



**NATIONAL CENTER FOR METROPOLITAN
TRANSPORTATION RESEARCH**

**ANNUAL REPORT
FISCAL YEAR ENDING JUNE 30, 2008**

Corporate Style Report

Table of Contents

A.	Center Theme.....	4
B.	Summary of Accomplishments.....	7
C.	Description of Management Structure and Staff.....	9
D.	Description of Research.....	16
E.	Description of Educational Accomplishments	25
F.	Description of Technology Transfer.....	34
G.	Funding Sources and Uses.....	40
H.	Appendix.....	45

MESSAGE FROM THE DIRECTOR

We are pleased to present this 2007-08 report of our accomplishments. This is the second year of our new Strategic Plan, and we are making progress in accomplishing our goals of continued excellence in research, education, and outreach. Highlights of this year include our second National Urban Freight Conference, collaborations with the California UTCs, many distinguished awards for METRANS associated faculty and students, new faculty at USC, and multimedia to broaden our outreach efforts. As always, we are grateful to Caltrans for providing the full UTC match, one of the critical factors in our success.



Genevieve Giuliano
METRANS Director

A. CENTER THEME

The theme of this Center is, “transportation within large metropolitan areas.” METRANS develops and examines solutions to the transportation problems of major metropolitan areas using a multidisciplinary approach that blends engineering and the social sciences. Increasing attention is being paid to “mega-cities” around the world – very large agglomerations – where infrastructure, governance, social and environmental problems are particularly severe. METRANS is particularly well positioned to contribute to mega-city transportation research, given its nearly 10 year history of focus on large metropolitan areas.

As noted in our Strategic Plan, our theme defines all aspects of the METRANS program. We conduct research in four topical areas: goods movement and international trade, urban mobility, infrastructure, and safety and security. All are oriented specifically to metropolitan transportation problems. We address many modes: highway (freight and passenger), rail (freight and passenger), bus transit, and non-motorized (pedestrian and bike). We also address surface transportation linkages with ports, airports, and inter-modal facilities. We often use the Los Angeles Region as our laboratory, and our education programs reflect an urban perspective in approach and subject matter. METRANS outreach and tech transfer is informed by our research agenda and is distinctly urban in orientation.

The METRANS theme is fully consistent with the USDOT Strategic Plan, the USDOT Research and Innovative Technology Administration’s Transportation Research Development and Technology Strategic Plan, and the Federal Transit Administration’s Strategic Plan. The RITA strategic plan is organized around the USDOT strategic goals. Table 1 gives USDOT strategic goals and sub-goals, RITA RD&T Strategies related to METRANS, emerging research priorities related to METRANS, and some examples of related METRANS research drawn from the most recent projects

Table 2 provides similar information for the FTA Strategic Research Plan goals and objectives. It can be seen that the METRANS research program is supportive of USDOT, RITA and FTA research priorities. The METRANS theme is also relevant to several federal modal agencies: FHWA, FMCSA, FRA, FTA, MARAD, and NHTSA.

Table 1: Relationship of USDOT Strategic Goals, RD&T Strategies, Emerging Research Priorities to METRANS theme

USDOT Strategic Goal	RD&T Strategies related to METRANS	Emerging research priorities related to METRANS	Examples
Safety Transportation-related deaths and injuries	Causal factors and risk Mitigation New technology	Enhanced safety data	Schoolchildren pedestrian safety; truck driver safety
Reduced congestion Urban congestion Capacity & PPPs Advanced technology Freight Air transport Accessibility Infrastructure	Reduce passenger and freight congestion Next generation technologies Planning, operations, management Underserved areas and populations Transportation research capability	Policy research and technologies Global logistics	Traffic mitigation fees; modeling and simulation for freight transport
Global connectivity Reduced trade barriers Int'l supply chain efficiency Int'l leadership, standards Equal opportunity	Support leadership for transportation providers		Supply chain integration at the ports of Los Angeles and Long Beach
Environmental stewardship Reduced environmental impacts Streamlined review	Mitigate impacts	Energy efficiency and alternative fuels	Impact of global climate change on transportation; remote sensing for diesel emissions
Security, preparedness and response Intelligence Preparedness Response	Reduce vulnerability; preparedness and recovery		Cargo security early warning system; emergency traffic management for ports of Los Angeles and Long Beach
Organizational excellence Human capital Financial, budget performance E-gov't			METRANS education and outreach programs

Source: USDOT Strategic Plan, 2006-2011; USDOT Research and Innovative Technology Administration Transportation Research, Development and Technology Strategic Plan, 2006.

