-002)
- **Joint Sealing of Portland Cement Concrete Pavements**  
  (Publication No. FHWA-IF-03-003)

The checklists take users through such steps as project review, material checks, surface preparation, equipment inspections, weather requirements, and common problems and solutions.

To obtain copies of the CDs or checklists contact Steve Mueller in FHWA's office of Asset Management, 202.366.1557 (email: steve.mueller@fhwa.dot.gov), or the National Center for Pavement Preservation at 517.432.8330 (email: hahnp@egr.msu.edu).

FHWA: www.fhwa.dot.gov/preservation  
Foundation for Pavement Preservation: www.fp2.org  
National Center for Pavement Preservation: www.pavementpreservation.org

**Mileage Fee Development**

The Road User Fee Task Force (RUFTF) was established through HB 3946, passed by the 2001 Oregon Legislative Assembly.

**Mission:** To develop a revenue collection design funded through user pay methods, acceptable and visible to the public, that ensures a flow of revenue sufficient to annually maintain, preserve and improve Oregon's state, county, and city highway and road system.

Members of the RUFTF saw the results of their 30-month expedition to develop an alternative revenue source to the fuel tax on gasoline. On 14 May 2004, the RUFTF members toured the wireless technology that is the backbone of the preferred alternative — the mileage fee. The demonstration took place on the Oregon State University campus in Corvallis where ODOT consulting researchers have labored for more than 14 months to develop the supporting technology. Researchers proved to RUFTF members that a mileage fee collected wirelessly at service stations is feasible. In early April, OSU researchers had completed the functional test of the wireless technology required to determine and collect a mileage fee, and successfully demonstrated this technology before the ODOT Mileage Fee Steering Committee. The wireless technology demonstrated will be further modified this year for retrofitting into 250 vehicles of volunteer participants during a pilot project starting in middle to late 2005. ODOT expects to run the pilot project in the City of Eugene over a year long period.

ODOT has determined that a mileage fee is feasible from financial and administrative perspectives. With the technology component coming into line, the feasibility of the mileage fee as a replacement to the gas tax is apparent.

Jim Whitty administers the Road User Fee Task Force process and can be reached by telephone at (503) 986-4284 (office), (503) 881-7552 (cell) or by email at jim_whitty@odot.state.or.us.
WHAT’S HAPPENING

on the Web . . .

Check Out the Newest Research Tool Available from the National Transportation Library

Coordinated by the National Transportation Library (NTL), the Transportation Libraries Catalogue (TransCat) enables the user to simultaneously search multiple transportation library collections held in Online Computer Library Center (OCLC). The union catalogue reflects the collections of fifteen libraries, including those of the Midwest Transportation Knowledge Network (MTKN) and others with significant collections. Institutions with transportation specific libraries are welcome to participate in TransCat.

TransCat provides access to a customized union catalogue of transportation libraries’ bibliographic records. Researchers may search the collections of participating libraries in a single click, or they may limit their search to a specific group of transportation libraries; Government Transportation Libraries, University Transportation Libraries, and Midwest Transportation Libraries.

Guest access to TransCat is available at www.ntl.bts.gov.

Work Zone Traffic Control References

Numerous references are available to provide general information on work zone traffic control. Some of this information is applicable to mobile night operations as well. A few of the key references are listed below and website addresses are provided. Some of these references can be viewed or printed from the websites, and ordering information is provided for the remaining documents.

- National Work Zone Safety Information Clearinghouse – Texas A & M University, Texas Transportation Institute http://wzsafety.tamu.edu
- Federal Highway Administration – Website – Roadside Hardware – NCHRP 350 http://safety.fhwa.dot.gov/programs_hardware.htm This website can also be accessed from the FHWA Website, www.fhwa.dot.gov

Peer to Peer Program

Intelligent Transportation Systems (ITS)

The Intelligent Transportation Peer to Peer Program provides free, short term technical assistance regarding intelligent transportation systems (ITS). Experts provide their experience to help you plan, design and operate ITS systems. Most of the Program’s Peers are public sector ITS practitioners who have planned, implemented and operated ITS in urban and rural areas.

