Climate change is underway and regions across the United States are beginning to see the effects. The Northeast is especially threatened by sea level rise, heavier precipitation, and more intense storms. Although federal and state transportation agencies are undertaking a variety of mitigation activities, adaptation and resilience remain underprioritized. The research presented here surveys existing literature on adaptation practices and presents comparative case studies regarding adaptation in two northern New England states: Vermont and Maine. It investigates and compares prioritization procedures, funding trends, and adaptation-related practices employed by transportation agencies. This research relies on State Department of Transportation project prioritization criteria, interviews, a survey of existing literature, and a new bridge funding database, which was compiled using Statewide Transportation Improvement Programs and Capital Programs. Bridges and culverts, which are especially vulnerable to climate-related impacts, are emphasized as critical components of adaptation activities and planning. Certain practices, such as building structures with higher capacity for hydraulic flow, have been undertaken as part of mandates by natural resource councils but also serve to improve transportation resilience. Critical gaps in resources and knowledge serve as barriers to improved adaptation planning, but restructuring the project prioritization procedures used by states and metropolitan planning organizations to explicitly include adaptation may provide opportunities to increase resilience.