Research Project

98-20SS

Capsule

Technology Transfer Program

LTRC

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Louisiana DOTD Maintenance Budget Allocation System

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Duration: 9 months

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LTRC

Louisiana Transportation Research Center

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

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Problem

Currently, the Louisiana Department of Transportation and Development (DOTD) lacks a functional computer model for allocating annual maintenance funds to the districts based on need rather than history.

This void could be filled with the introduction of a functional computer model into the DOTD system that would both allocate limited maintenance funds in the most effective way possible and provide DOTD with the means to justify allocation decisions to the state legislature and Louisiana's citizens.

Objectives

The purpose of this project is to develop a formula driven model which will effectively distribute routine maintenance funds to individual districts based on need and management's service and performance objectives, thereby helping DOTD to move from the historical expenditure basis of budgeting to a zero-based budgeting approach where allocation will be justified according to quantifiable and rational requirements.

The proposed research will determine the most effective and efficient means of allocating funds for the maintenance of the state's transportation infrastructure.

Description

The focus of this work will be on the development of a computer model for allocating funds to routine maintenance activities.

This will include all routine maintenance functions performed in the areas of pavement, roadside, bridges, traffic operations and assistance to traffic, and ferries, but will specifically exclude consideration of funding for larger reconstruction and major overhaul work on these structures. Supplies and contract maintenance costs relating to routine maintenance will be included in the model.

A research work plan has been developed which summarizes the project tasks to be completed:

1. Establish management objectives
2. Identify contributing factors
3. Model cost/performance relationships
4. Develop allocation model
5. Code and verify the model
6. Demonstrate and validate the model.

Implementation Potential

With limited resources available, it is essential that funds be spent in the most efficient manner possible. The results of this research will not only increase efficiency of expenditures, but will also provide state officials with a system where expenditures can be documented and justified to the public.

The research project will produce a working PC-based program which implements the model. The investigators will assist DOTD in the initial installation and also provide training on its operations and theory through LTRC.