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The third year of activity saw the continued development of multi-disciplinary programs focusing on transportation issues important to the State, region, and nation. Building upon the initial years’ efforts, the Transportation Center continued to improve our support to transportation research, education and outreach.

In terms of research, the Transportation Center reached maturity. Most of the fifteen projects funded in the initial research program were nearing completion with draft reports under peer review, the sixteen projects funded in the second year were fully underway, and fourteen new projects were being initiated under third year funding. This battery of projects enabled us to provide financial support to more than 50 students, graduate and undergraduates, who worked along side the research principal investigators.

The education efforts showed significant increases in the number of classes offered, the number of students enrolled and the number of students receiving degrees. The Center and the University initiated searches for two new faculty in transportation. These positions are made possible through a partnership with the Rhode Island Department of Transportation under which RIDOT and URI will jointly support a new position in the College of Engineering and another in the College of Business. These new faculty members will play critical roles in the development of new degree programs.

The Center also entered into a partnership agreement with the National Highway Institute of the Federal Highway Administration. Through this unique partnership, the Center will offer courses and career development assistance to transportation professionals in the New England region.

The Center outreach program continues to serve both young people and practitioners. For elementary and middle school students, we offered after school and summer camp programs, including two Native American camps focusing on transportation and archaeology issues. For practitioners, the Center offered weekly seminars and the Fourteenth Annual Transportation Forum. We also sponsored the First Annual Rhode Island National Transportation Week Breakfast, drawing professionals from Rhode Island and Southeast Massachusetts.

One organizational issue is important to note. The active participation of the University and State stakeholders in developing policy and goals is a critical component of the Center’s annual process. This year we established an Operating Council, chaired by Phillip Kydd, Assistant Director of RIDOT, with a representative from the University, the State, and the Center, to provide a vehicle for stakeholder input on important operation issues.

As will be seen in this report, 2001 was very successful for the Center, and we look forward to adding to our successful efforts in the year ahead.
The URI Transportation Center was established in 1999 to conduct multidisciplinary education, research, technology transfer and outreach for surface transportation systems and advanced transportation infrastructure with special reference to the marine environment.

The Transportation is a partnership of many interests for a common set of goals. The Center funds approximately 15 research projects a year, each requiring match funding from others.

**THEME**

“Surface Intermodal Transportation Systems and Advanced Transportation Infrastructure with special reference to the Marine Environment.

**MISSION**

“To advance U.S. technology and expertise in the many disciplines composing transportation through the mechanisms of education, research and technology transfer at a university-based center of excellence.”

The URITC is one of 33 national centers supported by the US Department of Transportation through the University Transportation Centers Program (UTCP).

**NATIONAL UTCP GOALS**

To advance U.S. technology and expertise in the many disciplines comprising transportation through the mechanisms of education, research and technology transfer at university-based centers of excellence.

**Education:** a multi disciplinary program of course work and experiential learning that reinforces the transportation theme of the Center.

**Human Resources:** an increased number of students, faculty and staff who are attracted to and substantively involved in the undergraduate, graduate and professional programs of the Center.

**Diversity:** students, faculty and staff who reflect the growing diversity of the U.S. workforce and are substantively involved in the undergraduate, graduate and professional programs of the Center.

**Research Selection:** an objective process for selecting and reviewing research that balances multiple objectives of the program.

**Research Performance:** an ongoing program of basic and applied research, the products of which are judged by peers or other experts in the field to advance the body of knowledge in transportation.

**Technology Transfer:** availability of research results to potential users in a form that can be directly implemented, utilized or otherwise applied.
Full implementation of the URI Transportation Center program was authorized on August 30, 1999. The 1999 budget was approved at $3,740,186, with the Federal share at $1,829,300. As of December 31, 2001, $162,591 remains. This is primarily in budgeted match items.

The two charts below show the source and use of the funds committed to date. The Federal University Transportation Centers Program provided 51.1% of the funds committed against the 1999 budget. The University of Rhode Island provided an additional 26.0% and the outside sources cited in the Industry and Public Sector Partners provided the remaining 22.9%.

