



# RESEARCH PROJECT CAPSULE

April 2015

[15-4SS]

TECHNOLOGY TRANSFER PROGRAM

## Assessment of Sedimentation Affecting Riverine Ports in Louisiana

### JUST THE FACTS:

**Start Date:**  
January 20, 2015

**Duration:**  
3 months

**End Date:**  
April 19, 2015

**Funding:**  
FHWA

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Sponsored jointly by the Louisiana  
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University

### POINTS OF INTEREST:

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

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### PROBLEM

The Louisiana Department of Transportation and Development (DOTD) was tasked by the legislature in Senate Resolution 105 to study solutions to the build-up of sediment at Louisiana ports along the Mississippi River and to consult with the Louisiana Department of Agriculture and Forestry (LDAF) relative to the issues farmers face in transporting agricultural crops to market. The deposit of sediment at entrances to Louisiana ports on the Mississippi River hampers access to the ports and impacts farmers who use the ports to transport diverse crops to market. Finding solutions to reduce sedimentation and subsequent dredging costs, or other affiliated issues relevant to mitigating the build-up of sediment, is vital to the state's agricultural base. Sedimentation in ports is directly related to sediment yield from the watershed, river flow, and velocity patterns in the vicinity of port entrances. Understanding the fundamental drivers of sedimentation and the governing processes responsible is key to the development of mitigation strategies, the development of Strategic Plans for dealing with such problems, and finally with economic projections to implement such solutions.

### OBJECTIVE

The primary objective of this research is to provide an overview of specific issues affecting Mississippi River ports, particularly sedimentation build-up at the entrance to the port's navigational channel at the river. The researchers will recommend potential solutions to the build-up of sediment around Louisiana ports focusing specifically on two ports as case studies. The final report will serve as a "game plan" for legislators, barge industry leaders, and staffs and Commission members of the ports under study to address these issues.

### METHODOLOGY

The proposed work for this research study is to conduct a literature review to identify key publications within Louisiana and other states, and scientific literature that deals with similar problems; establish a historic overview of the unique problems associated with the Mississippi River and its riverine ports; consult with key staff and stakeholders at two ports in Louisiana (the Madison Parish Port and the Lake Providence Port) to gain better insight into the problems with farm-to-market transport of agricultural commodities; develop a basic methodology on how to better study potential solutions to such problems; and prepare a final report.

## IMPLEMENTATION POTENTIAL

Understanding the specific issues related to sedimentation at each studied port will allow for the development of specific customized solutions for each port system, and help maximize resources. At the conclusion of this research, specific implementation actions may be identified and additional research projects may emerge.



*Figure 1*  
*Aerial photograph of Port of Lake Providence*