Research Project

97-6GT

Capsule

Technology Transfer Program

LTRC

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Development of Database for Louisiana Highway Bridge Scour Data

Starting date: 1/1/97

Duration: 24 months

Completion date: 12/31/98

Funding: state

Principal Investigator:
Menglou Wang, Ph.D.
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LTRC Contacts:
Administrative:
Harold "Skip" Paul
Assoc. Director, Research
(504)767-9102

Technical:
Mark Morvant
Research Manager
(504)767-9124

Problem

The DOTD Hydraulics Section has requested support to develop a ready-to-use computer software system using modern database technology to assist in scour data management.

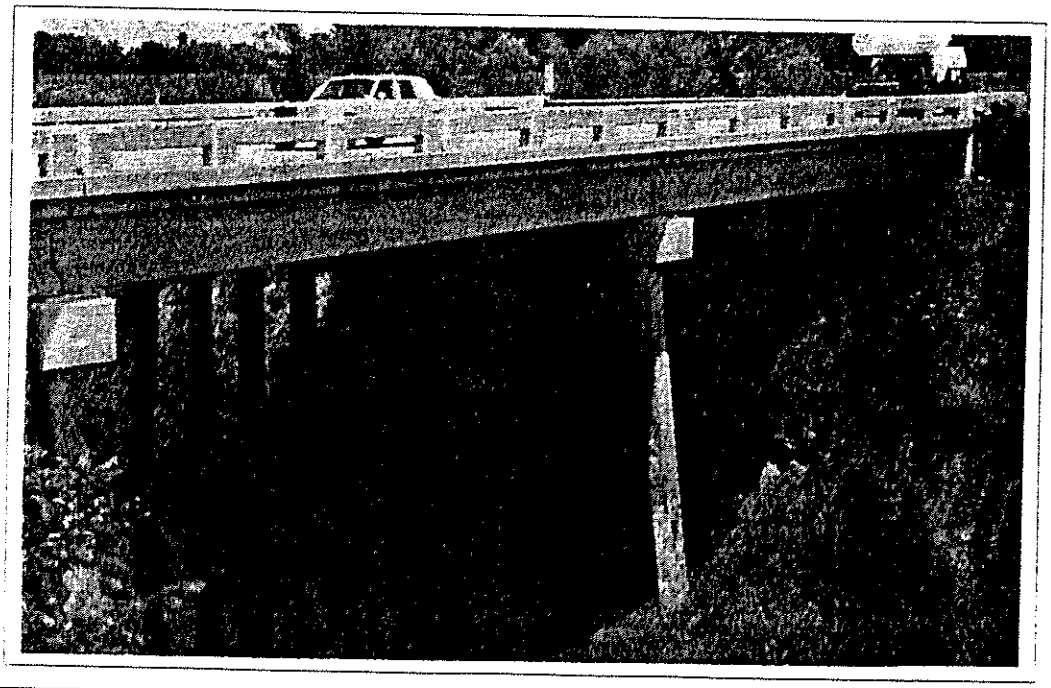
Data on scour at highway bridges in Louisiana has been collected by the DOTD Location and Survey Section and monitored by the Hydraulics Section and the district offices since the 1970s.

There is a tremendous amount of data resulting from the approximately 120 bridge sites that have been monitored one or more times a year. A manual analysis of this volume of data would be extremely time consuming.

DOTD has an existing bridge management system, developed by the Federal Highway Administration (FHWA), that does not include scour data. Therefore, the DOTD scour data are still in the format of traditional paper files.

Objectives

The objective of this project is to develop a database for the input of scour data from



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Louisiana Transportation Research Center

Sponsored jointly by the Louisiana Department of Transportation and Development and Louisiana State University

4101 Gourrier Avenue
Baton Rouge, LA 70808-4443

DOTD files that would allow for data retrieval, visualization, and update.

Description

The proposed project will include a literary review and survey of published information, internet sources, public libraries, and DOTD files. The researcher will consult with USGS and DOTD officials to make the proposed scour database compatible with the national scour database and the DOTD bridge management database.

The database software to be developed will have the capabilities of data retrieval, data visualization, update, addition, and deletion. All the operations will be menu driven and will not require specialized training.

Ultimately, all existing scour data will be input into the database. Most data will be from the scour data files at the DOTD Hydraulics Section, though some will be taken from DOTD bridge inventory.

Implementation Potential

The scour database will directly assist DOTD hydraulics and bridge maintenance engineers to retrieve and manipulate the data. Based on historical scour values, the software will help to identify scour critical bridges.