Table 2: METRANS theme and FTA Strategic Research Goals

FTA Strategic Research Goals	Strategic objectives related to METRANS	Examples
Research leadership	Research supports national goals	
Transit use	Best practices and technologies Targeted populations	Transit use among immigrant populations; mobility of homeless; mobility and health disparities
Capital and operating efficiencies	Transit efficiency	Electoral support for transit funding
Safety and emergency preparedness	Transit safety	Traveler mode choice response after transit terrorist attacks
Environment and energy independence	Energy efficiency and emissions	Engine efficiency

Source: FTA Strategic Research Plan, 2005

B. SUMMARY OF ACCOMPLISHMENTS

This Annual Report covers the ninth year of METRANS. Here are some highlights of our 2007-08 accomplishments.

Research:

- In response to the 2007-08 RFP, 15 projects were approved with total funding of about \$1.1 million. Principal and Co-Principal Investigators represented nine different academic departments, reflecting the multi-disciplinary strength of the METRANS research program.
- The Monitoring the Ports applied research program was discontinued, having accomplished its objective of attracting new CSULB faculty to METRANS research.

Events:

- The 2nd National Urban Freight Conference was held in December 2007. Featured speakers included Christine Johnson, Director of Field Services – West, for the Federal Highway Administration; Mortimer Downey, chairman of PB Consult, Inc. and former U.S. Deputy Secretary of Transportation; and Michael Onder, Freight Operations and Technology, Federal Highway Administration.
- METRANS co-sponsored the first joint Research Conference of the California University Transportation Centers and California Partners for Advanced Transit and Highways (PATH). The conference had as its theme “On the Road to Sustainability: From Research to Practice” and was held in Berkeley CA in October 2007. METRANS researchers took part in both panel presentations and in poster displays.
- METRANS research was featured at CSULB’s first All University Celebration of Research, Scholarly and Creative Activity held in Long Beach in May, 2008.

Awards:

METRANS programs, faculty and students continue to win awards. Some of the most prestigious include:

- Faculty Awards:
 - **Maged Dessouky**, USC Professor of Industrial and Systems Engineering and METRANS Executive Committee member, was elected a *Fellow of the Institute of Industrial Engineering*.
 - **Harry Richardson**, USC Professor in the School of Policy, Planning and Development, was elected a *Fellow of the Regional Science Association International*.

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- Student Awards:
 - **Sylvia He**, USC PhD student in Urban Development, and **Hans Schroot**, USC MS student in Aerospace Engineering (USC) won Fullbright Scholarships.
 - **Jiyoung Park**, USC PhD Urban Planning, 2007 (USC), won a PERISHIP Hazards Fellowship.
 - **Edwin Quinonez**, USC MSCE student, was selected to attend the 2008 Eno Leadership Development Conference.

New Faculty and Staff:

- **Lisa Schweitzer**, PhD, joined the USC School of Policy, Planning and Development as a tenure track assistant professor in July 2007. Her research areas include transportation, environment, and environmental justice.
- **Elizabeth Gatchalian** replaced Lucia Kung as the new METRANS Account Coordinator, handling all budgeting and accounting responsibilities. The Account Coordinator is housed in the SPPD Business Office.
- **Thomas O'Brien**, PhD, was promoted to Associate Director – METRANS CSULB, reflecting his increased responsibilities in managing research, training and outreach programs at CSULB.

C. DESCRIPTION OF MANAGEMENT STRUCTURE

University of Southern California holds the prime grants that fund METRANS from the US DOT and CALTRANS. Center administration is the responsibility of the USC Principal Investigator, but all policy matters are jointly decided by USC and CSULB through the METRANS Executive Committee. A full-time staff member serves as METRANS Administrator. Staffing for CSULB activities is allocated on a task specific basis. Reflecting the changing nature of research and educational programs at CSULB as well as an increase in outreach and technology transfer activities there, the applied research program coordinator position was eliminated and replaced by an Associate Director of Long Beach Programs.