These funds were allocated to the three primary activities of the Transportation Center and to general administrative expenses of the Center. The allocations against the 1999 Year grant were 46.8% to research and the administrative costs associated with the research. Education accounted for 12.0% of the funds, Technology Transfer and Outreach efforts accounted for 2.9%, and General Administration and the administrative costs associated with education and tech transfer amounted to 38.3% of the funds.
The 2000 budget was approved at a level of $3,619,332, with the Federal share at $1,748,000. Actual commitments and expenditures against this budget are $3,593,278. The distribution of sources of the Year 2000 funds committed are 48.4% from the Federal grant, 25.9% from the University of Rhode Island, and 25.7% from Industry and Public Sector Partners.

The allocations against the 2000 Year grant were 85.5% to research and the administrative costs associated with the research. Education accounted for 1.0% of the funds, Technology Transfer and Outreach efforts accounted for 1.5%, and General Administration and the administrative costs associated with education and tech transfer amounted to 12.0% of the funds.
The 2001 budget was approved at a level of $4,298,934, with the Federal share at $1,724,600. Actual commitments and expenditures against this budget are $2,255,336. The distribution of sources of the Year 2001 funds committed are 50.0% from the Federal grant, 30.0% from the University of Rhode Island, and 20.0% from Industry and Public Sector Partners.

The allocations against the 2001 Year grant were 79.6% to research and the administrative costs associated with the research. Education accounted for 0.5% of the funds, Technology Transfer and Outreach efforts accounted for 9.7%, and General Administration and the administrative costs associated with education and tech transfer amounted to 10.2% of the funds.
URITC ADMINISTRATION & STAFF

The Center has a full time staff of six, headed by an Executive Director. URI faculty members head the education, research, and tech transfer / outreach efforts. The Center also has an Executive Board chaired by the URI President and composed of senior member of the Center’s stakeholder groups. The Executive Board, along with the Operating Council, provide

The URITC has a very flat management structure. The URITC Executive Director is responsible for the ongoing operation of the Transportation Center. In this effort, the Executive Director reports directly to the President of the University of Rhode Island. The Executive Director is supported by the three program managers who are responsible for the three primary activity areas of the Transportation Center; Research, Education, and Outreach.

Dr. Richard J. Horn
Executive Director

Professor William Croasdale
Director of Outreach, Technology & Development

Professor K. Wayne Lee
Director of Research & Development
ADMINISTRATION & STAFF

Ken Froberg
Manager of the Quonset Training Facility

Cathy Manchester
Principal Clerk Stenographer

Gail Paolino,
Word Processing Typist

John Peterson,
Senior Information Technologist
EXECUTIVE BOARD & OPERATING COUNCIL

The URITC Executive Board is composed of the principal University and public sector stakeholders. The members of the Executive Board were instrumental in the development of the Center, and remain actively engaged in supporting the Transportation Center. The group provides advice to the President of the University of Rhode Island and to the Executive Director in terms of the goals and overall objectives of the Center’s programs.

Robert L. Carothers, Chairman of the Board
• President, URI

William D. Ankner
• Director, RI Department of Transportation

Christopher L. Bergstrom
• Executive Director, RI Economic Policy Council

Michael G. Cheston
• Executive Director, RIAC

David Farmer
• Dean, URI Graduate School of Oceanography

Richard J. Horn
• Executive Director, URITC

Thomas J. Kim
• Dean, URI College of Engineering

Janis E. Loiselle Policy Advisor
• Office of the Governor

Edward M. Mazze
• Dean, URI College of Business

Stephen P. McAllister
• Associate Commissioner for Finance, Office of Higher Education

John O’Brien
• Chief of Statewide Planning, RIDOA

Melisa Ridenour
• FHWA RI Division Administrator, Executive Board Advisor

Tom Schumpert
• Executive Director, RI Economic Development Corporation

Jeffrey Seemann
• Dean, URI College of the Environment & Life Sciences

Beverly A. Scott
• General Manager, RI Public Transit Authority

M. Beverly Swan
• URI Provost, VP Academic Affairs

Janett Trubatch
• URI Vice Provost, Research & Grad Studies

J. Vernon Wyman
• URI Vice President, Business & Finance

Phil Kydd
• Assistant Director, RI Department of Transportation

Richard Horn
• Executive Director, URI Transportation Center

Janis E. Loiselle
• Policy Advisor, Office of the Governor

OPERATING COUNCIL

The Operating Council provides more immediate advice and direction on daily Center operating issues.
INDUSTRY AND PUBLIC SECTOR PARTNERS

As a part of the Research and Development Program, the involvement of state agencies and transportation consulting and or construction industry is required for all URITC funded research projects. In this process, University knowledge is extended to industry, and industry resources are extended to the University.

