2006 Annual Report

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About the URI Transportation Center

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.

The Center is one of 26 national centers supported by the U.S. Department of Transportation through the University Transportation Centers Program.

The Center has a full time staff of six, headed by an Executive Director. The Center also has an Executive Board chaired by the URI Vice President for Administration and composed of a senior member of the Center’s stakeholder groups.

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.”

National UTC Goals:

Education: a multidisciplinary 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.
The year 2006 was one of renewal for the University of Rhode Island Transportation Center (URITC). Our central mission continued to focus on education, research and outreach/technology transfer. In 2006, however, the URITC’s accomplishments further solidified relationships with industry partners in the public and private sectors.

Educational initiatives have always relied heavily on both federal and state partners. In 2006, the URITC continued to include managing National Highway Institute training courses. Our partnership with the College of Business Administration also continued to evolve as the first courses in supply chain management were offered. The first students in this major, which includes transportation and logistics courses, will graduate in 2009.

In research, as of June 2006, 58 previously funded projects are complete with final reports available on the URITC web site and 24 projects are on-going. The completed and on-going research efforts resulted in numerous presentations and publications, and requests for URITC researchers to serve as experts on transportation topics. As an adjunct to our research programs, the student exchange program with the University of Puerto Rico-Mayaguez, in its third year, once again brought together students and URI transportation researchers with the support of the Dwight D. Eisenhower Transportation Fellowship Program. This exchange program broadens all our horizons.

The URITC experienced a transition in leadership in 2006. Both Executive Director Richard Horn and Assistant Director Maria Amador resigned to pursue other opportunities. Richard saw the URITC through its formative years, creating a solid reputation for the URITC in education, research and outreach. Maria, an assistant in name only, contributed to the URITC’s multiple missions by developing the processes that will carry us into the future. We wish both Richard and Maria success in their future endeavors.

One of my first tasks as executive director was to develop a new strategic plan for the Center, which would call for an increased outreach effort and greater involvement of the URI faculty in transportation research. Developing connectivity of people and goods through sustainable transportation systems will be a major theme of the Center. With its strong partnership with the Rhode Island Department of Transportation (RIDOT), the URITC has an opportunity to be a leader in workforce development.

The Center's accomplishments are in large part due to its collaborations with various academic departments at URI, other universities around the world, RIDOT and transportation professionals throughout Rhode Island. Further partnerships will be developed to tackle major challenges faced by everyone in the transportation sector.

With RIDOT's support, the URITC has begun several new workforce development initiatives aimed at getting the youth of Rhode Island to see the variety of career opportunities within transportation.

The accomplishments of the URITC, for the period January 1 to December 31, 2006, are discussed in the following report.
URITC Staff

Richard J. Horn
Executive Director

Maria Amador
Assistant Director

Jeff Cathcart
Director, Transportation Technical Assistance and Outreach

Nancy Murphy
Fiscal Management Officer

Tory Perrotta
Senior Wordprocessing Typist

John S. Peterson
Senior Information Technologist

Ying Qin
Research Associate
The URITC Executive Board is composed of the principal University and public sector stakeholders.

The group provides advice to the President of the University of Rhode Island and to the URITC Executive Director in terms of the goals and overall objectives of the Center’s programs.

**Executive Board**

Robert Weygand, Chair  
URI Vice President, Administration

James Capaldi  
Director, RI Department of Transportation

Lucy Garliauskas  
Division Administrator, RI Div. FHWA

Mark M. Higgins  
Associate Dean, URI College of Business Administration

Phillip Kydd  
Assistant Director, RI Dept. of Transportation

Bahram Nassersharif  
Dean, URI College of Engineering

John O’Brien  
Chief, RI Statewide Planning Program

Lynn Pasquerella  
URI Vice Provost, Graduate Studies, Research & Outreach

Kevin Smith  
CVS Senior Vice President of Supply Chain and Logistics
6th Annual National Transportation Week Breakfast

As part of the celebration of National Transportation Week, the URITC sponsored the 6th annual National Transportation Week breakfast on May 17th at the Radisson Airport Hotel in Warwick. The event was entitled “Celebrating 50 Years of the Interstate System.”

This year’s event attracted more than 125 members of the Rhode Island transportation community, including leaders from the federal and state transportation agencies and transportation practitioners, as well as engineers from private industry.

URI President, Dr. Robert Carothers, welcomed the group. James Capaldi, director of the Rhode Island Department of Transportation (RIDOT), made the opening remarks highlighting the “state of transportation” in Rhode Island.

Richard Horn, former executive director of the URI Transportation Center, gave the audience an update on research and outreach processes made during the 2006 year.

Lucy Garliauskas, FHWA’s Rhode Island Division Administrator, introduced the keynote speaker, Dan McNichol, best-selling author of “The Roads that Built America” and the “Big Dig.” McNichol spoke on and presented a slide show celebrating the 50th anniversary of the U.S. Interstate System.

The breakfast concluded with the presentation of the FHWA 2005 Awards for RIDOT quality, transportation pioneering, safety, innovators and excellence.
As part of National Transportation Week, middle school students were made aware of the importance of transportation and the career options available in transportation through a robotics competition and poster contest.

Robots were built by teams of middle school students throughout Rhode Island. The groups programmed their robots to perform transportation functions, such as moving disabled vehicles, plowing snow on an airstrip, crossing railroad tracks and unloading cargo. The teams were awarded points based on how well their robot completed each task within the time limit. Students also competed in a poster contest in which they had to create a transportation-related poster.

**Robotics Challenge Winners**

First Place: Cole Middle School, East Greenwich
Second Place: Winman Middle School, Warwick
Third Place: Alan Shawn Feinstein School of Coventry

**Poster Challenge Winners**

First Place: Riverside Middle School, East Providence
Second Place: Winman Middle School, Warwick
Third Place: Parkview Middle School, Cranston
Rhode Island Construction Career Days

“Every year at least two of my students decide to begin a career in the construction field because of the experience they had at Construction Career Day,” a North Kingstown High School teacher wrote after attending the 2006 Construction Career Day event.

For two days during National Transportation Week, the Rhode Island Department of Transportation’s (RIDOT) Coventry facility was once again home to the RIDOT and Federal Highway Administration sponsored program, known as Construction Career Days.

Jeffrey Cathcart, director of technology transfer and outreach for the URI Transportation Center, is the coordinator of the event. Cathcart stated that the program started in Texas, in 1999, when the Texas Department of Transportation had trouble getting bids on jobs because of a shortage of skilled workers. That trend appears to be changing, at least locally. In the past six years that this event has taken place at the midstate facility, Cathcart said he has heard that a number of participants have secured paid positions from the connections they made during the event.