Executive Committee

The Executive Committee is responsible for all METRANS project selections (research, education, and technology transfer) and for setting METRANS policies. Current membership is:

- **Mahyar Amouzegar**, Associate Dean for Research and Development, School of Engineering, CSULB
- **Anastasios Chassiakos**, Professor of Electrical Engineering, Executive Director of Assessment, College of Engineering, CSULB
- **Maged Dessouky**, Professor of Industrial & Systems Engineering, School of Engineering, USC
- **Genevieve Giuliano**, Professor of Policy, Planning, and Development, and Senior Associate Dean, Research and Technology, School of Policy Planning and Development, USC
- **Petros Ioannou**, Professor of Electrical Engineering Systems and Director, Center for Advanced Transportation Technologies, USC
- **Joe Magaddino**, Professor of Economics and Chair, Department of Economics, CSULB
- **James E. Moore II**, Professor of Industrial and Systems Engineering, and Public Policy and Management and Chair, Department of Industrial and Systems Engineering, USC
- **Marianne Venieris**, Executive Director, Center for International Trade and Transportation, CSULB

Executive committee membership is a voluntary (unpaid) service activity. The level of leadership, expertise and dedication of the METRANS Executive committee is exemplary. Not only are these faculty leaders in their respective fields of research, all have significant administrative responsibilities at their respective universities.

Director

Genevieve Giuliano, Professor and Senior Associate Dean of Research and Technology in the School of Policy, Planning, and Development (SPPD) is Director of METRANS. The Director is responsible for the overall management of METRANS, including reporting, matching fund solicitation, outreach, publications, education, supervision of the METRANS Administrator and other staff, project management and development of the center research agenda, and requests for proposals/qualifications. The center director is responsible for chairing meetings of the Executive Committee (joint USC/CSULB) and the Advisory Committee.

Deputy Director

Marianne Venieris serves as METRANS Deputy Director. Ms. Venieris has been responsible for the CSULB technology transfer activities since METRANS' inception. She is an experienced manager and the leading force behind METRANS' goods movement outreach activities. Ms. Venieris is Executive Director of CITT.

The Deputy Director is responsible for collecting performance statistics related to CSULB activities, distributing information to CSULB faculty and students and overseeing the METRANS technology transfer program. The Deputy Director works under the direction of the METRANS Director.

Associate Director of Research

Petros Ioannou serves as Associate Director of Research. He is responsible for the Los Angeles testbed research effort and the research proposal review process. The Associate Director of Research works under the direction of the METRANS Director.

Associate Director of METRANS CSULB

Thomas O'Brien has been appointed Associate Director of METRANS - CSULB. This position replaces the Applied Research Program Manager position, which Dr. O'Brien also held. This position is responsible for managing METRANS research activities at CSULB, communications and outreach. The Associate Director is also involved in the development and implementation of professional training programs coordinated through CSULB.

Center Administrator

METRANS administrative tasks are divided between two positions. The METRANS Administrator, **Victoria Valentine**, is responsible for all Center administration except budgeting and accounting. The METRANS Account Coordinator, **Elizabeth Gatchalian**, handles all budgeting and accounting responsibilities. The Account Coordinator is part of the SPPD Business Office and reports to the SPPD Business Office Manager. Ms. Valentine is assisted by a part-time student assistant who serves as liaison for all student-related activities and coordinates the METRANS Seminar Series.

CSULB Administrator

Alix Traver serves as CSULB Administrator. The position is responsible for the collection of performance data at CSULB, and for communicating METRANS information to CSULB faculty, staff, and students. The position is also responsible for assisting with the METRANS Annual Conference, with the publication of METRANS News, and for developing center promotions. The CSULB Administrator works under the guidance of the Deputy Director and the Center Administrator.

Webmaster

The website is hosted by Urban Insights, the firm that redesigned the website. Our administrative staff has capability to update the website, making changes and updates in an efficient and timely manner.

Advisory Board

The Director has formed an Advisory Board composed of representatives from agencies and companies that participate in center activities. The Advisory Board is used to solicit suggestions for research, to assist in student job placements, and to assist in outreach and technology transfer activities. The Advisory Board meets annually. Table 3 lists Advisory Board Membership as of June 2008.

Faculty Members

METRANS has funded a total of 76 faculty at USC and CSULB, 70 of which are faculty affiliates of the METRANS Center (the remaining 6 are no longer at USC or CSULB, due to retirement or move). This number includes faculty who have received funds either through the regular research program or the applied research program. Keeping to the METRANS interdisciplinary theme, faculty are drawn from four branches of engineering (civil, electrical, industrial, and mechanical), computer science, as well as the social sciences, business, health sciences, public policy, planning, and public administration. These faculty serve as principal investigators on METRANS-funded projects, and have responsibility for overseeing individual research projects. METRANS affiliated faculty are listed in Table 4.

