

about transportation

AT THE UNIVERSITY OF CALIFORNIA, BERKELEY



Abdikarim Ali (left) and Manuel Bejarano stress a concrete beam until it fails.

The University of California, Berkeley, is home to a large, diverse and continually changing community of people who are interested in all aspects of transportation. Transportation programs are managed by five different campus units.

The Institute of Transportation Studies (known as ITS) at UC Berkeley is the oldest transportation group on campus, having supported University of California transportation research since 1948. Today about 40 faculty members, 40 staff researchers and 100 graduate students are involved in a \$10 million per year research program and a \$2 million per year technology transfer program administered by this multidisciplinary research institute. ITS Berkeley is also home to one of the world's top-ranked transportation libraries, the nation's largest program of research on intelligent transportation systems, and an internationally-known pavement research program. Many of the faculty members associated with ITS also teach transportation courses, and their ITS research projects employ Berkeley graduate students. ITS Berkeley has sister institutes on the Davis, Irvine and Los Angeles campuses.

For more information, visit our Web site <www.its.berkeley.edu> or send e-mail to <its@its.berkeley.edu>. We look forward to hearing from you.



OTHER TRANSPORTATION GROUPS ON THE BERKELEY CAMPUS INCLUDE:

Department of Civil and Environmental Engineering:
www.ce.berkeley.edu

Department of City and Regional Planning:
www-dcrp.ced.berkeley.edu

The University of California Transportation Center:
<http://violet.berkeley.edu/~uctc/>

The Institute of Urban and Regional Development:
www-iurd.ced.berkeley.edu/

highlights 1999 - 2000

The Institute's Pavement Research Center completed the \$12.5 million California Accelerated Pavement Testing program (Cal APT), an innovative five-year project which used heavy vehicle simulators imported from South Africa to quickly test how well various pavement designs would perform in the field. With funding from the California Department of



Heavy vehicle simulator

Transportation, Cal APT was able to address many questions pertaining to the design, construction, rehabilitation, maintenance and use of materials on the state's 75,000-lane-kilometer network of roads. Reports issued by Cal APT are available on the Internet at <http://www.its.berkeley.edu/pavementresearch/index.html>.

On June 29, 2000, the PRC started work under a new \$20 million, four-year pavement research contract with Caltrans. Principal Investigator John Harvey said creating partnerships with other universities, government agencies and private businesses is a key aspect of the project. For instance, the Washington State Department of Transportation is working with the program on an investigation of dowel bar retrofit of concrete pavements. Other new partners include the University of Illinois and the Technical University of Vienna, Austria. Continuing partners from Cal APT include Caltrans (the primary funding agency), Dynatest Inc. of Ventura, Symplectic Engineering of Albany and the Council of Scientific and Industrial Research of South Africa.

With funding from the California Office of Traffic Safety (OTS), the Institute of Transportation Studies and the School of Public Health started a Traffic Safety Center at the University of California, Berkeley. The center's mission is to reduce the number of deaths and injuries caused by motor vehicle crashes in California. In California, about 4,000 people die each year in traffic accidents – as many as are killed by homicide and suicide combined. OTS has agreed to provide \$1.2 million over three years for the center, which is the first university-based Traffic Safety Center in the West and only the fourth nationwide. (The others are located at the University of North Carolina, the University of Michigan and Texas A&M.)

David Ragland, an Adjunct Professor of Public Health, is the center's Project Manager, and Paul Ossenbruggen, former chairman of the Civil Engineering faculty at the University of New Hampshire in Durham, has been hired to staff the center for the Institute of Transportation Studies (ITS). Martin Wachs, Professor of Transportation Policy and Director of ITS, and Dr. Edward Penhoet, Dean of the School of Public Health, are Co-Principal Investigators.

The University of California, Berkeley, and the California Department of Transportation have approved plans for a new research and development center that will work with industry to accelerate the commercial development of information technology products for transportation. The focus will be on traveler information, transportation management and vehicle guidance and control. The center will be part of the Institute of Transportation Studies' PATH program of research on intelligent transportation systems. Hamed Benouar, who is on loan from Caltrans, serves as executive director.



ITS Director Martin Wachs was named Chairman of the Transportation Research Board's Executive Committee for 2000. The Transportation Research Board, a unit of the National Research Council, is the leading national organization for transportation researchers, practitioners and administrators. Its annual meeting on transportation research is the world's largest, attracting some 8,000 people to Washington, D.C., every January. Wachs, who is nationally known for his leadership on transportation policy, took over as TRB chairman in January 2000. Wachs is the third ITS director to hold this key position. The first two were Harmer E. Davis and William L. Garrison.



