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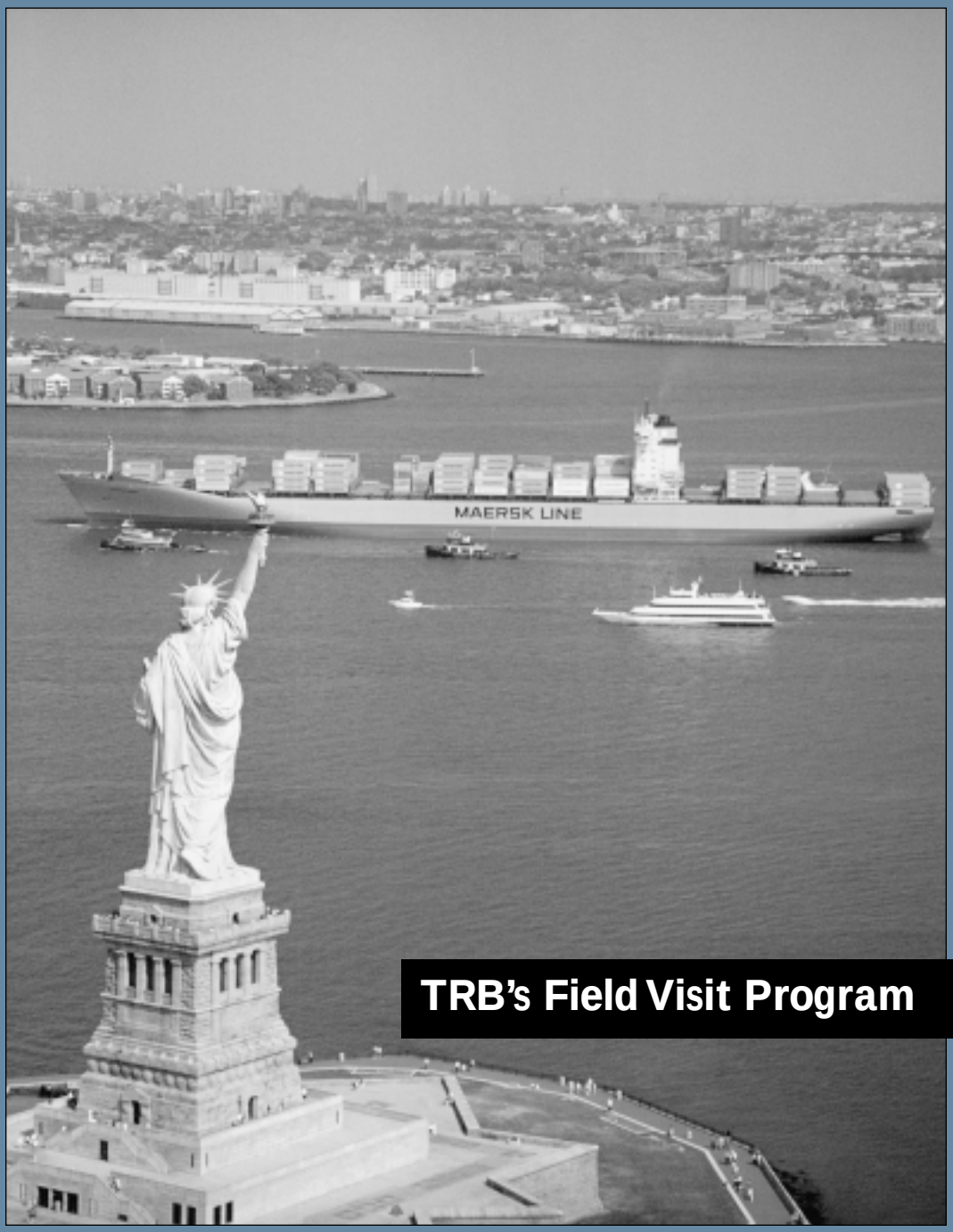
NUMBER 206

TRANSPORTATION RESEARCH BOARD
NATIONAL RESEARCH COUNCIL

TR NEWS



TRB's Field Visit Program

The **Transportation Research Board** is a unit of the National Research Council, which serves the National Academy of Sciences and the National Academy of Engineering. The Board's mission is to promote innovation and progress in transportation by stimulating and conducting research, facilitating the dissemination of information, and encouraging the implementation of research results. The Board's varied activities annually draw on approximately 4,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest. The program is supported by state transportation departments, federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation.

The National Research Council was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purpose of furthering knowledge and advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities.

