

NTC TODAY

National Transportation Center at Morgan State University

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NTC Hosts First Research Symposium

The first annual National Transportation Center (NTC) Research Symposium was held in the Mitchell Engineering Building at Morgan State University (MSU) on February 8, 1999. The four-hour symposium consisted of presentations of research conducted last summer and fall through funding from the NTC's inaugural faculty summer research program.

Twenty-nine individuals attended the symposium, including representatives from the Motor Vehicle Administration, Mass Transit Administration, State Highway Administration, and Baltimore Metropolitan Council. Also in attendance were MSU's Dean of Engineering, Eugene DeLoatch, and Dean of Education and Urban Studies, Patricia Morris. The symposium was presented in the two sessions outlined below.

Session 1

- *The Effects of Motorcycle Rider Safety Course on the Risks of Accident and Violation in Maryland, Dr. Carrol Perrino, Psychology*
- *Experimental Investigation of Constitutive Relation for Subgrade*

Soils under Transportation Loads, Dr. Jiang Li, Civil Engineering

- *Research on Magnetic Materials of Interest in the Transportation Field, Dr. Fred Oliver, Physics*
- *Towards a Typology of Transportation-Oriented Urban Design Problems and Solutions: A Case Study of Small and Medium Sized Cities in Northeast United States, Dr. Siddhartha Sen, CRP*

Session 2

- *Social Structure and Patterns of Travel Behavior as Affected by Race and Ethnicity, Dr. Robert Smith, Psychology*
- *The Performance of Railroad Companies Associated with Mergers and Acquisitions, Dr. Huey-Lian Sun, Accounting and Finance*
- *Park Heights Community Project: Enhancement of Public Involvement for Transportation Planning, Dr. Maurice St. Pierre*

Detailed project descriptions for all research included in the symposium are currently available on the NTC web site (www.eng.morgan.edu/~ntc). In

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NEW HORIZONS

Perspective of the NTC Interim Director

Welcome to the inaugural issue of the newsletter for the National Center for Transportation Management, Research, and Development or, more simply, the National Transportation Center (NTC) at Morgan State University. This newsletter is yet another means of informing the wider transportation community about the transportation research, education, and outreach activities at Morgan State.

Transportation-related activities at Morgan predate the NTC. The interdisciplinary M.S. in Transportation began in 1979, and faculty of the Transportation Studies program have been actively engaged in transportation research for federal, state, and private sector clients ever since. Faculty were also involved for several years in the activities of the Middle-Atlantic University Transportation Center, led by Penn State, prior to the establishment

of the NTC. Morgan State's engineering programs on the undergraduate and graduate levels and the graduate City and Regional Planning program further enhance the university's capabilities in transportation research and education. Recently, the Transportation Studies program and the NTC formed a Transportation Institute within the School of Engineering, leading to an organizational synergy that may have been lacking in the past.

Since its beginning, the NTC's role has been to provide guidance and funding for an array of new research activities and educational initiatives that would not otherwise have occurred. The theme of the NTC is as follows: Transportation: A Key to Human and Economic Development. This theme is in keeping with the mission of the university and is a guide for the research that we do and the education that we impart. This theme means that students should learn about the human aspects of and interaction with transportation systems. As a complement to this theme, the NTC is working diligently to increase the numbers of minorities and women in transportation programs and careers.

It is our intent to inform you of the abundance of activities in transportation research and education at Morgan State, ranging from the Summer Transportation Institute for high school students to the nationally recognized research on driver behavior and safety. I ask sincerely that you read our newsletter and access our web site (www.eng.morgan.edu/~ntc). Please then give us your thoughts on our activities and suggest ways to improve our communication with you.

Written by Dr. Andrew Farkas

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NTC Awarded Funding for 1999 STI

For the third consecutive year, the National Transportation Center (NTC) will host a Summer Transportation Institute (STI) at Morgan State University (MSU). Funded by the Federal Highway Administration and the NTC, the STI is a four-week program that introduces promising Baltimore-area 9th and 10th grade students to the transportation industry. STI participants explore the career opportunities available in transportation and participate in a wide range of activities that are both educational and enjoyable.