### 2000

**Matching Fund Industry or Foundation Partners**

- Alcoa Center
- Alcoa City, PA
- Narragansett, RI
- Bryant Associates
- Providence, RI
- Cardi Corporation
- Warwick, RI
- CVS
- Woonsocket, RI
- Fraunhofer ISI
- Karlsruhe, Germany
- Grace Construction Products
- Cambridge, MA
- J.H. Lynch & Sons
- Cumberland, RI
- Korea-America Joint Marine Policy Grant
- Kingston, RI
- Maguire Group
- Providence, RI
- Northeast Asphalt Institute
- Metheun, MA
- Town of South Kingstown
- South Kingstown, RI
- RI Department of Environmental Management
- Providence, RI
- RI Department of Transportation
- Providence, RI
- RI Economic Policy Council
- Providence, RI
- RI Governor’s Office on Highway Safety
- Providence, RI
- Ross Simons
- Cranston, RI
- RI Economic Development Corporation
- Providence, RI
- Vanasse Hangen Brustin
- Providence, RI

### 2001

**Matching Fund Industry or Foundation Partners**

- GZA GeoEnvironmental, Inc.
- Providence, RI
- Slope Indicator Co.
- Wakefield, RI
- N.E. Concrete Products
- Plainville, MA
- G. Donaldson Construction
- Cumberland RI
- Save the Bay
- Providence, RI
- RI DEM Office of Water Resources
- Providence, RI
- K. M. Scientific
- Sandy Springs, GA
- URI Foundation
- Kingston, RI
- RI Public Transit Authority
- Providence, RI
- Cryotech Deicing Technology
- Fort Madison, IA
- RI Dept. of Transportation
- Providence, RI
- Flow International
- Waterbury, CT
- Cardi Corporation
- Warwick, RI
- Naval Undersea Warfare Center
- Newport, RI
- Alcoa Technical Center
- Alcoa Center, PA
- J.H. Lynch & Sons
- Cumberland, RI
NEW FACULTY ASSOCIATES

Peter August (NRS)
Christopher Baxter (CVE/OCE)
Jon Boothroyd (GEO)
Arijit Bose (CHE)
Richard Burroughs (MAF)
Richard Brown (CHM)
Young-Tae Chang, (ENRE)
Jerry Cohen (PSY)
Lisa DiPippo (CSC)
Nikhelish Dholakia (MKT)
Ruby Roy Dholakia (MKT)
Li Helena Erikson (OCE)
William Euler (CHM)
Ruby Roy Dholakia (MKT)
Mohammad Faghri (MCE)
Marshall Feldman (CPL)
Thomas Grigalunas (ENRE)
Otto Gregory (CHE)
Nasir Hamidzada (GEO)
O. Don Hermes (GEO)
James Hu (OCE)
Mercedes Rivero-Hudiec (CHE)
Christopher Hunter (CVE)
Milton Huston (CVE)
Osama Ibrahim (MCE)
Lawrence Juda (MAF)
Bong-Min Jung (ENRE)
Thomas Kim (CVE)
John King (GSO)
Maury Klein (HIS)
Winston Knight (IME)
Larry Ladaro (ECO)
Brett Lucht (CHM)
Edward Mazze (CBA)
Norbert Mundorf (COM)
Daniel Murray (GEO)
Dennis Nixon (MAF)
William Ohley (ELE)
James Opaluch (ENRE)
William Palm (MCE)
Joan Peckham (CSC)
James Quinn (GSO)
Martin Sadd (MCE)
Raymond Sepe (ELE)
David Shao (IME)
Arun Shukla (MCE)
Armand Silva (CVE/OCE)
Larry Simoneau (OCE)
Manbir Sodhi (IME)
Malcolm Spaulding (OCE)
Peter Stepanishen (OCE)
David Taggart (MCE)
Anne Veeger (GEO)
Jyh-Hone Wang (IME)
Victor Fay-Wolfe (CSC)
Raymond Wright (CVE)
Jing Xiao (HSS)
SzeYang (CHM)
The research program reached equilibrium in 2001. Fifteen projects initiated in 1999 were nearing completion, while the sixteen programs begun in 2000 were in their mid-phases and fourteen new programs were just beginning under 2001 funding. The range of research underway can be seen within this section. To get more information on any specific project, please see the full, up-to-date descriptions on our web site, http://www.uritc.uri.edu.

