



RESEARCH NEWS
the newsletter of the
New England Transportation Consortium
Vol. 1, No. 1 - Fall 2000

General Content:

- [NETC's Research Program](#)
- [Current Research Projects](#)
- [Meet the Consortium Members](#)
- [NETC Publications](#)

PAGE 1 (front cover)

Article Title: Welcome From the Chairman

Author: William D. Anker, Chairman of NETC Policy Committee and Director, Rhode Island Department of Transportation.

Article Text:

As we enter the new millennium, New England's transportation agencies and state research universities have an important contribution to make. A regional transportation system that moves people and goods efficiently and safely while respecting the environment provides the underpinning for a vibrant economy and an improved quality of life.

Research leading to the development and implementation of new technologies and practices will be the key to achieving a transportation system that will complement and enhance the social, environmental, and economic aspirations of our communities.

We will need new technologies in the use of materials heretofore not seen in New England's transportation infrastructure. In 1996, a team of transportation experts from the Federal Highway Administration, state transportation agencies, academia and industry conducted a two-week tour of Europe and Japan to assess the state of technology in the use of advanced composite materials in those areas. The team found the United States to be lagging behind Europe and Japan, who are conducting a number of demonstration projects and field applications of fiber-reinforced polymer matrix materials in both the construction and rehabilitation of transportation infrastructure.

This year, the Policy Committee of the New England Transportation Consortium (NETC) approved funding for a research initiative on the use of advanced composite materials for our region's highway infrastructure. The initiative will provide valuable information to New England's transportation agencies on the application of advanced composite materials in our own highway infrastructure. It will also explore a mechanism for establishing a partnership with private industry to implement the technology.

The NETC is a cooperative effort of the transportation agencies and land grant universities of the six New England states. Through the pooling of its professional, academic, and financial resources,

the Consortium is positioned to play a leading role in the development and implementation of new technologies and practices needed to ensure that our transportation systems are capable of meeting the needs of our communities in the twenty-first century.

Article Title: The New England Transportation Consortium: Mission, Organization and Management

Author: Colin A. Franco, Chairman, NETC Advisory Committee and Managing Engineer, Research and Technology Development, Rhode Island Department of Transportation

Article Text:

Mission

The New England Transportation Consortium is a cooperative effort of the transportation agencies of the six New England states. Through it, the states pool professional, academic and financial resources for research, technology transfer and education, leading to improved technologies and practices for dealing with common transportation problems and the training of transportation professionals.

Organization and Management

The Consortium operates through a committee structure consisting of a Policy Committee, Advisory Committee and Project Technical Committee. The day to day administration and coordination of activities of the Consortium are provided by the Coordinator, Gerald M. McCarthy, located at the University of Connecticut's Transportation Institute, and the Lead State Representative, James M. Sime, located at the Connecticut Department of Transportation.

- Policy Committee - The Policy Committee is comprised of Chief Administrative Officers of the member state transportation agencies and the Division Administrator from the lead state's Federal Highway Administration (FHWA) office. Their responsibilities are to provide funding for the Consortium and to approve the annual research program.
- Advisory Committee - The Advisory Committee is comprised of one representative from each of the state transportation agencies, a representative from the lead state's FHWA Division Office, and one representative from each of the NETC's member state universities. The Advisory Committee is responsible for developing the annual research program and recommending it to the Policy Committee for approval. The committee is also responsible for oversight and administration of the Consortium's activities.
- Project Technical Committees - The Project Technical Committee is appointed by the Advisory Committee for each of the research projects. This committee is responsible for developing the project scope of work, evaluating and recommending proposals to be funded to the Advisory Committee, and provide project oversight.



PAGE 2

Article Title: Funding and Contracting NETC's Research Program

Author: James M. Sime, NETC Lead State Representative and Manager of Research, Connecticut Department of Transportation

Article Text:

The Connecticut Department of Transportation is the Consortium's designated Lead Agency. As

such, its responsibilities are:

- Administer funds from Consortium members for its operation, including funds from the FHWA's pooled fund program which allows states to pool funds to address a transportation-related need too large to fund by a single state
- Develop and execute, on behalf of NETC, agreements for funding of the Consortium's research projects
- Establish a system for the financial accounting of NETC's operations
- Maintain and provide financial and cost accounting services acceptable to the Consortium's members and the Federal Highway Administration
- Payment of project invoices

The Lead Agency's representative (also a member of the Consortium's Advisory Committee) and the Consortium's Coordinator, together provide all the services necessary for the administration and coordination of activities of the Consortium.

