### **MINETA TRANSPORTATION INSTITUTE**

### **ANNUAL REPORT**

2002-2003













## CONTENTS

Center Theme	1
A Note from the Executive Director	2
Administration	4
Research	8
Information and Technology Transfer	34
Education	48
Appendices	56
<ul> <li>A. Financial Illustrations</li> <li>B. Research Associates Policy Oversight Committee</li> <li>C. Certified Research Associates</li> <li>D. Project Team Members</li> <li>E. Student Editorial Assistants</li> <li>F. Editorial Associates</li> <li>G. MTI Student Assistants</li> </ul>	57 58 59 64 66 66 66
H. Graduate Transportation Management Program Faculty I. Acknowledgements	67 68

# THEME





designated by Congress in ISTEA in

As originally

1991 and reaffirmed by the Institute's Board of Trustees after reauthorization in TEA-21 in 1998, the Mineta Transportation Institute (MTI) undertakes research, education, and technology/information transfer programs relative to the policy control and management of all surface transportation modes. In short, MTI accomplishes case studies of the best examples of surface transportation policy and management activities in the world, accumulates those into peer reviewed publications, and communicates those "best practices" to our professors, students, and the leaders of the nation's transportation community.

During the 1991 ISTEA and 1998 TEA-21 debates, Congress strongly expressed the desire to assure the international competitiveness of the nation's transportation systems. Because of the availability of much larger motor vehicle fuel taxes in the other industrialized countries, the U.S. will not be able to outspend so must instead outsmart the competition. MTI's objective is, therefore, to identify through research, to teach through education, and to broadly disseminate through our technology/information transfer programs the best transportation practices in use throughout the world. MTI's work encompasses all modes of surface transportation, including the interface between modes.

The Institute is organized by function with principal staff operating in each of four departments: Administration, Research, Education, and Technology/Information Transfer.



## EXECUTIVE DIRECTOR



**FROM THF** 

Hon. Rod Diridon MTI Executive Director

#### BACKGROUND:

The Mineta Transportation Institute (MTI), formally known as the Norman Y. Mineta International Institute for Surface Transportation Policy Studies, has experienced a metamorphosis during the past four years. Five years ago, with a \$500,000 annual budget, the Institute had four research projects in process and was conducting a Master of Science in Transportation Management (MSTM) and graduate Certificate in Transportation Management (CTM) with less than a dozen students enrolled. Though a webpage existed, funding shortages precluded the required improvements.

A congressionally designated four-year TEA-21 grant for \$750,000 per year was authorized for MTI via the U.S. Department of Transportation's Research and Special Programs Administration. An equal matching grant from the California Legislature was provided via Caltrans. Delays resulted in MTI receiving three fiscal years of grant funding between April 1999 and July 2000, resulting in an abnormally high level of effort for two years.

**2** Finally, TEA-21 required that the 17 Group B and C University Transportation Centers (UTCs)

compete, with 10 to be selected to continue at \$1 million each per year for the 2002 and 2003 final years of the TEA-21 authorization period. After an extremely competitive application and interview process, MTI was chosen as one of the 10 continuing "Centers of Excellence." Though the State of California is facing a major budget deficit, the federal grant was matched by the California Department of Transportation, confirming their remarkable level of support for MTI programs.

#### **RESEARCH**:

Since mid-1999, MTI has begun and published 31 peer-reviewed research projects and has eight more under contract and in process. Research supported by the TEA-21 grant has engaged 74 of the Institute's certified Research Associates (RA), most of whom are Ph.D.s, plus 67 student research assistants. The research topics are selected annually through a carefully structured needs assessment process involving designated U.S. DOT and Caltrans committees, the MTI Board of Trustees, and other national transportation leaders. The projects and research teams are chosen after a structured bidding and selection process. Final selection is by the Research Associate Policy Oversight Committee (RAPOC) made up of the seven chairs of the academic departments at San José State University (SJSU) associated with MTI. This year's projects will be under contract by the fall. The 2002/3 process was delayed six months by new state contracting procedures but will return to an annual cycle that will conclude in the spring of 2004.

#### EDUCATION:

Thirty-one California State University System (CSUS) accredited Master of Science in Transportation Management (MSTM) degrees have been granted since 1999, fourteen of which were conferred this fiscal year. Beyond the



graduates, current attendance in the degree and certificate programs has expanded substantially to 39 fully matriculated MSTM student plus 45 pre-matriculation or Certificate in Transportation Management (CTM) students. The Caltransprovided 24 site statewide videoconference format is now supplemented with two-way online, videostreaming instruction available to mobility impaired and out-of-state students. Caltrans installed а state-of-the-art videoconference origination site in the SJSU College of Business Tower for use by MTI. The student counseling, syllabi, assignments, homework, testing, and a "chat room" for each class are provided through the education section of MTI's webpage (http: //transweb.sjsu.edu) or via e-mail, fax, and telephone contact with the professors.

#### TECHNOLOGY/INFORMATION TRANSFER:

*TransWeb* has been expanded to provide all MTI publications online and searchable by HTML and PDF. Support of the education program has also been significantly enhanced. *TransWeb* has won several national awards and, remarkably, averages over 100,000 uses per month and over 1,000 downloads of printed information per week.

The *World In Motion*, MTI's quarterly newsletter, is distributed in hard copy and online. A major portion of the annual research needs assessment, request for proposal distribution, and proposal responses are conducted via e-mail and the webpage. In addition, to promote information transfer, MTI has conducted and published the proceedings of six national symposia or summits and five additional regional forums or statewide summits since 1999. One more national and two more regional and statewide forums will be conducted before the end of the calendar year. Also, during the past year, the Executive Director, Research Director, Education Director, and Research Associate team leaders have given several dozen speeches and panel presentations on transportation issues throughout the U.S. Those will be summarized in the following directors' "successes" sections.

#### **STAFFING:**

Amy Yan transitioned to MTI Office Manager this year after several years as a student assistant.

#### **CONCLUSION:**

The past year provided remarkable growth and continuing challenges. The MTI staff enjoys this dynamic opportunity to identify, teach, and share with the nation the world's best surface transportation policy and management practices. Indeed, the U.S. transportation community, with the help of the national University Transportation Centers' program, will outsmart the competition and prevail in the global geo-economic competition of the 21<sup>st</sup> century.

## ADMINISTRATION

SYSCO

### **ADMINISTRATION**



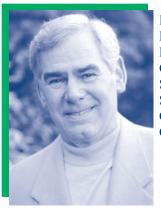
The Administration Department provides general management in areas such as budget control, grant and acquisitions management, personnel functions, facilities, office management, Board of Trustees and the Research Associate's Policy Oversight activities, university, Committee state and federal relations, and general correspondence and communications.











Executive Director Rod Diridon Mineta Transportation Institute College of Business San José State University San Jose, CA 95192-0219 Office phone: 408-924-7560 Office fax: 408-924-7565 email: diridon@mti.sjsu.edu

Honorable Rod Diridon Executive Director

Rod Diridon has directed MTI's efforts since its inception. Known as the "father" of modern transit service in Santa Clara County, California, Mr. Diridon has chaired over one hundred national, state, and local programs and projects, most related to transit and the environment. Before leading the MTI team, Mr. Diridon completed five terms and served six times as chairperson of both the Santa Clara County Board of Supervisors and Transit Board. He has also served as chairperson of the American Public Transit Association and as North American Vice President of the Union Internationale des Transports Publics (International Transit Association) in Brussels where he continues as a member of the Board of Directors. Mr. Diridon chaired the National Association of Counties' Transit and Railroads Committee for 18 years. He has been a member of the Federal Transit Administration's Transit Industry Technical Advisory Committee and the National Research Council's Transportation Research Board Transit Cooperation Research Program, which he was

elected to chair in 1995. He currently serves as chair of the TRB/TCRP panel on "Combating Global Warming Through Sustainable Transportation Policy" and was appointed by the Governor in 2001 to the California High Speed Rail Authority Board. He is also on the Executive Committee of the national Council of University Transportation Centers. He has a BS in Accounting and a MSBA from San Jose State University and was president of a private research corporation for seven years. He also served two combat tours as a U.S. Navy officer in Vietnam.



Communications Director Leslee Hamilton Mineta Transportation Institute College of Business San José State University San Jose, CA 95192-0219 Office phone: 408-924-7564 Office fax: 408-924-7565 email: hamilton@mti.sjsu.edu

#### Leslee Hamilton Communications Director

A former Peace Corps Volunteer, Leslee Hamilton has extensive administrative and communications experience through her work with environmental organizations, on electoral campaigns, and as former Communications Director for San Jose Mayor Ron Gonzales. She has a BA in Business Economics from UC Santa Barbara. Ms. Hamilton is working to increase the exposure and use of MTI's research products. An avid outdoor enthusiast, she commutes to work by bicycle.





Office Manager Amy Yan Mineta Transportation Institute College of Business San José State University San Jose, CA 95192-0219 Office phone: 408-924-7561 Office fax: 408-924-7565 email: yan@mti.sjsu.edu

#### Amy Yan Office Manager

Amy Yan worked for the Mineta Transportation Institute as a student assistant for nearly four years before joining the professional staff in February. Ms. Yan is working to complete her degree in business at San José State University.

#### ADMINISTRATIVE SUCCESSES:

In January 2003, MTI submitted the semi-annual report to U.S. DOT-RSPA. The report presented summaries of MTI successes for the preceding six month period. Those relating to the Administrative Department will be updated in the following section.

MTI's Board of Trustees annual meeting was held on June 14, 2003. The 12<sup>th</sup> Annual Mineta Transportation Institute Board of Trustees Scholarship Awards Banquet followed, during which San Jose Mayor Ron Gonzales, California Department of Transportation Director Jeff Morales, and Congressmember Zoe Lofgren served as keynote speakers. The banquet raises scholarship funds for MTI students.

#### 6 FACILITIES:

MTI is located in the Research Center of San José State University (the oldest and one of the largest of the 23 California State University Campuses). Located in downtown San Jose, the Research Center is in the heart of Silicon Valley. The six fulltime staff members, two part-time employees, and six part-time student assistants work in an office provided by the University which also provides classroom, meeting, and other facilities.

#### FINANCIAL CONTROLS:

Office Manager Amy Yan administers MTI's QuickBooks accounting system to provide real-time project-based budget and expenditure information for all projects and functions. MTI uses this system to track expenditures in detail and to supplement the funding source-based accounting reports from the San José State University Foundation. The QuickBooks system is used daily to track fund and expense balances. The SJSU Foundation's reports are provided monthly, corroborate the MTI system's balances, and provide grant-based budget information.

#### OFFICE ADMINISTRATION:

Office Manager Amy Yan coordinates travel and scheduling for senior staff. She is in the process of updating the extensive office procedures manual that documents and helps streamline procedures for all program areas. The manual is an ongoing effort that the staff, under Ms. Yan's direction, continues to maintain and refine as Institute activities evolve.

#### PARTNERSHIPS:

#### California University Transportation Centers

In 1999, at the urging of the MTI Executive Director, Caltrans created the "UTC Cal Group" consisting of the directors of the three California UTCs and Caltrans liaison staff. The group has met three times per year since, hosted on a rotating basis by the three centers.

#### Council of University Transportation Centers

The MTI Executive Director is a member of the CUTC Executive Committee and has been active in several other CUTC committees. Executive Director Rod Diridon and Research Director Trixie Johnson participated in the CUTC annual meeting in Tennessee in June.

### University Transportation Centers' Directors Association

MTI Executive Director Rod Diridon founded the UTC Directors' Association in 1995 and chaired the group until 2000 when he nominated Mike Kyte and Steve Albert as co-chairs. MTI has contributed several important policy documents and assisted the organization's members to work more closely together to benefit the total national UTC program.

### Jointly Sponsored Symposia, Forums, and Projects

During the past fiscal year, MTI has or is in the process of co-sponsoring projects with the following organizations: Transit Cooperative Research Program of TRB, AASHTO, APTA, Transportation Trades Department of AFL/CIO, California State Automobile Association, San Francisco Bay Area MTC, San Francisco Bay Area Council, Great American Station Foundation, Commonwealth Club of California, Los Angeles MTA, Marin County Board of Supervisors, National Public Radio, Bay Area Rapid Transit District, Town Hall Los Angeles, and others. Most of these partnerships generated attendance and/ or financial support for MTI programs and also resulted in substantial media attention for MTI and UTC efforts.

#### Community Involvement

Both the MTI Executive Director and Research Director maintain significant collateral activities in the community. For example, the Executive Director chairs a NRC/TRB/TCRP panel on "Combating Global Warming Through Sustainable Transportation Policy", was appointed by the Governor to the California High Speed Rail Authority Board (an unpaid position), and is a member of several other transportation boards and committees. The Research Director is active in the leadership of the regional Rotary Club, is a sought after speaker on transportation and environmental issues, and is on several related boards and These kinds of activities are committees. encouraged by the University and the MTI Board of Trustees with the understanding that the MTI responsibilities come first and that no MTI funding is used to discharge the collateral activities. The service advantages to the community are obvious, but these kinds of activities also promote a support network for MTI which has proven to be extremely valuable both in terms of program effectiveness as well as fiscal support for both programs and in the form of scholarships for the MTI students.

#### CHALLENGES:

Continuing to deliver a graduate education program and produce quality and timely research while dealing with the uncertainty of reauthorization presents a challenge that the Mineta Transportation Institute is committed to meeting.

## RESEARCH

RESEARCH





The Research Program manages selection and completion of research projects and sponsors symposia and fora. The Research Director coordinates the selection and efforts of MTI's Research Associates, who now number 124 professionals and educators. The research staff works closely with the Information and Technology Transfer area to publish the final research reports and event proceedings.











Research Director Trixie Johnson Mineta Transportation Institute College of Business San José State University San Jose, CA 95192-0219 Office phone: 408-924-7562 Office fax: 408-924-7565 email: johnson@mti.sjsu.edu

#### Trixie Johnson Research Director

Before joining the Mineta Transportation Institute in July 1999, Trixie Johnson served the full limit of two terms on the San Jose City Council (1991 through 1998). Ms. Johnson is recognized as a land use and environmental specialist. Her council service included two years as Vice Mayor, and several years as the chairperson of the city's Transportation, Development and Environment Committee. Other public service included chair of the Environmental Quality Committee and member of the Board of Directors for the League of California Cities; vice-chair of the Energy, Environment and Natural Resources Committee of the National League of Cities; and member of the Bay Area Air Quality Management District Board. Specifically in transportation, she was a founding board member of the Santa Clara County Transportation Authority (VTA) and chair of its Congestion Management Committee, vice-chair of the Caltrain board, and served on the Legislative Committee of the American Public Transit Association (APTA). Ms. Johnson is a Phi Beta Kappa graduate with honors of the University of Utah, with a BA in History. She earned her MA in English from the University of Washington.