TR News presents articles on innovative and timely research and development activities in all modes of transportation. Brief news items of interest to the transportation community are also featured, along with profiles of transportation professionals, meeting announcements, notices of new publications, and news of Transportation Research Board activities.

***TR News* is prepared by the Transportation Research Board Reports and Editorial Services Office**

Nancy A. Ackerman, Director
Rona Briere, Contributing Editor
Andréa Briere, Assistant Editor

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Cover: The marine transportation system (MTS) is an important element in the movement of both cargo and people. At the port of New York/New Jersey, an array of cargo ships, ferries, cruise ships, and other marine traffic share the system. The *Regina Maersk* is the largest containership ever to call at a North American port and is one of a new generation of vessels that place new demands on channels, harbors, and landside facilities. For more information on the MTS, see article beginning page 23. (*Photo courtesy of the Port Authority of New York/New Jersey*)

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New Expectations for Transportation Data

Martin Wachs

Winston Churchill once wrote an insightful analysis of architecture (*1*). According to Churchill, we first designed buildings to accommodate our behavior and our social and cultural patterns as we understood them. But our understanding of these things was imperfect, and different architects interpreted them differently. Moreover, buildings reflected limitations posed by their sites, by their budgets, and by the building materials used. Over time, the buildings we constructed shaped our behavior and became the determinants of new social and cultural patterns.

Some truly exciting and wonderful buildings emerge from this process. Eventually, however, they are seen as outmoded in relation to their current functions, even if they remain elegant in other ways. We are always shooting at a moving target in designing buildings because new designs themselves create new functions and expectations.

Churchill's analysis is a nearly perfect metaphor for the relationship that has evolved in transportation among databases, analysis, and policy making. We formulate the statement of a problem that is vexing, and design strategies for data collection and analysis to address that problem. But the data we choose to examine are limited by questions previously asked, which in turn reflect the power of older statistical tools and mathematical models. Further limitations result from factors such as the costs of data collection and analysis and concerns regarding privacy. We address problems the best we can with the data at hand and, realizing the inadequacies in our databases, reformulate our data collection approaches. Our understanding of the phenomena we study is shaped by the data we have and the models we use, and is therefore far from perfect; and our databases and analytical approaches are deeply flawed in part because they are derived from inadequate understanding of the phenomena we study. We achieve major breakthroughs and dramatic advances in understanding, while at the same time our knowledge quickly becomes insufficient or obsolete.

An example, perhaps, can illustrate these points. For decades in many travel surveys, "trips" were defined in our databases as movements from zone to zone that involve vehicles. This framework

Transportation analysts now consider a broader range of policy choices for urban areas, involving nonmotorized travel such as walking and cycling.

The author is Director, Institute of Transportation Studies, University of California, Berkeley, and currently serves as Chairman, Transportation Research Board Executive Committee.

EDITOR'S NOTE: This article is based on a keynote presentation given by Martin Wachs at the Conference on Personal Travel: The Long and Short of It, June 1999, in Washington, D.C.

greatly hampered the ability to analyze intrazonal travel and travel by nonmotorized modes, such as walking and cycling. When activists asserted that pedestrian travel and bicycling were important modes in urban areas, worthy of careful analysis, some of us responded that these modes were not important because the data showed they accounted for a relatively insignificant proportion of all trips. It was extremely difficult to extract useful data about walking and cycling out of our databases until the format of home interview studies about travel was changed to include questions about these modes. In the process, we began learning that in some places, walking and cycling account for a large proportion of all trips. We now think about a broader range of policy choices involving nonmotorized travel, and have also reformulated the way we record information about walking and cycling.

Historical Perspective

While the above example is illustrative, the subtleties of the evolution of transportation data collection and analysis and policy making are perhaps better understood through an historical perspective than through immersion in current problems. People were concerned about urban traffic congestion for centuries. About a hundred years ago we began counting traffic on streets in large metropolitan areas and portraying traffic patterns on maps using lines whose widths were proportional to the traffic flows. In the days before traffic counters, somebody had to stand at each intersection and count the vehicles passing per unit of time. As late as 1930, this task was commonly done in American cities by Boy Scouts, who were trained in how to count and collect and record the data, and were pressed into service in the late afternoons and on weekends when they did not have to be in school.

These efforts resulted in reams of data of unspecified accuracy and quality that were widely used for decades in transportation planning. Indeed, our first understanding of traffic congestion was very much shaped by these data, however limited they may have been. After examining these maps, our professional forebears began to understand that streets of different width and slope and with different spacings between intersections differed in capacity, and that various strategies, including signs and signals, could be used to adjust and manage that capacity.