Table 3. METRANS Advisory Board

<u>Name</u>	<u>Title</u>	<u>Organization</u>
Dan Beal	Principal	Transportation Policy Consulting
Doug Failing	Director, District 7	California Department of Transportation
Stephen Finnegan	Manager, Government Affairs and Public Policy	Automobile Club of Southern California and AAA Hawaii
Michael Flanigon	Director, Office of Technology	Federal Transit Administration
Anthony Furst	Director, Freight Management and Operations	FHWA
Richard Hollingsworth	President and CEO	Gateway Cities Partnership, Inc.
Fran Inman	Sr. Vice President	Majestic Realty
Randell Iwasaki	Chief Deputy Director	California Department of Transportation
Gloria Jeff	Former Director	Los Angeles Dept. of Transportation
Geraldine Knatz	Executive Director	Port of Los Angeles
Stephen Lantz	Director, Communication and Development	Metrolink (Southern California Regional Rail Authority)
Jack Levis	Industrial Engineering Manager	United Parcel Service
Domenick Miretti	ILWU Senior Liaison	Ports of Long Beach and Los Angeles
Eugene Pentimonti	Senior Consultant	Maersk Sealand (Retired)
Mark Pisano	Senior Fellow	USC Bedrosian Center for Governance and the Public Enterprise
Richard Powers	Executive Director	Gateway Cities COG
Cindy Quon	Director, District 12	California Department of Transportation
Roger Snoble	Chief Executive Director	Los Angeles County Metropolitan Transportation Authority
Barry Wallerstein	Executive Officer	South Coast Air Quality Management District

Table 4: METRANS Affiliated Research Faculty

<u>Name</u>	<u>Department</u>	<u>University</u>
Tridib Banerjee	Policy, Planning, and Development	USC
Tracy Bradley Maples	Computer Engineering & Science	CSULB
Anastasios Chassiakos	Electrical Engineering	CSULB
Robert Chi	Business Administration	CSULB
Maged Dessouky	Industrial & Systems Engineering	USC
Fokion Egolfopoulos	Aerospace and Mechanical Engineering	USC
Burkhard Englert	Computer Engineering & Science	CSULB
Mohammed Forouozesh	Health Science	CSULB
Robert Friis	Health Science	CSULB
Roger Ghanem	Civil Engineering	USC
Genevieve Giuliano	Policy, Planning, and Development	USC
Darin Goldstein	Computer Engineering and Science	CSULB
Peter Gordon	Policy, Planning, and Development	USC
Lisa Grobar	Economics	CSULB
Martin Gundersen	Electrical Engineering & Electrophysics	USC
Randolph Hall	Industrial and Systems Engineering	USC
Hossein Hashemi	Electrical Engineering	USC
John Heidemann	Information Sciences Institute	USC
Petros Ioannou	Electrical Engineering Systems	USC
Clara Irazabal	Policy, Planning, and Development	USC
Kenneth James	Electrical Engineering	CSULB
Christine Jocoy	Geography	CSULB
Erik Johnson	Civil Engineering	USC
Tim Jordanides	Electrical Engineering	CSULB
Behrokh Khoshnevis	Industrial & Systems Engineering	USC
Melody Kiang	Business Administration	CSULB
Bhaskar Krishnamachari	Computer Science	USC
Ilias Kosmatopoulos	Electrical Engineering Systems	USC