#### **Research Program Goals**

The Mineta Transportation Research Program seeks to involve a diverse and growing number of certified Research Associates and Student Research Assistants in a wide spectrum of research projects that are judged by peers and other experts to advance the body of knowledge in transportation policy and management from an intermodal perspective.

#### **The People**

MTI actively recruits academic involvement from several departments at San José State University (SJSU) and from other colleges and universities. MTI also taps the experience and knowledge of individuals from other public and private sector organizations to build research teams. Each team includes at least one academic member and student, and projects are conducted in an academic format, including research methodology, report writing, and peer review of work prior to publication.

MTI certifies all Research Associates prior to their involvement in projects. Certification requires a completed application with references, a résumé, and a sample of published research. The Research Associates Policy Oversight Committee (RAPOC), composed of the department heads or representatives

of the primary SJSU academic departments with which MTI works, reviews the applications and recommends certification where appropriate. Final certification is by the executive director. Certification must be renewed every five years.

#### **Projects**

Project selection begins with an extensive needs assessment process by staff, Caltrans, and MTI's Board of Trustees (BOT). MTI also requests ideas from the U.S. DOT Western Resource Center. On completion of the needs assessment, the Institute issues a formal Request for Proposals. RAPOC, Caltrans, and a representative from U.S. DOT review the responses. After referral to the BOT, the Executive Director makes the final decision. This past year's new research awards were delayed until after mid-year by the combined effect of the University Transportation Center federal competition and by subsequent contract renewal by the California Department of Transportation. The majority of the reports were approved to begin work in February 2003 rather than early fall of 2002.

MTI emphasizes policy and management research, rather than technical research, and seeks projects that address improving the development and operation of the nation's surface transportation systems, improving transportation decision-making, and ensuring the global competitiveness of the United States. The Institute selects research products with immediate and practical value for transportation officials and practitioners. To that end, MTI has adopted the following areas of emphasis:

- · Transportation planning and policy development
- Intermodal connectivity and integration
- · Interrelationships among transportation, land use, the environment, and the economy
- Sustainability of transportation systems
- Collaborative labor-management issues and strategies
- Safety and security of transportation systems
- Transportation decision-making and consensus building
- · Financing of both public and private sector transportation improvements

#### **Transfer of Research Information**

All research is published, following peer review, and every new report is available on MTI's website, <u>www.transweb.sjsu.edu</u>. The Institute has also posted the reports completed prior to TEA-21. MTI has developed a number of other approaches to information transfer, including sponsoring symposia, funding post-research travel for researchers to address groups of end-users, and developing cost-effective materials to present the research in summary form for distribution to practitioners.



#### **Research Program Accomplishments**

#### Six MTI Research Projects Selected for TRB Presentations

Dr. Richard Lee spoke on each of his recent projects (California General Plans/Sustainability and Sustainable Transportation Indicators). Dr. Brian Taylor presented the results of his work on increasing transit ridership. Bob Johnston covered his work on computer modeling for integrated urban transportation plans for the third year in a row. Dr. Evelyn Blumenberg spoke at two sessions, one tangentially and the other directly based on her work dealing with welfare-to-work populations and transportation. Finally, Andrew Nash handled many visitors to his poster session on transit priority in Zurich. MTI encourages researchers to make their work available through such presentations by offering travel grants. Often a research project is completed and the books are closed before an opportunity arises for an appropriate presentation. The travel grants help assure that the results of the work are conveyed to practitioners and other researchers.

#### MTI Counter-terrorism Research Team Continues Successes

MTI's team of Brian Michael Jenkins and Dr. Frances Winslow made several presentations during the year based both on their current work dealing with the events of September 11, and also on the past reports. Included in their travels:

- Federal Transit Administration's Connecting Communities: Emergency Preparedness and Security Forum in San Jose, August 2002. (Winslow)
- California Alliance for Advanced Transportation Systems (CAATS) and the Rural Advanced Technology and Transportation Systems (RATTS) Joint Conference in Monterey, California in September 2002. (Jenkins) This was one of numerous appearances by Mr. Jenkins during the year. He always cites the sponsorship of MTI for his work.
- Western Association of State Highway and Transportation Officials (WASHTO) teleconference on security on October 7, 2002. (Winslow, Diridon, and Johnson)
- 6<sup>th</sup> International Conference on Corporate Earthquake Preparedness in Osaka, Japan a demonstration of the applicability of research on security to other fields. (Winslow)
- California Seismic Safety Commission hearing. (Winslow)

Additionally, Rep. Juanita Millender-McDonald cited MTI's counter-terrorism reports in the cover letter for sponsors of the Public Transportation Systems Vulnerability and Reduction Act of 2003 (HR 1148). The original report from 1997 was also reproduced, in part, in the TCRP report "Robotic Devices."

#### **MTI Receives Record Number of Proposals in Two RFP Cycles**

Due to the delayed receipt of funding, MTI conducted two project selection cycles in the 2002-2003 fiscal year. The first, held in December, was based on needs assessments done during the prior year, before the delay was anticipated. The second, held in May, used new assessments. Fourteen proposals were submitted for the December round; five were approved outright and resubmittals resulted in two additional **11** approvals. One project was deferred for funding in the 03-04 fiscal year to allow time for preliminary

processes required by the home university. Sixteen submittals for May only yielded one approval, but four Principal Investigators were asked to resubmit with revisions. One RA will be awarded a seed grant to develop the concepts in her proposal prior to a resubmittal. Of two past seed grants, one has proceeded to an approved, full-scale project during this selection year. The projects from the May cycle will be the new projects for the 2003-2004 report, since MTI does not consider them approved projects until their prospectus has been signed by Caltrans.

In both RFP rounds the pre-selection review by Caltrans divisions was conducted in a more rigorous and systematic way. In addition to the traditional meeting of division representatives with Executive Director Diridon and Research Director Johnson – the primary source of input in the past – each proposal was sent in advance to the appropriate Caltrans division for a thorough review. Their detailed comments were conveyed during the selection meeting. In several cases, this resulted in non-approval of projects that were duplicating other research efforts underway elsewhere, or in suggested revisions to proposals to make them more meaningful to practitioners. One positive result of the earlier detailed review has been an expedited signature of approval on the final project prospectus, now a two to three week process versus the former six to eight weeks.

#### **MTI Research Makes a Difference**

#### Transportation Tax Measures

Miami Dade County's Business Forum cited the transportation tax election work of Drs. Richard Werbel and Peter Haas as a factor in the success of their November 2002 measure. Forum Executive Director Mario J. Artecona, called their work an "invaluable tool in helping us shape our message." Dr. Haas, in particular, was thanked for his time and helpful information. "His insights were included in our message, and are partly responsible for our success."

Dr. Werbel consulted with the Denver community, including speaking at the November 2002 Leadership Forum of the Transit Alliance, a regional consortium of public and private civic leaders who are promoting the growth of transit in the region.

#### **Developer-Planner Interaction**

Dr. Aseem Inam was invited to Anchorage, Alaska, to speak on "Who Is Responsible for Alternative Development?" The result was a continued relationship with the city and a development group seeking to do more sustainable and innovative projects. He also spoke to the Alaska chapter of the American Planning Association, which posted his PowerPoint presentation on their website.

#### Regional Freight Logistics Profile

This work by John Niles and Dick Nelson is already in the marketplace of ideas in Washington. The state's Transportation Commission is considering funding a follow-up pilot project using the template from the study. The Puget Sound MPO and WSDOT hope the demonstration of the proposed tool will inform them

**12** generally about the status for freight on the ground, and also be a tool for other MPOs to use throughout the state.



#### Integrated Urban Model

Dr. Caroline Rodier published an article based on her MTI research with Bob Johnston on regional transportation computer models in Transportation Research D 7 (2002) 243-254. In addition to TRB, Johnston has also presented at the National Association of Regional Councils, the RailVolution national conference, the American Planning Association national conference, the Oregon Modeling symposium, and the Sacramento County Board of Supervisors.

The work has now moved beyond the academic and conference world to practical applications in actual modeling programs. A newer version of the MEPLAN program, Pecas, now forms the basis for a model being tested by the State of Oregon. That model, and the more sophisticated versions of MEPLAN are in use by the Sacramento Area Council of Governments (SACOG), in tandem with their more traditional model. The results are being in used in public meetings, including their September 2002 regional conference attended by over 1,000 residents. The ability of the integrated model to account for many more influencing factors on travel than the traditional model, together with the GIS integration that allows consideration of numerous environmental and social factors, accounts for the growing interest in the work. Johnston is currently working on his third project with MTI, in collaboration with the team of Drs. Douglas Hunt and John Abraham.

#### North American Free Trade Agreement (NAFTA)

Rep. Bob Filner, who represents the entire California border with Mexico, requested copies of both MTI studies on NAFTA border issues. The studies join a growing list of MTI reports provided to congressional offices and committees.

#### "Envisioning" Project Has a Growing Audience

The two successive projects by Dr. Earl Bossard using GIS to help "envision" neighborhoods for Transit-Oriented Development (TOD) have now led to a book, being published by ESRI Press. The textbook will be suitable for courses in multiple fields, including planning, ethnic studies, geography and GIS, education, environmental studies, political science and public administration, sociology, public health, administration of justice, social work, marketing and civil engineering. Dr. Bossard continues his generous practice of sharing the research, including workshops at the ESRI Education Conference in July 2002, the ESRI Sacramento Users Group, ACSP Computer Users Group, University of Maryland, the Silicon Valley ArcView Users Group, San Francisco State University, and the California Student State Planning Conference at SJSU.

Dr. Bossard is on the team for a new project, led by Dr. Marc Schlossberg at the University of Oregon, using the visual presentation techniques for looking at TOD areas before and after construction.

#### Transit-Oriented Development

Both of Dr. Scott Lefaver's studies on Transit-Oriented Development were cited in the TCRP Research Results Digest Number 52 on TOD in the U.S. These have been the base studies for a continuing MTI area **13** of research emphasis.

#### **MTI Research Director**

During the past year, Trixie Johnson has been asked to participate or speak at many events, often to report research results or bring that background to discussions.

- Following her participation in the initial Policy Advisory Retreat to assess the draft *California Transportation Plan 2025* in November 2001, Caltrans invited Ms. Johnson to participate in the final review of the comments on the plan in April 2003. She joined a group representing all Caltrans divisions, several other state agencies, and selected outside reviewers. Ms. Johnson was the only university representative at the table. The group made special mention of the importance of outside reviewers in the process. The resulting document will be forwarded to the Governor's office for approval.
- The American Public Transportation Association (APTA) requested MTI's participation in a working group tasked to develop specific research topics based on APTA's new Research and Strategic Plan. Research Director Johnson was one of three university research program directors participating in the Strategic Plan Task Force meeting in February 2003 at the Beckman Center, UC Irvine.
- UC Irvine's Center for Urban Infrastructure presented a full-day workshop entitled *Beyond Crisis Response: The New Generation of Transportation Financing in California.* Director Johnson served as a moderator/facilitator for a discussion of user fees, following which she reported the session results to the full conference.

#### **Research Projects Completed**

14

The following projects were described in more detail in prior Annual Reports. They are listed here to assure that all projects completed under the current grant are acknowledged.

Impacts of the North American Free Trade Agreement on Transportation in the Border Areas of the United States: With Emphasis on the California Border with Mexico Project #9700 Publication #99-2 Principal Investigator: George Gray

Analysis of Policy Issues Relating to Public Investment in Private Freight Infrastructure Project #9701 Publication #99-3 Principal Investigator: Dan Evans, J.D.

Why Campaigns for Local Transportation Funding Initiatives Succeed or Fail: An Analysis of Four Communities and National Data
Project #9702
Publication #00-1
Principal Investigator: Peter Haas, Ph.D.



California Border Zone Land Transportation Issues Project #9802 Publication #01-06 Principal Investigator: George Gray

Land Use and Transportation Alternatives: Constraint or Expansion of Household Choice?
Project #9803
Publication # 01-19
Principal Investigator: Jonathan Levine, Ph.D.
(This project was titled Transportation and Land Use Innovation: Impacts on Household Residential Choice until peer review comments led to the published title.)

Applying an Integrated Urban Model to the Evaluation of Travel DemandManagement Policies in the Sacramento RegionProject #9804Publication #01-03Principal Investigator: Robert Johnston

Protecting Public Surface Transportation Against Terrorism and Serious Crime: Continuing Research on Best Security Practices Project #9805 Publication #01-07 Publication #01-14 Protecting Public Surface Transportation Against Terrorism and Serious Crime: An Executive Overview Principal Investigator: Brian Michael Jenkins (Original title: Assisting Public Transportation Operators in Responding to Chemical and Biological Threats)

GIS for Livable Communities: Using GIS to Improve Transportation Planning and Community Livability Project #9806 Publication #01-09 Principal Investigator: Tom Horan, Ph.D.

A New Planning Template for Transit-Oriented Development Project #9807 Publication # 01-12 Principal Investigator: Dick Nelson (Former title: *Creating a Planning Template for Non-work Travel and Transit Oriented Development*)

The Travel Behavior and Needs of the Poor: A Study of Welfare Recipients in Fresno County, California Project #9808 Publication #01-23 Principal Investigator: Evelyn Blumenberg, Ph.D. (Former title: Transportation and Welfare Reform: The Travel Behavior and Needs of Welfare Recipients)

Implementation of Zurich's Transit Preferential Program Project #9809 Publication #01-13 Principal Investigator: Andrew Nash

*Envisioning Neighborhoods with Transit-Oriented Development Potential* **Project #9810 Publication #01-15** Principal Investigator: Earl G. Bossard, Ph.D.

**Best Practices in Developing Regional Transportation Plans Project #9811 Publication #01-10** Principal Investigator: Donald R. Rothblatt, Ph.D.

