

HR-364 Automated Recording of Bridge Inspection Data in the Pontis Format

Key Words; Bridge Inspection, Pontis Format, Bridge Management System

ABSTRACT

A large percentage of bridges in the state of Iowa are classified as structurally or functionally deficient. These bridges annually compete for a share of Iowa's limited transportation budget. To avoid an increase in the number of deficient bridges, the state of Iowa decided to implement a comprehensive Bridge Management System (BMS) and selected the Pontis BMS software as a bridge management tool. This program will be used to provide a selection of maintenance, repair, and replacement strategies for the bridge networks to achieve an efficient and possibly optimal allocation of resources. The Pontis BMS software uses a new rating system to evaluate extensive and detailed inspection data gathered for all bridge elements. To manually collect these data would be a highly time-consuming job. The objective of this work was to develop an automated-computerized methodology for an integrated database that includes the rating conditions as defined in the Pontis program.

Several of the available techniques that can be used to capture inspection data were reviewed, and the most suitable method was selected. To accomplish the objectives of this work, two user-friendly programs were developed. One program is used in the field to collect inspection data following a step-by-step procedure without the need to refer to the Pontis user's manuals. The other program is used in the office to read the inspection data and prepare input files for the Pontis BMS software. These two programs require users to have very limited knowledge of computers. On-line help screens as, well as options for preparing, viewing, and printing inspection reports are also available.

The developed data collection software will improve and expedite the process of conducting bridge inspections and preparing the required input files for the Pontis program. In addition, it will eliminate the need for large storage areas and will simplify retrieval of inspection data. Furthermore, the approach developed herein will facilitate transferring these captured data electronically between offices within the Iowa DOT and across the state.