THEME
“Surface Intermodal Transportation Systems and Advanced Transportation Infrastructure with special reference to the Marine Environment.”

MISSION
“To advance U.S. technology and expertise in the many disciplines composing transportation through the mechanisms of education, research and technology transfer at a university-based center of excellence.”

FOCUS
• Intermodal systems planning, management, logistics and modeling with special reference to the regional context
• Transportation management and traffic control
• Advanced infrastructure materials in transportation
• Environmental protection, safety and security
NEW RESEARCH PROJECTS 2001

Dredging in a Changing Scientific and Regulatory Environment
536151 Professor Richard Burroughs

Development of Thermochromic Paints, Plastics, and Rubbers for Rapid Visual Assessment of Temperature
536152 Dr. Brett Lucht

Field Study of Composite Piles in the Marine Environment
536153 Dr. Christopher Baxter

Development of a Customer Satisfaction and Service Quality Measurement Method and Tool for the Rhode Island Public Transit Authority
536154 Professor Albert Della Bitta

Contamination of Urban Lakes by Storm Runoff from Highway and Railway Drainage Systems
536155 Professor John King

Development of an Advanced Pavement Deicing System
536156 Dr. David Taggart

Investigation of Potential for Intermodalizing Paratransit in Rhode Island
536157 Dr. Christopher Hunter

Replacement of Chromates in Paints and Corrosion Protection Systems
536158 Dr. Mercedes Rivero-Hudec

Intelligent Traffic Anomaly Diagnosis Through the Integration of Diverse Information Sources
536159 Professor Joan Peckham

Processing of Cenosphere-Cement/Asphalt Composite Materials and Evaluation of their Mechanical and Acoustic Properties
539160 Professor Arijit Bose

Driver Distraction and Detection
536161 Dr. Manbir Sodhi

Creating Safe Transportation Options for College Students
536162 Professor Norbert Mundorf

Comprehensive Framework for Sustainable Container Ports Development of US East Coast in the 21st Century
536163 Professor Thomas Grigalunas

Effect of Microstructure on the Static and Dynamic Behavior of Recycled Asphalt Material
536164 Professor Martin Sadd
FEATURE: DRIVER DISTRACTION

The Distraction Factor
Cell Phones and Cars:
An accident waiting to happen?

URITC Project “Driver Distraction Modeling and Detection” 536161 Dr. Manbir Sodhi

Although once considered a luxury item, cellular telephones have become commonplace in American cars. And if Americans have a love-affair with cellular phones, their first love was with the automobile. According to the National Highway Traffic Safety Administration, (NHTSA), U.S. drivers spend an average of 541 hours a year in the cars, and 54 percent of these drivers carry and use cell phones while they drive. Put these two loves together and some say it is an accident waiting to happen.

And cellular phones are not the only source of distraction. Electronic devices in cars are becoming more and more advanced. Eventually most cars will be equipped with such marvels as electronic navigation systems, email, games, internet and other potential distractions.

Although common sense tells us that a distracted driver is more likely to have a traffic accident, Dr. Manbir Sodhi in his URITC funded project “Multimodal Vehicle Display Design and Analysis” is using test equipment to quantify precisely how much and what kinds of distraction lead to traffic accidents.

The research team is using eye and head movement sensors to collect data which will allow the development of predictive algorithms which will both define the problem of driver distraction and lead to means of reducing it.

“For a worker, we know exactly what he has to do each day, but for a driver, tasks are being thrown at him in a random manner.”

Dr. Manbir Sodhi

BY 2005 THERE WILL BE 1.26 BILLION CELL PHONES IN USE AROUND THE WORLD

NEARLY 118,000 WIRELESS CALLS ARE MADE EACH DAY TO 911 AND OTHER EMERGENCY NUMBERS FROM CELL PHONES; MORE THAN 43 MILLION ANNUALLY.

A HALF MILLION DRIVERS ARE USING CELL PHONES AT ANY GIVEN TIME DURING THE DAY IN THE U.S.