<u>Name</u>	<u>Department</u>	<u>University</u>
Shui Lam	Computer Engineering and Science	CSULB
Hanh Le-Griffin	Civil Engineering	USC
Robert Leachman	Industrial Engineering & Operations Research	UC Berkeley
Christopher Lee	Geography	CSULB
Bei Lu	Mechanical & Aerospace Engineering	CSULB
Joe Magaddino	Economics	CSULB
Wade Martin	Economics	CSULB
Sami Masri	Civil Engineering	USC
Najmedin Meshkati	Civil Engineering	USC
Kristen Monaco	Economics	CSULB
James E. Moore II	Industrial and Systems Engineering and Policy, Planning, and Development	USC
Dowell Myers	Policy, Planning, and Development	USC
Thomas O'Brien	Center for International Trade and Transportation	CSULB
Fernando Ordonez	Industrial and Systems Engineering	USC
Kurt Palmer	Industrial and Systems Engineering	USC
Emily Parentela	Civil Engineering	CSULB
Alice Parker	Electrical Engineering	USC
Viktor Prasanna	Electrical Engineering	USC
Cheryl Pruitt	Computer Engineering and Science	CSULB
Konstantinos Psounis	Electrical Engineering	USC
Hamid Rahai	Mechanical Engineering	CSULB
Mansour Rahimi	Industrial and Systems Engineering	USC
Christian Redfearn	Policy, Planning, and Development	USC
Grace Reynolds	Behavioral Research and Services	CSULB
Harry Richardson	Policy, Planning, and Development	USC
Paul Ronney	Mechanical Engineering	USC
Antonella Sciortino	Civil Engineering	CSULB
Jeffrey Sellers	Political Science	USC

<u>Name</u>	<u>Department</u>	<u>University</u>
Tariq Shehab	Civil Engineering	CSULB
David Sloane	Policy, Planning and Development	USC
Seiji Steimetz	Economics	CSULB
Maria Todorovska	Civil Engineering	USC
Reza Toossi	Mechanical Engineering	CSULB
Jalal Torabzadeh	Mechanical and Aerospace Engineering	CSULB
Detlof von Winterfeldt	Industrial and Systems Engineering and Policy, Planning and Development	USC
Suzanne Wechsler	Geography	CSULB
Hung Leung Wong	Civil Engineering	USC
Maria Yang	Industrial and Systems Engineering	USC
Henry Yeh	Electrical Engineering	CSULB
Hsien-Yang Yeh	Mechanical and Aerospace Engineering	CSULB

D. DESCRIPTION OF RESEARCH PROGRAMS

Table 5 gives the chronology of all completed research rounds through June 30, 2008. In 2006-07 we transitioned to a spring semester RFP so that proposals could be reviewed and selected by the start of the fall semester. The RFP for FY 2007-08 was issued April 15, 2007. Proposals were due May 15, 2007. METRANS received 23 proposals from 36 faculty requesting a total of \$1,783,222. Proposals were reviewed by academics, practitioners, and government agency representatives from throughout the United States. The METRANS Executive Committee met in September 2007 to evaluate and prioritize proposals. Fifteen projects were selected and sent to Caltrans for approval. These projects were from faculty representing nine departments. Total funding is \$1,084,323. Projects began September 1 or later. We continue to attract new faculty; nine of the awards are to faculty who have not previously been awarded research projects.

Table 5: Timing of METRANS Requests for Proposals and Project Selection

FY	RFP Issued	Due Date	Selections	Start Date
98/99	3/19/99	4/28/99	6/1/99	7/99 – 9/99
99/00	7/7/99	8/11/99	9/27/99	1/1/00
00/01	2/11/00	3/17/00	5/8/00	8/00
01/02	12/12/00	2/23/01	4/24/01	8/15/01
02/03	8/16/02	10/15/02	1/12/02	7/1/03
03/04	9/5/03	10/15/03	12/27/03	1/5/04
04/05	8/24/04	10/15/04	12/17/04	2/1/05 – 6/1/05
05/06	8/25/05	10/17/05	1/10/06	2/1/06 – 7/1/06
06/07	4/3/06	5/30/06	8/23/06	9/1/06
07/08	4/15/07	5/15/07	9/26/07	10/15/07

METRANS' goal has been to make selections within three months after the RFP is issued. This allows about 5 weeks for proposal preparation, 4 weeks for peer review, and 3 weeks for compilation of results and communication with the METRANS Executive Committee.

METRANS conducts a rigorous and comprehensive review process. In order to assure that proposal evaluation is as neutral as possible, academic peer reviewers are drawn from outside USC and CSULB. In addition we solicit reviews from USDOT, Caltrans, and practitioners.

Table 6 provides a summary of proposals submitted by thematic area. Goods movement and international trade continues to be the largest area, followed by urban mobility. In recent years the number of safety proposals has increased slightly, while the number of infrastructure proposals has continued to decrease.

