The National Highway Institute (NHI) is a part of the Office of Professional and Corporate Development (OPCD) within the Federal Highway Administration (FHWA).

NHI’s goals are to:
- Train the current and future transportation workforce
- Transfer knowledge quickly and effectively to and among transportation professionals
- Provide training that addresses the full life cycle of the highway transportation system

Established by Congress in 1970, NHI is the training and education arm of FHWA.

In serving the national transportation community, NHI provides training resources to customers, partners, and learners in every state. Local governments and private organizations have also benefited from NHI’s training resources.

As part of the Office of Professional and Corporate Development (OPCD), NHI also works with the Affiliate Programs, the University and Grants Programs (UG&P), and OPCD Workforce Development Initiatives. Together, these programs and activities support the training and educational needs of the transportation workforce.

Because of the unique relationship the URI Transportation Center (URITC) has with the FHWA and the NHI, the URITC offered four professional development training sessions in 2007, at which more than 100 people attended. The URITC/FHWA/NHI partnership is an important regional asset, affording quality continuing education to public and private transportation practitioners.

### 2007 NHI Training Sessions

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In 2007, the URITC decided to sponsor an upcoming conference by the Global University Consortium, known as the GU8. The GU8 is made up of 10 coastal universities. The four areas of focus for the GU8 include marine affairs, logistics, business administration and advanced technologies.

The conference the URITC will be sponsoring will be held at the University of Hawaii at Manoa in March 2008. The theme will be “Best Practices in Global Logistics, Security and IT Usage.”

GU8 member institutions include:
- University of Rhode Island
- University of Haifa, Israel
- University of Washington
- INHA University, Korea
- University of Hawaii
- Xiamen University, China
- Meiji University, Japan
- University of Le Havre, France
- RMIT University, Australia

The Chairman of the Council of Presidents of the GU8 is Dr. Robert L Carothers, the president of the University of Rhode Island.

“My vision for the Global University Consortium, is based on our universities’ common location on the world’s coastlines and a common commitment to issues relating to the world’s oceans,” said Carothers. “With the world’s attention now fixed on global warming and its impact on the world’s oceans and coastlines, we have a wonderful opportunity to stand in the forefront of science, technology, business and public policy.”

Dr. Robert L Carothers, president of URI, pictured left, at a GU8 conference.

The URITC sponsored the Brown Forum for Enterprise (BFE) conference on February 8, 2007 titled, “Clean and Sustainable Energy: Emerging Technologies and Opportunities.”

The conference featured new technologies from throughout Southern New England that are paving the way for a sustainable energy future characterized by an increased utilization of renewable sources, such as solar, wind, wave, and tidal power. The conference also showcased cutting-edge technologies in various areas of alternative fuel, such as natural gas, biodiesel, ethanol and hydrogen.

Small businesses, startup companies and university researchers presented their innovations to a diverse audience. Venture capitalists spoke about current investment trends and why clean and sustainable technologies offer tremendous opportunity for lucrative start-up companies.

The speakers at the conference included:
- Rhode Island Governor Donald Carcieri
- Andrew Dzykewicz, Chief Energy Advisor, RI State Energy Office
- Tom Denniss, Executive Director and Founder, Energetech
- William Osborn, Investment Manager, Mass Renewable Energy Fund
- William Staby, OWEC Energy
- Nathanael Greene, Senior Policy Analyst, Natural Resources Defense Council
- Jackson Robinson, Winslow Green
- Steven Hamburg, Assoc. Prof. of Environmental Studies, Brown University
- Albert Kausch, Professor of Cell and Molecular Biology, URI
- Bill Davis, CEO, Ze-Gen
- Cary Bullock, President and CEO, GreenFuel Technologies Corporation
- David Kopans, Director of Regulatory Affairs, Fat Spaniel Technologies
- Frank Zammataro, President, Rentrictic
Project Achievements
**Reported Publications, Presentations & Success Stories**

**FY 2007**

**Dr. Michael Greenfield**  
**Modeling Molecular-Level Actions of Asphalt Modifiers**

1/17/2007  

4/17/2007  

6/26/2007  
A presentation by Dr. Michael Greenfield entitled “Simulating Asphaltene and Chain Dynamics in Polymer Modified Model Asphalts” was made at the Global U8 International Symposium on Advanced Technologies, University of Le Havre, France.