In an effort to further increase awareness of job opportunities in the construction industry, potential employers from Rhode Island and surrounding states set up informational and hands-on stations in and outside the facility for the students to experience.

This year’s event welcomed over 1,200 students from 48 Rhode Island high schools, eight of which were alternative learning programs such as Exeter Job Core and Harmony Hill School. Upon arrival these students were given a duffle bag with a CCD t-shirt, hardhat, work gloves, safety glasses and career information. They were then able to observe and participate in over 70 exhibits, including hands-on activities such as welding and carpentry. They were also instructed in the operation of backhoes, bucket trucks, jackhammers and excavators.

In addition to the excitement of exploring the equipment, the purpose of the Rhode Island Construction Career Days event, according to Cathcart, is to make a connection between the employers and the next generation of prospective employees.

The Rhode Island Construction Career Days continue to grow in popularity among high schools and exhibitors. The calls and emails start in September asking when the next Construction Career Days will be held. If past events are any indication, we can expect to hold many more Construction Career Days and continue to generate an increased interest in the many rewarding careers the construction industry has to offer.
Construction Career Days events are known around the country for their ability to highlight exciting construction careers to high school students. As the success and popularity of Construction Career Days have increased, the Federal Highway Administration recognized the need to have a centralized source of support and information.

In partnership with the Rhode Island Department of Transportation (RIDOT), the University of Rhode Island Transportation Center (URITC), the center will provide an advisory group, on-call technical assistance, a national website, a newsletter, a national workshop, and a database to store the collective outputs of individual CCD sites.

The national center is helping continued growth of events across the United States by acting as a clearing house of ideas. The Center also tracks individual CCD events, keeping totals and other statistics. “How to” guides and other marketing materials are also produced and shared by the individual CCD sites.

A national construction career days workshop was held July 30 to August 3, 2006 in St. Petersburg, Florida.
The Rhode Island affiliate of Women’s Transportation Seminar (WTS) and the University of Rhode Island Transportation Center sponsored the second annual joint event “Women in Transportation: Career Paths and Scholarship Opportunities” that took place Tuesday, February 28, from 5:30 to 8:00 p.m. at the URI Memorial Union.

The event provided area college and university students with the opportunity to hear career advice from women transportation professionals. Speakers included representatives from Rhode Island’s major transportation engineering firms, the RI Department of Transportation, and the RI Airport Corporation.
As part of a collaborative effort between the Dwight David Eisenhower Transportation Fellowship Program, the University of Puerto Rico-Mayagüez (UPRM) and the URITC, three students participated in summer internships in Rhode Island. The students were selected through a competitive process and received Dwight David Eisenhower Transportation Fellowships.

The UPRM students lived on the URI campus and worked directly for URI faculty members conducting URITC sponsored research. The summer internships allowed the students to gain meaningful experience in ongoing transportation research programs and in RIDOT projects. The students also had the opportunity to meet federal and state transportation professionals.

Input from faculty, project advisors and from students indicated that this was a productive and enriching experience for all involved.

The students from the University of Puerto Rico-Mayagüez included John Davila, Kelvin Santiago and Andrew Preciozo.
Central European Technical Tour

**Background**
The Federal Highway Administration (FHWA) facilitates a cooperative “twinning” partnership between Rhode Island and the country of Slovakia in Central Europe. This partnership allows for the exchange of technology, management practices, and research results as they relate to roadway design and operations. The FHWA Office of International Programs facilitates global knowledge sharing in order to give U.S. engineers an international perspective (thereby leading to better practices and money savings), to enhance the flow of international trade and to advance U.S. foreign policy objectives.

In October 2006, two Rhode Island engineers, Mark Felag, P.E. and John Nickelson, P.E. visited Rhode Island’s “twin,” Slovakia. Felag is the materials engineer for the Rhode Island Department of Transportation (RIDOT). Nickelson retired from RIDOT as the state maintenance engineer and is currently employed as director of public works for the City of Providence. Both traveled throughout Slovakia, with brief travel time in Austria and Hungary. They were hosted by Jan Šedivý, Ph. D.

**Slovakian Road Association (SRA) Conference – Workforce Development**
Nickelson introduced the need for workforce development in his opening remarks to the SRA Conference, reminding participants of the importance of introducing young people to transportation related careers. The discussion of starting a Career Day in Slovakia continued with SRA Conference attendees, including Šedivý and Ing. Milan Rezetka, marketing director for Transport Research Institute (TRI).

**SRA Conference – Snow Plow Rodeo**
A snow plow rodeo was held for non-technical staff as part of the conference. Nickelson and Felag acted as the official timer and judged the stopping accuracy of the participants.

**SRA Conference Speakers**
Presenters spoke of the “transformation,” which is the ongoing transfer of ownership and the associated responsibility for transportation infrastructure from the central state authority to the regional and municipal governments. The infrastructure issues faced by Slovakia are the same as those discussed at all levels of government in the U.S.; there is inadequate funding to meet the needs of increased maintenance objectives, traffic congestion, etc. Slovakian presenters also talked about completing the network of limited access Class I roads, which are similar to U.S. interstate highways.

**Pavement Channel Groove Spacing – Slovakia – Rain run-off**
On a previous visit to Slovakia, engineers from Rhode Island noted locations on the motor ways where grooves had been saw cut in the pavement surface. It was learned that the grooves are installed to channel water from the pavement surface. When Nickelson and Felag visited, they photographed the saw cut configurations to confirm the depth and spacing of the pavement channels. The spacing was 12 inches wide with a 40 inch distance between them perpendicular to the spacings (48 inches along the roadway). The channels typically had seven grooves about 3/8 – 1/2 inch in depth.
2006 Outstanding Student of the Year

Each year at the annual winter meeting of the Transportation Research Board, the U.S. Department of Transportation honors the most outstanding student from each participating University Transportation Center for her/his achievements and promise for future contributions to the transportation field.

Students of the year are selected based on their accomplishments in such areas as technical merit and research, academic performance, professionalism and leadership.

Aaron Clark was awarded URITC’s “Student of the Year” award for 2006. With that honor came a trip to the Transportation Research Board (TRB) meeting in Washington for an awards presentation and dinner and a $1,000 cash award.

Clark is a candidate for the URI Master of Industrial and Manufacturing Engineering at the University of Rhode Island and is well known for his academic excellence and love for his work.

Clark conducted his graduate research on a URI Transportation Center sponsored project titled “Assisting Elder Drivers’ Comprehension of Dynamic Message Sign Messages.” As part of this project, he helped test and design traffic message boards that are easier to read for elderly drivers.