Table 6: Summary of Proposals Submitted to METRANS

FY	Proposals	Requested	Number of Proposals by Focus Area				
			Goods	Mobility	Infra-structure	Safety	Multiple
98/99	15	\$808,497	6	8	0	0	1
99/00	12	451,335	6	5	0	0	1
00/01	17	906,370	10	6	1	0	0
01/02	16	882,261	7	2	5	0	2
02/03	29	2,696,136	10	8	6	5	0
03/04	18	1,440,565	7	4	1	6	0
04/05	20	1,579,336	7	5	5	3	0
05/06	18	1,530,368	7	3	2	5	1
06/07	25	3,117,709	10	7	3	4	1
07/08	23	\$1,783,222	9	7	1	6	0
Total	170	\$13,412,577	79	55	24	29	60

The Executive Committee selected 15 projects for funding in the 2007-08 fiscal year, a selection rate of 65%. A total of \$ 1,084,323 was awarded. Funded projects for the past nine years are summarized in Table 7. We have now funded a total of 99 projects totaling about \$7.7 million. As of June 30, 2008, we had 31 projects in progress, representing about \$2.5 million.

The awards retain the center's strength in goods movement and freight (6 awards). Four awards were made in Mobility and four in Safety. One Infrastructure project was awarded. Our priority is to fund the best projects, rather than to achieve balance across our thematic areas. Selections are made based on the outside peer reviews. Five projects were awarded to CSULB and ten were awarded to USC.

Table 7: Summary of Proposals Awarded by METRANS

FY	Awards	Amount	Number of Awards by Area				
			Goods	Mobility	Infra-structure	Safety	Multiple
98/99	6	\$294,299	3	2	0	0	1
99/00	7	324,898	4	3	0	0	0
00/01	11	580,882	5	6	0	0	0
01/02	7	446,602	3	1	1	0	2
02/03	12	1,079,721	5	4	3	0	0
03/04	9	667,271	4	3	0	2	0
04/05	9	798,077	6	1	0	2	
05/06	8	540,174	5	2	1	0	0
06/07	15	1,894,376	10	2	2	1	0
07/08	15	1,084,323	6	4	1	4	0
Total	99	\$7,710,623	51	28	8	9	3

METRANS has the goal of supporting cooperative research that involves transportation agencies and meets the transportation needs of metropolitan agencies. Nearly all projects have received financial support from Caltrans, and many others have cooperated with local and regional agencies. Cooperative relationships or matching funds are listed in the project descriptions on the METRANS website. METRANS also has the goal of conducting research that supports the USDOT Strategic Research Goals and RD&T priorities. Table 8 is a simplified version of Table 1. The last column lists the 2007-08 research projects according to the Strategic Research Goals.

Table 8: Relationship of USDOT Strategic Goals, to METRANS 2007-08 research projects

USDOT Strategic Goal	Project
<u>Safety</u> Transportation-related deaths and injuries	08-02 Low-Cost Object Detection RF CMOS Sensor Development for Active Safety Systems 08-12 Efficient Routing for Safety Applications in Vehicular Networks 08-23 Safety Concerns Associated with Drug-Using Drivers with Suspended or Revoked Driving Licenses
<u>Reduced congestion</u> Urban congestion Capacity & PPPs Advanced technology Freight Air transport Accessibility Infrastructure	08-03 (Im)Mobility and Health Disparities: Assessing the Accessibility of Nutrition and Physical Activity Options in an Urban Neighborhood 08-04 Integrated Modeling and Simulation Framework for Freight Transportation in Metropolitan Areas 08-07 Revisiting the Empirical Foundations for Measuring the Capitalization of Access to Transit 08-08 Efficient Wireless Communication in Vehicular Environments
<u>Global connectivity</u> Reduced trade barriers Int'l supply chain efficiency Int'l leadership, standards Equal opportunity	08-06 Regulation and Response in the San Pedro Bay Ports 08-11 XML Based Supply Chain Integration at the LA / LB Ports 08-13 Labor Markets in Good Movement Occupations in Southern California
<u>Environmental stewardship</u> Reduced environmental impacts Streamlined review	08-01 Combustion and Emission Characteristics of Biofuels Used for Transportation 08-19 Identification and Evaluation of Major Issues Involving the Impact of Global Climate Change on Transportation Systems 08-22 Development of a Portable Remote Sensing System for Measurement of Diesel Emissions from Passing Diesel Trucks
<u>Security, preparedness and response</u> Intelligence Preparedness Response	08-10 Estimating Behavioral Changes for Transportation Modes after Terrorist Attacks in London, Madrid and Tokyo 08-13 Emergency Traffic Management Tool for the Los Angeles and Long Beach Harbor Area
<u>Organizational excellence</u> Human capital Financial, budget performance E-government	N/A

