University Transportation Centers Program

Fourth Annual Student of the Year Awards

January 26, 1995

Transportation Research Board 74th Annual Meeting
Sheraton Washington Hotel
Washington, D.C.

Sponsored by the U.S. Department of Transportation

Developments in transportation technology over the decades have caused the world to expand, not in dimension, but in terms of accessibility. Transportation has always played a major role in society. The degree of efficiency in getting people or goods from one point to another has a role in determining the health of an economy and the general well-being of a nation.

Recognizing the need to encourage the efficient movement of people and goods in all transportation sectors of the Nation, the U.S. Department of Transportation established the University Transportation Centers Program (UTCP) in 1987 to focus on long-term applied research that spans all transportation modes.

The intent of the UTC Program is to attract the Nation's best talent to contribute to transportation education, research, and technology transfer. At the Fourth Annual Student-of-the-Year Awards ceremony, the U.S. Department of Transportation, through UTCP, honors the most outstanding student from each of the participating Centers for his or her achievements and promise for future contributions to the transportation field.

This year's selections were based on student candidates who have been enrolled at a UTC university and received UTC support for at least two semesters since the beginning of the program. Evidence of accomplishments in the areas of technical merit and research, academic performance, professionalism, and leadership were required.

The University Transportation Centers is proud to announce the following winners of the 1995 Student-of-the-Year Awards.

University Transportation Centers Program

Students of the Year

John L. Wilson
Region I
New England

Meena P. Kuriakose
Region II
New York/New Jersey

Dong Liu
Region III
Mid-Atlantic

Kenneth L. Clark
Region IV
Southeast

Thomas B. Reed
Region V
Great Lakes

Larry J. Allen
Region VI
Southwest

Michael Elling
Region VII
Mid-West

Rick Staigle
Region VIII
Mountain-Plains

Joy Dahlgren
Region IX
California

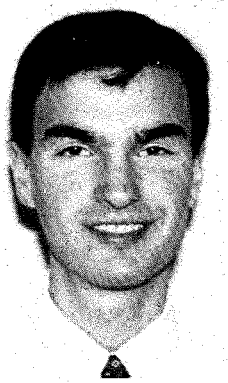
Paul Ryus
Region X
Northwest

Scott Bennett
Mack-Blackwell National Rural Transportation Study Center
University of Arkansas

Waddell Leonard Daniels
National Center for Transportation Management, Research, and Development, Morgan State University

Region I

The Massachusetts Institute of Technology (Lead)
Harvard University
University of Connecticut
University of Maine
University of Massachusetts
University of New Hampshire
University of Rhode Island
University of Vermont



John L. Wilson is a second-year candidate for the master of science degree in transportation at the Massachusetts Institute of Technology. He received his bachelor of arts degree in economics from Cornell University, graduating *magna cum laude* and with distinction in all subjects. Building on his undergraduate experience, Mr. Wilson has focused his studies at M.I.T. on the economic analysis of transportation systems, with particular attention to the operations and management of air transportation networks. He is currently engaged as a research assistant for Delta Airlines and his thesis will explore the competitive benefits of revenue management innovation in the airline industry, through a simulation experiment conducted in collaboration with the Boeing Commercial Airplane Group.

Mr. Wilson has held positions at the Volpe National Transportation Systems Center in which he developed a cost model for a prospective U.S. high-speed rail project and appraised the costs and environmental benefits of proposed intrastate trucking deregulation and stringent automotive emissions and fuel efficiency standards. Most recently, as a member of the technical staff at the MITRE Corporation's Center for Advanced Aviation System Development, he studied maintenance reporting requirements for critical air traffic control equipment elements, seeking to strengthen the quantitative support for Mission Need Analysis performed by the Federal Aviation Administration.

Upon graduating this spring, Mr. Wilson wishes to pursue his interest in pricing and yield management either at an air carrier or in the capacity of an airline industry management consultant or financial analyst.

Region II

City University of New York (Lead)
Cornell University
New Jersey Institute of Technology
New York University
Polytechnic University
Princeton University
Rensselaer Polytechnic Institute
Rutgers University
State University of New York
Stevens Institute of Technology
University of Puerto Rico
University of Virgin Islands

Meena P. Kuriakose was born and raised in India and came to the United States in 1989. She was interested in science and mathematics in high school and decided to pursue a career in engineering. She received a bachelors degree in civil engineering from Government Engineering College in Trichur, India. After coming to the United States, Ms. Kuriakose attended New York University and received a diploma in computer programming in 1990.

Ms. Kuriakose began working full time for the New York State Department of Transportation as a civil engineer in 1990 and continued studying at City University of New York (CUNY) for a master's degree in structural engineering. While at CUNY, she was selected for an Advanced Institute for Transportation Education Graduate Scholarship from the University Transportation Research Center. Currently she is pursuing a master's degree in transportation planning and engineering and plans to graduate in the Spring of 1995.

