



EL PUENTE

Commemorative 25th Anniversary Edition



Puerto Rico Transportation Technology Transfer Center

El Centro - 72



25 years of excellence in professional development and training current and future generations of transportation professionals.



In this commemorative edition



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This Special Edition of the Newsletter **El Puente** is prepared in celebration of the 25th anniversary of the Puerto Rico Transportation Technology Transfer Center and the 100th anniversary of the University of Puerto Rico at Mayagüez. This commemorative issue presents the major accomplishments of the Center and provides information regarding innovative professional development programs, and other training related activities that have promoted technology transfer and enhanced education in transportation, engineering, and associated disciplines in Puerto Rico, United States, and Latin American countries.



M message from the Director

On April 1, 2011 the Transportation Technology Transfer Center, also known as Puerto Rico Local Technical Assistance Program (LTAP), T² or simply “El Centro”, of the University of Puerto Rico at Mayagüez celebrated its 25th anniversary in providing professional development, training and technical assistance to local transportation officials from Puerto Rico and the United States Virgin Islands. Since 1986, the Center has been involved and participated in multiple activities and projects related to the professional development of many generations of undergraduate and graduate students and transportation professionals, the planning and coordination of local, national, and international conferences in the areas of highway safety, workforce development, infrastructure management and the provision of technical assistance to Federal, State, Local and Municipal agencies.

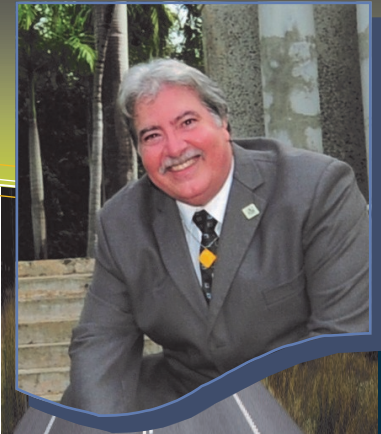
These contributions have been accomplished with the excellent support from the Administration of the University of Puerto Rico at Mayagüez, which is celebrating its 100th anniversary in 2011 of serving the academic and research needs of Puerto Rico and the Hemisphere. I’m grateful to the Research and Development Center, the Office of the Dean of Engineering, the Department of Civil Engineering and Surveying, as well as other support offices, departments, and Centers that have been instrumental to the success that the Center has achieved.

I acknowledged the Federal Highway Administration, the Puerto Rico Department of Transportation and Public Works, the U.S. Virgin Islands Department of Public Works, the Municipalities and their administrators, secretaries, commissioners, executive directors, and majors for their funding and continuous support, all the instructors that have participated in our seminar and professional development programs and to the Puerto Rico College of Engineers and Surveyors for accrediting our seminars and other professional organizations that have sponsored and contributed to the Center’s goals.

Special thanks to our outstanding supporting staff that have successfully contributed to the Center’s tasks and activities throughout all these years with their leadership, managerial skills, bilingual capabilities, their human relations and sensibility. I also acknowledged the Center’s Advisory Committees that have provided assistance and guidance in the operation of the Center. Special recognition to Sergio González and Felipe Luyanda, who were pioneers with the subscriber in establishing this professional development and training program.

This commemorative edition of **El Puente** provides an opportunity to look back at the major activities and contributions the Center has had in this 25 year period. The Center staff is fully committed to look forward to the next years to meet the new emerging challenges and to continue addressing the education and training needs of the community and the next generation of transportation professionals.

Benjamín Colucci-Ríos



Our beginnings: The Advisory Committee

The Advisory Committee of our Center has been instrumental throughout the years in assisting us in identifying potential seminar topics for our program for Puerto Rico and the U.S. Virgin Islands as well as approving the budget for the annual operation of the LTAP Program.

These professionals that represent the Secretary of the Puerto Rico Department of Public Works, the Executive Director of the Highway and Transportation Authority, the Executive Director of Public Works, the Human Resources Area, the Office of Municipal Affairs, and those offices that include planning, environmental, design, construction and operations deserves a special recognition in this special edition. A token of appreciation to the Federal Highway Administration and their liaisons in the advisory committee throughout the years, which complemented national transportation related emerging training needs such as Every Day Counts (EDC) initiatives, and gave us the opportunity to adapt this training material to our stakeholders.



Our partners in allocating training budget and in the decision making process!

To all of you that have significantly contributed to the success of our professional development and training programs during the last 25 years, special thanks and gratitude on behalf of the Center Directors and Staff for a job well done.



Center Staff



Born in San Juan, Puerto Rico. Professor of Transportation Engineering at UPRM since 1978 and is a founding member of the Center since its inception in 1986. A Professional Engineer and Juris Doctor. He's a fellow and past president of the Institute of Transportation Engineers, Puerto Rico Chapter and other professional engineering and honor associations. Spokesperson of the Decade of Action for Road Safety in Puerto Rico. Married with Lizette and proud father of Iris Lizette and Benjie III.

Education

Bachelor of Science in Civil Engineering, University of Puerto Rico at Mayagüez, 1978
Master of Science in Civil Engineering, Purdue University, Indiana, 1980
Doctor of Philosophy in Civil Engineering, Purdue University, Indiana, 1984

Born in Arecibo, Puerto Rico. Alberto started working at the Center as a Research Assistant in the summer of 1996 and has participated as a Training Instructor since 2000. Became Deputy Director in August 2007. Alberto is a Professional Engineer and Associate Professor of Transportation Engineering at the Department of Civil Engineering and Surveying of the UPR-Mayagüez. He is member of the Puerto Rico College of Engineers and Surveyors, the American Public Works Association, the Tau Beta Pi Society and current President of the Institute of Transportation Engineers, Puerto Rico Chapter.

