NCHRP 20-68A – "US Domestic Scan Program"
Scan 15-02 Bridge Scour Risk Management

Flooding and scour are recognized by the bridge community as the leading cause of bridge failures in the United States. About 83 percent of the structures listed in the National Bridge Inventory cross waterways and are thereby exposed to the threats of flooding and scour. Agencies responsible for bridge safety seek effective threat-mitigation strategies, including installation of scour countermeasures to monitor, control, inhibit, change, delay, or minimize stream instability and bridge-scour susceptibility.

This scan will examine practices of states, counties, metropolitan areas, municipalities and other transportation agencies, to identify and document successful approaches to reducing bridge flooding and scour risk through appropriate use of countermeasures. The scan will also consider how innovative bridge owners assess structural vulnerability or bridge scour susceptibility.

The scan team would examine innovative approaches such as

1. Risk-based decision analysis. for
    a. selection and installation of countermeasures
    b. selection, installation, and management of monitoring systems
    c. bridge replacement rather than use of countermeasures or monitoring systems
2. Inspection procedures for scour countermeasures
3. Alert systems to trigger inspections during flood events
4. Road-closing and -reopening decision process
5. Bridge inspection and documentation procedures during and after a flood event, including updating bridge inspection reports and the agencies' Scour Plan of Action.

The scan team will focus on practices for inspection, monitoring, countermeasure selection and placement, and risk management for scour-critical and scour-susceptible bridges individually and in networks of varying sizes. By documenting and sharing successful practices the scan team will produce a valuable resource for use by bridge owners, state and local bridge inspectors, bridge designers and bridge management staff in reducing the risk to the travelling public due to flooding and scour.

Original Scan Proposal Title(s): Best Practices in Monitoring, Mitigation and Risk Management of Scour Critical and Scour Susceptible Bridges

Last Reviewed/Revised March 17, 2015

Execution Schedule

Milestone	Anticipated Date
Chairs and Team Members Identified	September 2015
Desk Scan Completed	January 2016
Prescan Meeting Held	February 2016
Scan Conducted	July 2016
Draft PowerPoint submitted by SME	August 2016
Draft Report Delivered to NCHRP and Panel	November 2016
Final Report Delivered to NCHRP	February 2017

Estimated Scan Cost: $170,000

Anticipated Duration: 2 week (type 2 scan)

Last Reviewed/Revised October 9, 2014