Ms. Kuriakose lives on Long Island with her husband and three-year-old daughter, Elizabeth.

Region III

The Pennsylvania State University (Lead)
University of Pennsylvania
University of Virginia
Virginia Polytechnic Institute and
State University
West Virginia University

Dong Liu received his doctoral degree in public policy and management from the Wharton School, University of Pennsylvania in June 1993. His study and dissertation were supported by the Dean's Fellowship for Distinguished Merit from the Wharton School (1989-92) and the UPS Transportation Fellowship from the UPS Transportation Foundation (1992-93).

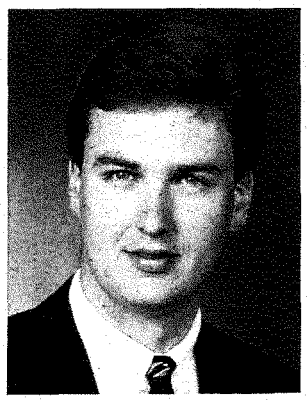
Mr. Liu's interests in transportation range from economic strategies to logistics operations to government policies. His dissertation was on economic and institutional policy issues of the deregulated U.S. airlines, motor carriers, and railroads. In addition to preparing his dissertation, he also worked at the University on projects including modelling accessibility of highway, rail, air, water, and transit systems; developing a freight input/output and distribution network; examining shipper inventory policies; accounting for shipment loss/damage; and constructing a security screening evaluation model for international flights.

During his four years at the University, Mr. Liu published five articles in journals including *Review of Economics and Statistics*, *Journal of Transport Economics and Policy*, *Research in Transportation Economics*, *Transportation Research*, and *Logistics and Transportation Review*. He made presentations at the meetings of the Transportation Research Board, Transportation Research Forum, Operations Research Society of America, and The Institute of Management Science. His work has also been presented as evidence in expert testimonies before the U.S. Government.

Mr. Liu is currently working for The World Bank Group in Washington, D.C. He is a member of the Transportation Research Forum and has won three major awards from TRF.

Region IV

University of North Carolina (Lead)
Duke University
Georgia State University
North Carolina A&T University
North Carolina State University
University of North Carolina at Chapel Hill
University of North Carolina at Charlotte
University of Florida
University of Kentucky
University of South Florida
University of Tennessee
Vanderbilt University



Kenneth L. Clark completed his master of science degree in civil engineering at North Carolina State University with a specialization in transportation engineering in December 1994. He graduated *cum laude* from the same institution with a bachelor of science degree in civil engineering in May 1993. While at North Carolina State University, Mr. Clark served as the treasurer of the student chapter of the Institute of Transportation Engineers (ITE) and also served on a subcommittee for the North Carolina Section of ITE. He is also a member of Chi Epsilon Civil Engineering Honor Society and the American Society of Civil Engineers (ASCE). Achievements during his academic tenure include receiving the Roy D. Williams Scholarship from the NC Section of ITE, a first place finish in the transportation design competition at the 1995 ASCE Carolina's Conference, and completion of the Cooperative Education Program working with the North Carolina Department of Transportation. Mr. Clark's graduate thesis, titled "Field Evaluation of Fluorescent Strong Yellow-Green Pedestrian Warning Signs," is the largest and most comprehensive work dealing with flourescent strong yellow-green sign color to date.

Since graduating, Mr. Clark has been working as a transportation analyst with Kimley-Horn and Associates, Inc., in the Virginia Beach, Virginia office. Mr. Clark has passed the Engineer-In-Training exam and will soon be eligible to take the Professional Engineer exam.

Region V

University of Michigan (Lead)
Central State University
Michigan State University
Michigan Technological University
Northwestern University
Wayne State University

Thomas B. Reed recently completed his doctoral study in urban, technological, and environmental planning at the University of Michigan, and is currently working as a consultant for the Federal Highway Administration. As a Great Lakes Scholar, Mr. Reed pursued and completed research that employed a particularly innovative methodology to address an issue that public transit is beginning to face all around the United States: how best to use advanced technologies to improve the level of service of public transportation. In particular, transit districts nationwide are considering the development and dissemination of real-time schedule information in order to reduce the uncertainty associated with the transit experience. Yet there is little research designed to gauge the value of such information, and the circumstances under which it would most affect travel behavior in general and modal choice in particular. Mr. Reed's work employed conjoint analysis, a method of social sciences inquiry designed to elicit people's preferences via trade-offs between bundles of choices, to draw important and far-reaching conclusions regarding the importance of real-time schedule information to transit.