“We basically played with fonts, graphics, shadows, colors and message lengths to find out what works,” said Clark.

The goal of the team’s research was simple, create a test environment to monitor effectiveness of various designs and report on the findings.

From their work, the research team made some important conclusions that will help in the design of more effective electronic signage for the increasing elderly population.

It is with great pleasure that the URITC awards this year’s “Student of the Year” award to Aaron Clark.
The 2006 University of Rhode Island (URI) Summer Transportation Institute (STI) focused on creating interest in the transportation field among middle school students. The goal was to provide opportunities that fostered awareness and knowledge of transportation careers and the respective education and training requirements.

Through two 2-week nonresidential sessions held on the URI campus, that may have been achieved. A diverse student population was provided with an introduction to the numerous careers in the field of transportation and the various modes of transportation in Rhode Island.

The URI STI provided numerous educational activities and allowed the students to interact with transportation professionals. Classroom instruction, guest speakers, field trips and hands-on projects were key components of the academic program.

Activities included:
- Introduction to bridges by a R.I. Department of Transportation bridge engineer
- Introduction to engineering careers by a City of Providence and a RIDOT engineer
- Computer bridge building contest
- Balsa wood bridge building contest
- Safety sessions at the Historic Kingston Railway Station
- Writing in daily journals
- Work zone safety sessions
- Tour of T.F. Green Airfield
- Hands-on activities at the New England Laborer’s Training Center
- Tour of Narragansett Bay, including the Jamestown Bridge and Plum Point Lighthouse
- Photograph activities with a digital camera

As part of the enhancement program, the participants experienced a multi-modal trip including riding a commuter rail, a subway, a van and walking. Students were also introduced to university life at URI. They visited dorms, classrooms and sports facilities, met staff and ate in a dining hall. Students also had the opportunity to experience the facilities at the New England Laborers’ Training Center.

Despite the busy schedule, there was still time for students to build friendships, participate in sports and have fun. Participants enjoyed swimming in the pool at the Laborer’s Training Center, playing frisbee, baseball, basketball and flying wooden airplanes. They also had time for activities at the beach.

A total of 34 students, representing a multitude of ethnic backgrounds, from urban and suburban communities, participated. All participants expressed that their experience at the URI STI was educational, meaningful and fun.
Aimed at Rhode Island public works employees and other transportation practitioners, LTAP training provides useful assistance in workforce development, best practices, and safety. Between 20 to 40 public works employees and transportation practitioners attend each workshop.

The RIT2 Center, located at the URI Transportation Center, provided the following programs during 2006.

**OSHA 10-Hour Construction Training**
This training program has been developed for the construction industry and is focused on the problems and hazards faced by construction workers. Some of the topics covered are personal protective equipment, excavations and training, mechanized equipment and electrical safety.

**Winter Snow and Ice Operations**
This workshop is designed for both the new snowplow operator as well as experienced members of the department. Topics include proper spreading of salt and materials, equipment maintenance, plowing procedures and defensive driving.

**Computer Training Workshops**
These one-day workshops include learning the basics of computer programs such as Word I, Excel I and II, and Access I and II.

The following is a list of workshops offered by the RIT2 Center.

- 1/11/06 Forklift Certification
- 1/13/06 Sander Calibration
- 1/16/06 Excel Level II
- 1/18/06 Microsoft Word II
- 1/23/06 Backhoe Operator Test
- 1/25/06 Mig Welding
- 1/27/06 Forklift Certification
- 1/31/06 Forklift Certification
- 2/03/06 Preparing to Take the Hoisting Engineers License
- 2/03/06 Sander Calibration
- 2/07/06 Forklift Certification
- 2/07/06 Loading and Securing Heavy Equipment for Transport
- 2/09/06 Road Drainage
## LTAP / RIT2 Workshops

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<th>Date</th>
<th>Workshop Description</th>
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<tr>
<td>2/09/06</td>
<td>Flagger Certification</td>
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<td>2/10/06</td>
<td>Road Drainage</td>
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<td>2/14/06</td>
<td>Forklift Certification</td>
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<td>2/15/06</td>
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<td>Loading and Securing Heavy Equipment for Transport</td>
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<td>Access Level I - Advanced Instruction</td>
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<td>2/27/06</td>
<td>CDL Test</td>
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<td>3/02/06</td>
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<td>4/27/06</td>
<td>Limbing, Bucking, Storm Clean-Up</td>
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<td>Pipe Seminar and Concrete Pipe Plant Tour</td>
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<td>6/27/06</td>
<td>Using the Dig Safe System</td>
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<td>8/16/06</td>
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<td>Tig Welding</td>
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<td>Statewide Snow Plow Rodeo</td>
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<td>It's Not Magic, It's Managing</td>
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<td>10/31/06</td>
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<td>11/08/06</td>
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<td>11/16/06</td>
<td>Winter Snow and Ice Operations</td>
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<td>11/17/06</td>
<td>DISC (Dimensions in Behavior)</td>
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## LTAP / RIT2 Workshops

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<td>12/06/06</td>
<td>Supervising...Through Leadership</td>
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<td>Solving Problems and Making Tough Decisions</td>
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<td>12/13/06</td>
<td>Flagger Certification</td>
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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.

Because of the unique partnering of the Federal Highway Administration (FHWA), the National Highway Institute (NHI) and the URI Transportation Center (URITC), the URITC has offered 12 professional development training sessions, at which more than 300 people attended. The URITC/FHWA/NHI partnership is an important regional asset, affording quality continuing education to public and private transportation practitioners.

2006 NHI Training Sessions

- Micropile Design and Construction
- AASHTO Roadside Design Guide
- Advancing Transportation Systems and Management Operations
- NEPA and Transportation Decision Making
- Design and Implementation of Erosion and Sediment Control
- New Approaches to Highway Safety Analysis
- Business Relocation
- Water Quality Management of Highway Runoff
- Highway Program Financing
- Appraisal for Federal-Aid Highway Programs
- Appraisal Review for Federal-Aid Highway Programs
- Roundabout Design Workshop
Publications, Presentations & Success Stories
Reported Publications, Presentations & Success Stories

**FY 2006 URITC 001031 Dr. Jhy-Hone Wang**
Enhancing the Preparedness and Response of the Transportation System in Natural or Human-Caused Disasters

9/26/2006  Paper entitled “Assessing the Preparedness of Rhode Island’s Transportation System in Natural or Human-Caused Disasters” by Aaron Clark, Jhy-Hone Wang, Charles Collyer, Natacha Thomas, and Valerie Maier-Speredelozzi, was presented by co-PI Maier-Speredelozzi at the Global U8 Consortium on National Security, Natural Disasters, Logistics and Marine Transportation: Assessing the Risks and Responsibilities. The conference was held during September 2006 at University of Rhode Island, Kingston, RI.

