



DEVELOPING COST EFFECTIVE PLANS FOR LOW VOLUME BRIDGES

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R E S E A R C H

Introduction

There is currently an escalating concern across the state of Kansas with respect to the age and condition of low volume bridges and methods available to modify or replace them. A high percentage of low volume bridges in the state of Kansas require or will soon require replacement. Local governments are incapable of funding the sheer number of the required bridge replacements or rehabilitations. These low volume bridges are classified in the same fashion as bridges on major state routes; however, the funding for local projects is much different than the funding for state projects. The local governments, cities and counties, are experiencing troubles raising the funds to pay for the design and construction of new bridges. State projects are roughly paid through an 80/20 split between federal and state funds. Federal funding for local projects must be blanketed over a much larger number of feasible projects, and the local governments are responsible for more than twenty percent of the total project cost. For the smaller counties in the state, annual revenue is extremely limited. As a result, fewer projects can be funded.

Project Objective

To aid in the solution, this report is intended to inform Local Public Authority decision-makers of the process required in developing bridge plans and constructing bridges and culverts.

Project Description

A description of the bridge design process, including both substructure and superstructure selection has been provided. In addition, other elements of the design process, namely geology, surveying, and hydraulics are discussed. Design standard drawings available from KDOT are referenced.

Project Results

Developing safe, adequate and cost-effective plans for low volume bridges requires a multi-disciplinary approach, including but not limited to the disciplines of surveying, hydraulics, structures, economics, environmental and geotechnical. The Kansas State Board of Technical Professions requires licensed professionals for bridge design and plan development. Use of KDOT standard drawings, or any other standard details, does not eliminate the need for a professional engineer to review and check the design plans for each specific bridge structure. The design professionals involved in plans development will meet the goals of providing safe, adequate and cost-effective structures.

Report Information

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