54 PERCENT OF DRIVERS HAVE WIRELESS PHONES IN THEIR VEHICLES AT ALL TIMES

CELL PHONES CAN BE BLAMED FOR 20-30 PERCENT OF ALL CRASHES

BRAZIL, ISRAEL, ITALY, JAPAN, SPAIN, AND THE UNITED KINGDOM HAVE RESTRICTIONS ON CELL PHONE USAGE WHILE DRIVING

SOURCE: NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA)
Smart Roads?
How road sensors and a bit of math can help you reach your destination on time.

URITC Project “Intelligent Traffic Anomaly Diagnosis Through the Integration of Diverse Information Sources” 536159 Professor Joan Peckham

Imagine that you’ve loaded up the car with beach chairs, sun tan lotion and radio and you head to the beach. You jump on the highway, and find that the traffic is barely moving. Your car radio says there’s a rollover tanker accident 8 miles down the highway causing a one hour delay.

What do you do? You don’t know the local roads off of the highway, so you’ll just have to wait it out.

Diverting traffic around roadway accidents or congestion is a common-sense way drivers can save time, but often by the time drivers hear of a traffic incident on the radio, it is too late.

If drivers could know of the event before reaching it, a better route could be suggested, and drivers could save time.

Currently, the Rhode Island Department of Transportation (RIDOT) is in the process of developing a fully integrated intelligent transportation system or ITS.

The system now includes traffic cameras located on highways across Rhode Island, a transportation management center (TMC) located at the RIDOT headquarters, and a highway advisory radio (HAR) system which warns motorists of traffic problems.

But the incoming data from these sensors needs to be packaged, stored, analyzed and displayed to the driver to have real value.

Professor Peckham is developing an advanced database warehouse of historical and current traffic information gathered by the RIDOT, and formulating mathematical algorithms which could be used to predict traffic volume and vehicle speed during traffic anomalies, such as a tanker rollover.

These data and models can predict how long a driver can expect to be in the car, and when linked to maps and a GIS system, it can provide alternative routes and traffic diversion in case of an incident.
PROJECTS INITIATED IN 2000

Exploring Ways of Influencing Transport Behaviors by Using Telecommunications Technologies
536131 Professor Nikhilesh Dholakia

Chemical Retention Capacity of a Newly Constructed Roadway Runoff Detention Pond System
536132 Dr. Thomas Boving

Intermodal Transport of Petroleum Products - Smart Terminals
536133 Dr. Winston Knight

High Order GPS Base Station and Web Delivery System
536134 Professor Peter August

Replacement of Chromates in Paints and Corrosion Protection Systems
536135 Dr. Mercedes Rivero-Hudec

Fiber Reinforcement of Concrete
536136 Professor Richard Brown

A Web-based Core Library for Rhode Island
536137 Dr. O. Don Hermes

Effect of Microstructure on the Static and Dynamic Behavior of Recycled Asphalt Materials
536138 Professor Martin Sadd

TRANSMAP: An integrated, real time environmental monitoring and forecasting system for highways and waterways in RI
536139 Dr. Malcolm Spaulding

Comprehensive Framework for Sustainable Container Ports Development of US East Coast in the 21st Century
536140 Dr. Thomas Grigalunas

Implementation of a Highway Monitoring Program Utilizing Intelligent Transportation Systems (ITS)
536141 Dr. Milton Huston

Moving Smart in Rhode Island
536142 Professor Joan Peckham

Inorganic and Organic Characterization of Dredged Sediments from the Proposed Quonset Point Channel in Narragansett Bay
536143 Professor Raymond Wright

Performance Improvement & Measurement of Open-Graded Asphalt Mixes
536144 Dr. Mohammad Faghri
ONGOING RESEARCH

PROJECTS INITIATED IN 1999

TRANSMAP: An integrated, real time environmental monitoring and forecasting system for highways and waterways in RI
536100 Professor Malcolm Spaulding

Fiber Reinforcement of Concrete
536101 Professor Richard Brown

Geologic Transportation Maps for the 21st Century
536102 Professor O. Don Hermes

Beneficial Uses of Dredge Material from the QPD Intermodal Port Terminal
536104 Dr. Armand Silva

The Design & Development of Information & Computer Systems for URITC
536105 Professor Joan Peckham