10/24/2006 An abstract of a paper entitled “Disseminating Information with Variable Message Signs during Times of Emergency,” by Jyh-Hone Wang, Charles Collyer, and Valerie Maier-Speredelozzi, based primarily on accumulated research and the preliminary public opinion survey, was accepted by a special issue of the Journal of Intelligent Transportation Systems (JITS).

1/15/2007 Paper entitled “Disseminating Information with Variable Message Signs during Times of Emergency,” by Jeffrey Severson, Jyh-Hone Wang, Charles Collyer, and Valerie Maier-Speredelozzi, was submitted to the special issue of the Journal of Intelligent Transportation Systems.

**FY 2006 URITC 001032 Dr. Richard Brown**
New Anti Fouling Coatings Based on Conductive Polymers

7/17/2006  Success Story: The project has been successful in involving local high school students in the research as their senior experiences in science and as summer intern experiences. Rob Benavides, a student at Narragansett High School worked on this project as a summer intern in the Chemical Engineering department at University of Rhode Island. Bishop Hendricken High School students Patrick Fuller and David Keach also completed a study of surface morphologies of sea shells as their senior experience.
**Reported Publications, Presentations & Success Stories**

**FY 2006 URITC 001034 Dr. Norbert Mundorf**
*Improving Safe Transportation and Alcohol Awareness Messages*

5/15/2006  Success Story: Rhody Rides provided an estimated 275 rides during Spring 2006. A large number of students were involved in the grassroots effort. The project is unique in that it was accompanied by breath-a-lizer testing which provided reliable data of student alcohol consumption.

7/15/2006  Success Story: Supervised fundraising activities of students involved with Rhody Rides safe ride program achieved $5000 donation from DeCubellis Foundation, and Majestic Honda donated a van for Rhody Rides to use during 2006/2007 academic year as well as a number of smaller donations. This success will aid in continuation of Rhody Rides and will help make it a model for the North Eastern U.S.

**FY 2005 URITC 001026 Dr. Jhy-Hone Wang**
*Assisting Elder Drivers’ Comprehension of Dynamic Message Sign Messages*

12/31/2006  Award: Graduate student Aaron Clark working on the project was nominated “The Student of the Year” award and was subsequently chosen to be the recipient of this award at the January 2007 TRB meeting in Washington D.C.

**FY 2005 URITC 001027 Dr. Mayrai Gindy**
*Integrity Assessment of Composite and Timber Piles in the Marine Environment Using Nondestructive Testing*

6/5/2006  Success Story: Exchange students join the research team fully funded for their period of research work. Graduate student John Davila from the University of Puerto Rico Mayaguez worked on the project through the URITC Summer Internship Exchange Program. He is also planning on returning to URI as a Ph.D. candidate in the Department of Civil and Environmental Engineering. Graduate student Philipp Hirtler is fully funded for the 2006-2007 academic year through the University of Rhode Island International Engineering Program.

4/25/2007  Poster presentation entitled “Integrity Assessment of Glass-Fiber Reinforced Polymer Composite Piles using Ultrasonic Testing” was given at the Higher Education Day at the State House, Providence, RI, by Philipp Hirtler, an MS student from the International Engineering Program (IEP) working on the project.
Reported Publications, Presentations & Success Stories

FY 2005 URITC 001028 Dr. Christopher Anderson
A Strategic Model for Optimal Scaling of International Container Ports

8/6/2006 Presentation entitled “A Research Methodology for Modeling Inter-Port Competition” was given by PIs Christopher Anderson, Yong Tae Chang and Meifeng Luo to port experts at the International Conference on Container Port Management, at the Inha University, Korea. Field trips and visits to container ports followed the conference.

12/22/2006 Success Story: A small Korea-centric version of the strategic model was presented by the research team to the Korean Ministry of Maritime Affairs and Fisheries (MOMAF). The model was well received and hub port competition results were accepted by Korean MOMAF.

FY 2005 URITC 001029 Dr. Candace Oviatt
Co-Utilization of Narragansett Bay by Maritime Commerce, Tourism, Recreational and Commercial Industries

12/12/2006 Poster presentation entitled “East Passage, Narragansett Bay, 2006 Boat Density Study” was given by graduate student Mike Riccio at the annual University of Rhode Island Coastal Fellows Program poster session and recognition ceremony in Kingston, RI. The poster authors were Mike Riccio, Candace Oviatt, Chris Calabretta, & Brooke Longval.

FY 2004 URITC 000471 Dr. James Miller
Acoustic Detection and Monitoring for Transportation Infrastructure Security

5/10/2006 Success Story: Graduate student Sairajan Sarangapani successfully defended his thesis “Measurement and Modeling of Target Strength of Divers” on research work which is part of the URITC project. The thesis was published by University of Rhode Island (URI) and collected in the URI library.

FY 2004 URITC 000472 Dr. Jyh-Hone Wang
Employing Graphics to Aid Message Display on Dynamic Message Signs

5/24/2006 Paper entitled “A Human Factors Study on Graphic-Aided Dynamic Message Signs” was presented by Jyh-Hone Wang at the 2006 Institute of Industrial Engineers (IIE) Annual Conference in Orlando, FL.
Reported Publications, Presentations & Success Stories


FY 2004 URITC 000506 Dr. Michael Greenfield
Testing Models of Asphalt System Modification using Molecular Simulation

6/21/2006  Invited presentation entitled “Computer Simulations of Asphalts” was given by Michael Greenfield the 2006 Pavement Performance Prediction Symposium, Laramie, WY.

FY 2004 URITC 000557 Dr. Farhad Atash, Dr. Talia McCray
Developing Intermodal Transportation Station Projects: A Public-Private Partnership Approach

1/23/2006  Presentation of paper entitled “Developing Intermodal Train Station Projects in Rhode Island” by Jessica Sick, Farhad Atash and Talia McCray, on the use of alternative financing, including public-private partnerships, to fund intermodal train station projects in Rhode Island, was given by Jessica Sick at the Annual TRB Meeting in Washington, D.C. The paper was published in the proceedings of the meeting later.

3/15/2007  Presentation entitled “Innovative Financing Strategies for Developing New Train Stations in Rhode Island” on the research project was given by Farhad Atash the Annual Meeting of the Transportation Research Forum at Boston University, Boston, MA. The paper was later published in the proceedings of the meeting.

