

## **I. RESEARCH PROJECT TITLE**

Economic Impacts of the Kansas Comprehensive Transportation Program (CTP)  
Highway Construction and Maintenance Activities.

## **II. GENERAL PROBLEM STATEMENT**

The K-TRAN funded study titled, “Economic Impacts of the Kansas Comprehensive Highway Program,” measured output, income, and employment impacts of the CHP. As a result of expenditure of \$2.86 billion on highway construction and maintenance the economic impacts were \$7.4 billion in output, \$1.4 billion in income, and 117,820 jobs.

The economic impact multipliers for the CHP study were based on highway construction data collected between 1989 and 1997. Thus the data on which the multipliers are based is 10 to 20 years old. The multipliers undoubtedly have changed as has the composition of expenditure by highway type. Both of these factors significantly influence the economic impacts. Since the Comprehensive Transportation Program (CTP) is in its final stages, it is useful to measure the impacts of the program to provide the legislature with the information needed to reauthorize the next 10 year transportation program.

In the process of analyzing funding issues and developing budgets for the state highway program, the Kansas House and Senate Transportation Committees often request the economic impact of highway expenditures. This research will enable KDOT to provide useful information to the Kansas legislature with regard to the economic benefits of highway construction projects for the Kansas economy, and in the process economically justify the state highway program. The economic impact multipliers of this research inform Kansas highway policy makers that the benefits of the state highway program greatly exceed the cost.

Kansas has received \$348 million for highway construction projects as a result of the Federal government economic stimulus plan. As a condition of receiving the funds the state must estimate the direct and indirect economic impacts of the road construction and maintenance projects. This research will enable the state to provide the federal government with this information.

## **III. BACKGROUND**

The research is expected to use the same methodology as that of the CHP study. That is, expenditures for preliminary engineering, utility adjustments, right-of-way acquisition, and construction engineering are deducted from the total 10 year CTP expenditures for highway projects. After deducting as let costs for construction costs of jurisdictions off the state highway system, the remaining funds were spent on K jurisdiction projects. These are typically those projects on the state highway system outside of cities except for interstate highways, which are classified as K jurisdiction projects regardless of location. This study measures the economic impact of the part of the CTP devoted to K jurisdiction maintenance and construction projects.

It is also anticipated that this research will utilize the same types of highway improvements analyzed in the CHP study and include the following:

Resurfacing

Restoration and Rehabilitation; Reconstruction and Minor Widening

New Bridges and Bridge Replacement

Major and Minor Bridge Rehabilitation

New Construction; Relocation; Major Widening

Safety/Traffic Operations/Traffic Systems Management; Environmentally Related; Physical Maintenance; Traffic Services

These categories are combinations of Federal Highway Administration highway improvement categories.

As a result of this research, KDOT will be able to provide the Kansas legislature with accurate, detailed estimates of the economic impact of the highway construction and maintenance expenditures of the CTP producing a corresponding increase in the credibility of KDOT in the eyes of the legislature.

#### **IV. BENEFITS**

As stated above this research will enable KDOT to provide useful information to the Kansas legislature with regard to the economic benefits of highway construction and maintenance projects for the Kansas economy. In addition, this research project will provide KDOT with the direct and indirect economic benefits of road construction projects financed by the Federal government economic stimulus program.

Given the constant fiscal pressure on the Kansas legislature there have been times when the KDOT highway program was cut to avoid a state budget deficit. The information provided by this research will enable KDOT to provide the legislature with estimates of the cost of cutting the highway program in terms of lost output, income, and employment.

#### **V. WORK PLAN AND SCHEDULE**

The work plan will accomplish the following objectives. Objective A – Measure the direct output, income, and employment impacts by highway improvement type of the Kansas Comprehensive Transportation Program (CTP). Objective B – Measure the indirect and induced output, income, and employment impacts of the Kansas Comprehensive Transportation Program by highway improvement type.

The objectives will be achieved through the use of an input-output model for the state of Kansas. The input-output data for the six highway improvement types will be integrated into the Kansas input-output model, which is then solved for the direct, indirect, and induced multipliers of each highway improvement type. The multipliers are utilized to obtain the economic impact of the CTP.

The accomplishment of the objectives is expected to require the successful completion of the following tasks.

- Task 1. Meet with the project monitor to finalize the proposal.
- Task 2. Obtain current U.S. mail addresses, email addresses, and phone numbers of highway contractors who received Kansas CTP highway construction and maintenance contracts. It won't be possible to do this for the entire 10 year CTP, so a sample from the five most recent years will be obtained from KDOT. This sample data will be expanded to reflect the entire 10 year CTP.
- Task 3. Obtain from KDOT a list of all CTP contracts awarded during the five most recent years of the CTP. This list would classify the contracts by number, highway improvement type, contractor ID number, and amount of the contract.
- Task 4. Survey the highway contractors that obtained large CTP contracts. Contractors will be asked to provide information pertaining to their purchases of construction inputs, wages and salaries, taxes, and amounts paid to subcontractors.
- Task 5. Obtain from KDOT the total contract value for each of the six highway improvement types both for the five most recent years and for the entire 10 year CTP.
- Task 6. Solve the Kansas input-output model for the output, income, and employment multipliers for each highway improvement type.
- Task 7. Calculate the output, income, and employment impacts of the CTP.
- Task 8. Write the final report.

## **VI. PROPOSED BUDGET**

The sources of funds are \$40,000 from the Kansas Department of Transportation (K-TRAN).

## **VII. STAFF AND FACILITIES AVAILABLE**

Michael W. Babcock, Professor of Economics will be the Principal Investigator and Dean Landman, Faculty Emeritus, Civil Engineering is Co-Investigator. Dr. Babcock has been

the Principal Investigator on 17 previous KDOT research projects. John Leatherman, Professor of Agricultural Economics will provide input-output model technical support. The research team has access to all computer and library facilities necessary to complete project. A graduate student in Economics will assist Professor Babcock.

#### **VIII. REPORTS AND DELIVERABLES**

It is expected that the investigators will work closely with KDOT personnel throughout the research project. The deliverables are the principal data outputs of the research which are:

1. Output, income, and employment multipliers for each of the six highway improvement types.
2. The output, income and employment impact of the CTP for each of the six highway improvement types.

A draft of the final report will be prepared for review by the KDOT monitor about a month before the end date of the project. After review by the KDOT monitor, corrections and revisions will be made if needed. A power point presentation will be prepared for use by KDOT staff. The research team will meet quarterly with the KDOT monitor to discuss any problems and assess research progress.

#### **IX. RECOMMENDED IMPLEMENTATION PLAN**

The research results should be distributed to all the major stakeholders including KDOT, key legislative leaders, and the Kansas Contractors Association. The results will be distributed via a formal report, media reports, and presentations by the project investigators to stakeholder groups.