Comprehensive Framework for Sustainable Container Ports Development of US East Coast in the 21st Century
536106 Dr. Thomas Grigalunas

Development of an Advanced Bridge, Highway and Runway De-icing System
536107 Dr. David Taggart

Effect of Microstructure on the Static and Dynamic Behavior of Recycled Asphalt Material
536108 Professor Martin Sadd

Modeling for Real-Time Traffic Control in the Rhode Island Intelligent Road
536109 Professor William Palm

Multi Modal Vehicle Display Design and Analysis
536103 Professor Manbir Sodhi

Using Cenospheres to Develop New Asphalt and Cement Based Concrete Materials
536110 Professor Arun Shukla

Interactions of Transportation and Telecommunications Behaviors in relation to RIIR: Modeling the User Perspective
536111 Dr. Nikhilesh Dholakia

Data Analysis and Detection Methods for Online Health Monitoring of Bridge Structures
536112 Prof. Sau-Lon Hu

536113 Dr. David Shao

Smart Speed Bumps
536114 Professor William Ohley
The Transportation Center supports a multidisciplinary program of course work and experiential learning that reinforces the transportation theme of the Center. The activities include traditional campus based courses as well as programs for practitioners and young people through K-12 programs.

2001 saw an increase in the number of classes offered, the number of students enrolled, and the number of degrees conferred. Noteworthy items include the development of a partnership with the FHWA National Highway Institute and the Student of the Year Award.

**URITC STUDENT OF THE YEAR**

URITC is proud to recognize a highly talented awardee of the 2001 annual URITC Student of the Year award.

Bryan Reimer is a doctoral candidate in the URI Department of Industrial and Manufacturing Engineering. He also earned his bachelor’s and master’s degrees from URI.

Working with URI Professor Manbir Sodhi, Reimer’s research focuses on the safe use of in-vehicle technologies by analyzing the eye movement of drivers who are distracted by cell phones, car radios, and other vehicle technologies. This research has important safety implications for vehicle design and operations.

Reimer received a cash award of $1,000 and a certificate of achievement during ceremonies in Washington, D.C.

**NHI / URI REGIONAL TRAINING**

The University of Rhode Island and the National Highway Institute (NHI) of the Federal Highway Administration (FHWA) will offer joint training and educational sessions to transportation practitioners in the Northeastern United States.

The mission of the National Highway Institute (NHI) is to provide proactive leadership, expertise, resources, and information to improve the quality of the U.S. highway system in order to enhance economic growth, quality of life, and the environment. The NHI develops and delivers training and education in cooperation with its partners to sustain and expand the transportation community’s professional capacity in technologies and strategies thereby accelerating the implementation of the state-of-the-art and continuing to advance the state-of-the-practice.
Model Bridge Building
After completing the “Bridge Builder” simulation program, the campers were provided materials to actually build a truss bridge with pins, balsa wood, and glue. The bridges were judged by the URI Transportation staff and prizes were awarded.

Children’s Hazmat Awareness Training
South Kingstown, RI junior high school students. Students tried on HAZMAT suits, spoke about dangerous substances, and tried out surveying equipment.

A Tour of Boston’s Big Dig
Elementary Students of West Kingston, RI toured the country’s biggest public transit construction project. They observed the complexities of planning for, and providing for, the multi-modal transportation needs of a major American city.

RI State Science Fair
The RI Department of Transportation and URITC judged and selected two winners for projects in transportation.

Metallurgy and Surveying Exploration
The Materials Science program afforded the campers the opportunity to observe and measure the corrosion of materials commonly used in bridge construction. In a foundry, students observed the fabrication of metal components and performed casting. They also used the electron microscope to study the surfaces of materials that had “failed.” These activities served as a basis for the on site visit at Boston’s Bunker Hill Memorial Bridge.

“Exploration in Transportation” Summer Camp, Grades 4 and 5
Students tried out computer-aided design (CAD), welding, and had tours of the National Guard airport and aircraft at Quonset.

Narragansett Indian Native American Camp
Students rode on an antique steam train and had tours of the T.F. Green Airport, National Guard helicopters, and ground equipment.

Summer Camp, Grades 6, 7 and 8
Students had a tour of Boston’s Big Dig, rode RI Public Transit ferry boats around Narragansett Bay, had tours of T.F. Green Airport, and went on-site at a live archeological dig in Bristol.