The first two STIs included field trips to diverse transportation-related sites such as the Maritime Institute of Technology, the Port of Baltimore, Baltimore's Central Light Rail Line, Camden Yards, the B & O Railroad Museum, BWI Airport, and the US Department of Transportation headquarters in Washington, DC. The program offers

instructional units on maritime transportation, land-based transportation, air and space transportation, transportation safety, and public transit.

The STI includes guest speakers from across the industry who discuss their work and field questions from students. In addition, STI participants engage in hands-on activities

such as the airplane and bridge-building projects. The program also introduces participants to transportation-related computer technologies such as Geographic Information Systems (GIS). Based on such program activities in previous STIs, the NTC has identified several students who will be strong candidates for the MSU School of Engineering in the near future.



STI participants collaborate on bridge building project

The NTC anticipates having the funding capacity to accommodate approximately thirty students for the 1999 STI. Active recruitment has already begun, and NTC representatives are visiting area schools to discuss the program and distribute a promotional pamphlet. The application deadline for the 1999 STI is May

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NTC Conducts Study on Motorcycle Safety Course

Among the NTC's current projects is an analysis of the effects a motorcycle safety course in Maryland. Under the direction of Principal Investigators Dr. Carrol Perrino (Morgan State, Psychology) and Ashraf Ahmed (Morgan State, Institute of Urban Research), the study is an assessment of the effects

of Maryland's Motorcycle Safety Course on accident rates and traffic violations. The study is conducted using a comparative analysis in which the accident and traffic violation rates of motorcyclists who have completed the course and those who have not are juxtaposed. The benefits of the project include providing an analytical

model for replication by states with similar safety courses and enabling policy makers in Maryland to make informed decisions concerning the continuation or modification of the existing program.

Turner Honored as UTC Student of the Year

H. Howard Turner, a Transportation Studies graduate student at Morgan State University (MSU), was among twenty-two students conferred the University Transportation Centers (UTC) Student of the Year Award at the 1999 Transportation Research Board (TRB) Annual Meeting in Washington, DC. The Student of the Year Awards are granted by the U.S. Department of Transportation to honor an outstanding student from each participating UTC. Recipients demonstrate both scholastic achievement and potential for significant future contributions in the field of transportation.

As the National Transportation Center's UTC Student of the Year, H. Howard Turner is honored in particular for his demonstrated potential as a transportation researcher. Turner, who is a candidate for a



From left to right, Kelly Coyner (USDOT-RSPA Administrator), Howard Turner (MSU), and Mort Downey (USDOT Deputy Secretary) at the TRB Annual Meeting

M.S. in Transportation Studies at MSU, has undertaken two transportation-related internships. In the summer of 1997, Turner served as an intern for the TRB. This internship involved reviewing and editing research studies and reviewing proposals associated with both the National Cooperative

Highway Research Program and the Transit Cooperative Research Program.

Turner began his current internship with the Maryland State Highway Administration's Office of Highway Policy and

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10, 1999. Successful applicants must meet the following selection guidelines:

(1) Applicants should be enrolled in either a public or private school in the Baltimore Metropolitan Area, which includes Baltimore City, Baltimore County, Anne Arundel County, and Howard County.

(2) Applicants should be completing either the 9th or 10th grade by Summer 1999.

(3) Applicants should have a Grade Point Average of at least 3.0.

(4) Applicants should have successfully completed at least one course in algebra.

(5) Applicants should have a strong interest in technology.

The *STI Program Guide*, which includes complete selection guidelines and a 1999 STI application, is available upon request. The program guide and other STI

resources are also available on the NTC web site (www.eng.morgan.edu/~ntc). Those seeking further information about the program or the application process should contact the 1999 STI coordinator.