As early as 1912, with calculations done by hand, a simple gravity model was used to relate traffic flows to levels of economic and social activity in different portions of a city or county (*2*). Use of this model led to the collection of information on population, employment, and retailing as part of the transportation planning effort. Yet much earlier than most of us would imagine—well before 1920—others of our forebears came to the conclusion that looking at traffic flow patterns on maps provided an incomplete picture and was leading to false conclusions.

The maps showed where traffic flowed, but those traffic flows could be understood to result from two different sets of causes: one was where people wanted to go, and the other was where the patterns of roads actually forced them to go. Did heavy traffic between points A and B imply that people wanted to go from A to B? Or did the traffic flow imply that traffic heading from C to D was funneled along the road between A and B, where traffic was observed simply because drivers had no option but to go that way? Thus the notion of "desire lines" as distinct from traffic flow diagrams emerged. Instead of inferring where new capacity was needed simply by observing that the streets were crowded or that volume exceeded capacity, we could attempt to identify the points between which large numbers of people wanted to travel. And we realized that to serve travelers better, we might conceive of direct, diagonal transit routes or highways or of high-capacity elevated or depressed facilities that could be overlaid on existing traffic flow patterns.

Origin–destination studies grew from these insights. Before World War II we had started gathering information on origins and destinations in two ways. First, cordon lines were set up, and drivers were intercepted on trips and asked for their origins and destinations. Later, home interviews and travel diaries were introduced that allowed planners and analysts to focus on trip interchanges between origins and destinations for large numbers of pairs of zones, instead of looking only at traffic flow on the networks. By the end of World War II, some of the first awkward computers were being used to analyze these data in what were the earliest applications of computing to analysis of the performance of civil systems.

Five Key Themes

The circular process of redefining transportation policy problems on the basis of current data and redefining transportation data needs on the basis of current policy problems is, of course, an ongoing one. In this process, there are five themes or trends that I believe will be the dominant concerns of transportation analysts and data managers dur-

ing the first decade of the new century. These themes are, in keeping with the above discussion, at once suggested by and inadequately addressed by our current data sources. They indicate ways in which our understanding of travel is changing, and ways in which transportation data collection can and should be changing over time.

Telecommunications and Travel

Clearly the telecommunications revolution is affecting every dimension of our lives, including travel. Indeed, there are those who believe that the telecommunications revolution now occurring will have lasting consequences as dramatic as those of the industrial revolution. The flow of information between computers, the existence of fax machines and pagers, and the rapidly approaching integration of computers with television must be reflected in the ways we think about and collect transportation data. Two examples will illustrate the point.

First is the emergence of intelligent transportation systems. Electronic toll collection, smart cards, and integrated transit fare collection systems; global positioning systems; the availability of information on road conditions and transit schedules in advance of our trips; and real-time automated navigation aids—all are realities today. And I believe the automated highway is only a few decades away. It is not yet clear just how the new capabilities can provide us with new forms and types of data to describe travel, or how they will generate new policy problems that will change the way transportation data are collected. Yet such changes will certainly come about, and I believe we should be thinking more actively than we have been about this phenomenon. ITS capabilities will affect travel patterns in ways we are just beginning to understand, and this evolution should be reflected in the structure of our data collection and storage methods. The new tools will produce as byproducts information that should be incorporated into our routine methods for analyzing travel.

A second way in which telecommunications and travel interact is through changes in travel patterns. In the early part of the 20th century, the telephone contributed to an increase in trip taking by making it possible for people to interact over greater distances. This development hastened the spatial separation of activities, which in turn led to increased travel despite early expectations that the telephone would replace travel. In the early part of the 21st century, faxes, e-mail, and the Internet will similarly result in a growth in travel because they will increase interaction over large distances (*3*).

At the same time, the new capabilities are changing the spatial and temporal distribution of travel. The traditional morning and evening peak travel hours are extending over longer time periods because telecommunications makes it increasingly possible to work at different times and places. Service people get their assignments for the day on line instead of having to drive to a central dispatching point; information workers can work at home part of the time, leaving when they need to attend a face-to-face meeting. Likewise, Internet purchases have enormous consequences for the temporal and spatial distribution of travel for shopping and goods movement involving parcel services.

Until now, travel has been modeled on the basis of data on the spatial locations of residences and places of employment because these were understood to be the principal determinants of travel. Today we should also be gathering information on the spatial and temporal patterns of information flows, since they may some day eclipse land use patterns as the primary travel determinants. We cannot know when and where people will travel if we fail to track when and where they communicate by wire and by wireless flows of information. A better understanding of travel would result if information flows were included as independent variables in our travel forecasting analyses.