Education

Bachelor of Science in Civil Engineering, University of Puerto Rico at Mayagüez, 1997
Master of Science in Civil Engineering, University of Puerto Rico at Mayagüez, 1999
Doctor of Philosophy in Civil Engineering, Purdue University, Indiana, 2005



Benjamín Colucci Ríos
Director



Alberto Figueroa Medina
Deputy Director



Our Executive and Administrative Staff

Born in Mayagüez, Puerto Rico. She has been working as Program Manager at the Center for the last nineteen years (19) in professional development and training related aspects. She has worked as Coordinator in other research centers at the UPRM such as Center for Cooperation in Education and Research in Engineering and Applied Science (Co-Hemis), and Center for Infrastructure of the Civil Engineering Department (CIIC).

Education

Bachelor of Science in Civil Engineering, University of Puerto Rico at Mayagüez, 1979

Born in Mayagüez, Puerto Rico. Started working at the Center in 2002. Has obtained several professional development certificates. She also completed the Teaching Certification in Business Education, through the Teacher Preparation Program from the University of Puerto Rico at Mayagüez. She has offered seminars on Computer Introduction, as an instructor of the Center's training and professional development program.

Education

Bachelor in Business Administration, University of Puerto Rico at Mayagüez, 2001

Born in Mayagüez, Puerto Rico. Started working at the Center as a student in 2001, was hired in 2003 and currently is Deputy Administrator. She has obtained several professional development certifications, such as Microsoft Certified Application Specialist and other related internet and web design software that are currently used at the Center.

Education

Bachelor in Business Administration, University of Puerto Rico at Mayagüez, 2003



Student Staff and EDC Research Assistants

- Claudio Figueroa
- Giana Zeno
- Yari Babilonia
- Josué Diego Ortiz
- Freddie Salado
- Carlos Calero



Gisela González
Executive Official



Grisel Villarubia
Administrative Official



Irmali Franco
Administrative Official



Local Technical Assistance Program

OUR MISSION:

To foster a safe, efficient, and environmentally sound surface transportation system by improving the skills and increasing the knowledge of the local and tribal transportation workforce.



TECHNOLOGY TRANSFER:

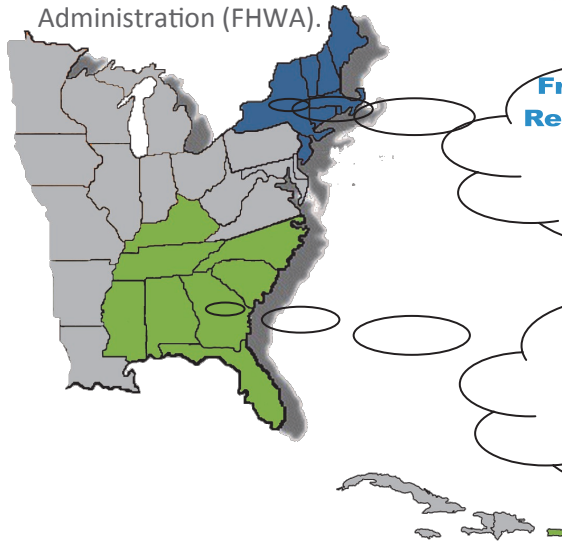
“Mechanism by which existing research and knowledge and new technology are transferred into useful processes, products and programs.”

U.S. Department of Transportation



www.uprm.edu/prt2

The Puerto Rico Transportation Technology Transfer Center was created on April 1, 1986 in the Department of Civil Engineering of the University of Puerto Rico at Mayagüez as part of a network of transportation technology transfer centers established throughout the United States at universities, state departments of transportation or tribal communities by the Federal Highway Administration (FHWA).



From 1986 to 1996 our initial family of Region 1 (T²-RTAP): Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island & Vermont

From 1996 to present family of Region 4: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Puerto Rico, South Carolina & Tennessee

The program was originally called the Rural Technical Assistance Program (RTAP) with the mission to provide technical assistance to local transportation officials in rural communities. In Puerto Rico the municipalities are considered local communities. In 1986, our Center was originally part of FHWA Region 1 that included eight states in the Northeastern

United States. With the enactment of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, our training program became known as the Local Technical Assistance Program (LTAP), including technical assistance to urban areas and with a network expansion to 58 Centers which includes one LTAP Center in each state seven TTAP in tribal communities, and our Center for Puerto Rico and the U.S. Virgin Islands.

United States. In 1996 our Center was transferred to Region 4 with eight states from the Southeastern United States.



T2 Center Fundamental Principles

Provide guidance and leadership for the enhancement of transportation systems and promote excellence in technology transfer and the development of transportation professionals and leaders.



The initial objectives and fundamental principles of our program since its inception in 1986, focus on three (3) strategic areas:

- 1. Transfer the significant findings and innovations of research studies conducted in Puerto Rico, the United States Virgin Islands (USVI), and abroad to local and state agencies in the Islands in concise format.*
- 2. Train personnel in highway-related areas such as new roadway construction, maintenance, inspection, and rehabilitation techniques, asset management, road safety, and sustainability.*
- 3. Keep local, municipal, and state officials current with new regulations and technology available for the design, construction, programming, maintenance, safety, evaluation, analysis, and rehabilitation of transportation systems.*



During our twenty-five years of operation, the Center objectives have evolved in a variety of projects and activities, that includes short-term special projects, to complement the Center's daily technology transfer activities and others related to the professional development of students, the planning and coordination of local, national and international conferences, and the provision of international technical assistance.

Training Focus Areas



Seminar Program

Our representation of quality and professionalism!