6/28/2007  
A presentation by Dr. Michael Greenfield entitled “Molecular Simulation of Multicomponent Model Asphalts” was presented at l’Institut Francais du Petrole, in Rueil-Malmaison, France.

7/18/2007  
A presentation entitled “Probing Relationships between Asphalt Viscosity and Single Molecule Relaxation” was presented by Prof. Michael Greenfield (co-authored by Liqun Zhang) at the Petersen Asphalt Conference, Laramie, WY.

8/19/2007  
A preprint entitled “Polystyrene Single Chain Relaxation in a Model Asphalt Mixture” by Liqun Zhang and Michael Greenfield was published by the Polymeric Materials: Science and Engineering division of the American Chemical Society in conjunction with the Fall Meeting in Boston, MA; the printed citation is *Polymeric Materials Sci. and Eng. (Am. Chem. Soc.)*, volume 97, pp 888-889.

8/23/2007  
A presentation entitled “Polystyrene Single Chain Relaxation in a Model Asphalt Mixture” was delivered by Prof. Michael Greenfield (co-authored by Liqun Zhang) at the Fall Meeting of the American Chemical Society, Boston, MA.

10/31/2007  
An invited presentation “Insights into Asphalt Structure and Relaxation Using Molecular Simulations of Model Systems” was made by Prof. Michael Greenfield at the Yale University Dept of Chemical Engineering Seminar Series.

11/2/2007  
An invited presentation “Relationships Between Single Molecules and Binder Viscosity in Model Asphalts” was made by Prof. Michael Greenfield at the Rhode Island Transportation Forum, University of Rhode Island.

11/8/2007  
A presentation “Molecule Relaxation And Viscosity In Model Asphalt Mixture Systems” was delivered by Prof. Michael Greenfield (and co-authored by Liqun Zhang) at the Annual Meeting of the American Institute of Chemical Engineers (AIChE).

11/15/2007  
10/31/2007
An invited presentation “Insights into Asphalt Structure and Relaxation Using Molecular Simulations of Model Systems” was made by Prof. Michael Greenfield at the Yale University Dept of Chemical Engineering Seminar Series.

11/2/2007
An invited presentation “Relationships Between Single Molecules and Binder Viscosity in Model Asphalts” was made by Prof. Michael Greenfield at the Rhode Island Transportation Forum, University of Rhode Island.

11/8/2007
A presentation “Molecule Relaxation And Viscosity In Model Asphalt Mixture Systems” was delivered by Prof. Michael Greenfield (and co-authored by Liqun Zhang) at the Annual Meeting of the American Institute of Chemical Engineers (AIChE).

11/15/2007

12/14/2007
Success story: graduate student Liqun Zhang completed her Ph.D. at the University of Rhode Island. Her dissertation was entitled “Physical and Mechanical Properties of Model Asphalt Systems Calculated using Molecular Simulation.”

Dr. Richard Sheridan
Transit Alternatives for Southeast New England: An Education Proposal

8/14/2007


Honor Award, Undergraduate, 2007, from the Rhode Island Chapter of the American Society of Landscape Architects (RIASLA) for student publication, “Transit Alternatives for Southeast New England,” to be presented on 2/21/2008.

Dr. Deborah Rosen
Transportation and Supply Chain Concentration and Certificate

Presentation made by Mike Gray of Dell Computers on Dell’s unique approach to supply chain management.

Dr. Mayrai Gindy
Integrity Assessment of Composite and Timber Piles in the Marine Environment Using Nondestructive Testing

Future presentation: “Integrity Assessment of GFRP Composites using Phased Array Ultrasonic Testing,” to be given by Mayrai Gindy and Philipp Hirtler at the Transportation Research Board’s 87th Annual Meeting, held January 13–17, 2008 in Washington, D.C.
**Reported Publications, Presentations & Success Stories**

**Dr. Jyh-Hone Wang**  
**Assisting Elder Drivers’ Comprehension of Dynamic Message Sign Messages**


Student Award: Aaron Clark, “The Student of the Year” award, January 2007 Transportation Research Board meeting.