Transportation and Urban Form

Transportation analysts once believed that the demand for travel was derived from urban form and that investments in transportation capacity were the principal determinants of urban form. Urban centralization toward the end of the 19th century and the subsequent decentralization following first transit and later highway development resulted from the changing relationship between transportation and land use. Responsibility for controlling land use has fallen to local governments, and we have manipulated the transportation–land use relationship primarily by investing in transportation. It has only gradually and lately become popular wisdom that we can and should control traffic by deliberately manipulating land use. Urban limit lines, neotraditional development, transit villages, and smart growth are all common themes in transportation circles today. And places such as Portland, Oregon, and San Jose, California, are taking action in accordance with these principles.

Yet if I am right, it may be too late to do too much good in this regard. It is becoming necessary to think of transportation, land use, and telecommunications as having a three-way relationship.

Modern telecommunications capabilities will change the transportation–land use connection. I believe that in a world of ubiquitous telecommunications, it may be less possible to influence travel patterns through land use strategies, and it may be necessary to rethink these strategies given the rapid increase in telecommunications capabilities relative to physical mobility. Efforts to incorporate data on telecommunications into transportation analyses and forecasts, as discussed above, will be essential to determine whether this supposition is correct.

Goods Movement

One of the greatest limitations faced by transportation analysts is the absence of high-quality data on goods movement in urban areas. Most of the transportation data collected today is on the movement of people, and these are the terms in which transportation problems—and solutions—are defined. But goods movement is growing in importance and becoming a central issue in transportation policy making, and we are ill equipped to address this issue. Although trucks are responsible for a substantial proportion of urban and intercity highway congestion and delay, many metropolitan areas continue to model truck movement by applying a multiplier to people movement. In several metropolitan areas, proposals have been put forth for truck-only highways; for the separation of trucks from passenger vehicles, and for automated truck lanes as early steps in the evolution of an automated highway system. Better information on goods movement, including its intermodal aspects, will be essential to the success of such efforts.

Sustainability

It would not be an exaggeration to say that the dominant issue in transportation policy in the United States during the last quarter of the 20th century was air quality. The provisions of the Clean Air Act and its several amendments have determined the direction of transportation planning in metropolitan America, leading many to observe that the transportation policy dog was being wagged by the air quality tail. Primarily because of advances in vehicle technology, enormous progress has been made in meeting national ambient air quality standards, though along the way some additional dangers have been discovered from sources previously not recognized as critical, such as small particulates. Interestingly, this progress toward cleaner air has been made despite the inadequacy of our data collection and analysis tools in characterizing or forecasting key pollutants under alternative policy options.

The term "sustainability" is increasingly being used to denote the idea of planning transportation systems that conserve energy, limit greenhouse gas emissions, and recycle waste materials and fluids such that today's mobility does not lead to depletion of essential resources tomorrow (*4*). Like many Americans, I have in the past been more than a little cynical about sustainability, for I believe that growth in mobility worldwide brings many social, economic, and cultural advantages. But growing evidence that global warming is a credible threat must be taken seriously, and international treaties commit us to slowing the increase in emissions of greenhouse gases, a substantial proportion of which derive from the transportation system. To build a more sustainable transportation infrastructure, we will have to define more precisely and to measure and monitor those elements that make up the sustainability of the transportation system. I believe this will be as important a function of transportation planners during the coming decade as air quality issues have been in the last 15 to 20 years.

Equity

Transportation analysis is generally focused on issues of effectiveness and efficiency. Our databases and tools, such as benefit–cost analysis and corridor studies, are designed to tell us how well each alternative plan, design, or course of action satisfies project or program criteria, and how efficiently they do so per unit of capital and operating cost. Yet one of the most pressing needs of policy makers is for more information about equity, and this issue is not nearly as well addressed by our standard methods and databases.

Equity analysis, of course, implies a concern with fairness and with the distribution of benefits and costs among different groups. The criteria by which we judge the equity of different transportation policies clearly are highly subjective, but in a way that makes the matter of data and modeling more urgent, more difficult, and more complex. Recent disputes and increasingly frequent lawsuits have demonstrated the importance of analysis focused on the distribution of both project and program benefits and environmental, social, and economic impacts among different spatial communities, ethnic groups, and economic classes. One of the most important ways in which our databases

and tools can be strengthened in the relatively short run is by careful and thoughtful refocusing on these equity or distributional issues (*5*).