Advertisement: The National Scene

The National Cooperative Highway Research Program (NCHRP) and Transit Cooperative Research Program (TCRP), programs of the National Research Council's Transportation Research Board, periodically solicit proposals for research to develop solutions to operational problems facing highway and transportation agencies. Those interested in submitting proposals can obtain information from the NCHRP and TCRP web site: www4.nas.edu/trb/crp.nsf

Article Title: Developing the New England Transportation Consortium's Research Program

Author: Gerald M. McCarthy, Coordinator, New England Transportation Consortium

Article Text:

Project Selection

The process begins with the Coordinator's solicitation of statements of high priority transportation problems from Consortium members. Problem statements are screened by the Lead Agency to eliminate topics already adequately researched. The Advisory Committee reviews and selects problem statements to be recommended to the Policy Committee for funding. Proposals are invited from member universities and other selected research institutions.

The Research Program for 2001

The six research program projects adopted by NETC's Policy Committee to be placed under contract in the year 2001, are as follows:

Project 01-1; Title: Advanced Composite Materials (Fiber Reinforced Polymers or Polymer Matrix Composites) for New England's Highway Infrastructure: a Synthesis of Technology and Practice; Funding = \$50,000

Project 01-2; Title: Development of a Testing Protocol for Quality Control/Quality Assurance of Hot Mix Asphalt; Funding = \$80,000

Project 01-3; Title: Design of Superpave Hot Mix Asphalt for Low Volume Roads; Funding = \$100,000

Project 01-5; Title: Procedures for the Evaluation of Liquid-Applied Membrane Waterproofing;

Funding = \$75,000

Project 01-6; Title: Field Evaluation of a New Compaction Device; Funding = \$50,000

Project 00-8; Title: Performance and Effectiveness of a Thin Pavement Section Using Geogrids and Drainage Geocomposites in a Cold Region; Funding = \$150,000

Total Program = \$505,000



PAGE 3

Article Title: Current Research Projects

Article Text:

Currently, NETC has fourteen research projects under contract. For information on these projects or to contact the Principal Investigators, visit the NETC web site at www.cti.uconn.edu/ti/Research/netc_home.htm. The following is a sampling of current or recently completed projects:

- Project 94-2; Title: Testing Reinforced Concrete Bridges With Radar. Based on an analysis of the capabilities of GPR, this project will develop specifications for use by highway agencies in acquiring and using GPR systems. Contact Dr. Dryver Huston, University of Vermont at (802) 656-1922 or email huston@enba.uvm.edu.
- Project 95-1; Title: The Use of Chips to Limit Frost Heave. Provides recommendations regarding material properties and construction techniques for the use of tire chips as an insulation layer to limit frost heave on paved roads. Contact Dr. Dana Humphrey, University of Maine, at (207) 581-2176, or email dana.humphrey@umit.maine.edu.
- Project 96-3; Title: Fiber Reinforced Composites for Bridge Elements. Recommendations will be developed on protective coatings and strengthening systems for bridge elements which are durable, economical and practical for field use. Contact Dr. Perumalsamy Balaguru, Rutgers University, at (732) 445-3537, or email balaguru@rci.rutgers.edu.
- Project 99-6; Title: The Effects of Concrete Removal Operations. Using on-site, computer-based monitoring of the stresses imposed by hoe-ram demolition equipment, guidelines will be developed for the use of demolition equipment to insure that the integrity of remaining bridge components is not adversely affected. Contact Dr. Rusk Masih, University of Connecticut, at (860) 405-9030, or email masih@uconnvm.uconn.edu.