UPR-MAYAGUEZ INSTRUCTORS

Felipe Acosta
Edith Algreen
Beatriz Camacho
Benjamín Colucci
José Colucci
Alberto Figueroa Medina
Poduru Gandhi
Antonio González
Merbil González
Sergio González
Jaime Gutiérrez
Sangchul Hwang
Pedro Jiménez
Felipe Luyanda
Francisco Maldonado
Omar Molina
Ismael Pagán Trinidad
Miguel Pando
José Perdomo
Elmer Pérez
Jorge Rivera Santos
Roque Román
Walter Silva
Didier Valdés
Linda Vélez

Thanks to all the UPRM faculty, students, and invited instructors that have provided their time and expertise in benefit of our stakeholders throughout our first 25 years!



Our seminar program for local, state, highway, and transportation officials from the 78 municipalities of Puerto Rico, the Puerto Rico Department of Transportation and Public Works, the Highway and Transportation Authority, and the U.S. Virgin Islands Department of Public Works is the main activity of the Center. The annual training program typically includes approximately 50 seminar days in Puerto Rico and the U.S. Virgin Islands, and are offered at different locations to maximize its accessibility to our stakeholders. The training program is accredited to registered engineers and surveyors that participate in the program, by the Puerto Rico College of Engineers and Surveyors through IACET and its continuous education program.

The training program includes seminars and workshops that covers:

- ◇ Technical seminars that correspond to topics of technical nature related to planning, design, operations, maintenance and rehabilitation of transportation infrastructure systems.
- ◇ Supporting tool-related seminars include topics that complement routine transportation-related activities.

A Sample of Technical and Supporting Related Tools Seminars

- ◇ Pavement design, construction, evaluation and maintenance techniques.
- ◇ Management of transportation projects.
- ◇ Road design and maintenance practices.
- ◇ Safety evaluation and analysis of highway facilities.
- ◇ Traffic engineering.
- ◇ Asset inventory and management systems.
- ◇ Material testing and selection procedures.
- ◇ Introduction to computer software for administrative / technical support.
- ◇ Introduction to spreadsheets and databases.
- ◇ Basic management concepts.
- ◇ Ethics for engineers.
- ◇ Basic statistics.
- ◇ Basic supervisory skills.
- ◇ Guidelines in technical writing.
- ◇ Safety Edge
- ◇ Warm-Mix Asphalt
- ◇ Geosynthetic Reinforced Soil
- ◇ Prefabricated Bridge Elements
- ◇ Adaptive Signal Control
- ◇ Enhanced Technical Assistance on Stalled EISs
- ◇ Flexibilities in Right of Way
- ◇ Flexibilities in Utility Relocation
- ◇ Design Build

T raining in Action!

Our Commitment to Excellence!



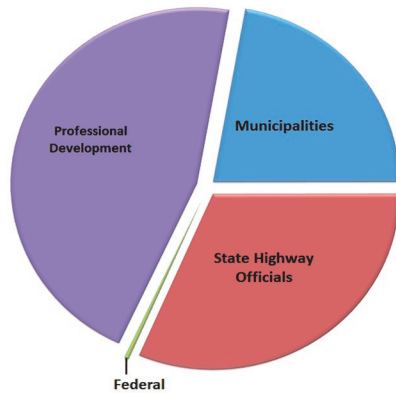
Program Assessment

Our evidence of work accomplished!

The main activities of the PR LTAP/T² Center are its seminar program, the publication of the bilingual newsletter El Puente, the provision of technical information services, the participation in special projects, and the evaluation of the training program effectiveness of the stakeholder participation.

2006-2010 Stakeholder Participation

Effectiveness liaison with our constituents...our representation of our commitment, quality, professionalism and credibility.



The Center's training program is accredited by the Puerto Rico College of Engineers and Surveyors through IACET and its continuous education program.



120 training sessions

578 training hours

6,216 participants

6,381 newsletter circulation

The seminars, workshops, symposiums, conferences, summits, webinars and field demonstrations are offered at different facilities across Puerto Rico and the U.S. Virgin Islands to maximize their accessibility to our stakeholders.



OUR SUCCESS

During the 25 years of the Center, approximately 30,000 transportation officials of Puerto Rico and the U.S. Virgin Islands have benefitted from our training program.



El Puente

Our bilingual newsletter, published quarterly and available in the internet, serves as a bridge of information between the Center and the local transportation officials to keep them informed about the latest transportation related technology, state and federal regulations, technical publications and audiovisual materials available at our library, and future training opportunities sponsored by the Center.



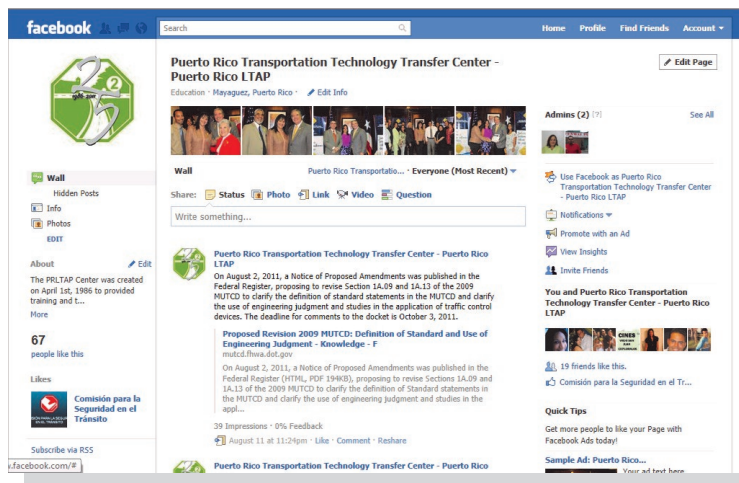
Our Internet Website



www.uprm.edu/prt2, continues to be a significant information outlet for our clients. More than 31,000 page views were made by visitors in our website during the last two years.

Facebook

The news posted in our new Facebook page have been viewed a total number of 5,150 times in the 6-month period from February to August 2011.



