Extending Bridge Deck Life

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Abstract:

Maintaining bridge decks is a huge issue. It is critical to extend the life of a bridge deck as long as possible since bridge deck replacement is difficult, expensive, and it significantly disrupts the traveling public. For example, NDOT currently utilizes overlays, but effective use of sealants and deck treatments could delay overlays, save costs, and extend bridge deck life. The primary objective of the project will be to develop a bridge deck maintenance guide that focuses on weather conditions that are common in the desert southwest. This includes areas of extreme dry heat to mountainous regions with snow and deicing salts.

The primary focus of this research is to take the best practice from other states and determine the best implementation plan for the SOLARIS members. Therefore, the research will focus on reviewing the literature for current best practices. After collecting the literature, comparisons will be made between states in terms of bridge maintenance, construction practice, and deck conditions. An experimental phase will test these materials under accelerated conditions and then use test bridges to apply the knowledge in the field. The final step will be a comprehensive report that describes the work and provides recommendations for bridge deck maintenance.