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New Research Examines Strategies that can Help Rhode Island's Bridge Infrastructure

RWU faculty member Nicole Martino releases new research to improve Rhode Island's bridge infrastructure

THE COST AND IMPACT OF POOR INFRASTRUCTURE



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BRISTOL, R.I. – A number of Rhode Island's 765 highway bridges are in poor condition and need repair but new research findings led by RWU faculty member Nicole Martino may help the state improve its bridge infrastructure.

According to the Federal Highway Administration (FHWA), the condition of the state's bridges is the worst in the nation. More than one in five bridges are classified as structurally deficient and in need of "significant maintenance, rehabilitation, or replacement."

Local residents are well aware of these conditions but the potholes and bumpy roads are more than just an inconvenience: the deteriorating road conditions increase vehicular maintenance costs, compromise safety, and hamper economic growth.

The American Society of Civil Engineers estimates that driving on roads in poor condition costs an extra \$444 per driver in annual vehicle repair and operation costs. By stymieing transportation, poor infrastructure is also responsible for lost jobs, diminished exports, and a reduced standard of living.

New research released by The Collaborative and led by Nicole Martino, assistant professor of engineering in RWU's School of Engineering, Computing and Construction Management includes a series of best practices adopted from states whose bridges are ranked among the best in the nation by FHWA. Utah, Wisconsin, Montana, Illinois and Arizona were surveyed by transportation officials across topics like bridge inspection techniques, maintenance and preservation practices and funding mechanisms.

In her research report, "The Road to Better Bridges: Strategies for Maintaining Infrastructure," Martino highlights five key tactics based on her analysis of these states and the survey results.

The five key tactics for maintaining bridge infrastructure include:

1. Advanced inspection technologies that can detect damage early
2. Quality control measures to ensure the accuracy of inspections and serve as additional training for inspectors
3. Advanced systems for managing and organizing inspection data
4. Innovative approaches to prioritizing repairs
5. Preventative maintenance measures to extend bridge life span

Martino's research is one of 12 reports being released by The Collaborative this year covering issues related to workforce, manufacturing, regional competitiveness and infrastructure in Rhode Island.

The Collaborative is a statewide public/private partnership of Rhode Island's 11 colleges and universities that connects public policy and academic research. The Collaborative's mission is to increase the use of non-partisan academic research in policymaking and to provide an evidence-based foundation for government decision-making in Rhode Island.