



RESEARCH PROJECT CAPSULE [21-4SS]

September 2020

TECHNOLOGY TRANSFER PROGRAM

Develop and Evaluate Performance Measures for Intelligent Transportation Systems (ITS) in Louisiana

JUST THE FACTS:

Start Date:

August 1, 2020

Duration:

24 months

End Date:

July 31, 2022

Funding:

80/20 SPR

Principal Investigator:

Julius Codjoe, Ph.D., P.E.

Research Associate

Louisiana Transportation Research Center

Administrative Contact:

Tyson Rupnow, Ph.D., P.E.

Associate Director, Research

225-767-9124

Technical Contact:

Tyson Rupnow, Ph.D., P.E.

Associate Director, Research

Louisiana Transportation Research Center

225-767-9124

Louisiana Transportation
Research Center
4101 Gourrier Ave
Baton Rouge, LA 70808

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

POINTS OF INTEREST:

Problem Addressed / Objective of
Research / Methodology Used /
Implementation Potential

WWW.LTRC.LSU.EDU

PROBLEM

The Intelligent Transportation Systems (ITS) Joint Program Office (JPO) describes ITS as a set of tools that facilitates a connected, integrated, and automated transportation system that is information-intensive to better serve the interests of users and be responsive to the needs of travelers and system operators. The deployment of ITS programs impact transportation system performance in six key goal areas: safety, mobility, efficiency, productivity, energy/environment, and customer satisfaction. The results of this study can evaluate the impacts of ITS on Louisiana's transportation system and reveal the return on investment for tax dollars. This study will also reveal where gaps in data collection for performance measures exists, and thus identify more effective applications in the future.

OBJECTIVE

The primary objective of this project is to develop a set of performance measures for each existing ITS application in Louisiana and then collect data and evaluate and quantify the benefits achieved through their implementation across transportation planning, traffic operation, safety, environmental quality and sustainability and any other areas that can be evaluated.

METHODOLOGY

To achieve the objectives of the study, the following tasks will be completed. A literature search will be conducted on the current performance measures that other entities are using to evaluate their ITS applications. Based on this search, the research team will design a qualitative survey to obtain information on how well existing ITS performance measures have been assimilated into the programs of respective agencies and whether they are deemed beneficial to the agency's operations and taxpayers alike. Following the review of responses from the survey, the team will analyze the data and develop an initial list of performance measures for each existing DOTD ITS application as well as proposed/future DOTD ITS applications, where possible. The research team will then invite stakeholders to a short workshop to seek their input and support of the performance measures to be adopted for DOTD. Following the workshop, the team will organize and analyze what was learned or confirmed during the workshop and use the findings to develop a final list of agreed performance measures for each identified DOTD ITS application. The research team will initially conduct an analysis to determine availability of data for each of the agreed ITS performance measures and will then undertake a quantitative analysis of the data collected to demonstrate the benefits of the respective ITS applications. Last, a final report and technical summary will be prepared.

IMPLEMENTATION POTENTIAL

Potentially, the results obtained from this study can lead to better assessments of the performance of DOTD's ITS applications on the field. The gap analysis will help DOTD recognize its shortfalls and provide the necessary information for policy makers to address any needs. The study will also document a process to follow to make currently available data accessible for reporting. This will be very useful for agency personnel that will undertake future performance measure evaluations. Ultimately, the study results will provide the foundation for the generation of a reporting tool that will be used to generate reports to help show status and trends of the benefits of ITS for the state of Louisiana.