



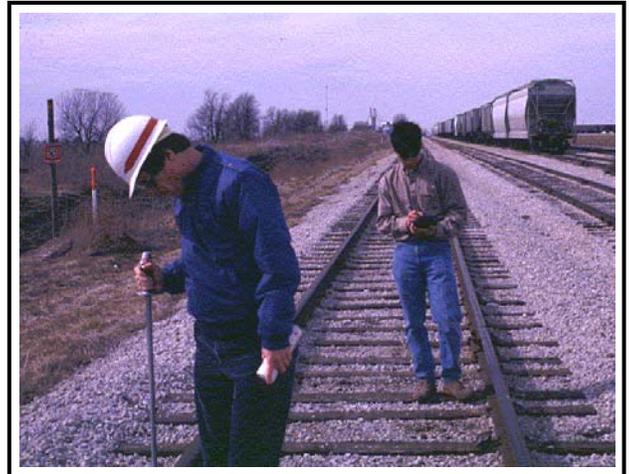
US Army Corps
of Engineers®

Engineer Research and
Development Center

RAILER® Remote Entry Database (RAILER RED)

Technology

RAILER® Remote Entry Database (RAILER RED) is commercial off-the-shelf pen-based “electronic clipboard” technology that has been configured for the specific application of railroad track inspection. The Construction Engineering Research Laboratory (CERL) developed this Windows® based software application for a wide variety of clipboard hardware. RAILER® RED, automatically digitizes track inspection data and readies it for electronic transfer into RAILER® databases. The application includes data-checking features to reduce recording errors. RAILER RED can be used to collect both track inventory and inspection information.



Problem

Military installations are required to make frequent railroad track inspections by [Army Regulation 420-72](#), which references the requirements of the Army Track Standards ([Technical Manual 5-628](#)). Inspections may occur as often as monthly, depending on the track usage rate. Inspection results serve the dual function of identifying maintenance and repair (M&R) needs and locating any safety defects that require speed restrictions until corrected. The inspection process itself is labor-intensive and costly. With downsized and overburdened Directorate of Public Works staffs, much of this inspection cannot be completed on time. This increases the risk of track failure or rapid deterioration, resulting in reduced mission capability, greater injury potential, and higher maintenance and repair (M&R) costs.

CERL developed the RAILER® Engineered Management System to help track maintenance planners perform a variety of tasks such as evaluating track condition against track standards; assessing track condition through the use of condition indexes; estimating M&R costs for planning purposes; and setting priorities for M&R projects. RAILER® facilitates these tasks to help the user more effectively create M&R strategies and work plans. To provide these capabilities RAILER® requires the input of inventory and track inspection data. To reduce man-hour requirements and completion time, data collection and transcription can be automated. Faster, lower-cost inspections would improve inspection efficiency and regulatory compliance. RAILER® users would be able to quickly and accurately download inventory and inspection results directly from field inspection forms into the RAILER® database for rapid analysis.

Expected Cost To Implement

RAILER® is sold through the University of Illinois Technical Assistance Center on an annual subscription basis. The initial subscription for RAILER® is \$650. Renewals are \$600. Note that the software requires an electronic clipboard with Windows® 98, Windows NT®, or Windows® 2000, which may range in price from about \$2500 to \$3500 depending on brand, processor, and features.

Benefits/Savings

RAILER RED improves the inventory and inspection data collection process through ease of use, logical organization, less reliance on longhand writing, and automatic error checking. Also, electronic data transfer from RAILER RED to a RAILER[®] database eliminates hours of work previously required for manual data entry, and it also reduces or eliminates transcription errors. Previously, it took almost as much time to transcribe the data as to collect it. Inspection teams of two using RAILER RED, a vehicle, and two-way radios have been shown to be more productive than two independent contractors doing the same task manually. A three-person crew with RAILER RED, a vehicle, and radios fares even better, with inspection productivity improvements ranging from 20–100%, depending on condition and track layout, over three individual inspectors using manual methods. (Field tests indicate that RAILER RED will not improve the inspection productivity of an individual inspector working alone.)

ERDC POC

Michael N. Grussing, Civil Engineer, CERL, PO Box 9005, Champaign, IL, 61826-9005.
Phone: (217) 373-5307, Fax: (217) 737-7222, e-mail:

Michael.N.Grussing@usace.army.mil

Status

RAILER RED Version 4.0 is now available through the RAILER Technical Support Center for use with RAILER[®] Version 5.3 and later versions. The RAILER Technical Assistance Center POC is Scott McDonald, 217-373-4536, Department of Continuing Education, University of Illinois, 302 E. John St., Suite 202, Champaign, IL 61820.

Distribution Source

Users can download the RAILER program and updates (including RAILER RED) from the Technical Assistance Center, Suite 202, University Centre, 302 E. John St., Champaign, IL 61820 - Phone: (217) 333-5414, from URL:

<http://www.tac.uiuc.edu/software/railer/railer.html>

Available Training

Classroom training is available for this product through the RAILER Technical Assistance Center.

Available Support

Support is provided as part of the RAILER[®] subscription, through the RAILER[®] Technical Assistance Center Suite 202 University Centre, 302 E. John St., Champaign, IL 61820; Phone: 217-333-5414, or through URL:

<http://www.tac.uiuc.edu/software/railer/railer.html>