FY 2004 URITC 000564 Dr. Farhad Atash
Challenges and Prospects of the Proposed Intermodal Transportation Hub at T.F. Green Airport in Warwick, Rhode Island

3/25/2006  Paper presentation entitled “Prospects and Challenges of the Proposed Intermodal Train Station at T.F. Green Airport in Rhode Island” by Farhad Atash was presented at the Transportation Research Forum (TRF) Annual Meeting in New York City, NY. The paper was later published in the proceedings of the meeting.
Reported Publications, Presentations & Success Stories

FY 2004 URITC 000886 Dr. Deborah Rosen
Transportation and Supply Chain Concentration and Certificate

6/7/2006 Success Story: Insight, Inc. of Manassas, VA. donated their SAILS Modeling Software and training to the program under development at the College of Business Administration. The program and week-long training was valued at $150,000. This software is used by many major firms to enable comparative decisions.

2/4/2007 Curriculum to establish a major in Supply Chain at the University of Rhode Island College of Business Administration was approved by college faculty and the university senate. The curriculum was submitted to the Rhode Island Board of Governors for approval on March 9, 2007 and approved for adoption. The establishment of a concentration in Supply Chain for MBA students was also approved by the College’s faculty committee on graduate studies.

4/6/2007 Vik Saran, Nike Supply Chain Manager presented a program was to College of Business Administration students at Ballentine Hall. Over 60 students attended to learn about international supply chain developments and new factories established in South America.

4/14/07 The Supply Chain “Evangalist” for Dell Computer, Mike Gray, addressed students about Dell’s unique supply chain and met with and addressed the Advisory Board for the program which includes the Traffic Manager for CVS (Joe Estrella), the Supply Chain manager for Ocean Spray (June Youngs), and other industry notables.

Note: the new major will admit the first students in Fall ’07

FY 2003 URITC 000060 Dr. Christopher Baxter
Liquefaction Potential of Inorganic and Organic Silts

6/26/2006 Presentation entitled “Liquefaction Potential of Silts in Rhode Island” was given by Christopher Baxter of University of Rhode Island and Russell Green of the University of Michigan at the workshop for geotechnical professionals on the liquefaction of silts in Rhode Island held at the Rhode Island Department of Transportation, Providence, RI.
Reported Publications, Presentations & Success Stories

7/10/2006  Paper entitled “A New Correlation Between Cyclic Resistance and Shear Wave Velocity for Silts” by Christopher Baxter, Aaron Bradshaw, Russell Green, and Jing Wang was submitted to the ASCE Journal of Geotechnical and Geoenvironmental Engineering and is in press.

9/28/2006  Presentation entitled “Liquefaction Potential of Rhode Island Silts” was given by Christopher Baxter and Aaron Bradshaw at the 47th Annual Conference of the Northeast States Geotechnical Engineers, Providence, RI.

12/1/2006  Success Story: Graduate student Aaron Bradshaw successfully completed his Ph.D. degree as part of this project. The dissertation entitled “Liquefaction Potential of Silts” was published by University of Rhode Island (URI) and collected in the URI library. Aaron Bradshaw has accepted a faculty position at Merrimack College in Andover, MA.

12/31/2006  Paper entitled “A Rational Approach for Evaluating Seismic Demand and Resistance at a Silt Site in Rhode Island” by Aaron Bradshaw, Russell Green, and Christopher Baxter was accepted for publication and currently in press in the Boston Society of Civil Engineers’ Civil Engineering Practice Journal.

12/31/2006  Paper entitled “Sample Preparation of Silts for Liquefaction Testing” by Aaron Bradshaw and Christopher Baxter was accepted for publication and is now in press in the ASTM Geotechnical Testing Journal, 30(4).

2/20/2007  Presentation entitled “A Site-Specific Comparison of Simplified Procedures for Evaluating Cyclic Resistance of Non-Plastic Silt” by Christopher Baxter at the ASCE GeoDenver 2007 Conference, Denver, CO. The paper with same title is in press in the ASCE conference proceedings.

FY 2002 URITC 536183 Dr. Brett Lucht
Development of Thermochromic Paints, Plastics, and Rubbers for Rapid Visual Assessment of Temperature

New Projects in 2006

**Enhancing the Preparedness and Response of the Transportation System in Case of Natural or Human-Caused Disasters**
Dr. Jyh-Hone Wang, Associate Professor
University of Rhode Island Department of Industrial and Manufacturing Engineering
Year Initiated: 2006-001031

**New Anti-Fouling Coatings Based on Conductive Polymers**
Dr. Richard Brown, Professor
University of Rhode Island Department of Chemical Engineering
Year Initiated: 2006-001032

**Understanding the Activity and Travel Patterns of Teenagers Living in Providence, R.I.**
Dr. Talia McCray, Assistant Professor
University of Rhode Island College of Business Administration
Year Initiated: 2006-001033

**Improving Safe Transportation and Alcohol Awareness Messages**
Dr. Norbert Mundorf, Professor
University of Rhode Island Department of Communication Studies
Year Initiated: 2006-001034

**Transportation System Research Program Development**
Dr. Christopher Hunter, Assistant Professor
University of Rhode Island Department of Civil and Environmental Engineering
Year Initiated: 2006-001385

**Transit Alternatives for South-Eastern New England: An Education Proposal**
Dr. Richard Sheridan, Associate Professor
University of Rhode Island Department of Community Planning & Landscape Architecture
Year Initiated: 2006-001396

**Synthesis of Nanocatalyst-Support Composites for Transportation Applications**
Dr. Arijit Bose, Professor
University of Rhode Island Department of Chemical Engineering
Year Initiated: 2005-001024
New Projects in 2006

Modeling Molecular Level Actions of Asphalt Modifiers
Dr. Michael Greenfield, Associate Professor
University of Rhode Island Department of Chemical Engineering
Year Initiated: 2005-001025

Assisting Elder Driver’s Comprehension of Dynamic Message Sign Messages
Dr. Jyh-Hone Wang, Associate Professor
University of Rhode Island Department of Industrial and Manufacturing Engineering
Year Initiated: 2005-001026

Integrity Assessment of Composite and Timber Piles in the Marine Environment Using Nondestructive Testing
Dr. Mayrai Gindy, Assistant Professor
University of Rhode Island Department of Civil and Environmental Engineering
Year Initiated: 2005-001027

A Strategic Model for Optimal Scaling of International Container Ports
Dr. Christopher Anderson, Associate Professor
University of Rhode Island Graduate School of Oceanography
Year Initiated: 2005-001028

