



The NTC Today

The Biannual Newsletter for the Morgan State University National Center for Transportation Management, Research & Development

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April 2012: The CBEIS receives its Certificate of Occupancy.

The NTC's New Home Nears Completion

At the end of the summer, the NTC will move into the third floor of a new building on Morgan's campus: the Center for the Built Environment and Infrastructure Studies (CBEIS).

The CBEIS is next to the Mitchell School of Engineering. Designed to encourage interdisciplinary collaboration, the CBEIS will also house the School of Architecture and Planning, the Department of Civil Engineering, and the Department of Transportation & Urban Infrastructure Studies.



April 2010: Groundbreaking ceremony



September 2010: Final beam placed



ABOUT THE CENTER

The National Transportation Center (NTC) at Morgan State University is committed to transportation research and education that support the well-being and economic development of communities.

STAFF

Dr. Andrew Farkas, *Director*
Anita Jones, *Administrative Assistant*
Dr. Hyeon-Shic Shin, *Assistant Research Professor*
Erica Johnson, *Communications Manager/Editor*
Valencia Baker, *Education Coordinator*
Sonia McDonald, *Secretary*

ADVISORY COMMITTEE

Moges Ayele
Senior Liaison for Higher Education
Federal Highway Administration

Gail McFadden-Roberts
Community Planner
Region 3
Federal Transit Administration

Elizabeth Baker
Regional Administrator
National Highway Traffic Safety
Administration

Adiele Nwankwo
Senior Vice President & GM
Central Region
PB Americas

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President
KCI Technologies

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Senior Vice President
HDR Engineering, Inc.

Nelson Castellanos
Division Administrator
Federal Highway Administration

Richard Y. Woo
Director
Office of Policy & Research
Maryland State Highway Administration

Ricky DeGraffenreid
Director of Service Quality
Maryland Transit Administration

Khalil Zaied
Director
Baltimore City Department of
Transportation

Ronald L. Freeland
Vice President
T.Y. Lin International

Bob Garrett
Executive Assistant
Bureau of Municipal Services
Pennsylvania Department of
Transportation

CONTACT INFORMATION

National Transportation Center
Morgan State University
1700 E. Cold Spring Lane
Montebello Complex, Rm D206
Baltimore, MD 21251

Web: www.morgan.edu/soe/ntc
Phone: 443-885-3666
Fax: 443-885-8275

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The NTC Has New Research Partners

A MESSAGE FROM THE NTC'S DIRECTOR

In January, two university consortiums of which we are members won University Transportation Center (UTC) grants for Federal FY 2011. We joined both consortiums during the summer for a fall UTC competition and participated in the winning proposals. There were two categories of awards: Tier 1 centers are theme-based, consisting of universities across the country, and regional centers consist of universities in multistate regions.

The leader of our Tier 1 UTC is Virginia Polytechnic Institute and State University,

in greater resources and strengths than are available singly. It will be challenging, but we expect it will also be rewarding.

NTC will be Morgan's manager of programs in both UTCs and an assortment of research opportunities will open up through these centers. The connected vehicle/infrastructure UTC will give faculty and students opportunities to do advanced research on smart vehicles and smart roads' intercommunication. These technologies can improve travel efficiency, manage congestion, and increase safety. There

"...working collaboratively on research usually results in greater resources and strengths than are available singly."

and the University of Virginia is the third member. This UTC focuses on connected vehicle/infrastructure research and development. The grant provides \$3.5 million for one year of funding from the U.S. Department of Transportation, which will be matched by \$2.5 million from the Virginia Department of Transportation and \$1 million from the university partners.

Pennsylvania State University is the leader of our Region 3 UTC, which also includes West Virginia University, University of Maryland, University of Virginia, and Virginia Tech. This grant also provides \$3.5 million to be matched by the universities and state departments of transportation. This UTC will focus on regional and national research topics and will rely on extensive collaboration among the universities' faculty and students.

Collaboration with other universities is always more complicated than if you work on your own. Yet, working collaboratively on research usually results

is also the possibility of producing technologies of commercial value. The regional center presents opportunities for faculty and students to engage in an array of transportation research projects of regional and national importance.

The funding associated with these centers is for one year, but another year's funding is possible as long as Congress does not enact a new long-term authorization of transportation programs. A new act could change everything, and we'll just have to see what happens. In the meantime, we received an extension as a UTC under our old grant because we're still involved in previously established research, education, and technology transfer activities. We have much to keep us busy over the next several months, and we're looking forward to a new UTC program, we hope, in the not too distant future.

Dr. Andrew Farkas

TIER I UTC

Lead Institution

Virginia Polytechnic Institute & State University (Virginia Tech Transportation Institute)

Consortium Members

- Morgan State University
- University of Virginia

Focus

Connected vehicle/infrastructure research



MID-ATLANTIC (REGION 3) UTC

Lead Institution

Pennsylvania State University (Thomas D. Larson Pennsylvania Transportation Institute)

Consortium Members

- Morgan State University
- University of Maryland
- University of Virginia
- Virginia Polytechnic Institute & State University
- West Virginia University

Focus

Workforce, research, student support, and issues in the mid-Atlantic region

NTC Internship Programs Get National Attention

NATIONAL CONFERENCE IN D.C.