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NTC Contributes to CVISN Project

The NTC's most expansive current activity is research related to the Commercial Vehicle Information Systems and Networks (CVISN) project. CVISN is a nationwide Federal Highway Administration (FHWA) program that seeks to enable the seamless movement of traffic, goods, and services and improve the operating efficiency of government agencies associated with commercial motor vehicles (CMV). CVISN objectives are met through the implementation of Intelligent Transportation Systems (ITS). Eight capacities are targeted for development and deployment under CVISN: (1) Safety Information, (2) Administrative Processes, (3) Electronic Clearance, (4) International Clearance, (5) Automated Inspection, (6) On-Board Safety, (7) Haz-Mat Incident Response, and (8) Fleet and Freight Administration.

CVISN is designed to foster a crash-free environment and to enhance performance-based safety management in the private and public sectors. Computer information technology is central to the CVISN effort. Electronic access to national and state databases greatly expedites the exchange of safety information, and CVISN technology facilitates the electronic screening of carriers and reduces congestion at inspection stations. CVISN information technology will also streamline administrative processes. This will be accomplished by enabling the electronic application for and issuance of motor carrier credentials.

CVISN is of particular importance in Maryland, for the state is serving as one of two CVISN prototype states. The NTC was contracted by the Maryland Department of Transportation to provide technical assistance for the Maryland CVISN program. During the past year, the NTC has completed several CVISN research projects. These include a benefit-cost study and an organizational study. The comprehensive benefit-cost analysis conducted in the NTC study offers strong support for the economic feasibility of the CVISN project. The phase I organizational study is a comparative analysis of the current organizational



structures of CMV regulatory agencies in ten states. The data from this study will be used in phase II of the organizational study as a basis for proposing a restructuring of CMV agencies in Maryland.

In the coming year, the NTC will maintain a high level of CVISN activity. Organizational structures will remain a primary area of research focus. The NTC will conduct an analysis of one-stop shopping systems in other states toward the end of implementing a one-stop shop in Maryland. The NTC will also evaluate organizational structure options and propose alternatives for CMV agencies in Maryland.

The NTC will complete an evaluation study on CVISN safety information exchange and roadside operations. This research component will investigate the use of laptop computers at mobile and fixed inspection sites and the impact of safety information exchange systems. In addition, the NTC will conduct a feasibility study to determine if sufficient data exist on the relationship between size/weight of commercial vehicles and accident rates. If sufficient data exist, then an evaluation methodology will be recommended.

Transportation Institute Established at MSU

As of July 1998, Morgan State University is the home of a transportation institute. The Transportation Institute at MSU is composed of two existing transportation-related units, the National Transportation Center (NTC) and the Center for Transportation Studies (CTS). Both units are divisions of the School of Engineering and are housed in the Montebello Complex at MSU. The Transportation Institute will facilitate enhanced collaboration between NTC and CTS. Below is a broad overview of NTC and CTS.

Established by Congress under the Intermodal Surface Transportation Efficiency Act of 1991 and recently reauthorized by TEA-21, the NTC is part of the University Transportation Centers Program. The NTC has two primary purposes: (1) promoting improvements in the development and management of transportation systems, and (2) increasing the number of skilled minorities and women entering transportation-related careers. The NTC fulfills its mission through research, technology transfer, and education.



The Montebello Complex: Site of MSU's Transportation Institute

Research associated with the Commercial Vehicle Information Systems Network (CVISN) program is prominent among current NTC projects. Administered by the Federal Highway Administration, CVISN is a national program that promotes the seamless movement of traffic and goods as well as improved governmental operating efficiency. NTC recently completed a benefit-cost analysis of CVISN in Maryland. NTC researchers are also engaged in other CVISN-related studies, including a comparative analysis of the organizational structures of state agencies concerned with commercial motor vehicles.

One program through which NTC fulfills its educational mission is the

Summer Transportation Institute (STI). In both 1997 and 1998, the NTC hosted an STI program at Morgan State for area 9th and 10th grade students interested in exploring career opportunities in the transportation industry. The STI includes instruction in applied mathematics and sciences and provides participants with an opportunity to meet professionals working in the diverse range of fields that comprise transportation. The NTC looks forward to hosting another STI in 1999.