Construction of Transit-Based Developments: New Policy Initiatives for Governments Project #9901 Publication #01-05 Principal Investigator: Scott Lefaver, Ph.D., AICP

How to Best Serve Seniors on Existing Transit Services Project #9902 Publication #01-04 Principal Investigator: David Koffman

*Effects of Online Shopping on Vehicular Traffic Patterns* **Project #9903 Publication #01-20** Principal Investigator: Joseph J. Giglierano, Ph.D.

Factors Influencing Voting Results of Local Transportation Funding Initiatives with a Substantial Rail
16 Transit Component: Case Studies of Ballot Measures in Eleven Communities Project #9904



**Publication # 01-17** Principal Investigator: Richard A. Werbel, Ph.D. (Original title: *Passing Local Transportation Tax Measures: A Follow-up Study*)

Developer-Planner Interaction in Transportation and Land Use Sustainability Project #9905 Publication #01-21 Principal Investigator: Aseem Inam, Ph.D.

**Transit Labor Relations Guide Project #9906 Publication #01-02** Principal Investigator: Herb Oestreich, Ph.D.

Non-Pricing Methods to Optimize High Occupancy Vehicle Lane Usage Project #9908 Publication #01-11 Principal Investigator: George Gray

A Statewide Study for Bicyclists and Pedestrians on Freeways, Expressways, Tunnels and Toll Bridges Project #9909 Publication #01-01 Principal Investigator: Dr. Thomas C. Ferrara

Using the Internet to Envision Neighborhoods With TOD Potential Project #2001 Publication #01-24 Principal Investigator: Earl G. Bossard, Ph.D.

Applying an Integrated Urban Model in the Evaluation of Travel Demand Management Policies in the Sacramento Region: Year Two Project #2002 Publication # 01-08 Principal Investigator: Robert Johnston

*The California General Plan Process and Sustainable Transportation Planning* **Project #2003 Publication #01-18** Principal Investigator: Richard Lee, Ph.D., AICP

Increasing Transit Ridership: Lessons from the Most Successful Transit Systems in the 1990s Project #2005 Publication #01-22 Principal Investigator: Brian D. Taylor, Ph.D.

Using Fiber Networks to Stimulate Transit Oriented Development: Prospects, Barriers and Best Practices Project #2007 Publication #01-16 Principal Investigator: Walter Siembab

The following projects have been completed in the past year:

Trucks, Traffic, and Timely Transport: A Regional Freight Logistics Profile Project #2004 Publication #02-04 Principal Investigator: John S. Niles (Former Title: Designing a Template for Understanding Freight Movement and Logistics at the Metropolitan Region Level)

Preliminary research by the primary team members determined that metropolitan planning organizations (MPOs) in the United States are not yet incorporating into transportation planning a complete understanding of emerging trends in freight movement. This report justifies and designs a comprehensive tool for describing intra-urban trucking, the bulk of truck movement in an urban area, but typically unexamined in regional transportation planning. First, is a literature review describing the characteristics and policy issues bearing on freight. A structure for describing those policy issues was extracted from the literature, and then a series of map displays and quantitative measures were designed that provide a linkage between the characteristics of local delivery trucking and the public policy issues that stem from and influence these characteristics.

The Regional Freight Logistics Profile (RFLP) emerges as an easyto-understand yet comprehensive description of urban trucking that stimulates a more constructive dialogue among government transportation leaders, shippers, truckers, and the general public. The



John Niles

design balances coverage of the variety of public and business concerns relative to freight against the costs and other practicalities of collecting data. To overcome reluctance on the part of private companies to reveal performance information, the team designed an institutional approach to gathering truck fleet performance data that does not compromise confidential performance data from competing carriers and shippers.

The report recommends that metropolitan planning organizations, as well as state and federal freight mobility offices with responsibility for technical assistance to MPOs, review the RFLP design for potential adaptation and adoption. This study should assist planners and decision-makers in determining the allocation of resources in support of sustainable commerce, environmentally sound land use, and efficient intermodal connectivity.

The template has the following components:

- 1. A statement of the general planning problem of addressing urban freight movements to meet business requirements.
- 2. A set of questions about changing patterns to address through data and other empirical information.
- 3. A description of measurable categories and parameters in prototype tables, graphics, and other data displays that generically characterize freight patterns.
- 4. Examples of a few freight patterns, sufficient to demonstrate practicality, utility, and applicability of the data displays.
- 5. Policy options and research directions for addressing freight mobility.

#### Sustainable Transportation Indicators for California Project #2106 Publication #02-05

Principal Investigator: Richard Lee, Ph.D.

Indicators are an increasingly popular way to present information about a community, region, or agency. As is true for most statistical measures, indicators are descriptive by their nature. This report focuses primarily on sustainable transportation indicators (STI). The study proposal presumed that effective sustainability indicators would be built on indicators already in use.



**Richard Lee** 

Despite the proliferation of indicators - and the proliferation of interest in indicators - there have been only very few and scattered attempts to develop comprehensive sustainability indicators for transportation systems, and none that have built up from the measures and indicators already collected by local and regional transportation agencies in California. Thus, the original approach of the study was not yielding much usable information. The research changed directions to address this gap by devising and testing sustainable transportation indicators that may be effective and practicable in California. In so doing, it builds on both recent research and practice throughout the U.S., Canada, and Europe. In addition to an extensive review of the literature, a two-stage survey of transportation professionals and several case studies (three in California plus one of Switzerland) are used to assess the currents status of sustainable transportation indicators.

The key conclusion is that while there is substantial interest in STI, and much data relevant to STIs is being collected, more time and more collaboration between transportation agencies and citizen groups is needed before STIs will be embedded in the decision making processes of local transportation agencies.



**Caroline Rodier** 

Verifying the Accuracy of Regional Models Used in Transportation and Air Quality Project #2108 Publication #02-03 Principal Investigator: Caroline Rodier, Ph.D.

The conformity requirements of the Clean Air Act assume the ability of travel models to estimate key travel inputs to emissions models accurately enough to forecast emissions to within a few percentage points, and thus demonstrate conformity with the approved state implementation plan. Nonconformity can result in the loss of federal highway funds, as occurred in Charlotte, NC and Atlanta, GA. The Principal Investigator's past work with a team at UC Davis has shown that most regional travel demand models are deficient in representing induced travel. They underestimate vehicle miles traveled (VMT) and congestion for roadway projects and overestimate VMT and congestion for transit projects. These deficiencies then affect subsequent air models.



In this first known formal validation case study in the Sacramento, California, region, the original version of the Sacramento regional travel demand model (estimated with 1991 data) is used with Year 2000 observed data to validate the model over a 9-year period. Three simulations are performed in order to test, respectively, model accuracy, the effect of errors in socioeconomic/land use projections, and induced travel.

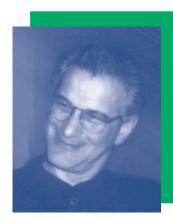
The results of the study suggest that the travel demand model overestimates vehicle miles traveled, vehicle hours traveled, and vehicle hours of delay (5.7%, 4.2%, and 17.1% respectively). The errors in the socioeconomic/land use projections made in 1991 and used in the model approximately double the model's errors in vehicle travel. The model also underestimates induced travel (elasticity of 0.14) compared the estimate of actual induced travel (elasticity of 0.22) in this study, but the upward bias in the model error swamps this underestimation.

It appears that if the model were used for conformity analyses in this region, its overestimation of daily vehicle travel would provide a relatively generous margin of error with respect to meeting air quality emissions budgets. On the other hand, in the analysis of travel effects of proposed highway investment projections in environmental impact statements, the overestimation of the daily travel results would tend to overestimate no-build travel demand and congestion and thus the need for new highway projects in the region. Compared to that in the no-build alternative, the magnitude of change for the highway alternative would have to be greater than the model error to be considered significantly different. This may be a difficult standard for the typical new highway project to meet.

#### Impact of Ethnic Diversity on Transit: How Do Various Population Groups View and Utilize Various Transit Modes? Project #2109

There is no publication for this phase of the project. Principal Investigator: Richard A. Werbel, Ph.D.

California is now a majority-minority state, and many residents are recent immigrants. Knowing how various groups view and use transit would assist in planning transit service in the future for this growing population. This project, a pilot survey to prepare for a more extensive



**Richard Werbel** 

and complete survey that will provide the data for analyzing very complex questions, is the first phase of a two-part proposal.

The second project phase will identify, via a questionnaire administered by telephone interviewing, the transit attitudes and behavior of three targeted ethnic segments. The targeted segments are a) Asians, b) Hispanics, and c) African-Americans. With Asians and Hispanics, only first generation immigrants will be included in the sample. With Asians, the focus will be on first generation immigrants from China, the Philippines, and possibly Vietnam. In addition, nonhispanic whites will be included as a fourth study group for comparison purposes.

The primary study objectives involve:

- The extent that the transit system meets the transportation requirements and needs of each of the three targeted ethnic segments.
- An identification of factors that differentiate transit *choice* riders from those who choose *driving* as their primary mode of transportation (for those members of the study groups who have been *transit dependent* riders in the past).
- The magnitude of the differences, if any, in transportation behavior, transit requirements, and transit attitudes between the three ethnic segments and the fourth segment.
- Variables contributing to differences *within* each of the three ethnic segments in terms of relevant transportation behavior and attitudes.

While the original proposal was to study two California communities, the research team eventually chose to proceed with one. Los Angeles was too large for the budget limits, and Alameda County had so many unique factors that it might not have yielded transferable findings. The team chose the Sacramento area, which meets all of the study parameters, including the support of the regional transit agency.

The first phase is now complete. The pilot survey has been written and tested; a survey firm has been hired. The proposal for the second phase, now Project #2207 below, constituted the report for this phase.



#### Making Growth Work for California's Communities Project #2111 Publication #02-01 Principal Investigator: Kenneth R. Schreiber, AICP

(Former Title: An Assessment of the Receptivity of Smart Growth Land Use and Transportation Planning Concepts at the Local Level in California)

If the State of California is to become a stronger advocate for transportation and land use policies that address sprawling growth patterns and related conditions associated with new development, it will be important to have a clear understanding of:

- Applicable land use and transportation planning techniques;
- The extent to which local planning agencies are incorporating these concepts into local plans;
- The extent to which local planning agencies are seeing these concepts implemented;
- Sources and nature of support and opposition to these concepts.

The report focuses on the following questions:

- What are the land use and transportation techniques appropriately associated with smart growth?
- To what extent are local planning agencies (i.e. cities and counties) incorporating smart growth concepts in their planning strategies? What obstacles do they face?
- To what extent are local planning agencies seeing smart growth concepts being implemented? What obstacles do they face?
- Who are the advocates and the opponents of smart growth?
- What are the perceived motivations of advocates and opponents?
- What actions could the state take that would be both effective in facilitating smart growth plans and be acceptable to the constituencies that would have implementation responsibilities?

The study used literature review, extensive surveying and interviewing, and analysis to reach conclusions and recommendations. The research in *Making Growth Work for California's Communities* is unique in its degree of integration of sustainable development, smart growth, and livable communities concepts, and in its assessment of the land use and transportation strategies being incorporated into both local plans and implementation activities. It is intended to help state officials,



**Ken Schreiber** 

concerned professionals, and other stakeholders select and shape effective and feasible state policies and programs that will support and promote better management of California's future growth. It may also be useful to a wide variety of professionals and advocates concerned with the policies used to guide California's growth and development.

Andy Nash

Shared Use of Rail Infrastructure by High-Speed Rail: Best Practices in Design and Operations Project #2113 Publication #02-02 Principal Investigator: Andrew Nash

The purpose of this research project was to describe best practices for integrating high-speed rail service with regular rail service in European rail systems and to assess their potential for use in United States. The research considered operating strategies, specific infrastructure designs, and how the two work together to make shared use of facilities possible and effective. Sharing will be necessary where there is not enough space to build new infrastructure and where it would be impossible for political, community, or economic reasons to do so.

The Principal Investigator surveyed those responsible for planning, building and operating European high-speed rail systems regarding shared use of facilities on their systems. Extensive interviews with appropriate staff from the major high-speed rail operators in Europe had two main objectives: to learn the operator's basic approach to shared use and to learn what specific operating techniques and infrastructure improvements were made to put this approach into practice.

The study also included a literature review and interviews with U.S. rail and high-speed rail system planners and operators, and with the Federal Railroad Administration (FRA) regarding regulatory issues. The research results outline key issues regarding shared use of rail infrastructure by high-speed rail, a description of European practices and infrastructure solutions, and an assessment of European practices for their applicability in the United States.

This research report will be most interesting to HSR system planners and managers who want to learn about shared use techniques. Since many of the strategies used in Europe were found to be based on traditional railroad engineering techniques for increasing capacity and speed, and are therefore fairly well known to railroad engineers, the report will be interesting to them mainly as a comprehensive listing of potential strategies for improving shared use operations. Finally, the report will also be interesting for those who want to learn more about high-speed rail planning in general.

There is significant international experience in building and operating HSR systems that can be helpful in planning U.S. systems. One of the key challenges for U.S. high-speed rail planning is to take full advantage of foreign experience while ensuring that no degradation of safety or unmitigated environmental effects result from the deployment of foreign technology in North America.

#### **Ongoing Research Projects**

The projects in this group were begun in the 2001-2002 year.

#### Bridging the Gap: Planning Interjurisdictional Transit Services Project #2102

Principal Investigator: Patrick McGovern, Ph.D., J.D.

Transit services are provided within agency boundaries, but passengers often need to cross those boundaries. Many experts opine that providing a "seamless" service is an important factor in encouraging transit ridership. This study focuses on two interjurisdictional case studies: the Fremont-Milpitas corridor in the Silicon Valley area of the San Francisco Bay Area and the Seattle-Everett Corridor in the Puget Sound region.

The work includes an examination of federal/state/local programs, policies, and legislation for improving transit service across jurisdictional boundaries. It will inventory plans, policies, and legislation (both enacted and proposed) to determine the range of tools available to local government and transit providers to make the connections and provide better service. A two-stage literature review will cover the general sources and legal sources. The review will identify the tools available.

The team will conduct qualitative interviews of fifteen policymakers in each area, ten in public agencies and five representing major high tech employers, to test both knowledge of, and the probable success of each



Pat McGovern

mechanism identified by the earlier work. These will be analyzed and summarized.

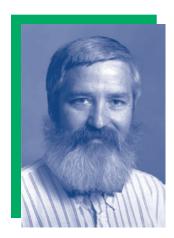
The PI anticipates producing a report in two parts: a research report and a working paper/manual for policymakers to provide guidance for research in similar communities.