Conclusion

In summary, transportation databases, information systems, and analytical models interact with one another and change over time as our understanding of transportation systems and their social and economic contexts evolve. New understandings both shape and are shaped by the data and models we use. The five themes discussed above are areas I believe will define transportation planning needs, policy, and data requirements during the next decade.

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Robert Benke

Minnesota Department of Transportation

As Director, Office of Research and Strategic Services, Minnesota Department of Transportation, Robert Benke uses his experience and knowledge to serve the public interest. At Mn/DOT he manages the development and administration of the transportation research program. His responsibilities include providing support for research needed by transportation professionals on the front lines, delivering direct services to the public, and conducting strategic research required by the Department's senior management team. "I am convinced, without a doubt," says Benke, "that the key to a successful transportation research program is the direct linkage of research investment choices to the host organizations' strategic management knowledge needs."

Research has been a constant throughout Benke's career at Mn/DOT, which spans more than 30 years. In 1968 he joined Mn/DOT as traffic operations research project engineer. He conducted the Department's first ramp-metering research studies, which formed the foundation for the current Guidestar Intelligent Transportation Systems program, and helped plan and design Minnesota's first freeway management systems and traffic management center. During his many years at Mn/DOT, he has developed traffic engineering and freeway traffic management research programs, managed electronic design and maintenance services, developed the Transportation Systems Management program, and supervised the East Metro District preliminary design and long-range program planning efforts.

In 1988 Benke turned full time to the Mn/DOT research program, assuming leadership of the Research and Development Section. Among his responsibilities was the development of what is now known as the Minnesota Road Research Project (Mn/ROAD). In addition to serving as a major pavement research facility, Mn/ROAD provides a base for the Department's ITS/SAFE TRUCK research program, which is conducted in partnership with the University of Minnesota's Center for Transportation Studies.

In 1992 Benke was named head of the Office of Research Administration. This expanded position included directing the growth of Mn/DOT's research investment to encompass a multidisciplinary agenda matching the Department's historic commitment to pavement research. Benke's responsibilities expanded further in 1997 when the Mn/DOT Library was transferred to the Office of Research Administration in response to the demands of the information age.

Under the new Office of Research Services (ORS), previously separate entities were consolidated and were challenged with fulfilling Mn/DOT's need for new and emerging information. About the creation of ORS, Benke says: "The integration of our library and research program services is one of the most strategic moves we've made. We now have the responsibility and the resources Mn/DOT needs to acquire, evaluate, and apply new information. Our next challenge is to enable the public, policy leaders, professionals, and managers to translate that information into the knowledge they need to move our state's transportation system into the next century."

In 1999 Mn/DOT assigned Benke the task of directing the Office of Strategic Initiatives, which leads the Department's strategic planning, strategic market research, and business planning functions. "This change provides an excellent opportunity to demonstrate the value of directly linking our research investment choices to the strategic needs of the Department," Benke notes. "It's an exciting time to be in the transportation research business."

Recently Benke was recognized for understanding the importance of acquiring and sharing transportation information. Commissioner Elwyn Tinklenberg of the Minnesota Department of Transportation appointed Benke to serve as a member of his Executive Team. Noted Tinklenberg, "Benke's career experience with Mn/DOT and his many community service roles have given him a unique perspective on the transportation needs of Minnesota."

In addition to his leadership at Mn/DOT, Benke is an active participant in community politics. He has served seven 2-year terms as mayor of his home city of New Brighton and 8 years as a city council member.

Among Benke's professional affiliations are memberships in the American Association of State Highway and Transportation Officials' Standing Committee on Research, the National Society of Professional Engineers, and the Mn/DOT Statewide ITS Leadership Team and Technology Transfer and ITS Institute Steering Committees. He is also fellow, Institute of Transportation Engineers; Secretary, Minnesota Local Road Research Board; Cochair, Guidestar Research and Development Committee; and Chair, AASHTO's Region III Research Advisory Committee. He is the recipient of numerous awards, including the Federal Highway Administration/National Highway Institute Fellowship in Highway Safety Award, and was the

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Neville A. Parker

The City University of New York

"In an academic institution, the central role and value of research should be facilitation of learning through the process of inquiry. Inquiry, and, by extension, research should form an integral part of education at all levels," declares Neville A. Parker, who serves as Herbert G. Kayser Professor of Civil Engineering and Director, Institute for Transportation Systems, The City University of New York.