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

Paper Published: “Enhancing Preparedness and Response of Rhode Island Transportation System in Natural or Human-Caused Disasters,” by Severson, J.; Maier-Speredelozzi, V.; Wang, J.H.; and Collyer, C.; Proceedings of the Transportation Research Board’s 87th Annual Meeting, No. 08-2371, 2008.

**Dr. Talia McCray**  
**What do I Consider Safe?: Analyzing Perceptions of Violence by Space, Time, and Type Among Teenagers in Providence, RI**

10/14/2007-10/16/2007  
Presentation: “What do I Consider Safe?: Analyzing Perceptions of Violence by Space, Time, and Type Among Teenagers in Providence, RI,” made with Charles Collyer, Farhad Atash and Donald Cunnigen at an international conference at the University of Amsterdam, the Netherlands

**Dr. Brett Lucht**  
**Mesophase Formation in Regioregular Poly(3-alkylthiophene)s Containing Long Chain Alkyl Groups**


Presentation: “Mesophase formation in poly(3-alkylthiophene)s containing long chain alkyl groups,” made at ACS National Meeting, Boston, MA.

**FY 2006**

**Dr. Jyh-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, Jyh-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.

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.

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

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.

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 URI 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

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.

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

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.

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.

10/1/2006

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.
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.

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.

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.

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
Reported Publications, Presentations & Success Stories

**FY 2003**

**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.

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 “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**

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

2/1/2006  
Publication entitled “Effect of Residual Monomer and Related Small Molecules on the Spectroscopic Properties of poly(3-octadecylthiophene)” by Brett Lucht was published in *Chemical Communications* 2006, 2121-2122.
Research Projects
Research Projects

New Projects in 2007

SMILE – Science and Math Integrated Learning Experience
Carol Englander
South Kingstown High School
Year Initiated: 2007 – 0001549

Transportation System Research Program Development
Dr. Christopher Hunter, Assistant Professor
University of Rhode Island Department of Civil and Environmental Engineering
Year Initiated 2007 – 0001385

Guaranteed Admissions Program/Special Programs for Talent Development (GAP/SPTD) RIDOT Programming
Dr. Gerald Williams, Director
University of Rhode Island GAP/SPTD
Year Initiated 2007 – S000017

Ongoing Projects as of December 31, 2007

Transit Alternatives for Southeast New England: An Education Proposal
Dr. Richard Sheridan, Associate Professor
University of Rhode Island Department of Community Planning & Landscape Architecture
Year Initiated: 2007 – 001396

GU8 Conference on Global Security and Marine Transportation
Dr. Thomas Grigalunas, Professor
University of Rhode Island College of Environment and Life Sciences
Year Initiated 2006 – 0001068

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

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

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

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

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


**Research Projects**

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

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

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

**Completed Projects**

**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

**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

**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

**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

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

**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

**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

**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

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

**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

**Comparative Performance of Explosion Shielding Materials Used in Transportation**
Dr. Michael Greenfield, Associate Professor  
University of Rhode Island Department of Chemical Engineering  
Year Initiated: 2003 – 000060

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

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

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

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
Research Projects

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, R.I.
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

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
**Research Projects**

**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

**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

**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
Research Projects

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

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
**Research 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

**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
Research Projects

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

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

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 Report
**Source of Funds**

This chart represents the composition of funds committed for Grant Year 2006. A Federal Grant accounted for 45% of URITC's funding, 28% from Industry and Public Sector Partners and 27% from the University of Rhode Island.

**Use of Funds**

This chart illustrates the composition of allocations against the total source of funds for Grant Year 2006. Research and research related administrative costs accounted for 50% of the funds, technology transfer and outreach made up 26%, 19% was used for administrative costs and 5% was spent on education.