Looking Back at 25 Years of Special Memories



PR LTAP
Establishment

Development of Microcomputer Programs in Transportation, COPACA, PIH/IPC Founder's Conference, Pan-American Congress of Transportation/Traffic Engineers, Translation FP85 Specifications FTA/UMTA, Regional and National LTAP Meeting, FHWA-HIS Eisenhower Fellowship, NASTO-CoHemis Transportation Research in the Americas, Research Practice, Bridge and Pavements, Rhode Island

International Technical Support (South Africa), ETTAP, Garrett Morgan Initiative, UPR/MIT/TU Professional Development Program, Transfer to Region 4, Region 4 Annual Meeting, EPICS, BTEP, PR-2 Freeway Conversion/Movement Pro-Development of Mayagüez,

1986

1996



SELRC, UPR/PUPR/ATI Professional Development Program, UPRM/URI Research Exchange Program, ACAA Summit of Highway Safety in Puerto Rico
PR LTAP 20th Anniversary

Collaboration with Motorcycle Safety with the Traffic Safety Commission, First Summit of Highway Safety, Collaboration with International Conferences and Programs, Partnership with professional and government organizations: CIAPR, OCAM, MMPDO, Collaboration in the 2nd Encounter between the CIAPR & UPRM, Region 4 Annual Meeting, Collaboration with the MMPDO at the Agency Leaders Summit: Towards the Success of Mayagüez 2010 Central American and Caribbean Games, Transportation Week, Collaboration with CoHemis at the Planet Earth Week, PR LTAP 25th Anniversary

2006

2011

Innovation in Workforce Development in Transportation

TREN URBANO (TU)

The Puerto Rico LTAP/T² participated in the 1st Professional Development Program with the planning, design, construction and operation of Tren Urbano (TU), a 10.7-mile heavy rail system that serve the municipalities of San Juan, Bayamón and Guaynabo in the San Juan Metropolitan Area. The construction of Tren Urbano started in 1996, was inaugurated in December 2004 and started revenue operation in June 2005 with its first phase consisting of 16 stations in a single rail line.

The Puerto Rico LTAP/T² Center has participated in pioneering initiatives that have enhanced the engineering education and the development of the transportation workforce at the local and international level. These programs have been directed primarily to educating university and K-12 students, and to promote transportation as a future career.

UPR/MIT/Tren Urbano & UPR/PUPR/ATI Professional Development Programs

The focus of these innovative programs was the development of future transportation workforce and promote research devoted to the planning, construction, and operation of the Tren Urbano and the effectiveness of the public transportation system of the San Juan Metropolitan Area.



Undergraduate and graduate students from different disciplines and universities learned the importance of analyzing and evaluating all aspects of a transportation project, such as engineering, architecture, social factors, urban planning, safety, and management. The programs were in operation from 1994 to 2007 and **fourteen groups of students developed over 380 research projects** during these successful initiatives.



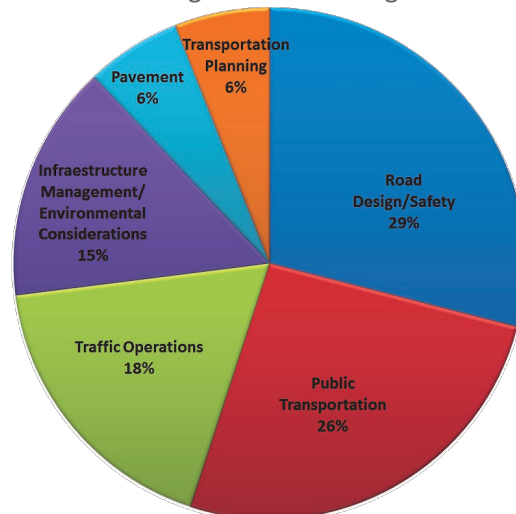
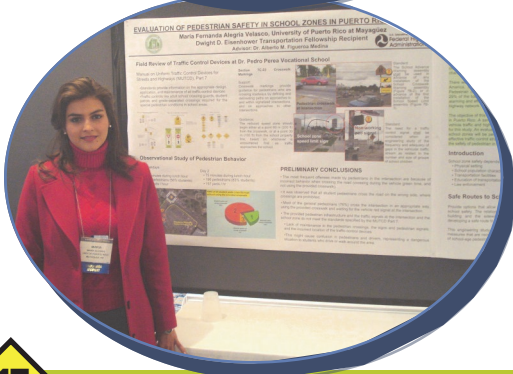
Innovation in Workforce Development in Transportation

Dwight D. Eisenhower Transportation Fellowship Program

This innovative program funded by the Federal Highway Administration attracts the nation's brightest minds to the field of transportation, enhance the careers of transportation professionals by encouraging them to seek advanced degrees, and retain top talent in the transportation industry.



The Fellowship Program has a component directed at Hispanic Serving Institutions (HSI). The Center has been administering the program at UPR-Mayagüez since 1994, benefiting over 80 undergraduate and graduate students, many of which have become transportation leaders at the local or national level. The recipients develop research projects in transportation topics and participate in the Transportation Research Board (TRB) Annual Meeting held in Washington D.C.



Research Topics of DDE Fellowship Recipients

TRANSPORTATION ENGINEERING

The application of technology and scientific principles to the planning, functional design, operation and management of facilities for any mode of transportation in order to provide for the safe, rapid, comfortable, convenient, economical, and environmentally compatible movement of people and goods. Our Center has emphasized the importance of making safer roads as part of all highway transportation related seminar.



www.itap.org

Innovation in Workforce Development in Transportation (cont.)

Summer Transportation Exchange Programs with the University of Rhode Island and Purdue University

The Center, as part of UPR-Mayagüez, has participated of a Student Exchange Summer Program with the URI since 2004 and with Purdue since 2011. This program allows the exchange of students between UPRM and URI, and UPRM and Purdue. The students develop or support research projects in transportation related topics during an 8-week period with the assistance of faculty mentors and graduate students at the three universities.