A dedicated educator, Parker is also Project Director, New York City Louis Stokes Alliance for Minority Participation in Science, Mathematics, Engineering, and Technology for precollegiate, undergraduate, and graduate students, funded by the National Science Foundation; Director, Entrepreneurial Training and Technical Assistance Program, directed at small and disadvantaged enterprises and funded by the U.S. DOT Office of Small Business Development Utilization; Project Director, Summer Transportation Institute, aimed at high-school students and funded by FHWA; and Principal Investigator of a NASA-funded CUNY cooperative agreement for an Institute on Climates and Planets, which teams high-school and university teachers, professors, and students with NASA-GISS scientists on NASA-defined research projects. His areas of expertise are construction management and highway engineering, project feasibility analysis, engineering systems analysis, and pavement design and management.

The CUNY Institute for Transportation Systems disseminates research findings and serves as a resource to the city and to New York State agencies involved with transportation issues. As Director of the Institute, Parker leads a multidisciplinary, intercollegiate effort that addresses transportation issues affecting the city, state, and surrounding region. Institute activities include pure and applied research, curriculum development, policy analysis, urban and transportation systems analysis, modeling, forecasting, and professional training and development.

Parker is currently continuing his investigation on two major research projects—nondestructive testing of urban pavements and use of construction and demolition debris as a substitute for aggregate in asphalt pavements, initiated with matching funds from U.S. DOT, NYCDOT, and NJDOT, and from the New York State Energy Research and Development Authority, respectively. He is also involved in a continuing research project on restoration of utility cuts. A strong advocate of research, he views it as an indispensable teaching tool: "What motivates me is not the research results per se, but the development of the student research assistants. I strongly believe that all students benefit from and can contribute to research. All students should be offered the opportunity to participate in research." In addition to his research with CUNY, he oversees the Institute's Transportation Careers Pipeline Initiative Program, which is partially funded by the American Association of State Highway and Transportation Officials.

At CUNY Parker teaches undergraduate and graduate courses in transportation infrastructure design and management. Recently he taught undergraduate courses on construction project management and highway engineering, and graduate courses on transportation asset management and highway and airport construction. During his 28-year career in education, Parker has taught a myriad of subjects, including railway, port, and airport engineering; route location engineering and design; and engineering systems analysis.

Parker began his career in 1971 as a civil engineering professor at Howard University in Washington, D.C. In 1976 he took a 3-year leave of abscence on a Senior Fulbright Scholarship to assist in the development of the School of Engineering at the University of Dar es Salaam, Tanzania. In 1977 he was appointed head of the University's Civil Engineering Department, where he remained until 1988. During this time, he was a founding member of the Institution of Engineers Tanzania, a member of its council, and editor of its journal; was appointed the interim President of the Tanzanian National Road Association upon its establishment; and coauthored Tanzania's first National Transportation Policy.

Parker became Associate Director of the CUNY Institute for Transportation Systems in 1988 and Director in 1989. In the same year he was also appointed Acting Principal Investigator and Director of the Transportation Research Center for Federal Region II, a post he held until September 1990.

Parker devotes a great deal of energy to expanding and diversifying the demographic makeup of the engineering profession, in which he notes that minorities are underrepresented: "I see transportation-related research as preparation for transportation-related careers in both professional practice and public policy for all of America's citizens, but for underrepresented minorities in particular." As Project Director of the Louis Stokes Alliance for Minority Participation in Science, Mathematics, Engineering, and Technology, he is part of a CUNY-wide effort to increase minority participation and to promote the number of degrees at all levels earned by minorities in these areas. He also served as Direc-

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Calendar

TRB MEETINGS

2000

April

3–5 5th International Bridge Engineering Conference
Tampa, Florida
Bill Dearasaugh

6 Managing the Performance of the Air Traffic Management System
Washington, D.C.
Joseph Breen

20 Airports in the 21st Century
Washington, D.C.
Joseph Breen

May

15–16 Visibility Symposium
Washington, D.C.
Richard Cunard

18–20 5th National Aviation System Planning Symposium: Aviation in the 21st Century—What to Expect in 2050 and Beyond
Duluth, Minnesota
Joseph Breen

June

3–5 Workshop on LED (Light Emitting Diodes) Technology in Traffic Systems
Fort Lauderdale, Florida
Richard Cunard

14–17 2nd International Symposium on Highway Geometric Design Practices*
Mainz, Germany
Richard Cunard

18–21 Velo Mondiale 2000 World Bicycle Conference*
Amsterdam, the Netherlands
Richard Pain

25–27 Changing State DOTs Workshop
Minneapolis, Minnesota
Jon Williams

27–7/1 4th International Symposium on Highway Capacity—Pacific Rim
Maui, Hawaii
Richard Cunard

July

6–8 Joint Summer Meeting of the Planning, Economics, Finance, and Management Committees
San Diego, California
James Scott and Jon Williams

