

Washington State Transportation Center

RESEARCH REVIEW

CD-ROM version of *Pavement Guide* makes pavement information more accessible

Late last year the Washington State Department of Transportation's well-respected *Pavement Guide*—the state's authoritative compilation of WSDOT pavement policy, processes, and computer design programs—became available as a CD-ROM. As a result, this important guide has become even more useful and popular.

According to Linda Pierce, WSDOT pavement and soils engineer, conversion of the *Pavement Guide* to CD-ROM has made the guide more accessible. She said that anyone within WSDOT who is involved in pavement design now has the CD. "The bottom line," Pierce said, "is that it's easy to use, and it helps engineers understand what they're doing with pavement design and assessment and the effects their efforts will have. With a new engineer, it's the first thing we give them so they understand what we're doing and what it's all about."

Shelf space savings

The new version also saves six inches of shelf space. The original massive guide comprised three volumes, which now fit on one CD. Volume 1 describes WSDOT pavement design policies for flexible and rigid pavements, new and rehabilitated pavements, and the

Volume 2

pavement type selection process.

Volume 2 covers an overview of pavement structures, fundamental design parameters, pavement evaluation, flexible and rigid pavement responses and related design processes, the AASHTO flexible and rigid pavement design procedures, pavement rehabilitation, life cycle cost analysis, subsurface pavement drainage, and various construction considerations.

Volume 3 discusses three pavement design programs developed for WSDOT: the pavement layer elastic analysis program EVERSTRS, the pavement layer back calculation program EVERCALC, and the empirical-mechanistic overlay design program EVERPAVE.

New for the CD-ROM

In addition to the original text, the CD-ROM incorporates over 200 photographs and illustrations. Particularly useful are a large number of new, full-color construction photos. "Visualization is no longer a problem," commented Pierce.

Another important feature of the CD-ROM version is that it includes AASHTO Guide pavement design equations that have been programmed to be interactive. These cover design, though not rehabilitation, for both asphalt and concrete.

Engineers can use the guide on-line for interactive pavement design. Pierce said that having the CD saves engineers from needing to refer to the AASHTO notebook or software (which are still necessary for pavement rehabilitation, however). (Note that while the CD discusses WSDOT's three design programs, it does not actually contain EVERSTRS, EVERCALC, or EVERPAVE.)

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—Linda Pierce

Also included on the CD is a digitized version of the 20-minute videotape *Guidelines for Spring Highway Use*. This program discusses the issues related to spring load restrictions and presents guidelines for determining where to apply load restrictions, how much to restrict loads, and how long to enforce them.

The original *Pavement Guide*, published in February 1995 through TRAC, was written in large part by Joe P. Mahoney, professor of civil engineering at the University of Washington. He also led production of the electronic version. Also crucial to the development of the CD were George Turkiyyah, UW associate professor of civil engineering, and then civil engineering student Dan Axelrod, who did much of the programming and production work.

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According to Mahoney, the original guide was intended to be a clear statement of WSDOT pavement policy, as well as a training tool for WSDOT personnel and a pavement education tool for a broader audience. WSDOT's objective was to have a compilation of state-of-the-art pavement knowledge that, until the guide was written, had not been gathered and published in one place. Placing the guide on CD-ROM and making it available over the Internet are logical extensions of those goals. "The approach taken by

WSDOT is unique, and this CD appears to be the first time in the pavements area that this has been done," he said.

Mahoney plans to use the *Pavement Guide* CD and the *Engineering Publications CD Library* as his only "textbooks" for a senior pavement design class at the UW. "It will make a massive quantity of information available to my students at a low cost and will enhance their education," he said.

As of late December WSDOT Engineering Publications had

distributed over 80 copies of the CD, not only within WSDOT but also to other agencies that have requested it within and outside of Washington, including cities and counties.

The CD-ROM is available for \$15.00 through WSDOT Engineering Publications. The text, without photos and video, is also available on the Web. Both ordering the CD and downloading the text can be accomplished through the WSDOT Engineering Publications site: <<http://www.wsdot.wa.gov/fasc/EngineeringPublications/>>

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