#### **Regional Transportation Planning for Smart Growth Project #2107** Principal Investigator: Robert Johnston

This research team, in two prior MTI projects (*Applying an Integrated Urban Model to the Evaluation of Travel Demand Management Policies in the Sacramento Region*, Project #9804, Publication #01-03; and *Applying an Integrated Urban Model in the Evaluation of Travel Demand Management Policies in the Sacramento Region: Year Two*, Project #2002, Publication # 01-08) and on other grants, has developed a very advanced urban model (MEPLAN) for the Sacramento region. This project enhances the model by adding new variables, changing the structure to match the zones in the Sacramento Area Council of Governments (SACOG) plan to allow comparisons of results, and recalibrating the data for 1980, 1990, and 2000.

The Sacramento regional planning process changed during the course of these studies, and the area is now considering two beltway freeways. The enhanced model will be applied to more complete smart growth scenarios to be developed with local environmental and social equity organizations and with farmer groups in the outlying counties. These scenarios will be compared with the official SACOG results for the No Build and Beltway scenarios. By joining MEPLAN and Uplan (a GIS companion) and applying them to the comprehensive issues involved, this project moves the team's work into real-world application.

Recently, the team and SACOG began working with Pecas, a more powerful model based on MEPLAN, developed by their Canadian partners in this study and under consideration for use by the State of Oregon. The final report will encompass the original goals of testing the model for use by citizen groups, and of creating a more robust model that more closely describes the complex factors of travel demand and behavior. The cooperative work with SACOG makes this project more than academic.



**Robert Johnston** 



#### Public Surface Transportation: Lessons Learned in the 9-11 Terrorist Attacks Project #2114 Principal Investigator: Brian Jenkins

The September 11 terrorist attacks on the World Trade Center and Pentagon were of unprecedented scale, created an atmosphere of fear and alarm, caused major disruptions in commercial aviation and public surface transportation systems, and required dramatic increases in security. The anthrax letters that made bio-terrorism a reality, continuing warnings of further terrorist attacks, and the inevitable hoaxes that follow all major terrorist incidents complicated these efforts. Much was learned on September 11 and in the weeks following the attacks, and it is vital that these lessons be identified and preserved as a single comprehensive document that will assist transport operators in the future.

MTI is uniquely qualified to conduct this research. Since 1996, the Institute has engaged in on-going research on best practices in protecting public surface transportation against terrorist attacks. This research includes case studies of terrorist attacks on surface transportation in London, Paris, and Tokyo. Brian Michael Jenkins, the project leader, has also worked with New York's MTA on its crisis management procedures prior to the attack.

The objective of the study is to identify lessons learned by surface transportation operators in dealing with the events of September 2001. The proposed research will focus on the public surface systems in New York that were directly and indirectly affected by the 9-11 attacks and subsequent terrorist threats. These include the MTA and its operating entities: NYTA, Metro-North Railroad, Long Island Railroad, Long Island Bus, and Bridges and Tunnels, and the MTA Police; PATH and the Port Authority Police; NYPD and NYFD; and other inter-connecting transportation systems such as NJRR and Amtrak. The study will also examine the experience of Washington's Metro.

The research will address prior preparations, the events on September 11, and subsequent alarms. It will include crisis management, security, and restoration of service. The project is <u>not</u> an audit of performance, but rather is intended to focus on lessons learned that may be applicable to future terrorist attacks or natural disasters.



**Brian Jenkins** 

The research will be conducted primarily through interviews with transportation authorities and public officials. In addition, all publicly available literature will be reviewed, as well as all analysis and briefings prepared by the operators.

#### **New Projects**

These projects were selected in December 2002. Most began work in February 2003 after final approval by Caltrans. The unusually late start resulted from the combined effects of the University Transportation Centers' competition and the subsequently delayed Caltrans funding. The last two started in May. Project #2206 was subject to revision and a second approval process. #2207 is the second phase of Project #2109.

Needs Assessment: Transportation Management Program at San José State University Project #2201 Principal Investigator: Linda Valenty, Ph.D.

The graduate program in transportation management currently offered by MTI was based in part on an initial needs assessment study conducted in 1994. The study has served the Institute and the students well. But the passage of time, changes in the public and private sectors of the transportation industry, as well as developments in other education institutions and in program delivery options raised the need to validate the curriculum, delivery systems, assumptions about the targeted student population, and other core features of the program. MTI also wished to explore options related to independent viability, given the grant-based funding of the program. Consequently, the Institute designed this new needs assessment study.

The scope of the study includes:

- Unique qualities of the program and appropriateness for the field,
- Independent viability of the program and the potential benefits of an expanded curriculum, and
- Teaching technology.

Methodologies to be used include web searches and analysis, literature reviews, telephone interviews, and online surveys.

The Institute hopes to begin using the results of the study in the coming academic year.



Linda Valenty



Decision Making Influences in Land Use and Transportation: An Experiment on the Impact of Transportation and Housing Information Project #2202

Principal Investigator: Jonathan Levine, Ph.D.

A fundamental decision underpins the decision of how to travel: the choice of where to live. This study seeks to build knowledge in both location and mode choice behavior by implementing an information experiment in a university setting. The experiment is designed to test how strongly a policy of disseminating integrated transit and housing information over the Internet can influence individuals' residential location and commute choices. This is a true experimental design based on random assignment to control and experimental groups of University of Michigan graduate students. The basic question is whether transportation information can be used to influence travel behavior through the intermediate step of affecting residential location decisions.

The information will be provided to the experimental group by means of a website. The project is being conducted with the full cooperation of the university's housing office, which has access to all incoming graduate and professional students. Analysis will include a follow-up survey to determine the impact of the information on housing choices, and two structured interviews conducted just after students have located in Ann Arbor but prior to the survey, and a second set of interviews after the survey has been conducted.

This study helps to fill the gap in research about the role transportation information can play in housing choices. It is MTI's first true experimental research project.



Jonathan Levine



**Marc Schlossberg** 

A Pre- and Post-Construction Analysis of Transit-Oriented Developments Using Spatial Indicators: A Case Study of Portland and Silicon Valley Project #2203

Principal Investigator: Marc Schlossberg, Ph.D.

Transit-oriented development (TOD) specifically, and Smart Growth more generally, have been identified as strategies to promote equitable urban growth and more transit utilization through compact urban form that encourages walking and use of public transit. However, a formidable challenge for transportation planners and designers is quantifying the implementation of broad vision statements so that these goals can be analyzed with some objective standards of measurement. This study asks: How can spatial indicators be use to quantifiably document TOD/Smart Growth design principles?

The study will use a geographic information system (GIS) to analyze the spatial pattern and form found in four TOD case study sites pre- and post- construction (two in Portland, Oregon and two in Silicon Valley, CA), quantifying the characteristics around each utilizing a variety of spatial indicators. Five types of analysis will be used: street network analysis, ped-shed analysis, transit ridership analysis, street speeds analysis (a key factor in walkability), and socio-demographic analysis.

By comparing case study sites it will be possible to benchmark and evaluate these developments, draw visual correlation in the spatial pattern, and begin to evaluate the impact on walkability and transportation. Both sites considered successful and unsuccessful will be included.

The objectives are:

- To develop and utilize a set of appropriate spatial indicators to visualize and quantify existing TODs;
- To provide a temporal analysis of change within four TOD sites;
- To enhance public participation in the transportation planning process through the use of more effective TOD visualizations.



Assessing the Effectiveness of Tools and Information that Respond to Community Fears and Resistance about the Densification of Communities Project #2204 Principal Investigator: Kenneth Schreiber, AICP

A crucial strategy for accommodating California's projected growth in a more environmentally and economically sensitive way relies on the densification of existing communities. Such an approach maximizes the efficiency and use of infrastructure, and can reduce the need for sprawl-type growth that can have significant environmental and quality of life impacts. A recent study by the same team (*Making Growth Work for California's Communities #02-02*) found that many communities with a densification strategy were facing significant community opposition to plans and projects, making it difficult for public officials to approve high-density developments. The more successful efforts were those that employed strategies to facilitate community involvement. The strategies for such involvement require funding and skills not always available to many jurisdictions.

This study will review professional and academic literature and those California plans that have been evaluated within the past five years by the California Chapter of the American Planning Association, the Local Government Commission, the Urban Land Institute, and the Congress for New Urbanism. The team will interview four consultants with extensive experience in facilitating community acceptance of compact plans and projects at the local level. Following this initial work, specified criteria will be used to select eight case studies for indepth evaluation.

The results should assist local professional staff and appointed and elected decision makers to encourage, plan, and implement more compact development patterns.



**Ken Schreiber** 





**James Hayton** 

Forecasting the Impact of Telecommuter Rail-Cars on Modal Choice: A Behavioral Disaggregate Demand Model Project #2205

Principal Investigator: James Hayton, Ph.D.

Commuter rail passengers often spend considerable time in transit in addition to their regular, sometimes very long, hours at a worksite. This study seeks to determine whether modifying rail cars with telecommuting capacity to accommodate work would encourage employers to recognize commute time as work time. If that were an option, the study then asks, would more car commuters become rail commuters? Further, which workers are more likely to make the modal shift?

The research will be conducted in the San Francisco Bay Area with three commuter rail providers. Two data sources will be used. First, a survey of at least 1,000 San Francisco Bay Area employers (public and private) will determine whether they will accept travel time spent working on a commute train. Second, data on commuter preferences will be drawn from the National Household Travel Survey conducted by the Bureau of Transportation Statistics.

The study will raise employer awareness of this alternative option for job design and its associated benefits with respect to attracting, retaining, and motivating a high quality workforce.



Ken Gehrt

#### A Consumer Logistics Framework for Understanding Preferences for High-Speed Rail Transportation Project #2206

Principal Investigator: Kenneth Gehrt, Ph.D.

The purpose of this study is to reach a fuller understanding of the potential for high-speed rail (HSR) usage in the U.S. The theoretical framework of Consumer Logistics (CL) theory will be used for a survey that will inform efforts to develop and market HSR service in the San Francisco-Los Angeles corridor. The team members have successfully used CL to more fully understand the choice between traditional, ATM, and online banking. The theory lends itself to an examination of the choice between competing transportation modes just as ably.



This study incorporates CL theory in the context of channels research that hypothesizes relationships between:

- Performance of CL functions
- Development of consumer value (efficiency and effectiveness)
- Satisfaction/usage intention

The methodologies to be used include literature review, focus group interviews, and finally pretests and administration of a survey of SF-LA business air commuters, since they are a likely source of HSR passengers. The survey will also compare CL sensitivity profiles of transportation mode preference categories (HSR, conventional rail, air, and auto commuters). The resulting data will be analyzed using exploratory factor analysis, structural equation modeling/LISREL, and regression analysis. The findings will suggest how CL strategies and tactics can be deployed to maximize HSR usage.

#### Impact of Ethnic Diversity on Transit: How Do Various Population Groups View and Utilize Various Transit Modes? – Phase II Project #2207

Principal Investigator: Richard Werbel, Ph.D.

MTI Project # 2109 was the first phase of this project, and a fuller explanation of the total project is provided in the text above. This phase includes the full survey and analysis of the three groups plus control (Asian, African-American, and Hispanic, plus Caucasian). This phase will include on-board interviews to identify the survey participants, administration of a telephone survey, analysis of the data, and the final report. Translations and interviewers with facility in the required languages will be employed when needed.

By increasing understanding of the behaviors and attitudes of the groups, including generational differences within groups, transit providers may be able to tailor marketing and service provision and thereby increase transit usage and satisfaction.



**Richard Werbel** 

## INFORMATION AND

### TECHNOLOGY TRANSFER





The of area Information and Technology manages hardcopy Transfer and online dissemination of surface transportation policy information, including information resulting from MTI research, education, fora and symposia programs. Among other projects, this area includes TransWeb, the library program, and all publications.











Sonya Cardenas Research Program Assistant Mineta Transportation Institute College of Business San José State University San Jose, CA 95192-0219 Office phone: 408-924-7560 Office fax: 408-924-7565 email: cardenas@mti.sjsu.edu



Barney Murray Web Administrator Mineta Transportation Institute College of Business San José State University San Jose, CA 95192-0219 Office phone: 408-924-7563 Office fax: 408-924-7565 email: murray@mti.sjsu.edu

#### Sonya Cardenas Research and Publications Assistant

With a career as varied as a buyer and as a program director for a NASA program, Research Program and Publications Assistant Sonya Cardenas brings a fresh approach to one of MTI's most important assignments, that of publishing transportation issue studies for use by both the public and private sectors.

A lifelong Bay Area resident, Ms. Cardenas most recently served as the Education Program Director for NASA Ames Research Center's STELLAR education program. In that position, she was the recipient of several awards for program excellence, including the National Rotary Award in Space Education in 1999, and 12 Specific Productivity Awards from NASA Ames from 1985 to 1996. Ms. Cardenas enjoys living in Gilroy and takes pleasure in time spent with her teenage son.

#### **Barney Murray** Web Admistrator

Web Administrator Barney Murray brings over 25 years of computer expertise and creativity to the Mineta Transportation Institute as the mastermind and creative force for *TransWeb*, the Institute's website. Mr. Murray took charge of the site in October 2000. The number of hits and visitors to the site continues to increase under his management.

Mr. Murray's computer background includes working in computer science research and development, hard drive failure analysis, and Web design. Knowledgeable in all aspects of Internet technology, and proficient in programs used to design websites, Mr. Murray is always searching for ways to improve the user experience and available functions.

Using skills in Internet marketing and web analytics, Mr. Murray uses both creativity and data to determine the future direction of *TransWeb*.

A native of White Plains, New York, Mr. Murray is also a master furniture builder.



The goals of the Information and Technology Transfer Program are to:

- provide research results in the form of quality publications in print and on the Web for use by transportation professionals around the world,
- · disseminate the recorded results from discussions of significant transportation issues, and
- provide library and Web resources for a wide range of transportation interests.

#### LIBRARY

The Mineta Transportation Institute and San José State University's Clark Library cooperate to make the MTI transportation library more available and visible. MTI works with library staff to assure that center publications and provided materials are properly identified and easily accessed. Each MTI item is identified in the catalogue and by a special bookplate that credits the U.S. DOT-RSPA and Caltrans for acquisition funding. The benefits of increased circulation and visibility as a result of the transfer from the MTI office to the library continue to validate the decision to move the collection.