The NTC was one of 26 showcase exhibitors at the Council of University Transportation Centers' National Transportation Workforce Summit.

Held April 24-26 in Washington, D.C., the summit focused on the best ways to recruit, train, and retain transportation professionals.

As personnel shortages grow and the current workforce retires, societal and technological shifts are changing how work is done. As a result, universities will need to change how they educate their students and the transit industry will need to expand its talent pool to include those without transportation-specific degrees.

The showcase exhibitors presented initiatives to attract and educate a new generation of transportation workers, including pre-teens, college students, minorities, career changers, and mid-



The MDOT-MSU interns manned the NTC's exhibit. From left to right: Anam Ardeshiri, Sheila Rivers, Cadell Hall, and Ijeoma Ihuoma

career professionals.

The NTC's exhibit highlighted four of its long-standing initiatives: the graduate student internship program with the Maryland Department of Transportation (MDOT), the undergraduate internship program with the Maryland State Highway Administration (SHA), the Summer Transportation Institute for high school students, and the Teacher Transportation Institute for high school math and science teachers. In addition, the NTC paid registration fees for this year's MDOT interns so they could learn how to position themselves for industry success.



TRB REPORT

A new Transportation Research Board (TRB) report further confirms the efficacy of the NTC's internship programs with SHA and MDOT.

The report was produced by TRB's National Cooperative Highway Research Program, which focuses on national transportation issues. *NCHRP Report 710: Practical Approaches for Involving Traditionally Underserved Populations in Transportation Decisionmaking* highlights programs and methods that have helped diversify the transportation field. The report details the development and administration of the NTC's programs so that they can be replicated by public and private organizations across the country.

The full report can be found online at <http://www.trb.org/Publications/Blurbs/166872.aspx>

The story about the NTC's programs can be found on page 4-130.

INTERNS AND FELLOWS

Eisenhower HBCU Fellows

This is awarded to juniors, seniors, and graduate students at historically black colleges and universities (HBCUs) who are pursuing transportation-related degrees and careers. Fellows receive a tuition scholarship and a monthly stipend, conduct research, and attend the Transportation Research Board's annual meeting.

Anam Ardeshiri
Andrew Giraldi
Safieh Laaly
Jonathan McCoy
Christina Nzekwe

Maryland State Highway Administration (SHA) Summer Interns

This is a 10-week, paid internship open to undergraduates from non-transportation fields. Interns work in one of SHA's administrative offices. Past placements have included the following offices: traffic and safety, communications, traffic engineering, real estate, and highway design.

Ebony Ashby-Bey
Kechi Amaefule
Fathy Elgendi
John Igbinovia
Stephen King
Ifeoluwa Oresanwo
Brittany Spell
Travis Tangham
Ahmad Yusif

Maryland Department of Transportation-Morgan State University (MDOT-MSU) Graduate Interns

The year-long, paid internship gives graduate students practical experience in an MDOT agency that complements their career goals. Interns work part-time during the school year and full-time during the summer.

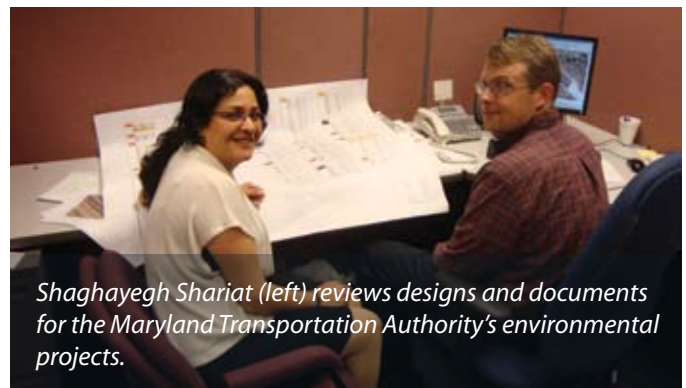
Anam Ardeshiri
Cadell Hall
Dionne Hines
Ijeoma Ihuoma
Farzin Kermani
Amir Naeeni
Sheila Rivers
Shaghayegh Shariat



As an intern in SHA's Traffic Engineering division, Cadell Hall helps evaluate highway safety and traffic operations.

"I learned some great information and got a chance to work with some great professionals."

—Cadell Hall, MDOT-MSU intern, on his experience at the CUTC Workforce Summit



Shaghayegh Shariat (left) reviews designs and documents for the Maryland Transportation Authority's environmental projects.



Farzin Kermani's internship with the Maryland Aviation Administration exposes him to new trends at U.S. and international airports.

NTC Student of the Year: Celine Kalembo



RITA's Acting Administrator Greg Winfree (right) presented Celine Kalembo (left) with her Student of the Year certificate. Photo: CUTCBanquet.com

In 2001, Celine Kalembo moved to the United States from the Democratic Republic of the Congo. She earned her associate's degree in engineering from Baltimore City Community College in 2004, and received her bachelor's degree in civil engineering from Morgan in 2006.