Selection Process

METRANS follows a peer-reviewed proposal selection process in which each proposal is submitted to a minimum of five people for review, drawn from the following groups:

- University expert (usually two people in category)
- Local transportation agency expert or private practitioner expert
- Caltrans expert

-
- US DOT expert

In the most recent RFP (07/08), the following DOT employees (or their designated representatives) reviewed proposals:

- *Karrigan Bork, Center for Climate Change and Environmental Forecasting*
- *Brian Cronin, RITA*
- *Michael Flanigon, FTA*
- *Anthony Furst, FHWA*
- *Dennis Judycki, Turner Fairbanks*
- *Gene McHale, Turner Fairbanks*
- *Todd Ripley, Maritime Administration*
- *Michael Savonis, FHWA*

These DOT representatives were selected because of their expertise and leadership in goods movement, transit, policy, advanced technology, safety or infrastructure.

We use an outside review process in order to assure neutral evaluation of all proposals; with few exceptions, academic reviewers were from outside USC or CSULB. We also used a mix of public and private sector local experts. The outside review process is more time consuming, but we feel it is worth the effort. Summarized results of the evaluations are presented to the METRANS Executive Committee, which makes final selections.

Research Results

Seventy-one research projects have been completed (twenty-three this year), with six of those in the peer review/revision process. Twenty eight projects are in progress (including the fifteen new 2007-08 projects). The Research Project Status Report is available in Part B of this report.

Applied Research Program

METRANS established the "Monitoring the Ports" program in 2003 to broaden the knowledge base of port-based international trade through data gathering and research. Included in "Monitoring the Ports" was the Applied Research program, which was designed to promote and support California State University, Long Beach (CSULB) faculty research, fund small-scale research in support of METRANS funded technology transfer activities conducted by the CSULB Center for International Trade and Transportation (CITT), and develop an information base of seaport operations and goods movement.

In its four years between 2003 and 2007, the Applied Research program achieved its goal of generating interest in transportation research among CSULB faculty. A total of 15 faculty members were funded through this program, and some subsequently went on to receive funding through the regular peer-reviewed METRANS Request for Proposal (RFP) process. With greater interest in the METRANS research program and a broader pool of faculty, in 2008 we decided

that there was no further need for the Applied Research Program. Research funds available to CSULB are best invested in the regular peer-reviewed program.

The Monitoring the Ports Program will continue to develop our understanding of goods movement in other ways. As an example, a searchable web-based timeline of trade and transportation-related events is being made available on the METRANS website.

Other Research Activities

National Urban Freight Conference: In response to the need to better understand the impacts of goods movement on metropolitan areas, METRANS organized the first National Urban Freight Conference in Long Beach in February 2006.

In order to avoid conflicts with other transportation related conferences in the early part of the year, including the annual meeting of the Transportation Research Board, METRANS decided to shift the date for the second National Urban Freight Conference to December. The Conference was held on December 5-7, 2007, once again in Long Beach.

The National Urban Freight Conference (NUF) organizes presentations into one of seven different tracks: (1) Models for transportation, port, air, intermodal operations, impact analysis; (2) Port operations, productivity; (3) Trucking, air, rail economics, productivity, labor issues; (4) Local and regional environmental externalities: congestion, air quality, etc.; (5) Policy and institutional issues in urban goods movement; (6) Security/vulnerability of goods movement infrastructure; (7) Best Practices and lessons learned.

NUF fulfills a particular need for the research community. Most freight research addresses goods movement between regions. There is less understanding of how the economics of international trade activity are distributed across metropolitan areas, or how these activities affect metro areas. NUF provides a unique opportunity to discuss these issues in the context of large urban agglomerations.

NUF is also important because it provides a forum in which researchers can present their findings to government officials and “real world” practitioners. NUF 2007 concluded with a plenary session discussion among panelists representing academia as well as the California Department of Transportation and the trucking industry. Each panelist provided a viewpoint from his or her respective sector on research presented at the conference and the direction that research should take in the future.