MTI has arranged for special borrowing privileges for active researchers who are not eligible for access through the California State University system.

At the end of August 2003, the University will be opening its new joint library with the City of San José. The library will drop the Clark name and assume the city main library's name, Martin Luther King, Jr. Library. The added library patronage is anticipated to increase the use of the collection.

#### FORA AND SYMPOSIA

# **Garret Morgan Youth Videoconference Symposium on Sustainable Transportation** Project #2103

Principal Investigator: Dongsung Kong, Ph.D.











MTI hosted the third Garrett Morgan Symposium on May 2, 2003, with participation by middle school students in Hampton Roads, Virginia; Washington D.C.; and San Jose, California. U.S. Secretary of Transportation Norman Y. Mineta welcomed the young people from the D.C. site, encouraging them to consider careers in transportation and to use their school time to prepare themselves for a rigorous college experience. After introductions, each class presented a project they had developed that represented sustainable transportation for their century. Each class had several projects, so the competition for "best project" was intense. The session concluded with ample opportunity for the students to ask questions of the site sponsor representatives from APTA, Hampton Roads Transit, and MTI.

Following selection of the winning project by a team from Hampton Roads, they organized a delegation to attend the MTI Banquet on June 14. Five students and their mothers, teachers Diane Buchanan and Susan McBurney, and the school district's Director of Gifted Education, Dr. Rose Martin, traveled to San Jose, where the students had their first opportunity to ride on a light rail system – most apropos for a group whose project was a design for Solar-powered Ultra Light Rail. Seth Miller represented the group with a short speech at the banquet; then he and fellow student Jacqueline Gibbs accepted the \$500 check for Jones Middle School in recognition of the winning effort. The students were also recognized in a news story in their home paper on June 13.

The event has been transcribed and will be published as a summary proceeding in hardcopy and on the Web. Also on the Web will be the Teacher's Guide and Student Workbook used by the classes, and possibly a videostream of the conference itself.

#### **No Road, No Rage: A Water Transit Regional Forum** Project # 2251 Publication F-01-02

On November 21, 2002, MTI co-sponsored a forum with the San Francisco Bay Area Water Transit Authority (WTA), an official California state agency, and the Commonwealth Club of California to

discuss progress on an expanded ferry transit system. This was the second forum on the subject that MTI has sponsored; the first was published as Crossing the Bay: Water Transit Initiative Forum, Publication #F-00-1.

At the time of the forum, the WTA had published a report describing the potential system, possible financing, and the results of various studies covering environmental and other impacts of the proposal. Considerable progress had been made in addressing the concerns of various interest groups, many of which were represented on the panel for the event. The WTA wished to present their report and hear the responses of the panel and the audience – a full crowd in the San Francisco Board of Supervisors chambers.

Tom Vacar, KTVU-TV's Consumer Editor, moderated the evening, following a welcome by MTI Executive Director Rod Diridon. State Senator Don Perata, the principal author of the bill to provide financing of the system through increased bridge tolls, was the keynote speaker. The panelists included:

- Gavin Newsom (San Francisco Supervisor and WTA Board Member),
- Steve Kinsey (Marin County Supervisor and Metropolitan Transportation Commission Vice Chair),
- Cynthia Murray (Marin County Supervisor and member of the WTA Community Advisory Council), and
- Russell Long (Executive Director, Bluewater Network and member of the WTA Community Advisory Council).

Each panelist made a short presentation, but the majority of the evening was devoted to questions and answers involving the audience and between panel members. Given the strongly divergent opinions that greeted the new ferry proposal when the WTA was created, the level of agreement and sense of progress was noticeable among the official speakers, but clearly the controversy has not dissipated altogether, as the lively participation of the audience could attest.

#### **Farm Road or Freeway? The Highway 152-156-25 Dilemma (tentative title)** Project #2252

The Mineta Transportation Institute originally planned to conduct the newest of its Hot Spot Regional Forums in May 2003. After consulting with the various agencies with responsibility in the area, MTI agreed to defer the event until the fall. By then at least one major study will have preliminary results for public discussion.

This area presents the problem of a mixed-use, agricultural area highway congested by urban sprawl and interurban traffic traveling between major metropolitan areas. The congestion and accident history of Highway 152's Pacheco Pass fully qualify it as a transportation hot spot. The Pacheco Pass problems have grown to affect connecting Highway 156 and surface streets in the communities of Gilroy and Hollister.
38 Complicating solutions is the plethora of agencies involved: three Caltrans Districts, three MPOs, three



counties, and several cities. There is no agreement among them on solutions or how to fund the various proposals.

The Forum will review the history of the Pacheco Pass/Hwy. 152 dilemma, its current status, and potential solutions. The area is an archetype of many similar rural/urban interfaces (e.g., Highways 4, 12, 24, 56, 74, 76, 118, 126, 132, et al) giving the project local, regional, and statewide ramifications. Panel participants will be commenting on the various proposals from a variety of perspectives intended to explore pros and cons, present options, and start to build some common ground. While MTI does not intend this forum to solve the problems, or even to create consensus, the forum should clarify issues for a general public that is less aware of the complexities involved and impatient for action. Given the strong feelings of the various parties, MTI anticipates a lively event.

Fast Tracks in the Golden State: California High Speed Rail Symposium (Formerly Transportation Symposium: California High Speed Rail – A State and National Perspective) Project #2253

The California High-Speed Rail (HSR) proposal will enter an official public comment period in the second half of 2003 as part of the project's environmental review. The Mineta Transportation Institute will cosponsor two symposia prior to the beginning of the public comments in order to review the overall project plan via less formal contexts. The meetings, scheduled for July 17, 2003 in San Francisco and July 18, 2003 in Los Angeles, will feature keynote speaker Maria Contreras-Sweet, Secretary of the California Business, Transportation and Housing Agency. Prior to her address, the HSR Authority will provide an overview of the project, followed by a panel discussion representing views from the environmental, business and economic analysis, and rail passenger communities. MTI also anticipates there will be some discussion of other HSR proposals in the U.S., as well as the international experience with such systems. Display boards of the various sections will be available for viewing and discussion with Authority staff.

Cosponsors will be MTI, the Commonwealth Club of California and the California State Automobile Association (Northern California session). In Southern California, the Los Angeles Town Hall will convene the session. MTI's participation is funded through its federal grant, rather than with state funds.

MTI hopes these symposia will help start the discussion of adding a major transportation system to the state's infrastructure, an action that will require public involvement and support through a bond election in November 2004.

#### **OTHER EVENTS**

#### **High-Speed Rail Program**

On September 25, 2002, MTI worked with the BayRail Alliance to present an evening forum entitled What Does High-Speed Rail Mean for the Bay Area? The panel included speakers representing local government, labor, environmentalists, and contactors. MTI Research Associate Steve Colman represented the planning community and the SJSU Urban and Regional Planning Department on the panel. The free event drew a large crowd, particularly from the university community.

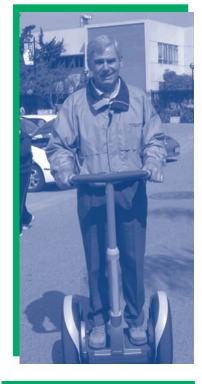
#### **Sustainable Transportation Fair - National Transportation Week**

In observance of Secretary Mineta's declaration of May 11-17 as National Transportation Week, the Mineta Transportation Institute held a Sustainable Transportation Fair at San José State University on May 16<sup>th</sup>. A highlight of the day for many people was riding a Segway Human Transporter.

Campus and community organizations staffed booths to advise commuters about alternatives to driving traditional cars.

Electric and hybrid-electric cars on display included a Honda Insight, Toyota Prius, Toyota Camry CNG, GM EV-1, Tropica roadster, and several Toyota RAV4-EVs. Vehicle owners were on hand to discuss the workings of their engines.

Rounding out the day were presentations about future technologies - high-speed rail, personal automated transit, and using compressed-air technology to power zero-emissions vehicles.





**40** Participating organizations rated the event a great success and are looking forward to the next one.

#### LOOKING FORWARD

Placed on hold last year was a roundtable to develop a research agenda on issues related to technology and its impact on how California grows. Intelligent Transportation System research has focused on operations; this project considers technology in general and how it will affect the way the state grows, and what that means for mobility and access. Caltrans requested the delay as they reorganized the department's research activities and developed a system for identifying needed research and appropriate research entities for the work. That effort is nearing completion, so discussions are underway on the best way to wrap up Project #2119, Advanced Technologies and Smart Growth. Whether that will continue to be a roundtable is not determined at the time of this report.

#### TRANSWEB

The Information and Technology Transfer area includes MTI's expanding website, *TransWeb* (www.transweb.sjsu.edu). *TransWeb* is a transportation information hub widely used by non-Institute individuals and organizations. The site provides links to national and international sites related to all modes of surface transportation and surface transportation policy. *TransWeb* includes MTI's home page and, through that portal, the Research Program and the Education Program pages.

*TransWeb* continues to post exceptional numbers and provide demonstrated service to the research and transportation community. The growth over last year's impressive data is a source of pride for Web Administrator Barney Murray.

	FY 2001 - 2002	FY 2002 - 2003	% Change
Number of Hits	1,185,758	1,318,247	+11%
Unique Visitors	68,698	85,451	+24.4%
All Visitors	160,072	202,267	+26.4%

The "Critical Mass Award" was presented to *TransWeb* this past year, citing in the award "excellent design, beautiful original graphics, great photos, ... (and) content that is informative, entertaining, presented well and easy to access." Britanic Technology gave *TransWeb* its Gold Deco Award, with top scores in design, creativity, usefulness, downloading time, and HTML JAVA Coding.

The high school students participating in MTI's first National Summer Transportation Institute (STI) in July 2002 created content for the Kids and Transportation section. The students enrolled in the STI in July 2003 will be asked to develop information about their experiences as well. Encouraging youth to consider careers in transportation is an underlying theme of this *TransWeb* area.

The MTI Research Program website provides research proposal information, standard forms used by research associates, research project descriptions of all active Institute research, and links to full-text files

of all MTI final research reports, including those completed before online posting was a requirement of the University Transportation Center grant program. Contact with MTI researchers from sites as diverse as Monash University in Australia and Ministère des Transports du Quèbec in Montreal demonstrate the international impact of the work done at MTI.

The Graduate Transportation Management Program (GTMP) students are the beneficiaries of additional *TransWeb* content and functions. They can now use interactive forms for class registration and program enrollment. The education pages are first and foremost designed for current students, who are able to view upcoming class schedules, register for classes, and request information about the program. Video streaming of all classes allows busy professionals to keep up with their class, repeat important sessions, and take advantage of guest speakers from past sessions. Course instructors utilize *TransWeb* by posting course syllabi and assignments, conducting exams, and providing links to bulletin boards, white boards, and chat areas. Students and instructors alike supplement the videoconference class sessions with this other aspect of distance learning for a rich, interactive graduate education experience.

There is also a new section for Information Transfer events, which have not appeared in the Project Description area in the past, as they are not research projects. The finished reports do have their own subsection on the *TransWeb* publications page. Now, advanced descriptions of the projects will be available from the date of original approval, and not just in the "What's New" column as the date for the event approaches. This should give a more accurate picture of the work currently in progress at MTI.

#### World in Motion

First circulated in 1994, the quarterly *World in Motion* newsletter keeps researchers and the public informed on the work MTI is encouraging through education, research, and information/technology transfer. Every issue includes an update from Executive Director Rod Diridon and columns from Education Director Peter Haas and Research Director Trixie Johnson, plus information transfer features and statistics.

The front page features a biographical profile of a member of MTI's Board of Trustees. Transportation officials profiled in the past year include Hon. Don Young, Chairman House Transportation and Infrastructure Committee; Hon. James L. Oberstar, Ranking Member, House Transportation and Infrastructure Committee; David L. Turney, Chairman, CEO, and President of Digital Recorders, Inc.; and Edward Wytkind Executive Director, Transportation Trades Department, AFL-CIO.

The research column includes information about new projects and those being completed, awards and presentations, program development, research associates, and student assistants. The education column has featured awards and accolades received by students in the MSTM program, changes and course enhancement in the education department, and stories about events hosted or co-hosted by MTI.

**42** With a mailed circulation of 1500 and availability on *TransWeb*, the newsletter is working to spread the word to the transportation community about MTI's ongoing surface transportation policy research and education efforts.



6.