Program recipients are public sector entities, including:
- State DOTs
- Transit agencies
- State motor carrier and related agencies
- Cities, counties and MPOs

The program offers assistance in virtually all areas of ITS planning, design, deployment and operations:
- Planning and Programming
- Institutional Issues
- National Standards & Architecture
- Systems Design
- Operations and Maintenance
- Procurement/RFPs
- Financial Issues
- Resource Materials
- Education/Awareness/Training
- Partnerships
- Simulation and Modeling
- Telecommunications
- Software/Hardware

Many customers receive a mix of services delivered by phone, mail and site visit. The Peer to Peer Program sponsors travel, communications and associated costs of its services. There are no direct costs to the customer and all information is held confidential.

Access the program by calling (1.888.700.PEER).
Email: P2P@fhwa.dot.gov
http://www.its.dot.gov/peer/peer.htm
Road Maintenance from a Local Agency Perspective

By Tom Shuman, Road Engineer, Bureau of Indian Affairs (BIA)

I am responsible for constructing and maintaining roads on the east side of the Cascades. I have worked for the Department of Interior, BIA since 1992 and served as a branch Chief of Transportation stationed at Warm Springs since 1993. Prior to that time, I worked for the USFS at various forests in Oregon as a Civil Engineer, Transportation Planner, and Operations Engineer. I have been a member of National Association of County Engineers (NACE) throughout my service with the BIA. My present position is best described as a county engineer serving the scattered small (from a state wide perspective) federal Indian reservation lands east of the Cascades. This article is a result of a request to share thoughts about road maintenance from a non-state (local) agency perspective.

While I was young (under 40), road maintenance seemed to be doing the same thing year after year. The best example of a road maintenance management system I observed, was when the road crew foreman, Pete, retired and left his annual work calendar to Alley detailing work to be done and the months to schedule the tasks. For example, stockpiling cinders in the summer and properly drying the material made applying the sanding material in freezing wet winter days an efficient operation. Applying herbicides for vegetation control, crack sealing, grading gravel roads in the rainy season, and dust abatement at the proper time of the year are also “tricks” good maintenance workers know. Alley is now close to retirement and is preparing to hand down his yearly calendar to the next road crew foreman. For much of my career I have been blessed with lots of good workers with plenty of grey hair and “good field intelligence”. Asking questions and listening to older, wiser workers helped me understand road maintenance. I do appreciate all the local knowledge these valued employees passed down to me and others. Currently, most of my battles are communicating the need for proper timing of yearly activities to the purchasing and procurement folks.

I am amazed at how versatile the average road crew is in accomplishing the variety of operations they perform each year. Our current maintenance management system requires more than 70 unique maintenance activities to be accomplished on a wide variety of road types; from urban streets with curb and gutters to native surface roads in a forest environment. Few of these activities have been repeated on a yearly basis at a predictable level over the past five years.

I am now on the high-side of 50 years old and see some grey hair in my receding hairline. As I work on the “deferred maintenance” report and review the computer records for the past five years, I see that local agencies’ work varies greatly from one year to another. Adjustments to annual work plans and budgets for storm events is a routine procedure within most local agencies. It is hard to predict how much snow removal is needed each year. Setting good priorities is the most difficult part of a road maintenance management system.

My records show attempts to predict budget levels for individual activities, or road segments, is like shooting flying clay targets on a moonless night with a black hood covering your head. Yes, I feel preparing yearly maintenance plans is a difficult dangerous job. I recommend keeping the best communication possible with the person doing this work if you are anywhere close to the road maintenance organization. Respect for the person preparing the annual workplan should always be a priority of management. I have found the most predictable work item in the five years of records I am looking at is the crew’s vacation time. As each year passes, I am finding it more difficult to set aside time to do without these valuable members of my organization.

So much for my perspective, I hope these thoughts on the subject help with your daily issues. Have a good year and keep safe out there.
Video Resources

New and Noteworthy...

