Transportation Research Board Structural Health Monitoring Subcommittee

Sponsoring committees: AHD 30 Structures Maintenance, AHD 35 Bridge Management, AFF40 Field Testing and NDE of Transportation Structures

Context

• Ideally structural maintenance decision making can be carried out with knowledge of:
  – the condition of a component quantified by means of condition parameters
  – the rate at which these condition parameters are changing
  – historical records or predictive models which make it possible to determine when the condition of a component, at the rate of deterioration it is experiencing, will reach an unacceptable condition

• The structural maintenance decision maker can use this knowledge to decide on maintenance action:
  – take steps to alter the operational environment and decrease the rate of deterioration
  – schedule repair or replacement
  – continue to monitor the condition

Scope

Overview the current state of the practice for monitoring technologies that support transportation structural maintenance decision making. Seek to identify challenges to this decision making that monitoring technology might overcome. Explore potential collaborations between monitoring technology developers, materials scientists, and transportation maintenance decision makers to establish an understanding of how to monitor structural deterioration to enable both a definition of the condition of transportation structural components as well as the rate of change of the condition.

• Organize sessions and workshops under the auspices of one or more of the main sponsoring committees.

• Identify research needs and propose these as priorities for consideration of one or more of the main sponsoring committees.

• Provide an opportunity for informal presentations at the Annual Meeting of TRB