Summer 2002







# Spring 2003

Winter 2002



# The Mineta Transportation Institute 1998-2003 Research and Information Transfer\* Projects/Publications (TEA-21)

Project Title	Project/ Publication Numbers	Principal Investigator
*Advanced Technologies in Smart Growth (Statewide Roundtable that will produce an informal report rather than a publication)	2119	MTI Staff
Applying an Integrated Urban Model to the Evaluation of Travel Demand Management Policies in the Sacramento Region	9804 01-03	Robert A. Johnston
Assessing the Effectiveness of Tools and Information that Respond to Community Fears and Resistance about the Densification of Communities	2204	Ken Schreiber
Applying an Integrated Urban Model in the Evaluation of Travel Demand Management Policies in the Sacramento Region: Year Two	2002 01-08	Robert A. Johnston
*BART to Silicon Valley: How Now? (Regional Forum)	9913 F-01-01	MTI staff
Best Practices in Developing Regional Transportation Plans	9811 01-10	Dr. Donald N. Rothblatt
Bridging the Gap: Planning Interjurisdictional Transit Services	2102	Dr. Patrick McGovern, J.D.
The California General Plan Process and Sustainable Transportation Planning	2003 01-18	Dr. Richard Lee
*California Security Summits (National Symposium)	2118 S-01-04	MTI Staff
Construction of Transit-Based Developments: New Policy Initiatives for Governments	9901 01-05	Dr. Scott Lefaver
A Consumer Logistics Framework for Understanding Preferences for High-Speed Rail Transportation	2206	Dr. Kenneth Gehrt
Creating a Planning Template for Nonwork Travel and Transit Oriented Development (TOD)	9807 01-12	Dick Nelson
*Crossing the Bay: Water Transit Initiative Forum (Regional Forum)	9814 F-00-1	MTI Staff
Decision Making Influences in Land Use and Transportation: An Experiment on the Impact of Transportation and Housing Information	2202	Dr. Jonathan Levine
Developer-Planner Interaction in Transportation and Land Use Sustainability	9905 01-21	Dr. Aseem Inam

		Ĩ
Effects of Online Shopping on Vehicular Traffic Patterns	9903 01-20	Dr. Joe Giglierano
Envisioning Neighborhoods with TOD Potential (Includes Demonstration CD)	9810 01-15	Dr. Earl G. Bossard
Forecasting the Impact of Telecommuter Rail-cars on Modal Choice: A Behavioral Disaggregate Analysis	2205	Dr. James Hayton
*(Garrett Morgan) Youth Videoconference and Symposium on Sustainable Transportation (National Symposium)	9911 S-01-01	Dr. Dongsung Kong
*Garrett Morgan Youth Videoconference on Sustainable Transportation (National Symposium)	2103	Dr. Dongsung Kong
GIS for Livable Communities: Using GIS to Improve Transportation Planning and Community Livability	9806 01-09	Dr. Tom Horan
Factors Influencing Voting Results of Local Transportation Funding Initiatives with a Substantial Transit Component (Formerly: Passing Local Transportation Tax Measures: A Follow-up Study)	9904 01-17	Dr. Richard Werbel
*Fast Tracks in the Golden State – Two Symposia on the California High Speed Rail Proposal	2253	MTI Staff Jim Swofford
How to Best Serve Seniors in Existing Transit Services	9902 01-04	David Koffman
Impact of Ethnic Diversity on Transit: How Do Various Population Groups View and Utilize Various Transit Modes? (Phase I has no published report.)	2109 NA	Dr. Richard Werbel
Impact of Ethnic Diversity on Transit: How Do various Population Groups View and Utilize Various Transit Modes? – Phase II	2207	Dr. Richard Werbel
The Impact of Telecommuter Rail Cars on Modal Choice (Seed Grant that does not produce a publication)	2116 NA	Dr. James Hayton
Implementation of Zurich's Transit Preferential Program	9809 01-13	Andrew Nash
Increasing Transit Ridership: Lessons from the Most Successful Transit Systems in the 1990s	2005 01-22	Dr. Brian D. Taylor
Land Use and Transportation Alternatives: Constraint or Expansion of Household Choice (Formerly Transportation and Land Use Innovation: Impacts on Household Residential Choice)	9803 01-19	Dr. Jonathan Levine
*Lessons Learned: Tax Referenda and Why They Succeed or Fail (National Symposium)	2101 S-01-03	MTI Staff



Making Growth Work for California's Communities (Formerly An Assessment of the Receptivity of Smart Growth Land Use and Transportation Planning Concepts at the Local Level in California)	2111 02-01	Ken Schreiber
A Model for Assessing Demand-response vs. Prescheduled Paratransit Systems (Seed Grant that does not produce a publication	2115 NA	Dr. J. Michael Pogodzinski
NAFTA II: California Border Zone Land Transportation Issues	9802 01-06	George Gray
Needs Assessment for the Transportation Management Program at San José State University	2201	Dr. Linda Valenty
Non-Pricing Methods to Optimize High Occupancy Vehicle Lane Usage	9908 01-11	George Gray
*No Road, No Rage (Water Transit Forum, November 21, 2002)	2251 F-01-02	MTI Staff
Protecting Public Surface Transportation Against Terrorism and Serious Crime: Continuing Research on Best Security Practices	9805 01-07	Brian Jenkins
A Pre-and Post –Construction Analysis of Transit-Oriented Developments Using Spatial Indicators: A Case Study of Portland and Silicon Valley	2203	Dr. Marc Schlossberg
Protecting Public Surface Transportation Against Terrorism and Serious Crime: An Executive Overview	9805 01-14	Brian Jenkins
*Protecting Public Surface Transportation Against Terrorism and Serious Crime: A National Summit (National Symposium)	2110 S-01-02	MTI Staff, Brian Jenkins
Public Surface Transportation: Lessons Learned in the 9-11 Terrorist Attacks	2114	Brian Jenkins
Regional Transportation Planning for Smart Growth	2107	Robert A. Johnston
* A Transportation Hot Spot Forum on the Marin/Sonoma/101 Corridor (Regional Forum)	2112 F-01-02	MTI Staff
*A Transportation Hot Spot Forum on the Highway 152-156 dilemma. Tentative title: Farm Road or Freeway?	2252	MTI Staff Jim Swofford
Shared Use of Rail Infrastructure by High Speed Rail: Best Practices in Design and Operations	2113 02-02	Andrew Nash
Statewide Safety Study of Bicyclist and Pedestrian Accommodation and Safety on Freeway, Expressway, Toll Bridges, and Tunnels	9909 01-01	Dr. Thomas C. Ferrara

Sustainable Transportation Indicators for California	2106 02-05	Dr. Richard Lee
Transit Labor Relations Guide	9906 01-02	Dr. Herb Oestreich
The Travel Behavior and Needs of the Poor: A Study of Welfare Recipients in Fresno County, California (Formerly Transportation and Welfare Reform: The Travel Behavior and Needs of Welfare Recipients)	9808 01-23	Dr. Evelyn Blumenberg
Trucks, Traffic, and Timely Transport: A Regional Freight Logistics Profile (Formerly Designing a Template for Understanding Freight Movement and Logistics at the Metropolitan Region Level)	2004 02-04	John S. Niles
Using Fiber Networks to Stimulate Transit Oriented Development: Prospects, Barriers and Best Practices	2007 01-16	Walter Siembab
Using the Internet to Envision Neighborhoods with TOD Potential	2001 01-24	Dr. Earl B. Bossard
Verifying the Accuracy of Regional Models Used in Transportation and Air Quality	2108 02-03	Dr. Caroline Rodier
*Visioning: A Forum with US DOT Secretary Rodney Slater	F-00-2	MTI Staff

# Project Under Separate Caltrans Contract

Sustainable Communities/San Joaquin Valley Growth (Published on Caltrans Website)		Ken Schreiber
---	--	---------------

# EDUCATION

EDUCATION





The Education Department sponsors and supports the Graduate Transportation Management Program at San José State University. The program offers a Master of Science in Transportation Management and a Graduate Certificate in Transportation Management.









# Education Program Staffing



Education Director Dr. Peter Haas Mineta Transportation Institute College of Business San José State University San Jose, CA 95192-0219 Office phone: 408-924-5574 Office fax: 408-924-7565 email: haas@mti.sjsu.edu

#### Dr. Peter Haas Education Director

A member of the faculty in the Graduate Transportation Management Program (GTMP) since 1999, Dr. Peter Haas was appointed Education Director in October of 2001. Dr. Haas earned a Ph.D. in Political Science (Public Policy and Public Administration) from the University of North Carolina at Chapel Hill in 1985. A former Director of the SJSU Master of Public Administration program, he also has experience consulting at every level of government and for nonprofit agencies. Dr. Haas is the author of numerous reports and other publications in the field of transportation and is the co-author of the text *Applied Policy Research: Concepts and Cases.* He was recently the recipient of a Senior Specialist grant from the Fulbright Foundation to teach and study in Latvia.



Education Program Assistant Viviann Ferea Mineta Transportation Institute College of Business San José State University San Jose, CA 95192-0219 Office phone: 408-924-7570 Office fax: 408-924-7565 email: ferea@mti.sjsu.edu

#### Viviann Ferea Education Program Assistant

Viviann Ferea was appointed to the position of Education Program Assistant (EPA) in August 2000. As EPA, Ms. Ferea is the primary contact for marketing and administration of the Graduate Transportation Management Program. Among her many responsibilities are the continued efforts to recruit for the Certificate and Masters program, revision and maintenance of the Education Program's website, and course planning and scheduling. Ms. Ferea received her BS in Business Marketing from UC Davis. Her studies in public relations and experience in media sales enhance her ability to promote the continued growth and success of the program.

#### **Education Program Goal**

The goal of the GTMP is to develop and administer a multidisciplinary, state-of-the-art program delivered via video conferencing and Internet technologies, consisting of coursework and experiential learning that provides students with the skills and knowledge to manage and lead transportation systems.

#### **Overview**

The GTMP had a very successful year in 2002-2003, with continued growth in enrollments in classes, enhancement of the core faculty, and expanded education activities. Education Director, Dr. Peter Haas, and Education Program Assistant, Viviann Ferea, form the administrative/development team that strive to enhance the GTMP as a dynamic, up-to-date, adaptively evolving distance learning program.

#### **Enrollment Trends**

During academic year 2002-2003, the GTMP achieved an all-time high of 192 graduate student enrollments. These enrollments were associated with 84 individual active students, also a new record for the program. The number of matriculated MSTM students enrolled during the academic year increased to 39, also an all-time high. Although a record number of program graduates (14) during the summer of 2003 will initially reduce these numbers, ongoing recruitment efforts should enable the GTMP program to continue to thrive.

#### Instructional Technology

The GTMP transitioned successfully into nearly universal use of the WebCT online courseware. Students across the state and beyond are able to access class materials, interact with instructors and their peers, and submit assignments via this handy online tool.

Additionally, the registration process for students was improved by means of available online registration. For the first time, GTMP students are able to select and pay for enrollment using a 100% online process.



#### Summer Transportation Institute

50

In the summer of 2002, the Education Program offered a "Summer Transportation Institute (STI)." The STI program, which originated as a pilot program on the South Carolina State University campus in 1992, is a national effort to provide career orientation and educational experiences to motivate secondary school students toward professions in the field of transportation. The transportation industry will continue to require individuals who are prepared to provide the leadership to build the nation's transportation system for the next century. The primary aim of the STI is to encourage high school students – particularly from traditionally underrepresented backgrounds – to seek professional careers in transportation through obtaining a college education. A total of 2,230 secondary school students have completed the national



program hosted by thirty-four colleges and universities in twenty-three states across the nation. The program was funded by a contract grant of \$40,000 in Federal Highway Administration funds, which was supplemented by a \$10,000 match from MTI discretionary funds.

The program was successfully delivered on the San José State University Campus in July 2002. A total of eighteen participants engaged in a variety of activities including field trips to area transportation centers, guest speakers from the industry, hands-on projects, and related enrichment activities. In fall 2002, the Education Program successfully applied for a second year of STI funding. Planning for the July 2003 STI program is underway, with Maribel Alvarez, Ph.D. acting as program coordinator. Funding will again total \$50,000, with Caltrans providing the \$10,000 match.

#### **Program Accomplishments**

#### Courses Offered

In Academic Year 2002-2003, the GTMP offered twelve courses, with an overall record number of enrollments. Details on enrollment and class receive sites follows each course listing below:

#### Summer/Fall 2002

- MTM 296B: Transportation and Labor Relations. 23 students enrolled in Oakland, San Luis Obispo, Fresno/Bakersfield, Los Angeles, San Bernardino, San Diego, Sacramento, and San Jose.
- MTM 201: Fundamentals of Transportation Management. 20 students enrolled in Eureka, Oakland, San Diego, and San Jose.
- MTM 214: Transportation Policy and Regulation. 8 students enrolled in Marysville, Oakland, Fresno/ Bakersfield, Los Angeles, Santa Ana, Sacramento, and San Jose.
- MTM 203: Transportation Markets and Business Development. 33 students in Redding, Marysville, Oakland, Los Angeles, San Bernardino, San Diego, Sacramento, Santa Ana, and San Jose.
- MTM 296A: 16 students enrolled in Eureka, Redding, Oakland, Fresno/Bakersfield, Los Angeles, Stockton, San Diego, Sacramento, and San Jose.

#### Spring 2003

- MTM 202: Accounting, Finance & Business Systems. 13 students enrolled in Oakland, San Luis Obispo, Los Angeles, San Diego, Sacramento, and San Jose.
- MTM 215: Transportation Systems Planning and Development. 24 students enrolled in Eureka, Redding, **51** Marysville, Oakland, Los Angeles, Bishop, San Diego, Santa Ana, and San Jose.



- MTM 296A: Transportation and the Environment. 12 students enrolled in Oakland, San Luis Obispo, Los Angeles, San Bernardino, San Diego, and Santa Ana.
- MTM 217: Leadership and Management of Transportation Organizations. 17 students enrolled in Eureka, Redding, Marysville, Oakland, San Bernardino, Bishop, San Diego, and San Jose.
- MTM 296B: Labor Relations in Transportation. 7 students enrolled in Oakland, Los Angeles, Santa Ana, Sacramento, and San Jose.
- MTM 283: Research Internship. 5 students enrolled in Oakland, Los Angeles, Sacramento, and San Jose.
- MTM 290: Strategic Management in Transportation. 14 students enrolled in Oakland, Fresno, Los Angeles, Sacramento, and San Jose.

#### Graduates

The faculty and staff of MTI and the College of Business at SJSU were proud to present the graduating class of 2003 at the 12th Annual MTI Board of Trustees Awards Banquet. Fourteen students earned their Master of Science in Transportation Management degree (MSTM), the most ever for the MTI program. The dedication of these students, each of whom completed 30 hours of coursework while meeting the duties of full-time professional employment, is to be admired.



The following is a list of the fourteen MSTM graduates who were hooded during MTI's banquet. Copies of their capstone research projects will be available upon request.

MSTM candidates for graduation were:

Gabriel P. Corley, Crystal R. DeCastro, Mary C. Frederick, Ahron R. Hakimi, James R. Helmer, Larry L. Holser, Nina M. Kretz, Hoy S. Kwok, Mark A. McCumsey, Joanne H. McDermott, Leanne K. Provost, Jeffrey L. Spencer, E. Lyle Stockton, and Juanette K. Reese.

**52** In addition to our MSTM graduates, the following students received the graduate CTM:

Agha Bakht and Khahil Shaktour.



This twelve-unit CTM program is rigorous and intense, consisting of four core courses. These students' hard work and determination during this academic year have led to their successful completion of the CTM program. Many students earn the CTM as a meaningful step towards achieving their MSTM degree.

#### Continuing Student Performance (CSP) Fellowships

Twice a year, subject to funding availability, MTI awards \$1,000 MSTM Fellowships. Thanks to this generous program, students are able to continue their studies in the MSTM. In the 2002-2003 Academic Year, \$41,000 was awarded through this fellowship program to the following deserving MSTM students:

Kathleen Bergeron\*, O'Donna Blackstock\*, David Bloom\*, Melanie Choy\*, Gabriel Corley\*, Hailey Ford, Ahron Hakimi\*, Jim Helmer\*, Larry Holzer\*, Gregory Kausch\*, Nina Kretz\*, Hoy Seng Kwok\*, Wishing J. Lima, Hwte (Sandy) Ma\*, Mark McCumsey\*, Joanne McDermott\*, Maureen Murphy, Leanne Provost\*, Erica Rankins, Juanette Reese\*, Lee Rennacker, Khalil Shaktour\*, and Jeffrey Spencer\*.

