



# RESEARCH PROJECT CAPSULE [14-2PF]

February 2014

TECHNOLOGY TRANSFER PROGRAM

## STC Synthesis of Real-time Driver Information for Congestion Management

### JUST THE FACTS:

**Start Date:**

December 1, 2013

**Duration:**

12 months

**End Date:**

November 30, 2014

**Funding:**

SPR: Pooled Fund: TT-Fed

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### POINTS OF INTEREST:

Problem Addressed / Objective of  
Research / Methodology Used  
Implementation Potential

The RAC Region II has initiated a collaborative research program consortium through the Transportation Pooled Fund (TPF) Program. The research program is called the Southeast Transportation Consortium (STC) and is intended to encourage coordination among member states and provide resources and management of collaborative studies. The consortium intends to address high priority transportation research topics of common interest to the southeastern and adjoining states. Louisiana serves as the lead agency in the STC.



### PROBLEM

With traffic congestion growing where residents live and work, communities are demanding more efficient transportation systems to provide greater mobility, reduced delays, and safety. The utilization of Intelligent Transportation Systems (ITS) can improve the safety, security, and efficiency of road travel. The US Department of Transportation (USDOT) depicts ITS as an integrated system to improve safety and mobility and to enhance productivity through the use of advanced information and communication technologies. ITS encompasses a broad range of wireless and wire line communications-based information and electronics technologies. When integrated into the transportation system's infrastructure and in vehicles themselves, these technologies have the ability to relieve traffic congestion, improve safety, and enhance American productivity. The importance of ITS data has been long recognized by researchers and practitioners in the field. On one hand, traffic management agencies are constantly seeking new opportunities to improve their real-time operation and management functions and advance the methods used to assess the impact of minor/major capital improvements. On the other hand, researchers continue to seek data to improve their capabilities to better understand the behavior of traffic under non-stationary transient stages, to identify certain factors or

conditions that may impact safety, to distinguish between the traffic characteristics during recurrent and non-recurrent congestion, and to develop comprehensive and composite measures of the level of service. More importantly, research needs to better understand the impact of real-time information on the behavior of travelers in terms of their trip planning decisions on departure time, route choice, and mode choice.

## OBJECTIVE

The main focus of this synthesis report is to compile a technical summary of past and current research, as well as the state of the practice, on the role of real-time information in congestion mitigation programs. The specific objectives are to conduct a thorough literature review on past and current research efforts on the role of real-time information in the travelers' decision making process; collect information on the current state of practice for gathering and disseminating traffic information in the southeastern region and other states; review the current and emerging technologies for traffic data collection and dissemination and identify the potential use of each; compile the reviewed materials from all sources and identify the current problems and challenges; organize, evaluate, and document the useful information acquired; and make recommendations for needed research and the recommendations from the case studies reviewed.

## METHODOLOGY

The objectives of this synthesis will be met by conducting the following sequential set of tasks:

1. Identification of Information Sources
2. Literature Review
3. Review of State of the Practice and Selected Case Studies
4. Effect of Real-time information on Congestion Management
5. Prepare a Final report

## IMPLEMENTATION POTENTIAL

Real-time driver information has strong potential operational and safety benefits to both transportation system users and providers. This synthesis aims to address such benefits in detail using case study examples that demonstrate and quantify the user and system benefits. The synthesis report will document the current state-of-the-practice by surveying successful efforts nationwide and in the southeast region.