In 2007, Kalembo was hired as a consultant/civil engineer for Daniel Consultants. A year later, she began working for the Maryland State Highway Administration as a transportation engineer. Her responsibilities include pavement and geotechnical recommendations, field and lab data analysis, and

project site inspections.

In 2009, Kalembo began her M.S. in transportation (with a concentration in traffic engineering). Since 2009, she has been an NTC Fellow.

As Student of the Year, Kalembo received \$1000 and a trip to the 2012 TRB Annual Meeting. In addition, her thesis, "Evaluation of the Impact of Pavement Roughness on Vehicle Gas Emissions in Baltimore County," was selected for presentation.



The registration area included exhibits from public and private transportation groups, including P. Flanigan & Sons, Inc.



Dr. Alejandro Solis (left) of HDR and Gloria Jeff (right) of the D.C. Department of Transportation led a workshop on the pros and cons of infrastructure investment.



Four experts debated alternative funding methods: (from left to right) Gus Bauman, chairman of the Maryland Blue Ribbon Commission on Transportation Funding; Adiele Nwankwo, senior vice president and general manager of PB Americas (Region 3); David Vozzolo, vice president of HDR; and Lon Anderson, director of public and government relations for AAA Mid-Atlantic

2011 NTC Maryland Transportation Symposium

On October 11, 2011, the National Transportation Center at Morgan State University brought together 100 transportation advocates, students, policy makers, and community leaders for the NTC Maryland Transportation Symposium. The half-day event examined the future of transportation funding and infrastructure in Maryland.

Speakers included U.S. Rep. Elijah Cummings; Howard County Executive Ken Ulman; and Lei Zhang, Ph.D., assistant professor of civil engineering at the University of Maryland, College Park.

Conference documents and some speakers' PowerPoint presentations can be viewed at http://www.morgan.edu/School_of_Engineering/Research_Centers/National_Transportation_Center/Research/2011_NTC_Maryland_Transportation_Symposium.html



Doug Duncan (left) and Richard Parsons (right), chairman and president of the Suburban Maryland Transportation Alliance, discussed strategies for public engagement.



Approximately 100 people attended the half-day symposium.



U.S. Rep. Elijah Cummings (second from left), helped unveil the sign that is the cornerstone of the university's safe driving campaign. Rep. Cummings was also the keynote speaker for the symposium's luncheon. Photo: Jewel Johnson

COMPLETED PROJECTS

The following reports can be found at http://www.morgan.edu/School_of_Engineering/Research_Centers/National_Transportation_Center/Research/Completed_Projects.html

Mathematical Modeling for Optimizing Skip-Stop Rail Transit Operation Strategy Using Genetic Algorithm
 Author: Young-Jae Lee, Ph.D.

Implementation of the Concrete Maturity Meter for Maryland
 Authors: Robert Johnson, Ph.D., and Akyiaa M. Hosten

Cumulative Impact of Developments on the Surrounding Roadways' Traffic
 Authors: Mansoureh Jeihani, Ph.D., Anam Ardeshiri, Osas Ighodaro, and Gholamhossein Mazloomdoost

The Mediating Role of Motorists' Evaluation of Current Roadway Conditions in Determining Their Willingness to Pay for Future Improvements
 Authors: Michael Callow, Ph.D., and Nathan K. Austin, Ph.D.

NEW PROJECTS

The Development of Local Calibration Factors for Implementing the Highway Safety Manual in Maryland
 Principal Investigators (PIs): Hyeon-Shic Shin, Ph.D., and Young-Jae Lee, Ph.D.



This project explores recommended calibration procedures and determines local calibration factors to predict accidents for Maryland-specific application.

Developing a Framework and Models for Transit-Oriented Development (TOD) Analysis
 PIs: Mansoureh Jeihani, Ph.D., and Lei Zhang, Ph.D.



A team of researchers from Morgan State University and the University of Maryland will collect existing data to support the development of transit-oriented development (TOD) analytical tools; identify TODs in Maryland; develop statistical models to analyze the impact of TODs on selected travel behaviors; and develop simulation tools to analyze the impact of TOD-induced behavioral changes on corridor-level traffic congestion, pollution, greenhouse gas emissions, and other sustainability indicators.

Measuring Economic Contribution of Freight Industry to the Maryland Economy
 PIs: Hyeon-Shic Shin, Ph.D., and Sanjay Bapna, Ph.D.

This project will identify and model key performance indicators that measure the economic output of freight transported in Maryland, create a freight economic output (FECO) index that tracks the economic output over time of total output in Maryland, and develop forecasting models and a technical guidebook.



Travelers' Response to DMS Using a Driving Simulator
 PI: Mansoureh Jeihani, Ph.D.

The researchers will recruit participants from different socio-economic and age groups to drive a simulator under a variety of pre-determined scenarios, and analyze each driver's reaction to information displayed on a dynamic message sign (DMS).

A full description for each project can be found online at http://www.morgan.edu/School_of_Engineering/Research_Centers/National_Transportation_Center/Research/New_Projects.html