New acquisitions that are likely to be of special interest to our customers...

Getting Across: Aquatic Organisms and Road-Stream Crossings (two part)
2003 USDA FS 6 min
A brief introduction illustrates why and how road-stream crossings are constructed to pass aquatic organisms.

The video provides a general overview of aquatic organism passage at road-stream crossings. It is intended for people who want to broaden their understanding of the issue and its solutions.

Hazcom: KHAZ Talk Radio
2004 ©The Training Network 15 min
This video takes a fresh and entertaining approach to convey practical information that every employee should know before working with chemicals.

- identifying chemicals; reading chemical labels
- SDSs, including the 8-part ANSI MSDS
- proper storage of chemicals; emergency procedures

Who’s Driving? The Distracted Driver
2003 ©NETS 20 min
The video is designed to draw attention to one of the major causes of traffic crashes – driver inattention.

Enables viewers to identify potential distractions while driving and develop techniques and strategies to manage and minimize these distractions. Reinforces the need for employees to make driving their number one responsibility when behind the wheel.

Play it again...
Here we feature films that had a strong positive impact on the viewer. You probably remember these films, and may want to play them again.

Handling the Heat
1989 Safety Shorts 5 min
Heat stress is a common health and safety problem in many workplaces. This video explains how to recognize heat stress and offers some remedies.

Heat Can Kill
1998 Safety Shorts 5 min
Discusses symptoms of, and first aid treatment for, heat exhaustion and heat stroke. Excavation is the setting for this program.

Hearing Protection: Sounds Good To Me
1998 Coastal 14 min
A good overall look at hearing protection. Emphasis is on matching the hearing protection device to the level of noise. Individual segments of the program are introduced by the country music performer Charlie Daniels.

New CDs Available...

Maintenance of Signs and Sign Supports for Local Roads and Streets: A Guide for Street and Highway Maintenance Personnel
2002 NHI
This is a single PowerPoint® presentation that incorporates all modules of the nonlinear training program. The file allows an instructor to open the presentation and print all instructor note pages at once. This will save the time of opening each of the individual files on the root of this CD.

(continued next page)
New CDs (continued)

- This course provides a basic introduction to sign maintenance, including maintenance of sign faces and sign supports.
- Participants in the course should review the MUTCD and any state-specific publications on their own time to fully understand proper signing.

Erosion Control Handbook for Local Roads 2003 FHWA/Minnesota LRRB
This CD contains the production files for the Erosion Control Handbook and other materials required for the course entitled “Design and Maintenance Consideration for Erosion Control on Low Volume Roads.”

Interactive Highway Safety Design Model: Safer Roads through Better Design 2003 FHWA-SA-03-005
Interactive Highway Safety Design Model (IHSDM) is a suite of software analysis tools for explicit, quantitative evaluation of safety and operational effects of geometric design on two-lane rural highways. IHSDM results support decision making throughout the highway design process. Prospective users include highway designers, planners and project managers, and safety and traffic engineering reviewers in State and local highway agencies and engineering consulting firms.

Roadside Safety Analysis Program (RSAF) 2003 NCHRP Report 492
This CD contains the Roadside Safety Analysis Program (RSAF), User Manual and accompanying Engineer’s Manual. The RSAF software was developed under NCHRP 22-9 and represents one approach to using the Roadside Design Guide. The program is an improved micro-computer based cost-effectiveness analysis procedure for use in: (1) assessing alternative roadside safety treatments at both point locations and sections of roadway, and (2) developing warrants and guidelines including those which consider performance levels of safety features.

Contains resources to help traffic, emergency, and maintenance managers improve roadway operations under inclement weather conditions. The CD contains 30 case studies of systems utilized in response to various weather threats including fog, high winds, rain, snow, ice, flooding, tornadoes, hurricanes, and avalanches. The CD also includes a listing of over 200 road weather publications, and environmental sensor overview, and online resources.

Publication Library Resources . . .