9–13 39th Annual Workshop on Transportation Law
Minneapolis, Minnesota
James McDaniel

16–19 25th Annual Summer Conference on Ports, Waterways, and International Trade and Transportation and Mid-Year Committee Meetings for Sponsoring Committees
Norfolk, Virginia
Joedy Cambridge

16–20 9th AASHTO/TRB Maintenance Management Conference*
Juneau, Alaska
Frank Lisle

22–26 Conference on Transportation and Environment for the 21st Century
Pittsburgh, Pennsylvania
Jon Williams

August

13–16 4th National Conference on Access Management
Portland, Oregon
James Scott

20–23 National Conference on Transportation Finance
Scottsdale, Arizona
Jon Williams

28–30 9th International High-Occupancy Vehicle (HOV) Conference
Dallas, Texas
Richard Cunard

27–31 2000 North American Travel Monitoring Exhibition and Conference*
Madison, Wisconsin
Thomas Palmerlee

Fall

Remote Sensing for Transportation
Washington, D.C.
Thomas Palmerlee

September

5–9 5th International Symposium on Snow Removal and Ice Control Technology
Roanoke, Virginia
Frank Lisle

20–22 Traffic Safety on Three Continents*
Pretoria, South Africa
Richard Pain

24–27 Conference on Performance Measures
Irvine, California
James Scott

28–30 Conference on Transportation Planning Needs and Requirements of Small- and Medium-Sized Communities
Little Rock, Arkansas
James Scott

Look for Calendar updates and registration information on the TRB website at *national-academies.org/trb/*. Registration and hotel information is usually available 2 to 3 months ahead of each meeting date. For information, contact the individuals listed for each meeting. TRB staff can be reached at 202-334-2934 (fax 202-334-2003; e-mail *lkarson@nas.edu*).

*TRB is cosponsor of the meeting.

October

9–11 2nd International Symposium: 3-D Finite Element Modeling (FEM) for Pavement Analysis and Design
Charleston, West Virginia
Bill Dearasaugh

22–25 13th Equipment Management Workshop
Sacramento, California
Frank Lisle

November

11–15 8th National Light Rail Transit Conference
Dallas, Texas
Peter Shaw

12–15 Rural Mobility Solutions for the 21st Century
Lake Tahoe, Nevada
Peter Shaw

December

11–15 Application of Geophysical Technologies
St. Louis, Missouri
G.P. Jayaprakash

2001

January

7–11 TRB 80th Annual Meeting
Washington, D.C.
Robert Spicher

OTHER MEETINGS

ECMT 15th International Symposium on Theory and Practice in Transport Economics
April 5–7, 2000
Sponsors European Conference of Ministers of Transport, Aristotle University of Thessaloniki
Subjects Theory and practice in transport economics
Contact TIF (Thessaloniki International Fair), Congress Department, 154 Egnatia str., GR-546 36 Thessaloniki, Greece [telephone: (++30 31) 291 572 – (++ 30 31) 291 203; fax: (++30 31) 233 779 – (++30 31) 229 116; e-mail: congress-es@helexpo.gr]

6th International Conference on Urban Transport and the Environment for the 21st Century
July 26–28, 2000
Cambridge, United Kingdom
Sponsor Wessex Institute of Technology
Subjects Urban transport systems, including light rail/people movers, road vehicles, and waterborne transport; planning, funding, and management; and environmental topics.
Contact Sally Walsh, Conference Secretariat, UT 2000, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton, SO40 7AA, United Kingdom [telephone: +44 (0) 238 029 3223; fax:+44 (0) 238 029 2853; e-mail: slwalsh@wessex.ac.uk]

International Bridge, Tunnel, and Turnpike Association's 68th Annual Meeting
September 23–27, 2000
Madrid, Spain
Sponsor International Bridge, Tunnel, and Turnpike Association
Subjects Electronic toll collection technology, public–private partnerships, innovative transportation financing, and marketing strategies.
Contact IBTTA, 2120 L Street, N.W., Suite 305, Washington, D.C. 20037 (telephone: 202-659-4620; fax: 202-659-0500)

Profiles (Robert Benke)
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first recipient of AASHTO's President's Award for Research in 1997.

