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Nota di contenuto	Toward Infrastructure Improvement -- Copyright -- Contents -- EXECUTIVE SUMMARY -- INFRASTRUCTURE AS A SYSTEM -- INFRASTRUCTURE RESEARCH AND THE NSF'S ROLE -- NICHE OPPORTUNITIES -- RESEARCH LEADING TO INFRASTRUCTURE IMPROVEMENT -- 1 INTRODUCTION -- RESEARCH AS AN INSTRUMENT FOR IMPROVING INFRASTRUCTURE -- THE STUDY AND ITS ORIGIN -- THE SCOPE OF INFRASTRUCTURE -- THE BENEFITS OF INFRASTRUCTURE RESEARCH -- GUIDING PRINCIPLES -- STRUCTURE OF THE REPORT -- NOTES -- 2 THE CONTEXT AND STATUS OF U.S. INFRASTRUCTURE RESEARCH -- U.S. SPENDING ON INFRASTRUCTURE R&amp -- D -- RESEARCHERS AND RESEARCH INSTITUTIONS -- Government Laboratories -- Academic Institutions -- Professional, Industry, And Trade Institutes -- International Activities -- PRIOR STUDIES OF RESEARCH NEEDS -- THE NSF'S ROLE IN INFRASTRUCTURE RESEARCH --

Acronyms -- A BIOGRAPHICAL SKETCHES OF COMMITTEE MEMBERS AND STAFF -- STAFF -- B PROSPECTUS -- A STUDY OF PHYSICAL INFRASTRUCTURE TECHNOLOGY RESEARCH FOR THE TWENTY-FIRST CENTURY -- NOTES -- C WORKSHOP ON INFRASTRUCTURE TECHNOLOGY RESEARCH NEEDS JUNE 2-3, 1993 WORKSHOP PARTICIPANTS -- CHAIRMAN -- MEMBERS -- INVITED GUESTS -- STAFF -- D METHODOLOGY EMPLOYED IN THE STUDY -- E SPECIFIC TECHNOLOGIES -- DIGITAL CONTROLS AND "INTELLIGENT" URBAN AREAS -- PHOTOVOLTAIC ENERGY PRODUCTION -- PNEUMATIC TUBE TRANSPORT -- SUPERCONDUCTIVITY FOR INFRASTRUCTURE APPLICATIONS -- AUTOMATED AIRPORT OPERATIONS.

Sommario/riassunto

This book advises the federal government on a national infrastructure research agenda. It takes the position that the traditional disciplinary and institutional divisions among infrastructure modes and professions are largely historical artifacts that impose barriers to the development of new technology and encourages the government to embrace a more interdisciplinary approach. In order to be practical, the study focuses on infrastructure technologies that can be incorporated into or overlay current systems, allow for alternative future alternative future urban development, and are likely to have value cutting across the distinct functional modes of infrastructure. Finally, the report is organized according to seven broad cross-cutting areas that should promote interdisciplinary approaches to infrastructure problems: systems life-cycle management, analysis and decision tools, information management, condition assessment and monitoring technology, the science of materials performance and deterioration, construction equipment and procedures, and technology management.