The Program is supported with funding from the Universities and Grants Program (UP&G) of the FHWA. Thanks to Mr. Henry Murdauch, Program Manager, and his staff for the continuous support and collaboration. Also, thanks to Dr. Ilene Payne, former UP&G Manager, who had the vision to start this innovative program.



The exchange program provides a new arena to learn from other faculty researchers, in a different culture, traditions, and university setting, and help the students to be independent and develop other soft skills that are required to become a successful professional in engineering and transportation related disciplines. Thirty-eight students have participated in the Exchange Program.



UNIVERSITY OF RHODE ISLAND (URI)

This program is implemented at URI by the Transportation Center, with the collaboration of the Rhode Island DOT. Special thanks to Dr. Deborah Rosen, Center Director, and Mr. Phillip Kydd, RIDOT Deputy Director, for their continuous support.

PURDUE UNIVERSITY

PURDUE UNIVERSITY

This program is implemented at Purdue by the Indiana LTAP Center. Special thanks to Dr. John Haddock, Director, and Eng. John Habermann for their efforts in establishing this new workforce development initiative.

Thanks to the students and the faculty from the three universities who make this program a success!



Innovation in Workforce Development in Transportation (cont.)

Institute of Transportation Engineers (ITE): UPRM Student Chapter and Puerto Rico Section

The Center supports the activities and promotes the development of the ITE-UPRM Student Chapter and the ITE Professional Chapter of the Puerto Rico Section. The Center assists in



the organization of educative and professional development activities for the UPRM student members, in particular for the ITE-UPRM Transportation Week that is held annually in the Spring at the UPR-Mayagüez. The Center Directors are active members of the ITE and have actively participated in the Reactivation of the ITE Puerto Rico Section since 2010.

Entrepreneurial Training and Technical Assistance

This innovative program provided training in transportation topics to K-12 students through the use of internships from 1997 to 2002. ETTAP increased the skills and understanding of technical issues and research skills of students, promoted and encouraged the participation of students with disabilities in transportation and fostered interdisciplinary opportunities for civil engineering students in the field of transportation.



Engineering Projects in Community Service (EPICS)

This innovative joint-venture between UPRM and Purdue University provides a unique



opportunity to undergraduate students and non-for-profit local community organizations to solve engineering-based problems in the community. During 2002-2003, worked in EPICS community service projects in over 35 communities of the western region of Puerto Rico.



INSTITUTE OF TRANSPORTATION ENGINEERS (ITE)

The Institute of Transportation Engineers (ITE) is an international educational and scientific association with transportation professionals who are responsible for meeting mobility and safety needs. It facilitates the application of technology and scientific principles to research, planning, functional design, implementation, operation, policy development and management for any mode of ground transportation.





United States Virgin Islands (USVI) Department of Public Works!

U.S. VIRGIN ISLANDS DPW COMMISSIONERS SINCE 1986

Darryl A. Smalls
(2007-Present)

George Phillips
(2005-06)

Wayne Callwood
(2000-05)

Harold G. Thompson, Jr.
(1999-2000)

Lindel A. Williams
(1997-99)

Ann E. Abramson
(1995-97)

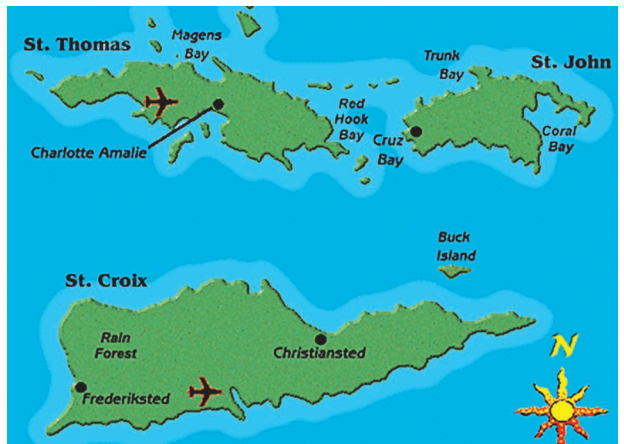
Leo Francis
(1989-95)

James Savage
(1987-88)

Cecil George
(1983-86)

Training Program and Every Day Counts Initiatives

The PR LTAP provides training to officials from the United States Virgin Islands Department of Public Works (USVIDPW) in areas associated with highway safety, construction management, pavement evaluation and management and related areas associated with highway infrastructure. The training and professional development program covers the four (4) islands, namely St. Croix, St. Thomas, St. John and Water Island. These islands are considered a territory of the United States and under Title 23—Highways are eligible to receive federal funding for the activities listed in 23 U.S.C. 215 (f)(1). The government has recognized that in order to efficiently and effectively provide transportation services to the residents and visitors to the territory, it is necessary that their highway infrastructure be able to accommodate and support the various modes of transportation.



