Development of a User-Friendly Software Application for Extracting Information from National Bridge Inventory Source Files

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ABSTRACT

The Nation is facing enormous repair, maintenance and replacement costs for its aging bridge infrastructure, and this issue is of concern to a broad cross section of public and private interests. A simple-to-use bridge information system is needed by technical and non-technical users who would like to review detailed information on the condition of the Nation’s public bridges without the need for access-restricted and cost-prohibitive proprietary software.

The annual National Bridge Inventory (NBI) text files collected from the States over consecutive years and maintained by the Federal Highway Administration (FHWA) constitute a wealth of information on approximately 600,000 public bridges throughout the United States, including information on condition and load ratings, geometry, sufficiency, age, location, functional classification, average daily traffic, improvement costs, inspection frequency, material and design types, historical significance, structural deficiency and functional obsolescence. This information is of potential significance to a wide variety of end users, including bridge design and maintenance personnel, Departments of Transportation (DOT) executive management, cultural and environmental specialists, economic forecasting and financial personnel, media, commercial interests and public information officers.

As a supplement to a proprietary BMS, the New Mexico Department of Transportation developed an independent bridge information software application to process NBI source files and to produce commonly requested formatted reports on various categories of bridges including structural deficiency, age, improvement costs, historical significance, and several others. Because the NBI text files are processed into a common database format, custom reports may be easily generated using simple query tools.