

2019 UDOT RESEARCH PROBLEM STATEMENT

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

Title: IRI reduction by various methods

No. (Office Use): 19.01.06

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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:

Having smooth roads is important to UDOT and the traveling public. There are various means to smooth a road such as rotomilling, asphalt overlay, diamond grinding, and now Road Smoothing by Diamond Road. How much do the different methods smooth a road? UDOT has data already, a quick report showing various methods and costs could be compiled.

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

A report showing improvement to the ride of the road as well as the cost to improve the ride of the road of various maintenance activities would be beneficial for all those involved in making road maintenance decisions.

3. Explain why this research is important:

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

FHWA studies has shown the traveling public is highly aware of the smoothness of the roads they drive on. UDOT has recognized for many years' smoother roads last longer. UDOT is monitoring smoothness with IRI (International Roughness Index) on all roads. UDOT is already paying contractors and incentive to produce smooth roads. Which methods are best for smoothing roads and how do they compare in cost?

4. List the major tasks:

1. Gather existing data from districts on projects from 2018.
2. Compile data in a spreadsheet.
3. Make final report.

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

1. Report showing various methods to smooth a road, costs and average IRI (International Roughness Index) improvement.
- 2.
- 3.

6. Describe how the research results will be implemented:

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

Road maintenance decision makers will receive a copy of the report and the included spreadsheet documenting the numbers. They can use the information as they see fit to apply different methods of road smoothing in their maintenance plans. As an overlay has smoothing benefits but also structural benefits, the road maintenance decision makers may, or may not use the most cost-effective way to produce smooth roads. They will, however, now have another tool in their tool box to use in situations that they see fit for the roads they are maintaining.

**7. Requested from UDOT: \$3000
(or UTA for Public Transportation)**

Other/Matching Funds: \$3000

Total Cost: \$6000

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

This report includes mostly data gathering. This data is already being gathered and stored by Jason Simmons in a google drive folder. The compiling of a summary spreadsheet and the report will be able to be completed within two months' time of being funded. The report could be written by a UDOT employee or a University student.