The PR LTAP provides training and technical assistance to the Department of Public Works (DPW) since this is the administrative agency that has been authorized by the Virgin Islands Code and has the responsibility of designing, constructing, and maintaining government buildings, public roads and highways, as well as to provide public transportation services. The Department is committed to providing timely, efficient and responsive facility maintenance, infrastructure management and transportation services to the Virgin Islands Community in collaboration with other government departments and federal agencies. The department receives federal funds from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

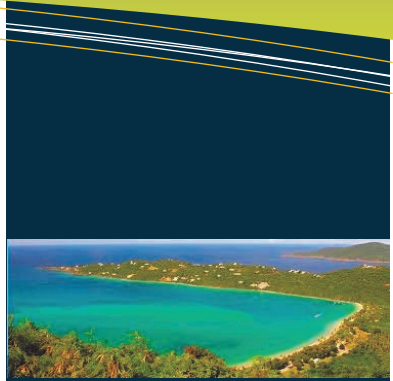
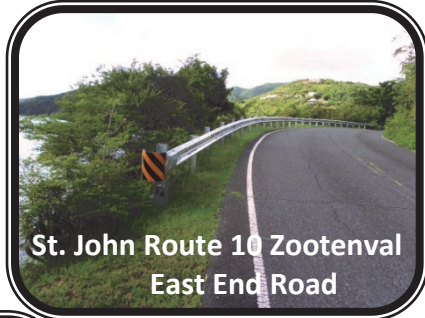
FHWA funds are used for road and highway construction, roadway safety improvements including safety edge projects, transportation planning, and multi-modal transportation facilities. VI representative from the Department of Public Works is a member of the Advisory Committee that



defines the scope of work of the professional development and training program for each calendar year. VIDPW is also part of the “Every Day Counts” initiatives sponsored by FHWA. The “Every Day Counts” is designed to identify and deploy innovation aimed at shortening project delivery, enhancing the safety of USVI, roadways, and protecting the environment.

The U. S. Virgin Islands Department of Public Works adopted three (3) of the “Every Day Counts” initiatives to include the Safety Edge Pavement Edge Treatment, Warm-Mix Asphalt and Adaptive Signal Control. As shown, the Department implemented successfully the Safety Edge Pavement Edge Treatment on several pavement rehabilitation projects territory wide.

The inspectors and maintenance crew staff has benefitted from the training provided by PR LTAP instructors in the area of roadside safety, temporary traffic control in workzones, guardrails installations and warrants, and in practical construction management techniques. The practical training has been useful in their role as inspectors in the following ARRA projects:



Also the VIDPW maintenance crew has benefitted from the training associated with practical techniques for evaluation and maintenance of existing pavements, patching procedures, safety apparel has been key topics that has assisted them in improving productivity and improving safety to work crew and better communication with local road users and visitors that have to adapt driving us on the left side of the highway which contrast to the driving patterns in continental US and Puerto Rico that is on the right hand side.



United States Virgin Islands (USVI)

Every Day Counts Initiatives!

Long Bay Road Project, St. Thomas, USVI – Phase I, ARRA Phase II & Phase III

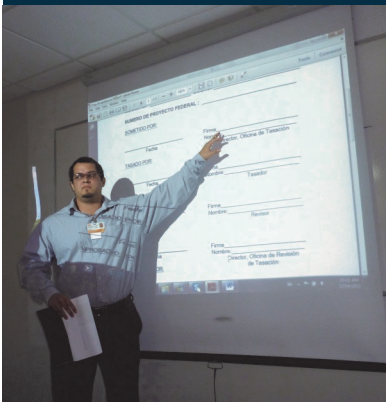
The Long Bay Road Projects extend from the intersection at the Lucinda Millin Home east to the Mandela Circle Intersection. The projects include widening the road from two lanes to four lanes with a center median, installation of sidewalks, new traffic signals for the Yacht Haven entrance and the installation of landscaping and an irrigation system.



Queen Mary Highway Route 70 East, St. Croix, USVI—ARRA Project



The Queen Mary Highway Project begins at the intersection of Routes 70 and 682 adjacent to the Cool Out Bar and continues east approximately two (2) miles to Estate Contentment near the intersection with the Christiansted Bypass. The project includes pavement rehabilitation and reconstruction, drainage improvements, roadway striping and new traffic control signage.



roadway striping and new traffic control signage.

Red Hook Sidewalk Improvements, St. Thomas, USVI – ARRA Project

This project includes sidewalk construction along Route 32 from west of the Ivanna Eudora Kean High School to the ferry boat terminal, raised pedestrian crosswalks and drainage improvements. This project provides safe pedestrian walkways for many students and pedestrians that traverse the Red Hook area.





Route 104, St. John, USVI – ARRA Project

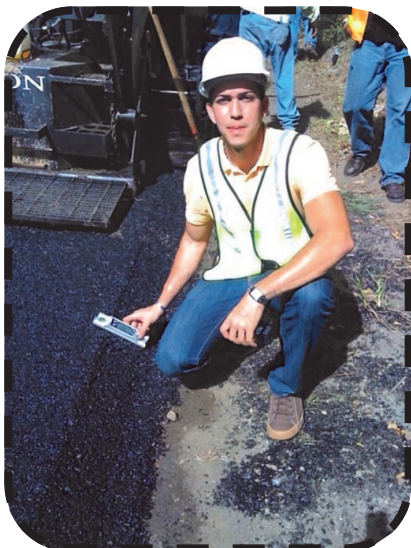
This ARRA project includes approximately 2.8 miles of pavement rehabilitation, drainage improvements, pavement markings and traffic control signage. It begins at the intersection of Routes 102 and 104 and ends at the intersection with Route 10 in Estate Susannaberg.



Queens Mary Route 70, St. Croix, USVI – Safety Edge Experiment



Phase I of this ARRA project is part of the Every Day Counts (EDC) initiative sponsored by the FHWA with Virgin Islands Pavement (VIP) as the primary contractor. It includes approximately 2.2 miles with an investment of \$4.9 millions for pavement rehabilitation.



Special Projects

Provide a balance between theory to practice on emerging technologies!

