Adapting Bridge Infrastructure to Climate Change in Vermont and Maine: Building Resilience through Restructuring Project Prioritization Procedures

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BACKGROUND
In the Northeastern United States:
- Average temperatures are 2° warmer than a century ago; by the 2080s, they are predicted to increase 3° - 10° more
- From 1958-2012, the region experienced a 71% increase in the percentage of precipitation falling in “very heavy” events, or the heaviest 1% of all daily events (twice the increase seen by any other US region)
- The state of Vermont made a record 11 Federal Emergency Management Agency (FEMA) disaster declarations in the five years from 2007 to 2012, almost double that of any other five-year period since 1962
- Collectively, temperature fluctuations, heavy rains, and major storms have severe implications for bridges and culverts

Are transportation agencies in the Northeast prioritizing bridge infrastructure adaptation to climate change threats?

OVERVIEW
- This research uses the states of Vermont and Maine as case studies: it investigates existing prioritization procedures, adaptation-related practices currently employed by transportation agencies, and funding trends
- Our analysis relies on both quantitative and qualitative data gathered from State Department of Transportation project prioritization criteria, interviews, Statewide Transportation Improvement Programs, and Capital Programs
- Preliminary analysis suggest that Northeast states may not be prioritizing bridge adaptation to climate change

PROJECT PRIORITIZATION PROCEDURES
Vermont
- The Vermont Agency of Transportation (VTrans) breaks projects into six asset classes
- Assigns points based on a specific subset of factors
- Projects are chosen according to their prioritization scores

Maine
- Maine DOT evaluates potential projects based on three Customer Service Levels (CSLs), which are then further broken down
- Projects are also judged based on Highway Corridor Priority (HCP) classes (Priority 1 roads carry the highest volume of traffic)
- Projects are given report card-style grades, A-F

CURRENT PRACTICES
Resilience or adaptation emphasized in planning documents
Collaborates with Agency of Natural Resources or Dept. of Conservation for bridge projects
Currently builds bridge structures to bank full width
State leadership voices public support for adaptation initiatives
Currently undertaking climate vulnerability study
Metropolitan Planning Organizations (MPOs) within state are gaining momentum to pursue adaptation

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