Twice a year, subject to funding, MTI awards \$500 CTM CSP Financial Awards. Thanks to this generous program, deserving students are assisted in their efforts to continue their studies in the GTMP. \$4,500 was awarded to the following CTM students:

Carl Anderson, Richard Erickson\*, George Fernandez, Michael Lewis, Amos Rendler\*, William Sutherland, and Florante Tanada.

\*indicates receipt of multiple awards





#### Hailey Ford wins the George Krambles Scholarship

MTI had the opportunity to showcase its best and brightest when recommending applicants for the George Krambles Transit Scholarship. This award is given for the purpose of encouraging students to develop professional capability for future careers in the transit industry. Hailey has devoted his career in public transportation to transit-related endeavors and challenges and was a solid fit for the Krambles scholarship criteria. In June 2003, the selection committee honored Hailey as one of the winners. He received a letter of recognition, a certificate, and an award of \$2,500.



#### Success Stories

MTI Outstanding Student of the Year



The GTMP faculty and staff were proud to announce Ms. Mary Frederick as the MSTM Student of the Year for 2002. Mary was selected by program faculty based on her strength in academic work, leadership, research, and contribution to the Mineta Transportation Institute. In addition to the honor of this award, Mary received a \$1,000 scholarship. The U. S. Department of Transportation, Research and Special Programs Administration presented the award certificate for Outstanding Student of the Year at the TRB conference in January 2003. Officials from the U.S. Department of Transportation were on hand to present the awards to outstanding students from University Transportation Centers (UTCs) from across the nation.

#### Other student achievements

MTI would like to recognize and congratulate the following alumni and students on their accomplishments:

- MSTM alumna Donna Kelsey, who completed the MSTM program two years ago, was selected to participate in the 2003 International Transit Studies Program mission, "Excellence in Customer Service to Small- to Medium-Sized Cities in Western Europe." She is now part of a study team consisting of transit property representatives from around the United States and will meet with transit agencies in Geneva, Switzerland; Leipzig, Germany; Prague, Czech Republic; and Helsinki, Finland. As part of the study team, she will prepare and submit a paper that will be published by the Transit Research Board.
- Carole Sanders, who completed her Master's degree last year, was recently promoted to Construction Senior at Caltrans.
- Nina Kretz recently transferred positions within Caltrans District 7, fulfilling one of her career goals. She is now a Transportation Engineer in the Division of Planning, Office of Feasibility Studies. This position gives her the opportunity to apply transportation policy and management principles that she learned in the MSTM program to work situations; her group prepares project study reports describing alternatives for major transportation projects.
- Hailey Ford, winner of the Krambles Transit Scholarship, also recently passed the Certified Project Management Professional (PMP) exam, and is now officially a PMP.
- Bill Sutherland received a Superior Accomplishment Award signed by Caltrans Director Jeff Morales, along with a check for \$250.00



• Maureen Murphy received a "Tranny Award" from the California Transportation Foundation for her efforts with Caltrans District 4 Summer Institute.

#### Bringing In the Experts

A continuing goal of the GTMP is to enhance the breadth of knowledge students receive with elective coursework. This academic year, Dr. Nick Compin joined the program faculty. Dr. Compin is presently an Associate Transportation Planner for the California Transportation Commission in Sacramento, where he is "on loan" from the California Department of Transportation. His extensive background in transportation planning, research, and analysis coupled with his practical experience in the field make him an ideal instructor for our MTM 215 "Transportation Systems Planning and Development" course.

#### Outreach

A program outreach effort continues to be a vital part of our ongoing development efforts to locate, contact, and attract eligible student prospects. In the 2002-2003 Academic Year, the GTMP continued outreach efforts to include in-person site visits to local transportation related agencies and underserved professional groups. These efforts included appearances at the annual meeting of the California Transit Association and several on-site visits to Caltrans and other transportation employment centers across the state.

#### **Assistance and Support**

Ably assisting and facilitating this project are the following Caltrans and Caltrans-related personnel:

Wes Lum, Chief, Office of Infrastructure Research, Caltrans Sallybeth Scott, Associate Transportation Planner, Office of Infrastructure Research, Caltrans Steve Styduhar, VTC-Caltrans

Ably assisting and facilitating this project are the following SJSU administration, faculty, and staff:

Luann Budd, Administrator, SJSU Marc Catto, Network Analyst, Networking & Telecommunications, SJSU Dr. David Conrath, Dean, College of Business, SJSU Rod Diridon, Executive Director, Mineta Transportation Institute Dr. Nancie Fimbel, Associate Dean, College of Business, SJSU Dr. S. Lee Jerrell, Associate Dean, College of Business, SJSU Chris Laxton, Director, Media Production & Delivery, SJSU Wayne Ross, Operations Coordinator, Academic Technology Network, SJSU Mark Weisler, Telecommunications Director, Networking & Telecommunications, SJSU

The Education Program at MTI extends sincere thanks to all those listed above for their time and effort **55** in bringing this project forward.

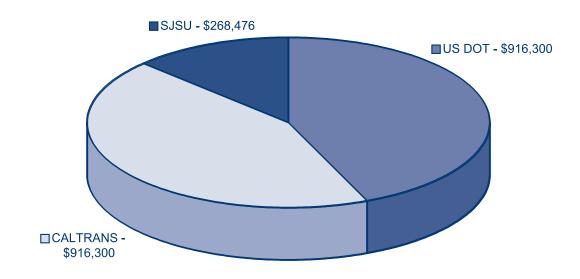
# **APPENDICES**

A. Financial Illustrations	57
B. Research Associates Policy Oversight Committee	58
C. Certified Research Associates	59
D. Project Team Members	64
E. Student Editorial Assistants	66
F. Editorial Associates	66
G. MTI Student Assistants	66
H. Graduate Transportation Management Program Faculty	67
I. Acknowledgements	68

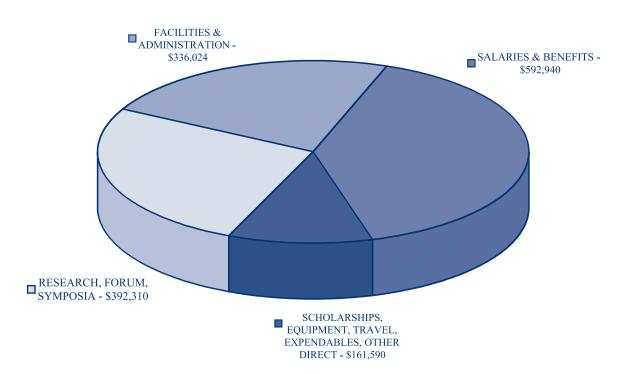
PENDICES



#### ILLUSTRATION OF FUNDING SOURCES - MINETA TRANSPORTATION INSTITUTE FISCAL YEAR 2002/2003



#### ILLUSTRATION OF EXPENDITURES - MINETA TRANSPORTATION INSTITUTE FISCAL YEAR 2002/2003





# RESEARCH ASSOCIATES POLICY OVERSIGHT COMMITTEE (RAPOC)

# <u>Chair</u>

Dr. Richard Werbel, Marketing and Decision Sciences

# Vice-Chair

Dr. Burton Dean, Organization and Management (ret.)

### **Members**

Dr. Jan Botha, Civil & Environmental Engineering Dr. Dongsung Kong, Political Science Dayana Salazar, Urban & Regional Planning Diana Wu, Martin Luther King Jr. Library

## **Ex-Officio**

Rod Diridon, Executive Director Trixie Johnson, Research Director Pat Conroy, CA Department of Transportation George Smith, CA Department of Transportation Kathleen Bergeron, FHWA

### **Certified Research Associates**

Dr. Gila Albert Lecturer Santa Clara University

Lewis Ames Program Mgmt. Analyst Municipal Transp. Agency

David Audsley Consultant Pinedale, AZ

Robert J. Austill President Practical Transportation, Inc.

Jacki Bacharach Principal Jacki Bacharach & Associates

Arthur Bauer Principal Bauer & Associates

Sandra Belanger Senior Librarian San José State University

Michael Bernick Attorney at Law Arnelle & Hastie

Dr. Robert Bertini Dept. of Civil Engineering Portland State University

Gary Binger Director ULI CA Smart Growth Initiative Dr. Evelyn Blumenberg Public Policy & Social Research UCLA

Dr. Earl Bossard Urban & Regional Planning San José State University

Dr. Jan Botha Civil Engineering San José State University

Thomas E. Brightbill Principal CGR Management Consultants

Clifford Chambers Principal Crain & Associates, Inc.

Dennis Church President EcoIQ

Dr. Woodrow W. Clark, II Sr. Policy Advisor Governor's Office, CA

Steven Colman Principal Dowling Associates

Dr. Howard Combs Chair Marketing & Decision Sciences San José State University

Dr. Robert Cooper Associate Vice President Undergraduate Studies San José State University David Cyra Director, CTED (ret.) CYRA, ettc

Dr. Nancy Da Silva Psychology San José State University

Dr. Burton V. Dean Organization & Mgmt. (ret.) San José State University

Dr. Allison L.C. de Cerreño Rudin Center for Transp. Policy & Mgmt. New York University

Donald de la Peña Community Development Dir. City of Menlo Park

William F. Derrick Executive Director SBCAG

Dr. Yasser Dessouky Industrial & Systems Engr. San José State University

Dr. Subhankar Dhar Mgmt. Information Systems San José State University

Dr. Jennifer Dill Urban Studies & Planning Portland State University

Rod Diridon Executive Director Mineta Transportation Institute



Dr. Miriam Gasko Donoho Marketing & Decision Sciences San José State University

Dr. Richard Dowling Principal Dowling Associates

Dr. Marilyn Easter Marketing & Decision Sciences San José State University

George Edgerton Consultant Redding, CA

Daniel M. Evans, J.D. Marketing & Decision Sciences San José State University

Dr. Thomas C. Ferrara Civil Engineering CSU, Chico

Christopher Ferrell Associate Planner Dowling Associates

Dr. Lawrence D. Frank College of Architecture Georgia Institute of Technology

Dr. Fernando Gapasin Labor & Industrial Relations UCLA

Dr. Kenneth Gehrt Marketing & Decision Sciences San José State University

Dr. Larry Gerston Political Science San José State University

60

Dr. Reed Gibby Civil Engineering CSU, Chico

Dr. Joseph Giglierano Marketing & Decision Sciences San José State University

Dr. Genevieve Giuliano Policy, Planning, Development University of Southern CA

Dr. Peter Gordon Policy, Planning, Development University of Southern CA

Dr. Geoffrey D. Gosling Consultant Berkeley, CA

James Graebner President Lomarado Group

Dr. Stephen Graham School of Architecture Newcastle University

George Gray Consultant San Diego, CA

Dr. Peter J. Haas Education Director Mineta Transportation Institute

Dr. Lee D. Han Civil Engineering University of Tennessee, Knoxville

Dr. Cobie Kwasi Harris Political Science San José State University Stuart Harvey Chief (ret.) Traffic Operations Division Caltrans, District 11

Dr. James Hayton Mgmt. & Human Resources Utah State University

Daniel Hess Urban & Regional Planning University of Buffalo

Dr. Aharon Hibshoosh Marketing & Decision Sciences San José State University

Judy Hilliard Writing Coordinator San José State University

Wolfgang S. Homburger Research Engr. Emeritus ITS, UC Berkeley

Julie Hoover Senior Vice President Parsons Brinckerhoff

Dr. Thomas Horan Executive Director Claremont Graduate University

Dr. Megumi Hosoda Psychology San José State University

Dr. Aseem Inam Architecture & Urban Planning University of Michigan

Dr. Raja Iyer Mgmt. Information Systems San José State University



Brian Jenkins Consultant Pacific Palisades, CA

Dr. William Jiang Organization & Management San José State University

Lorne Johnson Economist Caxton Associates

Trixie Johnson Research Director Mineta Transportation Institute

Robert Johnston Environmental Science & Policy UC Davis

Eugen H. Jud Principal Jud Consultants

Kevin Keck Assoc. Transportation Planner Dowling Associates

Norman Kelley Principal Development Mgmt. Assoc.

Dr. R. Benjamin Knapp Electrical Engineering San José State University

David Koffman Principal Associate Nelson/Nygaard Consulting

Norio Komoda Industrial & Operations Engr. University of Michigan Dr. Dongsung Kong Political Science San José State University

Dr. Stephen Kwan Chair Mgmt. Information Systems San José State University

Dr. Anne Lawrence Organization & Management San José State University

Dr. Richard Lee, AICP City and Regional Planning Cal Poly, San Luis Obispo

Dr. Scott Lefaver Planning Consultant San Jose, CA

Jeanne LePage Producer/Director Santa Cruz, CA

Dr. Jonathan Levine Urban & Regional Planning University of Michigan

Dr. Sherman Lewis Political Science CSU Hayward

Dr. Robin Liggett Urban Planning UCLA

Franklin Lockfeld Director (ret.) Center for Urban Analysis Santa Clara County

Lyn Long Institute of Transp. Studies UC Irvine Dr. Arvinder P. S. Loomba Organization and Management San José State University

Dr. Anastasia Loukaitou-Sideris Chair, Urban Planning UCLA

Dr. Hollie Lund Urban & Regional Planning Cal Poly Pomona

Dr. Stanley Malos Organization & Management San José State University

R. Stephen Mattoon President Madison Chrisjon Mattoon, Inc.

Dr. Patrick McGovern, J.D. Planning Consultant McGovern Urban Planning/Law

Dr. Eric Mohr Transportation Consultant Kentfield, CA

Dr. James Elliott Moore II Civil Engineering University of Southern CA

William Morrison Organization & Management San José State University

Gail Murray Principal Gail Murray Associates

Andrew Nash Consultant Zurich, Switzerland



Dr. Dick Nelson President Integrated Transport Research

Dr. Edward Nelson Sociology CSU, Fresno

Barbara Neustadter Principal Neustadter Associates

John S. Niles President Global Telematics

Dr. Mathew O'Brien Retailing & Consumer Sciences University of Arizona

Dr. Herbert Oestreich Organization & Mgmt. (ret.) San José State University

Dr. Naoto Onzo Professor Waseda University

Dr. Taeho Park Organization & Management San José State University

Larry Patterson Principal OpTrans, Inc.