Co-Utilization of Narragansett Bay by Maritime Commerce, Tourism, Recreational and Commercial Industries
Dr. Candace Oviatt, Professor
University of Rhode Island Graduate School of Oceanography
Year Initiated: 2005-001029

Global Transportation Network and Supply Chain Management: An Integrative Approach
Dr. Mary Krome Hamilton, Assistant Professor
University of Rhode Island College of Business Administration
Year Initiated: 2005-001030

Multi-Modal Hurricane Evacuation Plan
Dr. Natacha Thomas, Assistant Professor
University of Rhode Island Department of Civil and Environmental Engineering
Year Initiated: 2005-001051
New Projects in 2006

**FRP: Increasing Seat Belt Use Among High School Students**
Dr. Jerome Adams, Professor  
University of Rhode Island Human Development and Family Studies  
Year Initiated: 2005-001113

**Guaranteed Admissions Program/Special Programs for Talent Development (GAP/SPTD) RIDOT Programming**
Dr. Gerald Williams, Director  
University of Rhode Island GAP/SPTD  
Year Initiated: 2005-001144

**Commuter Behavior, Transportation, Energy Use and Greenhouse Gas Emissions at the University of Rhode Island (Summer 2006)**
Dr. Frederick Meyerson, Assistant Professor  
University of Rhode Island Department of Natural Resources Science  
Year Initiated: 2005-001162

Ongoing Projects as of December 31, 2006

**Nanostructured Materials for Advanced Transportation Applications**
Dr. Arijit Bose, Professor  
University of Rhode Island Department of Chemical Engineering  
Year Initiated: 2004-000464

**The Impact of Truck Driver Hours-of-Service Regulations on Retail Warehouse Operations**
Dr. Valerie Maier-Speredelozzi, Assistant Professor  
University of Rhode Island Department of Industrial and Manufacturing Engineering  
Year Initiated: 2004-000466

**Acoustic Detection and Monitoring for Transportation Infrastructure Security**
Dr. James Miller, Professor  
University of Rhode Island Department of Ocean Engineering  
Year Initiated: 2004-000471
Ongoing Projects as of December 31, 2006

**Employing Graphics to aid Message Display on Dynamic Message Signs**
Dr. Jyh-Hone Wang, Associate Professor
University of Rhode Island Department of Industrial and Manufacturing Engineering
Year Initiated: 2004-000472

**Testing Models of Asphalt System Modification Using Molecular Simulation**
Dr. Michael Greenfield, Associate Professor
University of Rhode Island Department of Chemical Engineering
Year Initiated: 2004-000506

**Comparative Performance of Explosion Shielding Materials Used in Transportation**
Dr. Carl-Ernst Rousseau, Assistant Professor
University of Rhode Island Department of Mechanical Engineering
Year Initiated: 2004-000507

**Developing Intermodal Transportation Station Projects: A Public-Private Partnership Approach**
Dr. Farhad Atash, Professor
University of Rhode Island Department of Community Planning & Landscape Architecture
Year Initiated: 2004-000557

**Evaluation of Nonviolence Training for Offenders**
Dr. Charles Collyer, Professor
University of Rhode Island Department of Psychology
Year Initiated: 2004-000562

**Highway Flares and Runoff: a Potential Source of Perchlorate to Surface Water in Rhode Island**
Dr. Anne Veeger, Associate Professor
University of Rhode Island Department of Geosciences
Year Initiated: 2004-000563

**Transportation and Supply Chain Concentration and Certificate**
Dr. Deborah Rosen, Professor
University of Rhode Island College of Business Administration
Year Initiated: 2004-000886

**Liquefaction Potential of Inorganic and Organic Silts**
Dr. Christopher Baxter, Assistant Professor
University of Rhode Island Departments of Ocean Engineering & Civil and Environmental Engineering
Year Initiated: 2003-000060
**Ongoing Projects as of December 31, 2006**

**Web Based Relational Database Portal for Subsurface Geotechnical Data**  
Dr. Daniel Murray, Professor  
University of Rhode Island Department of Geosciences  
Year Initiated: 2003 -000158

**Designing Model Asphalt Systems Using Molecular Simulation**  
Dr. Michael Greenfield, Associate Professor  
University of Rhode Island Department of Chemical Engineering  
Year Initiated: 2003 -000216

**Promoting Bike-Riding on the Kingston Campus of URI: Overcoming Barriers to Change**  
Dr. Lorraine Keeney, Research Associate  
University of Rhode Island Department of Nutrition and Food Sciences  
Year Initiated: 2003 -536170

**Harnessing the Power of Relational Databases for Management of Geotechnical and Geologic Data**  
Dr. Daniel Murray, Professor  
University of Rhode Island Department of Geosciences  
Year Initiated: 2002 -536176

**Determining the Effectiveness of New Technology Data Collection Devices for Real-Time Transportation System Management**  
Dr. Chris Hunter, Assistant Professor  
University of Rhode Island Department of Civil and Environmental Engineering  
Year Initiated: 2002 -536177

**Development of Thermochromic Paints, Plastics and Rubbers for Rapid Visual Assessment of Temperature**  
Dr. Brett Lucht, Associate Professor  
University of Rhode Island Department of Chemistry  
Year Initiated: 2002 -536183

**Replacement of Chromate in Paints and Corrosion Protection Systems**  
Dr. Mercedes Rivero-Hudec, Associate Professor  
University of Rhode Island Department of Chemical Engineering  
Year Initiated: 2002 -000514
Ongoing Projects as of December 31, 2006

**Development of Thermochromic Paints, Plastics, and Rubbers for Rapid Visual Assessment of Temperature**
Dr. Brett Lucht, Associate Professor  
University of Rhode Island Department of Chemistry  
Year Initiated: 2001 - 536152

**Contamination of Urban Lakes by Storm Runoff from Highway and Railway Drainage Systems**
Dr. John King, Professor  
University of Rhode Island School of Oceanography  
Year Initiated: 2001 - 536155

**Development of an Advanced Pavement Deicing System**
Dr. David Taggart, Professor  
University of Rhode Island Department of Mechanical Engineering  
Year Initiated: 2001 - 536156

**Investigation of Potential for Intermodalizing Paratransit in Rhode Island**
Dr. Christopher Hunter, Assistant Professor  
University of Rhode Island Department of Civil and Environmental Engineering  
Year Initiated: 2001 - 536157

**Rethinking the Region**
Dr. Maureen Moakley, Professor  
University of Rhode Island Department of Political Science  
Year Initiated: 2001 - 536168