In addition, in the absence of in-place systems to deliver real-time schedule information to transit passengers, Mr. Reed set up an experimental station of his own, providing real-time schedule information by phone and at the bus stop to workers boarding at the University Hospital. In both of these instances, Mr. Reed displayed remarkable ingenuity and resourcefulness in developing information and transforming it into new and usable knowledge for public transportation.

Region VI

Texas A & M University System (Lead)
Texas Southern University
University of Texas at Austin

Larry J. Allen was born in Prairie View, Texas, and is currently a graduate student at Texas Southern University pursuing a master of science in transportation planning and management (with expected graduation in December 1994). Mr. Allen received his bachelor of science degree in construction management from the University of Houston. Additionally, Mr. Allen has been employed as a roadway engineering designer with the Texas Department of Transportation for 10 years. At the Texas Department of Transportation, Mr. Allen is responsible for designing and planning preparation of roadway and bridge projects including the development of specifications, general notes, bid requests, traffic control planning and cost estimates. Mr. Allen also provides design training and project supervision.

As a graduate student, Mr. Allen successfully defended his thesis, "An Evaluation of Railroad Accidents Involving Hazardous Chemicals on Texas Roadways," in October 1994. He also has participated in several research projects, conferences and other training activities of the Center for Transportation Training and Research at Texas Southern University.

In addition to the above academic and professional achievements, Mr. Allen has been recognized as an outstanding student and leader with awards and honors from Who's Who Among Students in American Universities and Colleges, 1994; CTTR Scholarly Achievement and Excellence Award, 1994; Outstanding Student: Department of Transportation Studies, 1994; and he was a recipient of the Conference of Minority Transportation Officials Scholarship, 1993. Other memberships include the Houston Highway Credit Union, where he serves on the Audit Committee; the Texas Credit Union League; and the Credit Union National Association.

Region VII

Iowa State University (Lead)
University of Iowa

Michael Elling, of Cumberland Wisconsin, is presently attending graduate school at Iowa State University, majoring in statistics. He graduated with a bachelor's degree *cum laude* from St. Olaf College in Northfield, Minnesota, with majors in mathematics and music.

Mr. Elling has spent the past several summers developing educational software for the Macintosh computer. He is presently a teaching assistant in the Department of Statistics. Mr. Elling has also engaged in research in drowsy driver detection. Mr. Elling's paper, "Drowsy Driver Detection Using Steering Wheel Motion: A Markov Chain Approach," will be presented at the TRB Annual Meeting in January 1995.

Mr. Elling's extracurricular activities include playing violin in a number of orchestras, including the Iowa State Symphony and the Central Iowa Symphony.

Region VIII

North Dakota State University (Lead)
Colorado State University
University of Wyoming
Utah State University

Rick Staigle will be defending his master's thesis, "Evaluating the Effectiveness of Pavement Smoothness Specifications," in transportation engineering from the University of Wyoming, Department of Civil and Architectural Engineering in the Spring of 1995. During his master's program he served as president and treasurer of the UW Institute of Transportation Engineers (ITE) student chapter. He also received assistantships for his thesis research.

Mr. Staigle has co-authored several articles that have been submitted to the Transportation Research Board with two presentations being made at the January 1995 meeting. A presentation based on his research was also made at the sixth Road Profiler User Group meeting in Lake Tahoe, Nevada. That presentation was related to the effectiveness of construction incentives for concrete pavements.

Mr. Staigle earned his bachelor of science degree in civil engineering from the University of Wyoming. He previously served as a survey technician with the United States Forest Service in Spearfish, South Dakota.

Region IX

University of California, Berkeley (Lead)
University of California, Davis
University of California, Irvine
University of California, Los Angeles

Joy Dahlgren has just been awarded the Ph.D. degree in civil engineering at the University of California-Berkeley. Her doctorate follows a master of public policy degree from UC-Berkeley and an extended professional career with the Golden Gate Bridge District, Manalytics Inc., and Matson Navigation Company.

For her doctoral dissertation, Joy took up examining whether HOV lanes are an effective means of reducing delays and vehicle emissions. She reasoned that HOV lanes serve as incentives to use transit and to carpool by offering shorter travel times than do the parallel conventional lanes. For this incentive to be effective, HOV lanes must be underutilized, such that vehicles can travel freely. Furthermore, the parallel lanes must continue to involve delays.

Combining mode-choice and queueing analysis, her research found that building an HOV lane does indeed reduce delay and emissions, but that in most circumstances the reductions would be greater if a conventional lane were built instead. HOV lanes are more effective only if, before construction, delays are long and the proportion of high-occupant vehicles falls within a narrow range.

Why then are HOV lanes so popular? Because, she concludes, the politics of capacity addition make installation of HOV lanes one of the few currently acceptable means for adding capacity to urban freeways. Her dissertation promises to provide a firm basis for a reappraisal of policies related to HOV expansion.