Article Title: Meet the Consortium Members

Article Text:

NETC Policy Committee

Chairman: William Ankner, Director, Rhode Island Department of Transportation
Matthew Amorello, Commissioner, Massachusetts Highway Department
Brian Searles, Secretary, Vermont Agency of Transportation
Leon Kenison, Commissioner, New Hampshire Department of Transportation
James Sullivan, Commissioner, Connecticut Department of Transportation

John Melrose, Commissioner, Maine Department of Transportation
Donald West, Division Administrator, Federal Highway Administration-Connecticut

Advisory Committee

Chairman: Colin Franco, Managing Engineer, Research & Technology Development,
Rhode Island Department of Transportation

Transportation Agency Representatives:

Robert Cauley, Materials & Research Engineer, Vermont Agency of Transportation
Stephen Pepin, Manager of Research, Massachusetts Highway Department
Amy Jackson-Grove, Federal Highway Division, Connecticut
Gilbert Rogers, Assistant Director of Project Development, New Hampshire
Department of Transportation
Dale Peabody, Transportation Research Engineer, Maine Department of Transportation
James Sime, Manager of Research, Connecticut Department of Transportation

State University Representatives:

Per Gardner, Associate Professor, University of Maine, Orono
K. Wayne Lee, Professor, University of Rhode Island
Norman Garrick, Associate Professor, University of Connecticut
Walaa Mogawer, Professor, University of Massachusetts, Dartmouth
David Gress, Professor, University of New Hampshire
James Olson, Professor, University of Vermont



PAGE 4 (back cover)

Article Title: NETC Publications

Article Text:

Copies of these and other publications may be obtained by contacting NETC by phone at (860) 486-5400, or email naomi.sanders@uconn.edu:

Available publications are numbered 1 through 8 below. When ordering, ask for the article by NETCR number, title, author and date.

1. NETCR21. Title: NETC Annual Report for Calendar Year 1999. Date: 2000. Describes the Consortium's accomplishments for 1999, active research projects, financial status, and provides a list of reports, papers, and presentations arising from the Consortium's funded research.
2. NETCR1. Title: Construction Costs of New England Bridges. Author: Alexander, University of Maine. Date: 1996. Identifies factors influencing the construction costs of New England highway bridges and makes recommendations for reducing costs.
3. NETCR8. Title: Tire Chips as Lightweight Backfill for Retaining Walls. Author: Humphrey, University of Maine. Date: 1998. Provides design criteria for tire chips as lightweight backfill for retaining walls.
4. NETCR10. Title: Crash Testing and Evaluation of the NETC 2-Bar Curb-Mounted Bridge Rail. Authors: Mak and Menges, Texas Transportation Institute, Texas A & M University. Date: 1998. Presents the results of NCHRP 350, Test Level 4 crash tests conducted on a curb-mounted bridge railing designed by New England Transportation Consortium. A schematic

drawing and a description of the bridge rail are provided.

5. NETCR14. Title: Full-Scale Crash Evaluation of the NETC 4-Bar Sidewalk-Mounted Steel Bridge Railing. Authors: Kimball and Mayer, Southwest Research Institute. Date: 1999. Presents the results of NCHRP 350, Test level 4 crash tests conducted on a sidewalk-mounted bridge railing designed by the New England Transportation Consortium. Design drawings of the bridge rail and its installation, and specifications for the bridge rail materials are provided.
6. NETCR13. Title: Procedures for the Evaluation of Sheet Membrane Waterproofing. Author: Korhonen, U.S. Army Cold Regions Research and Engineering Laboratory, Hanover, New Hampshire. Date: 1999. Details the genesis of blisters, a major problem for membranes, and defines test procedures to evaluate sheet membranes based on their ability to adhere to concrete, accommodate strain, resist puncturing, and pass water vapor.
7. NETCR18. Title: Implementation of Superpave. Authors: Stephens and Mahoney, Connecticut Advanced Pavement Lab, Connecticut Transportation Institute, University of Connecticut. Date: 1999. Examines the causes of variations in Superpave Performance Graded Asphalt Binder test results and provides recommendations on the techniques of binder testing.
8. NETCR12. Title: Use of Tire Chip/Soil Mixtures to Limit Frost Heave and Pavement Damage of Paved Roads. Author: Humphrey, University of Maine. Date: 2000. Provides recommendations regarding material properties and construction techniques for the use of tire chips as an insulation layer to limit frost heave on paved roads.

Research News is published two times a year by the New England Transportation Consortium. For more information, or to be added to our mailing list, please contact Gerry McCarthy, NETC Coordinator, at the Connecticut Transportation Institute, University of Connecticut, 179 Middle Turnpike, Unit 5202, Storrs, CT 06269-5202, or email mccarthy@engr.uconn.edu. For information on NETC's current research projects, visit our web site: www.cti.uconn.edu/ti/Research/netc_home.htm

End of "Research News" Volume 1, Issue 1 - Fall 2000 issue.



