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Nota di contenuto	Research Agenda for Test Methods and Models to Simulate the Accelerated Aging of Infrastructure Materials -- Copyright -- In Memoriam -- Acknowledgements -- Contents -- Executive Summary -- 1 Workshop Synopsis and Committee Findings and Recommendations -- INTRODUCTION -- BACKGROUND -- ORGANIZATION OF THE WORKSHOP -- COMMITTEE FINDINGS AND RECOMMENDATIONS -- Life-Prediction Modeling -- Accelerated-Testing Methods -- LIMITATIONS AND BARRIERS -- 2 Background Presentations -- FIVE OVERVIEW BRIEFINGS -- Infrastructure Aging and Deterioration -- REFERENCES -- Infrastructure Considerations: Surgical Implant Devices -- As High Performance Integrated Circuits Enter the National (and International) Infrastructure, How Do We Know They Are… -- Durable Glass for Thousands of Years? That Is the Question. -- Life-

Cycle Performance in the Electric Utility Industry -- TWO FOCUS BRIEFINGS -- Life-Prediction Approaches for Infrastructure Applications -- Accelerated-Testing Approaches for Infrastructure Applications -- REFERENCE -- Appendixes -- A Workshop Agenda -- B Biographical Sketches of Committee Members -- C Workshop Participants.

Sommario/riassunto

In the next several decades, a significant percentage of the country's transportation, communications, environmental, and power system infrastructures, as well as public buildings and facilities, will have to be renewed or replaced. Next-generation infrastructure will have to meet very high expectations in terms of durability, constructability, performance, and life-cycle cost. One way of meeting future expectations will be through improved, high-performance materials, but before new materials can be confidently deployed in the field, a thorough and comprehensive understanding must be developed of their long-term performance in a variety of applications and physical environments. The National Science Foundation (NSF) has launched an initiative to promote the development of innovative short-term laboratory or in-situ tests for making accurate, reliable predictions of the long-term performance of materials and requested that the National Research Council (NRC) conduct a workshop as a reconnaissance-level assessment of models and methods that are being used, or potentially could be used, to determine the long-term performance of infrastructure materials and components.