Joy Dahlgren merges a capacity for sophisticated quantitative analysis with a capacity for insightful policy analysis. A proven creative researcher, she is a welcome addition to the transportation academic community.

Region X

University of Washington (Lead)
Oregon State University
Portland State University
University of Alaska-Fairbanks
University of Idaho
Washington State University

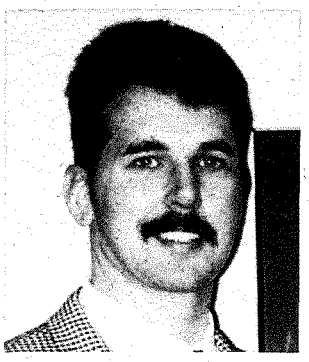
Paul Ryus completed his master of science in civil engineering at Oregon State University, graduating with 3.95 cumulative grade point average (GPA) in June 1994. He obtained his bachelor's degree in physics from University of California-Berkeley in 1986. Mr. Ryus is a member of the American Society of Civil Engineers (ASCE) and the Institute of Transportation Engineers (ITE). He was president of OSU's ITE student chapter in 1993-94, leading the chapter in several public service projects and competitions. Mr. Ryus was selected as one of 20 ENO Fellows for the Transportation Leadership Development Conference sponsored by the ENO Foundation in 1994.

Mr. Ryus' master's project report was a collection of papers, titled "Heavy Vehicle Transportation Issues." This included work that he conducted as a graduate research assistant at OSU, and "Highway Navigator," a description of trip routing, planning, and mapping software he has developed over several years.

Since graduating, Mr. Ryus has been working for Kittelson and Associates in Portland, Oregon. His duties include working on the update to Chapter 10 of the Highway Capacity Manual, and other transportation/traffic engineering projects.

Mack-Blackwell National Rural Transportation Study Center

University of Arkansas



Scott Bennett is a graduate research assistant in the master of science in civil engineering program at the University of Arkansas. The emphasis of his study has been on transportation planning and traffic operations. He has been involved in research concerning the development of a rural transportation model using TransCAD and TRANPLAN. His master's thesis is on congestion management. Mr. Bennett came to the program with recommendation and full support from his employer, the Arkansas State Highway and Transportation Department (AHTD).

He began his career with AHTD in 1985. Since August 1989, he worked with AHTD's Planning and Research Division in various capacities. The highlights of his career with AHTD include: directing the transportation planning process for the Northwest Arkansas Regional Transportation Study (NARTS), involving the development of a year 2020 transportation plan; participating in the I-49 planning study for the "Mid American Corridor" from Kansas City to New Orleans; and also directing the "3C" planning process for the Pine Bluff and Texarkana area.

Mr. Bennett graduated with a bachelor of science degree in civil engineering in May 1989 from the University of Arkansas in Fayetteville. He is an outstanding young engineer with ability proven by his academic record, 4.00 GPA for graduate studies and 3.40 for his undergraduate studies. Mr. Bennett's honors and activities include: Institute of Transportation Engineers, University of Arkansas Student Chapter Chi Epsilon (National Civil Engineering Honor Fraternity), and American Society of Civil Engineers.

National Center for Transportation Management, Research, and Development

Morgan State University

Waddell Leonard Daniels will receive his master of science in transportation from Morgan State University in May 1995. His current grade point average is 3.91. Mr. Daniels received a bachelor of arts in economics from the University of Maryland-Baltimore County in 1990. During his graduate study years, he received the Dwight D. Eisenhower Transportation Fellowship, National Transportation Scholarship, and Frank A. DeCosta Scholarship.

He is the president of the Delta Nu Alpha Transportation Fraternity student chapter at Morgan State University and a member of the Council of Logistics Management. As the president, he is active in coordinating informational meetings and programs for transportation students at Morgan State.

Mr. Daniels is presently the supervisor of freight payment and auditing for Sweetheart Cup Company, Inc. He began his career at Sweetheart Cup in 1992 as a customer service representative, and soon after became export coordinator, during which time he coordinated the internal flow and consolidation of products to be exported. In addition, he facilitated the necessary coordination between steamship agents, international freight forwarders, and freight consolidation brokers. Currently, he is responsible for overseeing the annual auditing and approval of $42 million in freight services. His other duties include leading a team studying the efficiency of material handling equipment owned by Sweetheart Cup, and implementing electronic data interchange for contract carriers.

Mr. Daniels is enthusiastic about the future of transportation and being an instrumental participant in solving today's logistics problems. Developmental courses in total quality management and supply chain management, along with his knowledge of rate negotiations and ICC tariffs, will allow him to become a leader in the transportation arena.