Samer Madanat, ITS Researcher and Associate Professor of Civil and Environmental Engineering at UC Berkeley, won the 1999 Science and Technology Award, a UC-wide competition with a \$50,000 prize, with a proposal to improve the way infrastructure maintenance decisions are made. The prize, announced in November 1999, will be used to pay graduate and undergraduate student researchers in Civil Engineering and Industrial Engineering to work on the project for two years. Madanat uses mathematical models and statistics to create tools to measure and predict pavement deterioration. In this project, he hopes to advance that work by incorporating the theories of optimal and adaptive control, which were developed to guide the motion of objects in situations where not all the variables can be known. Stuart Dreyfus, Professor Emeritus of Industrial Engineering and Operations Research, is advising on the project.

Building on the success of its International Airport Noise Symposium, which draws about 300 people to San Diego each year, the Institute's Technology Transfer program launched a companion symposium on airport air quality in February 2000. The new symposium attracted about 100 people who heard a full day of presentations on issues in airport air quality. For instance, the German Aerospace Center's Dr. Erwin Lindermeir described new non-intrusive methods for measuring emissions in flight. Both aviation symposia are organized in cooperation with the National Center of Excellence for Aviation Operations Research (NEXTOR), the Federal Aviation Administration, the Caltrans Aeronautics program and the San Diego Unified Port District.

The Institute explored ways to strengthen its relationships with alumni, students, fellow transportation researchers within the University of California system and throughout the world, and policy makers at every level of government.

The Institute redesigned its Web site with the goal of giving people easier access to the vast network of transportation resources available at UC Berkeley. The new site is online at <www.its.berkeley.edu>, and the redesign is continuing. Comments and suggestions may be sent to <webmaster@its.berkeley.edu>.

The Institute's Harmer E. Davis Transportation Library, which is located on the Berkeley campus but serves the entire UC system, named Librarian John Gallwey to serve as



the Library's first reference and service liaison to Institute graduate students on the Davis, Irvine and UCLA campuses. Gallwey is also the library's chief cataloger and head of the Technical Services Department. Gallwey can be reached at <jgallwey@library.berkeley.edu>.

In the fall of 1999, colleagues of the late Professor Harmer E. Davis, Founding Director of the Institute of Transportation Studies, honored his memory by establishing the Harmer E. Davis Fellowship Fund. The goal is to provide a generous fellowship to one distinguished transportation student each academic year. Gifts to it are tax-deductible as provided by law and may be sent to the Department of Civil Engineering, University of California, Berkeley, 760 Davis Hall, Berkeley CA 94720-1710. By Sept. 30, 2000, the fund had received over \$75,000 in outright gifts or pledges from 65 donors.

The Library continued its fund-raising campaign, which was launched in early 1999 to restore library collections and improve services. From July 1, 1999 through June 30, 2000, \$3,595 was raised from 11 donors, said Library Director Daniel Krummes. One of the donors, who chose to remain anonymous, gave \$1,000 in seed money to set up a memorial book fund in honor of the late Professor John P. Carter. The fund will be used to purchase scholarly and general-interest publications on the



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An anonymous donor who gave seed money to establish a memorial book fund in honor of the late Professor John P. Carter



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topics of shipping and railroad transportation. The Transportation Library, working with the Water Resources Library, also produced and sold a calendar, "Spanning the Bay," that featured photos of Bay Area bridges from Berkeley campus archives.

Two graduate students at UC Berkeley, Karen Smilowitz and Asha Weinstein, were awarded fellowships by the Washington, D.C.-based Eno Transportation Foundation's Leadership Development Program and attended the Eno study conference in May 2000. Another three Eno fellowships went to graduate students from other UC campuses.

UC Institute of Transportation Studies librarians who maintain the California PATH Database – the world's most comprehensive database on intelligent transportation systems – cataloged the database's 20,000th record in June 2000. The database was started in 1988 by Institute librarians working with PATH funding from the California Department

of Transportation. Initially, access was limited to PATH researchers and Caltrans employees. In 1998, agreement was reached to make the database Internet-accessible via the Transportation Research Board (TRB) Web site. It can be accessed by researchers worldwide at <http://www4.nationalacademies.org/trb/tris.nsf/web/path>.



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