A Review of Pedestrian Safety Research in the United States and Abroad 2004 FHWA-RD-03-042 Pages 150
Readers will find details of pedestrian crash characteristics, measures of pedestrian exposure and hazard, and specific roadway features and their effects on pedestrian safety. Pedestrian education and enforcement programs are also discussed.

Erosion Control Handbook for Local Roads 2003 FHWA/Minnesota LRRB Pages 118
The manual will assist counties, townships and local units of government by providing guidelines and methods of effective erosion control practices on low volume roads. Effective erosion control requires an integrated approach, which considers government statutes and regulations, a broad knowledge of temporary and permanent erosion control methods; design, construction, and maintenance considerations; and new technology. All of those elements are included in this manual. In accompaniment to the booklet, the Instructor’s Guide and Instructional Materials and Manual Production Files are available on CDs upon request.

Full Road Closure for Work Zone Operations: A Cross-Cutting Study 2004 FHWA-OP-04009 Pages 40
The report provides a summary of how departments of transportation in Oregon, and other states each used a full closure approach to conduct a road rehabilitation/reconstruction project. For each project, information provided includes a project description, why the state decided to use full closure, the benefits experienced, and lessons learned. The report also contains a brief discussion of alternative strategies. To order your office copy, email with shipping directions to workzonepubs@fhwa.dot.gov.

Roadway Safety Tools for Local Agencies 2004 TRB NCHRP 0-309-06968-8 Pages 168
Aids local government agencies as they select tools and develop programs to implement road and street safety improvements. Recognizes the wide variation in the operations and responsibilities of local agencies and acknowledges that the level of expertise in transportation safety analysis also varies greatly. Examines the tools and procedures that are practical, relatively easy to apply and can be implemented by agencies with limited financial support and personnel. Grouping safety tools as either reactive or proactive, and basic and advanced analysis approaches were considered for each group.

Sign Installation Field Guide 2003 USDAFS 0371-2812-MTDC Pages 18
An informational guide that included 18 color photographs showing the specification for placing signs along Forest Service roads. Intended to help new employees or volunteers install road signs.

Superior Materials, Advanced Test Methods and Specification in Europe 2004 FHWA-PL-04-007 Pages 136
Evaluates innovative foreign technologies and practices that could significantly benefit U.S. highway transportation systems.

Traffic Control Handbook for Mobile Operations at Night 2004 FHWA-SA-03-026 Pages 53
This report is a synthesis of current practices for performing mobile highway operations at night. The information presented in this report is based on a review of work zone manuals from a section of state and local highway agencies, discussions with highway officials, and field observations of a select number of nighttime mobile highway work zone operations. Covers: deciding when to use mobile night operations, worker safety concerns, references, and typical application diagrams.

Presents descriptive statistics about traffic crashes of all severities, from those that result in property damage to those that result in the loss of human life. Provides an overall measure of highway safety to help identify traffic safety problems, to suggest solutions and to help provide an objective basis on which to evaluate the effectiveness of motor vehicle safety standards and highway safety initiatives. Data from these reports are used to answer requests for information from the international and national highway traffic safety communities, including state and local governments, the Congress, Federal agencies, research organizations, industry, the media, and private citizens.
Oregon Roads is a quarterly publication of the Oregon Technology Transfer (T2) Center, furnishing information on transportation technology to local agencies. It is distributed free of charge to cities, counties, tribal governments, road districts, and others having transportation responsibilities. The opinions, findings or recommendations expressed in this newsletter are those of the authors and do not necessarily reflect the views of the Oregon Department of Transportation or the Federal Highway Administration. We do not endorse products or manufacturers. Where names of either appear, it is only to lend clarity or completeness to the article or report. Space limitations and other considerations prohibit us from providing an advertising service to our readership.

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Simply make a copy of this page showing the addressee information, make the corrections, and fax it to us at 503.986.2844. We’ll be happy to make the necessary changes.

Should you have any questions or concerns, contact Andrea at 503.986.2855 or by email andrea.l.bollman@odot.state.or.us.

Pass it on... After you have read this newsletter, copy what you need for your files and pass it on!

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