Native American Archeological Camp for Native Americans from RI Indian Council
Was held at Stepping Stone Ranch, and included horseback riding and archeological digs.

RI Department of Transportation Career Day
URITC sent two representatives to promote the transportation sciences to high school students at this career exploration program.
14TH ANNUAL TRANSPORTATION FORUM

The 14th Annual Rhode Island Transportation Forum took place on October 19, 2001 at URI’s Memorial Union Ballroom. This annual forum was attended by more than 60 representatives from the RI transportation community, including 14 exhibitors from state and private consulting firms. The guest speakers were Dr. Jon Epps of the Granite Construction Company, and Mr. Robert C. Ricci, Director of Safety & Security at the Volpe Center. As part of the forum, URITC researchers presented their latest research developments to this industry audience through individual presentations and poster sessions.

1ST ANNUAL TRANSPORTATION WEEK BREAKFAST

More than 80 transportation executives and practitioners attended the 1st Annual URITC Transportation Week Breakfast held on May 17, 2001. The guest speaker was Dr. Michael Meyer, Professor of Civil and Environmental Engineering at the Georgia Institute of Technology, who spoke on “Transportation’s Role in the Future: Emerging Trends and Challenges.”

The breakfast was co-sponsored by the Federal Highway Administration, the Rhode Island Airport Corporation, Rhode Island Department of Transportation and the Rhode Island Public Transit Authority. Industry support was provided by Rizzo Associates, Inc.
Transportation Seminars at the URITC allow researches to explain their research to a mixed audience of academics, students, and industry professionals. These listening sessions provide important contextual understanding of both the research being performed, and how this research benefits stakeholders.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Presenter</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 26, 2001</td>
<td>Development of an Advanced Bridge Highway and Runway De-Icing System</td>
<td>Prof. David Taggart</td>
<td>Mechanical Eng., URI</td>
</tr>
<tr>
<td>February 9, 2001</td>
<td>Smart Speed Bumps</td>
<td>Prof. William Ohley</td>
<td>Electrical Eng., URI</td>
</tr>
<tr>
<td>February 16, 2001</td>
<td>Development of Evaluation Technique for Predicating Success of Transit Signal Priority on Arterials</td>
<td>Dr. Christopher Hunter</td>
<td>Civil Engineering, URI</td>
</tr>
<tr>
<td>February 23, 2001</td>
<td>National Long-Term Pavement Performance (LTPP) Study and FHWA/ASCE International Contest using DataPave Software</td>
<td>Dr. K. Wayne Lee, P.E.</td>
<td>Civil Engineering, URI</td>
</tr>
<tr>
<td>March 2, 2001</td>
<td>Innovative Drainage Structure Design using AutoCAD 2000</td>
<td>Mr. Michael DeRotto</td>
<td>Highway Eng., RIDOT</td>
</tr>
<tr>
<td>March 9, 2001</td>
<td>Boston’s Big Dig</td>
<td>Mr. Chan Rogers, P.E.</td>
<td>Maguire Group, Inc.</td>
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<tr>
<td>March 23, 2001</td>
<td>Implementation of a Highway Monitoring Program Utilizing Intelligent Transportation System</td>
<td>Prof. Milton Huston</td>
<td>Civil Eng., URI</td>
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<td>Mr. George Monaghan &amp;</td>
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<td>Mr. Todd Brayton</td>
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<td>Bryant Associates</td>
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<tr>
<td>March 30, 2001</td>
<td>Comprehensive Study of Container Ports And Shipping: Year 1 Results and Future</td>
<td>Prof. Thomas Grigalunas, Dr. YT Chang, Mr. Meifeng Luo</td>
<td>Directions ENRE, URI</td>
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<td>Prof. O. Don Hermes, Dr. Anne Veeger, Prof. Daniel Murray and Mr. Nasir Hamidzada, GeoSciences, URI</td>
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<tr>
<td>April 6, 2001</td>
<td>Using Digital Databases to Create Geologic Maps for the 21st Century</td>
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<tr>
<td>April 13, 2001</td>
<td>Sustainable Transportation: Interpreting the European Experience for the U.S.</td>
<td>Dr. Elizabeth Deakin, Dir., Transportation Ctr., U of California at Berkeley</td>
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<td>April 20, 2001</td>
<td>Design and Manufacture of Minimum-Weight Structures for the Transportation System</td>
<td>Prof. Peter Dewhurst, Ind. &amp; Manufacturing Eng., URI</td>
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<tr>
<td>April 27, 2001</td>
<td>Enhancing the chemical Retention Capacity Of Roadway Runoff Detention Ponds: first results</td>
<td>Dr. Thomas Boving, GeoScience, URI</td>
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<td>May 18, 2001</td>
<td>Chemical Characterization of Sediment Cores from the Proposed Quonset Point in Narragansett Bay</td>
<td>Prof. James Quinn, Dr. John King, GSO, URI; Prof Channel Raymond Wright, Civil Eng.</td>
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<td>June 22, 2001</td>
<td>Replacement of Chromates in Paints and Corrosion Protection Systems</td>
<td>Dr. Mercedes Rivero-Hudec &amp; Prof. Richard Brown, Chemical Eng., URI</td>
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<td>June 29, 2001</td>
<td>Effect of Microstructure on the Static and Dynamic Mechanical Behavior of Recycled Asphalt Material</td>
<td>Prof. Martin Sadd, Mechanical Eng., URI</td>
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<td>July 13, 2001</td>
<td>Performance Improvement of Open-Graded Asphalt Mixes</td>
<td>Prof. Martin Sadd, Mechanical Eng., URI</td>
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**CENTER SEMINARS**

