

2019 UDOT RESEARCH PROBLEM STATEMENT

*** Problem statement deadline is Feb. 6, 2019. Submit statements to UTRAC@utah.gov. ***

Title: Nephi Bridge Deck Treatment Comparison

No. (Office Use): 19.04.04

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UDOT Champion (if different): **Email:** **Phone:**

Select ONE Subject Area Materials/Pavements Maintenance Traffic Mgmt/Safety Structures/Geotech
 Planning Perf Mgmt/Data Analytics Public Transportation Other

1. Describe the problem to be addressed:

Twenty-one bridge decks on I-15 at Nephi have received concrete overlays, Healer Sealer, or thin bonded polymer after structural pothole patching or hydrodemolition. The relative effectiveness of these treatments and their best practical applications for UDOT structures are not fully understood.

2. Write the project objective (25 words or less):

The objective is to determine the relative effectiveness of the aforementioned deck treatments for UDOT structures. This will be achieved through the data analysis and comparison of the corresponding bridge decks on I-15 at Nephi.

3. Explain why this research is important:

(In response, consider addressing specific UDOT goals, applicability in Utah or other states, etc.)

Bridge or deck replacements are expensive and disruptive to service. Better understanding of bridge deck treatment alternatives and their corresponding applications in the State of Utah are essential for cost-effective bridge management.

4. List the major tasks:

1. Literature review of structural pothole patching and hydrodemolition
2. Deck performance and bridge data collection
3. Data analysis and comparison

5. List the expected deliverables (reports, manual, specification, design method, training, etc.):

1. Master's Thesis Formatted to UDOT Report Standards.

6. Describe how the research results will be implemented:

(In response, consider addressing UDOT leader support, process or standard improvement, etc.)

The results will inform bridge management planning and maintenance decisions by indicating the extent to which hydrodemolition is an effective treatment across various applications.

7. Requested from UDOT: \$0

Other/Matching Funds: \$0

Total Cost: \$0

(or UTA for Public Transportation)

8. Outline the proposed schedule, including start and major event dates:

Spring 2019 – Begin Literature Review
April 2019 – Begin Data Collection
August 2019 – Begin Data Analysis
January 2020 – Formulate Results, Conclusions, and Draft Report
May 2020 – Final Document