62

Howard Permut Vice President Metro-North Railroad

Andru Peters Organization & Management San José State University Patrisha Piras, J.D. Consultant San Lorenzo, CA

Dr. J. Michael Pogodzinski Economics San José State University

Patti Post Principal Patti Post & Associates

Dr. John Pucher Urban Planning Rutgers University

Dr. Mahesh N. Rajan Marketing & Decision Sciences San José State University

Stanley C. Randolph Owner SCR Transp. Planning Consulting

Dr. Donald Reed Geology San José State University

Steven M. Reiner Planning Consultant MIG, Inc.

Dr. Caroline J. Rodier Analyst Environmental Science & Policy UC Davis

Dr. Daniel Rodriguez City & Regional Planning University of North Carolina, Chapel Hill

Dr. Maria (Malu) Roldan Mgmt. Information Systems San José State University Norman Root Retired Caltrans

Dr. Donald Rothblatt Urban & Regional Planning (ret.) San José State University

Kenneth Ryan Chair, Transportation Issues Sierra Club California

Dr. Inger Sagatun-Edwards Administration of Justice San José State University

Dr. Tomoaki Sakano Graduate School of Commerce Waseda University

Dayana Salazar Urban & Regional Planning San José State University

Dr. Roger L. Salstrom Organization & Management San José State University

Dr. Gail Sansbury Consultant San Francisco, CA

Thomas Savage Acting Chief New York City Transit

Dr. Brian Scales Consultant Cannonsburg, PA

Dr. Marc Schlossberg Planning/Public Policy/Mgmt. University of Oregon



James Schmidt Consultant San Rafael, CA

Kenneth R. Schreiber, AICP Consultant Palo Alto, CA

Mark Seaman Rudin Center for Transp. Policy & Mgmt. New York University

Dr. Saloua Sehili Economist & Prevention Effectiveness Centers for Disease Control & Prevention

Dr. Glenn Shephard Mgmt. Information Systems (ret.) San José State University

Dr. Ashraf I. Shirani Mgmt. Information Systems San José State University

Walter Siembab President The Siembab Corporation

Sarah Siwek President Sarah J. Siwek & Associates

Robert Stanley Senior Associate Cambridge Systematics, Inc.

Robert Sturdivant Santa Clara County Planning Department (ret.) Dr. Edward C. Sullivan Civil/Environmental Engineering Cal Poly, San Luis Obispo

Dr. Ronald D. Sylvia Political Science San José State University

Dr. Richard Taketa Geography San José State University

Dr. Brian Taylor Urban Planning UCLA

Ronald Tindall Consultant Bridgewater, N.J.

Terry Trumbull, J.D. Environmental Studies San José State University

Dr. Jacob Tsao Industrial & Systems Engr. San José State University

Dr. Gwen Urey Urban & Regional Planning Cal Poly, Pomona

Dr. Linda Valenty Political Science San José State University

John Vargo Consultant Cadiz, Spain

Robert Vitale Marketing & Decision Sciences San José State University Dr. Martin Wachs Institute of Transp. Studies UC Berkeley

Paul Wack City and Regional Planning Cal Poly, San Luis Obispo

Dr. Dirk Wassenaar Marketing & Decision Sciences San José State University

Dr. Asha Weinstein Urban & Regional Planning San José State University

Dr. Stuart Wells Organization & Management San José State University

Dr. Miles B. Welter Consultant San Jose, CA

Dr. Richard Werbel Marketing & Decision Sciences San José State University

Dr. George Whaley Organization & Management San José State University

Dr. Richard Willson Urban & Regional Planning Cal Poly, Pomona

Dr. Frances Edwards-Winslow Consultant Cupertino, CA

Beth Wyman Urban & Regional Planning (ret.) San José State University



#### **PROJECT TEAM MEMBERS**

Seventy-four Research Associates have been active on Research and Information Transfer Projects since the inception of the TEA-21 grant, several on more than one project. Those who served as Principal Investigator are listed in bold type.

Evelyn Blumenberg, Ph.D. Earl G. Bossard, Ph.D. Gary Binger Jan Botha, Ph.D. Dennis Church Steven Colman Nancy DaSilva, Ph.D. Don de la Peña Marilyn Easter, Ph.D. Daniel N. Evans Thomas Ferrara, Ph.D. Dr. Kenneth C. Gehrt Larry Gerston, Ph.D. Reed Gibby, Ph.D. Joseph Giglierano, Ph.D. Steven Graham, Ph.D. George Gray Peter Haas, Ph.D. Cobie Harris, Ph.D. Stuart Harvey James Hayton, Ph.D. Aharon Hibshoosh, Ph.D. Judith Hilliard Tom Horan, Ph.D. Megumi Hosoda, Ph.D. Aseem Inam, Ph.D. **Brian Jenkins** Robert A. Johnston Eugen Jud Kevin Keck Norman Kelley David Koffman Dongsung Kong, Ph.D. Richard Lee, Ph.D. Scott Lefaver, DPA Jonathan Levine, Ph.D. Stan Malos

Stephen Mattoon Patrick McGovern, Ph.D., J.D. Tapan Munroe, Ph..D. Andrew Nash John S.Niles Dick Nelson, Ph.D. Edward Nelson, Ph.D. Dr. Matthew O'Brian Herb Oestreich, Ph.D. Larry Patterson J. Michael Pogodzinski, Ph.D. Dr. Mahesh Rajan Donald Reed, Ph.D. Steve Reiner **Daniel Rodriguez** Carolyn Rodier, Ph.D. Donald N. Rothblatt, Ph.D. Malu Roldan, Ph.D. Dayana Salazar Roger Salstrom, Ph.D. Marc Schlossberg Kenneth R. Schreiber Saloua Schili Walter Siembab Edward C. Sullivan, Ph.D. Ron Sylvia, Ph.D. Richard Taketa, Ph.D. Brian D. Taylor, Ph.D. Linda Valenty John Vargo Paul Wack Asha Weinstien Richard Werbel, Ph.D. George Whaley, Ph.D. Andrea Whitaker, Ph.D. Frances Edwards-Winslow, Ph.D. Hing Wong, AICP

Sixty-seven students ranging from senior level undergraduate to Ph.D. candidates have served as Research and Project Assistants on MTI studies during the TEA-21 period, several on more than one project. They attend school at San José State University, University of Michigan, University of California-Davis, Claremont Graduate School, California State University-Chico, University of California-Los Angeles (UCLA), and California Polytechnic State University – San Luis Obispo (Cal Poly).

Theresa Applegate Miriam Ayllon Monica Baptista Julie Blue Olga Bokhonuskaya Paul Boone Brent Boyd Britta Buys Hazel Cadelina Diana Castillo Dan Cicuth Michael Clay Sara Liz Cloutman Angela Crumley Judy Deertrack, J.D. Scott Duiven, MCRP **Chris Ferrell Camille Fink** Kacie Freibel Larry Gamino Judy Glickman Dan Goodrich Michael Harold Michael Heggli **Daniel Hess** Jeff Hobbs Hiroyuki Iseki Sangeetha Kaushik Tara Kelly Daniel Kim Sheung-Kuen Kwan Jerusha Hew Len Kwa Saup Lee Eugene Maeda

Kristen S. Massey Erin Mayer Grant McMurran Jeremy Miller Patrick Naughton Hazma Narzullayevich Tanvi Parikh Scott Plambaeck David Roemer **Caroline Rodier** Chisagarn Rohanasoonthon **Rhys Rowland** Mellownie Salvador **Randolph Schmidt** Kara Serrano Jesse Solorio **Denise Staudt** Andrea Subotic **Griffith** Tonkin Gwo-Wei Torng Ehvan Tran Tran Tung Hamza Tursunov Kelly Vasquez Cecile Vo Carla Wachneldt **Pin-Yuan Wang** Peter Weshler Mike Winton Lisa Wise, ACRP Ed Yarbrough Alison Yoh Dali Zhang



# San José State University Student Assistants - Proofreaders and Copyeditors

Jennifer Dunlap Graduate Kemberly Gong Undergraduate

#### **Editorial Associates and Transcribers**

Catherine Frazier San Jose, California

Noelle Celine Major San Jose, California

Irene Struthers Rush Los Osos, California Robyn Whitlock Naperville, Illinois

Kim Rose San Jose, California

Stephen Hallmark Mill Creek, Washington

## Mineta Transportation Institute Student Assistants



From top left: Yesenia Pina, Shun Nelson, Tseggai Debretsion, and Emily Kruger

From bottom left: Tin Yeung, Amy Yan, and Young Han

\*Cedric Howard and Minal Gandhi are not pictured



### Graduate Transportation Management Program Faculty

Dr. Barbara Brown Professor Organization & Management MTM 217 Leadership & Management of Transportation Organizations

Dr. Nick Compin Lecturer Associate Transportation Planner at Caltrans MTM 251 Transportation Systems Planning and Development

Hon. Rod Diridon Lecturer Executive Director, Mineta Transportation Institute MTM 290 Strategic Transportation Management "Capstone"

David Gilliss Adjunct Lecturer College of Business BUS/MTM 201 Fundamentals of Transportation Management

Dr. Peter Haas Professor Political Science MTM 201 Fundamentals of Transportation Management

Arnold Pahler Lecturer Accounting & Finance MTM 202 Accounting, Finance & Business Systems for Transportation Gary Richards Lecturer San Jose Mercury News MTM 297 Current Topics in Transportation

Ron Sylvia Professor Political Science MTM 296 Labor Relations in Public Sector Transportation

Terry Trumbull Lecturer The Trumbull Law Firm MTM 296 Transportation and the Environment

William Taylor, JD Adjunct Lecturer Partner - Hanson, Bridgett, Marcus, Vlahos, Rudy LLP MTM 214 Transportation Policy & Regulation

Robert Vitale Lecturer Marketing MTM 203 Transportation Markets & Businesses Development

Dr. George Whaley Professor Organization & Management MTM 217 Leadership & Management of Transportation Organization

# ACKNOWLEDGEMENTS

Caltrans and U.S. DOT - RSPA

The board of trustees and staff of the Mineta Transportation Institute gratefully acknowledge the administrators and staff of the Research and Special Projects Administration of the U.S. Department of Transportation and of the New Technology and Research Division of Caltrans (California DOT) for their support and advice throughout the year. To Ellen G. Engleman, Sam Bonasso, Timothy Klein, Amy Stearns, Robin Kline, John Allison, Wesley Lum, Mandy Chu, and Sallybeth Scott, and all those who work with them, many thanks. For their continued efforts on behalf of our videoconference classroom, we especially thank the Caltrans Information Technology Division: Deputy Chief Information Officer Gilbert Tafoya, Jackye Barlow, Rich Vallee, and David Henzler. For their significant contribution to this specific project, we are indebted to John Allison, New Technology and Research Division Chief, and Wesley Lum, Chief of the Office of Infrastructure Research.

San José State University and San José State University Foundation

Mineta Transportation Institute is located at San José State University. Within the University, the College of Business, Clark Library, and the San José State University Foundation provide invaluable support. On behalf of the University, the College of Business Dean oversees the Institute, particularly the education program. Thank you to Dr. Robert L. Caret, President of San José State University, Dr. David W. Conrath, Dean of the College of Business, and to their staffs for supporting the efforts of MTI.

SJSU Foundation manages MTI's funds and oversees administrative areas such as Human Resources. Thank you to Mary Sidney, Jerri Carmo, Brenda Rogers, Lan Duong, Mona Salas, Rick Yoneda, Ha Ngo, Sara Aujla, Demetrios Skapina, Steve Constantine, Hope Lee, Son Nguyen and our former Communications Director, Jeanne Dittman, who is always looking out for us.

Our relationship with the Clark Library continues to thrive, thanks to Senior Librarian Sandra Belanger, Research Librarian Susana Liu, and Library Acquisitions Department Head Lucille Yonemura.

#### Annual Report Credits

Thank you to the Santa Clara Valley Transportation Authority Creative Services Department, MTI Principal Investigators, Barney Murray, Emily Kruger, and Shun Nelson for providing photographs for this report. Except for the printing, MTI staff members produced this report in-house. The layout was designed by student Graphic Designers Tseggai Debretsion, Emily Kruger, and Shun Nelson. Yesenia Pina assisted in gathering information. MTI is grateful to have such a talented and dedicated student staff.

# OF TRUSTEES

# HON. NORMAN Y. MINETA, MTI FOUNDER

Honorary Co-Chairs Hon. Don Young Chair, Transportation & Infrastructure Committee, House of Representatives

Hon. James Oberstar Ranking Member, Transportation & Infrastructure Committee, House of Representatives

Chair Michael S. Townes President/CEO Hampton Roads Transit

Vice Chair Hon. John Horsley Executive Director American Association of State Highway & Transportation Officials

Rod Diridon Executive Director Mineta Transportation Institute

Rebecca Brewster President/COO American Transportation Research Institute

Donald H. Camph President, California Institute for Technology Exchange

Anne P. Canby President, Surface Transportation Policy Project Dr. David Conrath Dean, College of Business San José State University

Hank Dittmar President/CEO Great American Station Foundation

Bill Dorey Vice President/COO Granite Construction

David Gunn President/CEO Amtrak

Steve Heminger Executive Director Metropolitan Transportation Commission

Celia Kupersmith General Manager Golden Gate Bridge, Highway & Transportation District

Dr. Thomas Larson Consultant, Administrator (ret.) Federal Highway Administration

Bob Lingwood President/CEO (ret.) British Columbia Ferry Corporation

Brian Macleod Senior Vice President Gillig Corporation William W. Millar President, American Public Transportation Association

William C. Nevel Chair, National High Speed Ground Transportation Association

Hans Rat Secretary General Union Internationale des Transports Publics

Lawrence Reuter President, NYC Transit Authority

Vickie Shaffer General Manager, The Tri-State Transit Authority

Paul Toliver Vice President Transportation Computer Intelligence 2

David L. Turney Chair/President/CEO Digital Recorders, Inc.

Edward Wytkind Executive Director Transportation Trades Department, AFL-CIO



















Mineta Transportation Institute College of Business San José State University San Jose, CA 95192-0219 Tel (408) 924-7560 Fax (408) 924-7565 e-mail: mti@mti.sjsu.edu http://transweb.sjsu.edu