US Army Corps of Engineers®
Engineer Research and Development Center

Product

PCASE (Pavement-Transportation Computer Assisted Structural Engineering) Program

Technology

PCASE is a software program that incorporates all criteria in the area of transportation into a user-friendly computer format for designing and evaluating transportation systems. The system allows research to be modularized into a set of scalable and reusable software components, which are then combined to create a software desktop system designed for a single computer. PCASE Windows-based computer programs include rigid and flexible airfield pavement design by conventional and layered elastic methodologies, rigid and flexible road design, as well as railroad design and evaluation.

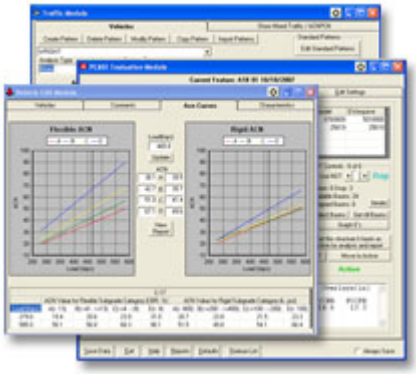
Problem

Field structural engineers must spend valuable hours collecting information from many sources to make engineering decisions based on the most up-to-date engineering findings from around the world.

Expected Cost To Implement

PCASE software is available to the public at no charge. All that is required to begin is a Microsoft Windows-based PC. Minimum and recommended enhanced system specifications are as follows:

- Processor: 1.0 GHz (minimum); 2.8 GHz (recommended)
- Video card: Standard VGA (minimum); 16 MB graphics card (recommended)
- CD-ROM: 12x speed (minimum); 40x speed (recommended)
- Monitor resolution: 1024 x 768 (minimum/recommended)
- Memory: 1 GB (minimum); 2 GB (recommended)
- Sound card: Any
- Microsoft Office: 2000 (minimum); 2000 or higher (recommended)
- Monitor size: 17 in. (minimum); 21 in. or larger (recommended)



PCASE
Pavement-Transportation Computer Assisted Structural Engineering

Benefits/Savings

By incorporating recent enhancements in information technology (Internet, personal computers, etc.), PCASE allows technology transfer at far less cost and with wider distribution than available in the past. The PCASE team at the ERDC Geotechnical and Structures Laboratory developed the system to allow research to be modularized into a set of scalable and reusable software components. These components are then combined to create a soft-ware desktop system designed for a single computer.

As a Tri-Service Army/Navy/Air Force effort, the software is useful to all branches of the military services and to private sector engineering firms worldwide. Once PCASE pro-grams are approved by the PCASE committee, notification is made via the PCASE e-mail users list. To join the PCASE users list, or to download the latest versions of all PCASE programs, individuals can access the project's Web site.

Status

The current version of PCASE (version 2.09) has multiple enhancements, including the addition of layered elastic technology, as well as a new vehicle editor that allows the user to "build" his own vehicle for use in his pavement design or evaluation. Also, with the Multiple Design Builder, the user may create a set of designs based on input criteria. This provides the capability to create and compare multiple designs quickly. The View Alternatives Function has been expanded to include relative cost comparisons of designs.

ERDC POC(s)

John T. Lott, Jr., CEERD-GM-A; phone (601) 634-2965; Geotechnical and Structures Laboratory, Vicksburg, MS

Distribution Sources

Registering for a PCASE account allows a user to download the latest version of the PCASE Desktop and other software tools provided through the PCASE program; register for PCASE workshops; explore the computer-based training modules hosted by PCASE; and manage subscriptions to various PCASE email and notification lists.

To register for a PCASE account, complete and submit the registration form available on the PCASE Web site or contact John Lott, phone (601) 634-2965.

Available Documentation

The PCASE User Manual is available for downloading from the PCASE Web site.

Available Training

Workshops are available for PCASE training in your area. To see a list of PCASE workshops, visit the PCASE workshops page. Also, computer-based training is available through the PCASE CBT training link.

Available Support

The PCASE software support center can be contacted directly by email. Inquiries related to engineering or to PCASE workshops can be directed to PCASE information.