**July 27, 2001**  
**Moving Smart in Rhode Island**  
Dr. Joan Peckham, Dr. Lisa DiPippo, Computer Science and Statistics, URI & Dr. Christopher Hunter, Civil Eng., URI

**August 3, 2001**  
**Intermodal Transport of Petroleum Products-Smart Terminals**  
Prof. Winston Knight, Dr. Manbir Sodhi, Industrial Manufacturing Eng., URI & Prof. Dennis Nixon, Marine Affairs, URI

**August 30, 2001**  
**Expanded Polystyrene Blocks as Lightweight Backfill also “Soil Nailing” & “Navy’s Mobile Offshore Base”**  
Prof. Sangchul Bang, Dean College of Earth Systems South Dakota School of Mines & Technology

**October 12, 2001**  
**Dredging in a Changing Scientific and Regulatory Environment**  
Prof. Richard Burroughs & Prof. Lawrence Juda Marine Affairs, URI

**October 26, 2001**  
**Development of an Advanced Pavement Deicing System**  
Prof. David Taggart, Mechanical Eng., URI

**November 2, 2001**  
**Development of Thermochromic Paints, Rubbers for Rapid Visual Assessment of Temperature**  
Dr. Brett Lucht, Prof. Plastics & William Euler, Chemistry & Prof. Otto Gregory, Chem. Eng, URI

**November 9, 2001**  
**Contamination of Urban Lakes by Storm Runoff from Highway and Railway Drainage Systems**  
Prof. John King, Prof. James Quinn, Grad. School of Oceanography, URI & Prof. Raymond Wright, Civil Eng., URI

**November 16, 2001**  
**A Container Port Demand Simulation Model: Issues, Illustrative Results, Potential uses and Future Direction**  
Prof. Thomas Grigalunas, & Mr. Meifeng Luo, Env. & Nat’l Resource Economics, URI

**November 30, 2001**  
**Field Study of Composite Piles in the Marine Environment**  
Dr. D.P. Christopher Baxter, Ocean/Civil Eng., URI

**December 7, 2001**  
**Processing of Cenosphere-Cement Asphalt Composite Materials and Evaluation of their Mechanical and Acoustic Properties**  

**December 14, 2001**  
**Investigation of Potential for Intermodalizing Paratransit in Rhode Island**  
Dr. Christopher Hunter Civil Engineering, URI
To respond to the need to provide better information to our stakeholders and the general public, the Center expanded and improved its website in a variety of ways.

The new URITC website features full descriptions of ongoing research projects, news, seminars and research opportunities, pulling information directly from a central, internal project management system.

The site also allows Center staff to update and maintain a calendar of events, frequently asked questions, news releases, email lists and project information and management, directly from the website itself.

Project investigators will soon be able to log in to check financial information for their projects directly, through an online administrative portal.

The site averages more than 200 unique visitors each day, increasing visibility for the Center and providing important administrative functionalities for internal use.