The Center has participated in short-term projects of emerging interest to Puerto Rico municipalities, the Puerto Rico Department of Transportation and Public Works, the Puerto Rico Traffic Safety Commission, and the U.S. Virgin Islands Department of Public Works to complement its technology transfer activities. Representative special projects carried out by the Center are:

- ◇ Development of transportation-related microcomputer software tools.
- ◇ Translation to Spanish of technical material of transportation-related topics and road construction specifications for federal highway projects.
- ◇ Development of Guidelines for the Municipalities on How to Prepare Request for Proposals (RFP) related to public transportation projects.
- ◇ Development of technical videos regarding the proper use of asphalt, concrete, and soils materials in road and bridge construction.
- ◇ Development of technical guidelines for Temporary Traffic Control (TTC) in highway work zones.
- ◇ Participation in the USDOT-FHWA Strategic Highway Research Program (SHRP) Assessment Project regarding the documentation of successful stories associated with the implementation of safety products in highway construction zones such as the stop-slow paddle, and the inventory of existing pavement distresses using LTPP Distress Identification Manual.
- ◇ Identification of transportation needs of municipalities through site visits and surveys.
- ◇ Feasibility study for the freeway conversion of PR-2 from Hormigueros to Añasco.
- ◇ Direction of an interdisciplinary multicampus professional development programs in Puerto Rico associated with public transportation, the UPR-MIT-Tren Urbano and the UPR-PUPR-ATI.
- ◇ Identification of crash causes and safety countermeasures to mitigate motorcycle fatalities in Puerto Rico.
- ◇ Technical Assistance in the development of the traffic study of the Sport Complex of the Mayagüez 2010 Central American and Caribbean Games.
- ◇ Analysis of the system connection of the Tren Urbano heavy rail expansion to Caguas.
- ◇ Provide technical oversight to initiatives related to the FHWA Every Day Counts (EDC) Program for the implementation in Puerto Rico and the U.S. Virgin Islands.
- ◇ Develop local strategies for the United Nations Decade of Action for Road Safety 2011-2020, and the FHWA Toward Zero Deaths (TZD) initiatives.



DECADE OF ACTION FOR ROAD SAFETY 2011-2020

Every day, around 3,500 people die in the world as a consequence of a road crash.

A coalition of countries headed by the United Nations General Assembly that has set the goal for the 2011-2020 decade: "to stabilize and then reduce the forecast level of road traffic fatalities around the world". This initiative looks to promote strategies in engineering, education, enforcement, and emergency services to improve safety for all.



TOWARD ZERO DEATHS

Is the National Strategy on Highway Safety in the United States that looks to develop a national approach to eliminate highway fatalities. TZD is a data-driven effort focused on identifying and creating opportunities for changing American culture as it relates to highway safety.



National and International Collaborations

A means of technology sharing and exchange of social and cultural experiences!

The Center has planned and coordinated conferences of local, national and international significance in areas associated with transportation and professional development., such as:

- ◇ V Pan-American Congress of Traffic and Transportation Engineering in 1988 in Mayagüez, Puerto Rico.
- ◇ Region 1 and National Conference of Transportation Technology Transfer Centers in 1993 in Mayagüez, Puerto Rico.
- ◇ CoHemis –NSF Conference on Transportation Research in the Americas in Fajardo, Puerto Rico in 1995.
- ◇ Symposium of Research–to–Practice on Repair and Rehabilitation of Bridges and Pavements in Warwick, Rhode Island in 1996, and sponsored by National Science Foundation (NSF).
- ◇ Region 4 of the Transportation Technology Transfer Centers Annual Meetings in 2002 and 2009 in San Juan, Puerto Rico. A Peer to Peer Exchange was held in the 2009 meeting with representatives from Indiana, Kentucky, Louisiana, and New Hampshire LTAP Centers.

The Center has collaborated with local, national, and international organizations and governments to provide information on transportation issues. A sample of these successful collaborations are:

- ◇ “Congreso Panamericano de Carreteras” (COPACA) in 1988 in Buenos Aires, Argentina provided information about the Rural Technical Assistance Program (RTAP) and the tasks, organization and accomplishments of our Center to extend the transportation technology transfer concept throughout Latin America.
- ◇ Founder’s Conference of the Pan-American Institute of Highways (PIH) in 1988 in Phoenix, Arizona. Participation in the development of by-laws that led to the creation of the PIH that extended the RTAP concept to 101 Centers in the Caribbean and South America.
- ◇ Federal Transit Administration (FTA) in 1990 requested the Center assistance to provide technical information on the Puerto Rico “Público” system to the government of South Africa.
- ◇ “Asociación Latino Americana de Metros y Subterráneos” (ALAMYS) Annual Conference.
- ◇ Participation in the Automobile Accident Compensation Administration (ACAA) Summit of Highway Safety. The Center’s Directors made technical presentations on highway safety topics emphasizing the behavior of local drivers and the characteristics of the Puerto Rico highway system.
- ◇ Participation in 2008, 2009, and 2010 in Infrastructure and Safety Summits in support of in Mayagüez 2010 Central American and Caribbean Games providing training and technical assistance on traffic control issues in mega sport events.



**EVERY
DAY
COUNTS**

EDC is an FHWA initiative designed to identify and deploy transportation-related innovations aimed at shortening project delivery, enhancing the safety of our nation’s roadways, and protecting the environment.

Nationwide, state DOT’s are implementing some of the 15 strategies identified in EDC in order to improve operations and efficiency, and promote a smarter way of doing business managing the road network.



Our Sponsors and Collaborators

The Center staff wants to acknowledge the continuous and unconditional support of the Administrators, Secretaries, Commissioners, Executive Directors and Majors of Municipalities from Puerto Rico and the U.S. Virgin Islands during our journey in our first 25 years of training and professional development to our stakeholders. Our deepest gratitude for your collaboration and commitment to training local, state, and federal officials.