The NTC also actively supports the Master of Science degree program in transportation, which is offered in the CTS. The degree

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Technology Utilization in the fall of 1997. This internship involves close collaboration with Maryland's Secretary of Transportation and the state's congressional delegation in the development of strategies to secure

funding for Maryland's transportation needs. Turner is also a recipient of an Eisenhower Fellowship. Through this fellowship, Turner has commenced a research project for the Federal Highway Administration's National Highway Institute.

The National Transportation Center extends its congratulations to Howard Turner and wishes him continued success in the future.

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program is designed to equip graduates with the knowledge and skills required to plan, develop, and manage transportation systems. This year, the NTC began providing funding for assistantships and fellowships for promising CTS enrollees. Current CTS graduate students are serving as research assistants on NTC projects.

Founded in 1979, CTS administers the Master of Science degree in transportation program. The CTS program offers a unique interdisciplinary approach to transportation studies. All students take a set of core courses and complete their degree requirements by selecting elective courses from a range of transportation-related disciplines.

NTC Welcomes New Student Coordinator

The NTC is pleased to introduce Joyce Trussell as its new student coordinator. A Morgan State alumna, Ms. Trussell has been employed for the past nine years at Johns Hopkins University (JHU). For the past two years, she served as JHU's Coordinator of Registration.

As NTC's student coordinator, Ms. Trussell will develop, coordinate, and manage outreach activities involving transportation students at MSU. The duties of the position include recruiting students and serving as a liaison for students with regard to financial aid, internship opportunities, and assistantship programs.

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In addition, project final reports are either currently available on-line or will be in the near future.

Through a peer-review process, the NTC recently selected six proposals for faculty summer research grants in 1999. Grants of up to \$20,000 to cover salaries and research expenses

will be awarded. Grant recipients are expected to prepare a final report, disseminate results through publication, and present results in the NTC Research Symposium the following winter. The annual NTC Research Symposium contributes to fulfilling the outreach component of the NTC's mission as a University Transportation Center.

NTC Provides On-line Resources

The National Transportation Center's web site (www.eng.morgan.edu/~ntc) contains a wealth of valuable transportation-related resources. The site offers detailed descriptions of current and recently completed NTC programs and projects. In addition, final research reports are available as PDF files in the site's Publications section. The NTC web site also includes a directory of NTC personnel and agencies related to the center. The site will feature PDF versions of this and all subsequent issues of *NTC Today*.

For the transportation researcher, the NTC web site provides an extensive listing of links to transportation-related sites. The Resources section is conveniently organized and includes links to national and international governmental agencies, state transportation agencies, university transportation centers, and other academic units related to transportation.

www.eng.morgan.edu/~ntc

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An Introduction to the NTC Staff

In this inaugural issue of *NTC Today*, an introduction to the Center's staff is in order. Below are brief position descriptions for each NTC staff member. Phone numbers and e-mail addresses are provided for readers who need to contact the NTC staff. Graduate Assistants will be introduced in a subsequent issue.

■ **Dr. Z. Andrew Farkas, Interim Director**

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Dr. Andrew Farkas is the NTC's chief administrator and the Acting Director of the Center for Transportation Studies at Morgan State.

■ **Evelyn Davis, Project Manager**

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Evelyn Davis manages the Commercial Vehicle Information Systems and Networks (CVISN) project.

■ **Cyril Peebles, Project Planner**

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Cyril Peebles assists in the administration of the CVISN project.

■ **Tawanda Nutt, Fiscal Administrator**

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Tawanda Nutt assumes primary responsibility for budgetary aspects of NTC operations.

■ **Joyce Trussell, Student Coordinator**

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Joyce Trussell recruits and assists Transportation Studies students and manages the Summer Transportation Institute.

■ **William Lowe, Editor**

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William Lowe writes and edits *NTC Today*, produces promotional materials for NTC projects, and edits technical reports.

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