**Intermodal Transport of Petroleum Products - Smart Terminals**
Dr. Winston Knight, Professor  
University of Rhode Island Department of Industrial and Manufacturing Engineering  
Year Initiated: 2000 - 536133
Completed Projects

Safety Belt Usage Rates at High Schools and Colleges in Rhode Island
Daniel Berman
Executive in Residence & FHWA RI Division
Dr. Jerome Schaffran, Professor
University of Rhode Island Human Development and Family Studies
Year Initiated: 2004-000318

Quonset Point (QP) Multi-Modal, Mixed-Use Ferry Terminal Study
Dr. Richard Burroughs, Professor
University of Rhode Island Department of Marine Affairs
Year Initiated: 2004-000470

Challenges and Prospects of the Proposed Intermodal Transportation Hub at T.F. Green Airport in Warwick, Rhode Island
Dr. Farhad Atash, Professor
University of Rhode Island Department of Community Planning & Landscape Architecture
Year Initiated: 2004-000564

Narragansett Bay High Speed Ferry Network - Phase 2: Engineering, Marketing and Economic Development
Dr. Angelo Simeoni, Professor
University of Rhode Island Department of Community Planning & Landscape Architecture
Year Initiated: 2004-000592

Enhancing Driving Safety through Proper Message Design on Variable Message Signs
Dr. Jyh-Hone Wang, Associate Professor
University of Rhode Island Department of Industrial and Manufacturing Engineering
Year Initiated: 2003 -000052

Experimental Evaluation of Novel Composites for Use in Transport of Explosive Materials
Dr. Carl-Ernst Rousseau, Assistant Professor
University of Rhode Island Department of Mechanical Engineering
Year Initiated: 2003 -000057

Calibration of Scour Models Using Advanced Sonar Technology for Bridge Safety
Dr. James Miller, Professor
University of Rhode Island Department of Ocean Engineering
Year Initiated: 2003 -000059
Completed Projects

**Porous Pavement and Water Quality: Investigation of a Newly Constructed Parking Lot and Its Potential Impact on Subsurface Water**
Dr. Thomas Boving, Associate Professor
University of Rhode Island Department of Geosciences
Year Initiated: 2003 -000163

**Narragansett Bay High Speed Ferry Network Phase 1 - Site Selections and Site Designs**
Dr. Angelo Simeoni, Professor
University of Rhode Island Department of Community Planning & Landscape Architecture
Year Initiated: 2003 -000188

**Stretching Ability of Chip Seal Membranes (Project Cancelled Due to the Death of PI)**
Milton Huston, Adjunct Associate Professor
University of Rhode Island Department of Civil and Environmental Engineering
Year Initiated: 2002 -536175

**Developing and Applying a Transportation Model for Aquidneck Island**
Dr. Farhad Atash, Professor
University of Rhode Island Department of Community Planning & Landscape Architecture
Year Initiated: 2002 -536178

**Integrated Transportation Pricing Strategy for Newport**
Dr. Timothy Tyrrell, Professor
University of Rhode Island Department of Environmental and Natural Resources Economics
Year Initiated: 2002 -536179

**Development of a Course on Bridge Management**
Dr. George Tsiatas, Professor
University of Rhode Island Department of Civil and Environmental Engineering
Year Initiated: 2002 -536180

**Wood Filters as an Innovative Treatment Method for Roadway Runoff Pollutants**
Dr. Thomas Boving, Associate Professor
University of Rhode Island Department of Geosciences
Year Initiated: 2002 -536181
Completed Projects

RI DOT 2002 Bicycle Transportation User Survey; Developing Intermodal Connections for the 21st Century
Dr. R. Choudary Hanumara, Professor
University of Rhode Island Department of Computer Science and Statistics
Year Initiated: 2002 - 536182

Dredging in a Changing Scientific and Regulatory Environment - Year 2
Dr. Richard Burroughs, Professor
University of Rhode Island Department of Marine Affairs
Year Initiated: 2002 - 536184

Application of a Multimodal Demand Simulation Model to Assess Container Transportation Policy Issues in the Northeast
Dr. Thomas Grigalunas, Professor
University of Rhode Island Department of Environmental and Natural Resource Economics
Year Initiated: 2002 - 536185

Mechanical Behavior of Recycled Asphalt Material Under Dynamic Loading Conditions
Dr. Martin Sadd, Professor
University of Rhode Island Department of Mechanical Engineering
Year Initiated: 2002 - 536186

Dredging in a Changing Scientific and Regulatory Environment
Dr. Richard Burroughs, Professor
University of Rhode Island Department of Marine Affairs
Year Initiated: 2001 - 536151

Field Study of Composite Piles in the Marine Environment
Dr. Christopher Baxter, Assistant Professor
University of Rhode Island Department of Ocean & Civil and Environmental Engineering
Year Initiated: 2001 - 536153

Development of a Customer Satisfaction and Service Quality Measurement Method and Tool for the Rhode Island Public Transit Authority
Dr. Albert Della Bitta, Professor
University of Rhode Island College of Business Administration
Year Initiated: 2001 - 536154
Completed Projects

Replacement of Chromates in Paints and Corrosion Protection Systems
Dr. Mercedes Rivero-Hudec, Associate Professor
University of Rhode Island Department of Chemical Engineering
Year Initiated: 2001 -536158

Intelligent Traffic Anomaly Diagnosis Through the Integration of Diverse Information Sources
Dr. Joan Peckham, Professor
University of Rhode Island Department of Computer Science
Year Initiated: 2001 -536159

Processing of Cenosphere-Cement/Asphalt Composite Materials and Evaluation of their Mechanical and Acoustic Properties
Dr. Arijit Bose, Professor
University of Rhode Island Department of Chemical Engineering
Year Initiated: 2001 -536160

Multimodal Vehicle Display Design and Analysis
Dr. Manbir Sodhi, Professor
University of Rhode Island Department of Industrial Engineering
Year Initiated: 2001 -536161

Creating Safe Transportation Options for College Students
Dr. Norbert Mundorf, Professor
University of Rhode Island Department of Communication Studies
Year Initiated: 2001 -536162

Comprehensive Framework for Sustainable Container Ports Development of U.S. East Coast in the 21st Century (Year 3)
Dr. Thomas Grigalunas, Professor
University of Rhode Island Department of Environmental & Natural Resource Economics
Year Initiated: 2001 -536163

Effect of Microstructure on the Static and Dynamic Behavior of Recycled Asphalt Material
Dr. Martin Sadd, Professor
University of Rhode Island Department of Mechanical Engineering
Year Initiated: 2001 -536164
Completed Projects

