



**US Army Corps
of Engineers®**

Engineer Research and
Development Center

Micro PAVER

Technology

Micro PAVER is a microcomputer version of PAVER—a validated pavement maintenance management system for airports, cities, counties, and military installations, designed to optimize funds allocated for pavement maintenance and rehabilitation (M&R). Micro PAVER uses inspection data and a pavement condition index (PCI) rating from 0 (failed) to 100 (excellent) to consistently describe a pavement's condition and predict its M&R needs many years into the future. The PCI for airports became an ASTM standard in 1993. The PCI for roads and streets became an ASTM standard in 1999. The PAVER program performs multiple levels of analysis to show where to best allocate scarce M&R dollars.

Problem

Pavement engineers acknowledge that the life of well maintained pavement far exceeds that of poorly maintained pavement. Maintaining acceptable pavement condition (e.g., airport runways) can be a critical part of the military mission, and neglected pavement can cause unnecessarily high maintenance costs and backlog of major repair. An effective pavement maintenance management program is an essential part of cost-effectively managing this essential part of the transportation infrastructure.

Expected Cost To Implement

Micro PAVER is available free of charge to DOD users, and by subscription to non-DOD users through the University of Illinois Technical Assistance Center at a subscription fee of \$750, and an annual renewal fee of \$700. Micro PAVER requires a PC-compatible, Windows® (95, 98, 2000, or NT) platform. The cost of initial implementation of Micro PAVER is 7 to 10 cents per square yard (SY) depending on the size of the pavement sections with smaller sections being higher. Future re-inspections (recommended every 3 years) cost between 6 and 8 cents per SY. The annual cost of maintaining up-to-date data is therefore estimated at 2 to 3 cents per SY.

Benefits/Savings

Micro PAVER provides pavement managers with the capabilities to “get the most out of” limited M&R budgets. The Micro PAVER program:

- defines pavement inventory and calculates PCI and other distress indices
- models pavement condition deterioration
- analyzes pavement condition (past, present, and future)
- estimates budget needed to maintain pavements at a given condition level
- estimates budget needed to eliminate backlog of maintenance and repair in a specified number of years
- predicts consequence on pavement condition and backlog of maintenance and repair for a specified annual budget
- accommodates user-defined fields for customizing programs
- includes an exceptional graphics package



- allows databases to be split or merged
- includes built-in ability to check for data input errors
- has the capability to store photos and other images in database
- performs English/metric conversions without database changes
- incorporates GIS within Micro PAVER and GIS link using ArcView.

A special feature of Micro PAVER for Windows is electronic inspection—you can take your Micro PAVER database right into the field on a laptop computer—and an easy-to-use checklist that lets you enter inspection data automatically into the system.

Status Micro PAVER version 5.0 is currently available.

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Distribution Sources **Non-DOD:** American Public Works Association (APWA) and the University of Illinois Continuing Education; Phone: (800) 895-9345; e-mail: Scott.J.McDonald@erdc.usace.army.mil
PAVER Website: <http://www.conted.uiuc.edu/techctr/software/paver/paver.html>

DOD: Engineered Management Systems Center of Expertise; Phone (217) 373-4462; e-mail: paver@cecer.army.mil
PAVER Website at URL: <http://www.cecer.army.mil/paver/Distribution.htm>

Available Documentation A user guide is built into the program's help menu. Online user documentation is also available through URL: <http://www.cecer.army.mil/paver/downloads.htm>

Available Training Training is made available based on demand, through the University of Illinois Office of Continuing Education, which can be contacted via the Internet through URL:

<http://www.conted.uiuc.edu/techctr/training/training.html>

Available Support Support is available through the listed Distribution Sources.