Benke has been active in the Transportation Research Board since 1981. He has been the Mn/DOT TRB representative since 1996. He has served on one task force and five committees, including the Committee on Applications of Emerging Technologies and the Steering Committee for the Sixth International Conference on Low-Volume Roads. Currently he serves on the Committee on Conduct of Research. Of his involvement with the research community, Benke notes: "Senior management must provide clear direction in terms of expected research investment outcomes. My experiences through involvement in TRB and AASHTO and our Minnesota tradition of searching for innovative solutions prove to me that we can deliver. I'm looking forward to the research challenges of the 21st century, the emerging new federal–state research partnership, and the new strategic research venture being developed for the next transportation authorization legislation."

Historic Highway Bridge Preservation Practices
NCHRP Synthesis of Highway Practice 275
Described are the current practices and experiences of state and local highway agencies involved in historic bridge preservation. The emphasis is on policies, decision criteria, and administrative practices determining which bridges to preserve and which preservation options to employ. Examples of successful ventures are provided and several unresolved issues are identified. This synthesis complements NCHRP Synthesis 101, *Historic Bridges—Criteria for Decision Making* (1983; out of print).

1999; 58 pp.; TRB affiliates: $19.50; nonaffiliates: $26.00. Subscriber categories: planning and administration (IA); bridges, other structures, and hydraulics and hydrology (IIC).

Measuring In Situ Mechanical Properties of Pavement Subgrade Soils
NCHRP Synthesis of Highway Practice 278
In situ characterization of subgrade soils is critical for the realistic design of pavement structures. Existing and emerging technologies for static and dynamic, destructive, and nondestructive testing are evaluated and discussed in the context of design procedures, factors affecting mechanical properties, and the variability of measurements (seasonal and spatial). The current practices of highway agencies in the United States, Canada, and selected European countries are summarized and discussed.

1999; 73 pp.; TRB affiliates: $20.25; nonaffiliates: $27.00. Subscriber category: soils, geology, and foundations (IIIA).

Roadway Incident Diversion Practices
NCHRP Synthesis of Highway Practice 279
A detailed summary of current roadway diversion practices and incident management programs is provided based on a survey of select U.S. transportation agencies. The development and deployment of alternate route plans for nonrandom incidents, which result in nonrecurring congestion, are highlighted. Sample alternate route plans are presented in the appendixes.

1999; 84 pp.; TRB affiliates: $21.75; nonaffiliates: $29.00. Subscriber category: highway operations, capacity, and traffic control (IVA).

Profiles (Neville A. Parker)

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tor, Research Careers for Minority Scholars, The City College, from 1989 to 1997.

Parker has published numerous papers and reports, and in 1988 coauthored a textbook entitled *Essentials of Highway Engineering.* Among the awards he has received are the 1996 Giants in Science Award from the Quality Education for Minorities in Engineering Network, the 1994 Black Engineer of the Year–Outstanding Educator Award from the Career Communications Group, and the 1994 Engineering Alumni Achievement Award from the City College of CUNY. He is affiliated with the American Society of Civil Engineers; the Council of University Transportation Centers of North America, of which he has been Secretary, Vice-President, and President; the International Road Federation, which he currently serves as a member of its Fellowship Committee; and the ARTBA Research and Education Division.

Affiliated with the Transportation Research Board since 1972, Parker has participated in a number of committees. Presently, he is a member of the National Cooperative Highway Research Program Project Panel on the Next Generation TRAC PAC, the Committee on Transportation Education and Training, and the Committee on Low-Volume Roads. He has served on the steering committees for both the Fifth and Sixth International Conferences on Low-Volume Roads.

Information for Contributors to *TR News*

TR News welcomes the submission of manuscripts for possible publication in the categories listed below. All manuscripts submitted are subject to review by the Editorial Board and other reviewers to determine suitability for *TR News*; authors will be advised of acceptance of articles with or without revision. All manuscripts accepted for publication are subject to editing for conciseness and appropriate language and style. Page proofs will be provided for author review and original artwork returned only on request.

FEATURES are timely articles of interest to transportation professionals, including administrators, planners, researchers, and practitioners in government, academia, and industry. Articles are encouraged on innovations and state-of-the-art practices pertaining to transportation research and development in all modes (highways and bridges, public transit, aviation, rail, and others, such as pipelines, bicycles, pedestrians, etc.) and in all subject areas (planning and administration, design, materials and construction, facility maintenance, traffic control, safety, geology, law, environmental concerns, energy, etc.). Manuscripts should be no longer than 3,000 to 4,000 words (12 to 16 double-spaced, typewritten pages), summarized briefly but thoroughly by an abstract of approximately 60 words. Authors should also provide appropriate and professionally drawn line drawings, charts, or tables, and glossy, black-and-white, high-quality photographs with corresponding captions. Prospective authors are encouraged to submit a summary or outline of a proposed article for preliminary review.

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