Exploring Ways of Influencing Transport Behaviors by Using Telecommunications Technologies
Dr. Nikhilesh Dholakia, Professor
University of Rhode Island College of Business Administration
Year Initiated: 2000 - 536131

Chemical Retention Capacity of a Newly Constructed Roadway Runoff Detention Pond
Dr. Thomas Boving, Assistant Professor
University of Rhode Island Department of Geosciences
Year Initiated: 2000 - 536132

High Accuracy GPS Base Station and Web Delivery System
Dr. Peter August, Professor
University of Rhode Island Department of Natural Resources Science
Year Initiated: 2000 - 536134

Replacement of Chromates in Paints and Corrosion Protection Systems
Dr. Mercedes Rivero-Hudec, Associate Professor
University of Rhode Island Department of Chemical Engineering
Year Initiated: 2000 - 536135

Fiber Reinforcement of Concrete
Dr. Richard Brown, Professor
University of Rhode Island Department of Chemical Engineering
Year Initiated: 2000 - 536136

A Web-Based Core Library for Rhode Island
Dr. Daniel Murray, Professor
University of Rhode Island Department of Geosciences
Year Initiated: 2000 - 536137

Effect of Microstructure on the Static and Dynamic Behavior of Recycled Asphalt Materials
Dr. Martin Sadd, Professor
University of Rhode Island Department of Mechanical Engineering
Year Initiated: 2000 - 536138
**Completed Projects**

**TRANSMAP: An Integrated, Real-Time Environmental Monitoring and Forecasting System for Highways and Waterways in RI**
Dr. Malcolm Spaulding, Professor
University of Rhode Island Department of Ocean Engineering
Year Initiated: 2000 - 536139

**Comprehensive Framework for Sustainable Container Ports Development of US East Coast in the 21st Century**
Dr. Thomas Grigalunas, Professor
University of Rhode Island Department of Environmental and Natural Resource Economics
Year Initiated: 2000 - 536140

**Implementation of a Highway Monitoring Program Utilizing Intelligent Transportation Systems (ITS)**
Milton Huston, Adjunct Associate Professor
University of Rhode Island Department of Civil and Environmental Engineering
Year Initiated: 2000 - 536141

**Moving Smart in Rhode Island**
Dr. Joan Peckham, Professor
University of Rhode Island Department of Computer Science and Statistics
Year Initiated: 2000 - 536142

**Inorganic and Organic Characterization of Dredged Sediments from the Proposed Quonset Point Channel in Narragansett Bay**
Dr. Raymond Wright, Professor
University of Rhode Island Department of Civil and Environmental Engineering
Year Initiated: 2000 - 536143

**Performance Improvement & Measurement of Open-Graded Asphalt Mixes**
Dr. Mohammad Faghri, Professor
University of Rhode Island Department of Mechanical Engineering
Year Initiated: 2000 - 536144

**Magnet and Induced Impacts of Quonset Container Port**
Dr. Edward Mazze, Dean
University of Rhode Island College of Business Administration
Year Initiated: 2000 - 536145
Completed Projects

Red Light Running in Rhode Island
Dr. Chris Hunter, Assistant Professor
University of Rhode Island Department of Civil and Environmental Engineering
Year Initiated: 2000 -536146

TRANSMAP: An Integrated, Real-Time Environmental Monitoring and Forecasting System for Highways and Waterways in RI
Dr. Malcolm Spaulding, Professor
University of Rhode Island Department of Ocean Engineering
Year Initiated: 1999 -536100

Fiber Reinforcement of Concrete
Dr. Richard Brown, Professor
University of Rhode Island Department of Chemical Engineering
Year Initiated: 1999 -536101

Geologic Transportation Maps for the 21st Century
Dr. O. Don Hermes, Professor
University of Rhode Island Department of Geosciences
Year Initiated: 1999 -536102

Multi Modal Vehicle Display Design and Analysis
Dr. Manbir Sodh, Professor
University of Rhode Island Department of Industrial & Manufacturing Engineering
Year Initiated: 1999 -536103

Beneficial Uses of Dredge Material from the QPD Intermodal Port Terminal
Dr. Armand Silva, Professor
University of Rhode Island Department of Ocean Engineering
Year Initiated: 1999 -536104

The Design and Development of Information and Computer Systems for the URITC
Dr. Joan Peckham, Professor
University of Rhode Island Department of Computer Science and Statistics
Year Initiated: 1999 -536105
Completed Projects

Comprehensive Framework for Sustainable Container Ports Development of US East Coast in the 21st Century
Dr. Thomas Grigalunas, Professor
University of Rhode Island Department of Environmental and Natural Resource Economics
Year Initiated: 1999 -536106

Development of an Advanced Bridge, Highway, and Runway Deicing System
Dr. David Taggart, Professor
University of Rhode Island Department of Mechanical Engineering
Year Initiated: 1999 -536107

Effect of Microstructure on the Static and Dynamic Behavior of Recycled Asphalt Material
Dr. Martin Sadd, Professor
University of Rhode Island Department of Mechanical Engineering
Year Initiated: 1999 -536108

Modeling for Real-Time Traffic Control in the Rhode Island Intelligent Road
Dr. William Palm, Professor
University of Rhode Island Department of Mechanical Engineering
Year Initiated: 1999 -536109

Using Cenospheres to Develop New Asphalt and Cement-Based Concrete Materials
Dr. Arun Shukla, Professor
University of Rhode Island Department of Mechanical Engineering
Year Initiated: 1999 -536110

Interactions of Transportation and Telecommunications Behaviors in Relation to RIIR: Modeling the User Perspective
Dr. Nikhilesh Dholakia, Professor
University of Rhode Island College of Business Administration
Year Initiated: 1999 -536111

Data Analysis and Detection Methods for Online Health Monitoring of Bridge Structures
Dr. Sau-Lon Hu, Professor
University of Rhode Island Department of Ocean Engineering
Year Initiated: 1999 -536112
Completed Projects

Dr. David Shao, Professor
University of Rhode Island Department of Industrial and Manufacturing Engineering
Year Initiated: 1999 -536113

**Smart Speed Bumps**
Dr. William Ohley, Professor
University of Rhode Island Department of Electrical Engineering
Year Initiated: 1999 -536114
**Financial Status for 2006**

**Total Source of Funds**
This chart represents the composition of funds committed for 2006. In 2006, 37% of URITC’s funding came by way of Federal Grant, 32% from Industry and Public Sector Partners, and 31% from University of Rhode Island.

**Total Use of Funds**
This chart illustrates the composition of allocations against the total source of funds for 2006. Research and research related administrative costs accounted for 74% of the funds, technology transfer/outreach at 24% and 1% was dedicated to administrative costs.