PUERTO RICO DTPW SECRETARIES SINCE 1986

Ruben Hernández Gregorat
(2009-Present)

Carlos González Miranda
(2007-08)

Gabriel Alcaráz Emmanuelli
(2005-07)

Fernando Fagundo
(2002-04)

José M. Izquierdo Encarnación
(2001-02)

Sergio González Quevedo
(1999-00)

Carlos I. Pesquera Morales
(1993-99)

Hermenegildo Ortiz Quiñones
(1989-92)

Dario Hernández Torres
(1986-88)

FHWA PUERTO RICO DIVISION ADMINISTRATORS SINCE 1986

Martin Knopp

Roberto Fonseca

Lubin Quiñonez

José Sepúlveda

Nelson Castellanos

Juan Cruz

Don Martínez



University of Puerto Rico at Mayagüez

Antes, Ahora y Siempre,...COLEGIO!

A special thanks and tribute to the Chancellors, Deans and Directors!



The Center staff is honored of being part of the University of Puerto Rico at Mayagüez (UPRM), which was established on September 23, 1911, as the College of Agricultural and Mechanical Arts (CAAM), with D.W. May, José de Diego and Carmelo Alemar as founder members. CAAM became part of the UPR system as Mayagüez

Campus, and is currently the second largest with approximately 12,108 students, 1,924 regular staff members, and 1,037 members of educational staff.

The Center is part of the Engineering Faculty at the Department of Civil Engineering and Surveying of the UPR at Mayagüez since its inception in 1986. The College of Engineering at UPRM is a world-wide leader in research and development, and all its engineering programs are accredited by the Accreditation Board for Engineering and Technology (ABET). Our engineering and supporting instructors from other faculties at UPRM are the best and brightest that provides a balance between theory and practice recognized by scientific and research organizations such as DOD, DOE, EPA, FHWA, FTA, NIH, NSF, USACE, and local administrative agencies that provides recurrent funding for state-of-the-art research to address the emerging needs of Puerto Rico, United States and Latin American.



A special recognition to the Chancellors, as well as their Deans and Directors that have trusted in our professional development and training program. A special tribute to Prof. Ismael Pagán Trinidad, Department Chair of Civil Engineering and Surveying, as well as instructor in our beginnings, for his unconditional support to the program throughout

the first 25 years.

The Center staff is also proud of being part of the UPR Mayagüez family in its celebration of its 100th anniversary of the ANTES, AHORA Y SIEMPRE,... COLEGIO!

**UPR MAYAGÜEZ
CHANCELLORS SINCE
1986**

**Jorge Rivera Santos
Miguel Muñoz Muñoz
Jorge I. Vélez Arocho
Zulma R. Toro Ramos
Antonio Santos Cabrera
Stuart J. Ramos Biaggi
Alejandro Ruíz Acevedo
José L. Martínez Picó
Pablo Rodríguez
Fred Soltero Harrington**



www.uprm.edu

A Look Ahead Into The Future

Engineering education, training, technology transfer, and professional development must be based on the emerging needs of our people that are our stakeholders. Those that have the privilege of training engineers play a vital role in motivating and preparing the emerging workforce to do a job of excellence in addressing the challenges and emerging needs of our Nation and its built infrastructure.

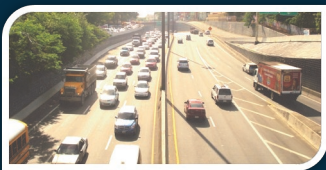
The celebration of the 25th anniversary of our Center provides us a reflection to look back and review the main Center accomplishments; the essential elements that have allowed the Center to succeed; and future and exciting professional development and training opportunities yet to come.

The Center has played a key role during its first 25 years of operation in providing continuing education to undergraduate and graduate students, practicing engineers, transportation, and top management officials, bridging with professionals from North, Central, South America, and the Caribbean Region in our mission of sharing and adapting the latest technology in a

bilingual setting using the university as the education backbone of the system.

A consensus among the Center founder members of the most significant contributions accomplished during our first 25 years are:

- An active and contributing role in innovative ways of training and educating local, municipal, and state employees in transportation technical areas and pertinent supporting areas.
- Education and economic support of students from various disciplines and at all educational levels
- Employment and training for undergraduate and graduate students, and administrative personnel in the Center
- Liaison between the Center and the University of Puerto Rico with national and international organizations and universities for technology sharing and professional development initiatives.
- Liaison between the Center and the University of Puerto Rico with professional organizations and government agencies.
- Link with Federal Agencies in addressing emerging training needs of national significance such as Every Day Counts.
- Provision of a transportation library with the latest technical publications



and audiovisual material readily available for students, in structure and local transportation officials.

- Liaison with other universities to provide students the opportunity in participating in summer internship programs in transportation related research and contribution to workforce development in transportation.

The elements that have contributed in the success of the Center are:

- Stable economic support from the Center sponsors
- Support from local transportation agencies in Puerto Rico and the U.S. Virgin Islands
- Support from the University of Puerto Rico, including its officials, professors, and students
- Support from other universities, and organizations that have participated in the different projects and programs
- Committed administrative personnel in performing their tasks in an excellent manner and willing to tackle new challenges and opportunities

The existing and future condition of our transportation system depends upon the use of innovative training and research projects that will develop highly competent engineers capable of working in interdisciplinary teams. These professionals will have to address emerging local and national infrastructure issues with emphasis on the



rehabilitation, safety, and sustainability of the built highway and transit networks, and considering all users.

The Center is devoted to assist transportation agencies in deploying initiatives such as **Every Day Counts, Toward Zero Deaths, and the Decade of Action for Road Safety: 2011-2020.**

These programs will continue to be part of the Center's top priorities, along with increasing the workforce to address the future challenges. The Center will continue its active role in educating engineers and other transportation-related professionals that serve local, municipal and state transportation officials with the latest technology to contribute to the knowledge-based in transportation in Puerto Rico, the Caribbean and the hemisphere. The Center staff is **fully committed** to professional development through excellence in innovation, quality, safety and sustainability **servicing the local, national and international community in emerging transportation needs.**



Here's to the Next 25 Years



A nd the Great Times!





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**EL PUENTE
NEWSLETTER**

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