NUF attracts participants from throughout the US and other parts of the world where maritime ports, airports, and rail hubs are located. In addition to university-based researchers, NUF has featured papers from representatives of ports, city transportation agencies, research institutes, private engineering firms, and the US Department of Transportation. International participants have come from places as diverse as Australia, China and the Netherlands. More than 60 papers and presentations were submitted for the 2007 conference.

The best papers will be considered for inclusion in a special journal issue. Papers from the NUF 2006 conference were published in a special issue of *Transportation Research Part E*. The issue appeared as Volume 44 (2) in March of 2008. Our goal is to provide a forum for research that is both scholarly and relevant.

The National Urban Freight Conference has received financial sponsorship from a wide range of public and private sector organizations including the US DOT, the California Department of Transportation, the American Association of State Highway Transportation Officials (AASHTO), the Union Pacific Railroad, the Ports of Los Angeles and Long Beach, and the South Coast Air Quality Management District. The conference is advertised in major trade publications, including the Journal of Commerce.

The 3rd National Urban Freight Conference will take place in October of 2009. One day prior to the conference, METRANS will sponsor a one-day workshop of UTC researchers and other stakeholders in conjunction with the Midwest Regional University Transportation Center. Collaborations with other UTCs are part of METRANS' Strategic Plan objectives.

UTC/PATH Joint Conference: METRANS co-sponsored the first annual PATH – California University Transportation Centers Research Conference which took place from October 29 to 31, 2007. The conference is a collaborative effort of the five California UTCs and California PATH. Its purpose is to provide a forum for sharing UTC research with sponsors and practitioners in California.

The conference was held in Berkeley CA with the theme of "On the Road to Sustainability: From Research to Practice." It examined the topic of sustainable transport from all angles -- technology, policy, planning, engineering, social and environmental impact, economics and finance. Session topics included

- Innovative highway and vehicle technologies
- Transit's role in a sustainable future
- Urban goods movement issues and solutions
- Transportation, land use and urban design
- Social equity in diverse and growing regions
- Health and safety aspects of our transport system
- Alternative fuels - research to date and implementation challenges
- Strategies for financing and managing the transport system
- Legislative criteria for sustainable transport and development

METRANS researchers took part as panel members and in a poster session. METRANS will once again co-sponsor the 2008 joint PATH-UTC conference which will take place in Los Angeles in November. The theme this year will be "Tackling Congestion in an Era of Climate Change."

All University Celebration of Research, Scholarly, and Creative Activity: In an effort to better highlight the accomplishments of faculty and students, the CSULB Office of University

Research hosted an All University Celebration of Research, Scholarly, and Creative Activity in May, 2008. METRANS research was featured in a poster display at this event.

The purpose of the Celebration was to demonstrate the breadth of research capabilities on the campus and to enhance classroom teaching. It also provided an opportunity to recognize outstanding faculty members as well as undergraduate and graduate research assistants. The All University Celebration was open to the public.

Publications and Presentations:

An important measure of the quality of the METRANS research program is the number of peer-reviewed publications generated. As more research projects are completed, academic publications follow. This year 38 of our METRANS faculty have 102 peer reviewed articles, books or chapters published or forthcoming.

Faculty Awards and Promotions

The quality and reputation of METRANS affiliated faculty continue to be demonstrated by awards and promotions:

- **Maged Dessouky** (USC) has been selected as a Fellow of the Institute of Industrial Engineering. Dr. Dessouky also won the Transportation Science and Logistics (TSL) Society's Best Paper Award for 2007 for his paper "Optimal Slack Time for Schedule-Based Transit Operations," written with doctoral graduate Jiamin Zhao.
- **Mohammed Forouzes** (CSULB) was named CSULB's Outstanding Professor for 2008.
- **James Moore II** (USC) received the Distinguished Engineering Educator Award from the Los Angeles Council of Engineers and Scientists (LACES) and the Pioneer Educator Award from the Orange County Engineering Council (OCEC).
- **Dowell Myers** (USC) received the 2007 Thomas and Znaniecki Award from the American Sociological Association for the best book on international migration.
- **Viktor Prasanna** (USC) received two awards from the Institute of Electrical and Electronics Engineers: an Outstanding Service Award and a Best Paper Award for his paper "Parallel IP Lookup Using Multiple SRAM-Based Pipelines," written with doctoral candidate Weirong Jiang.
- **Harry Richardson** (USC) was selected as a Fellow of the Regional Science Association International (RSAI).
- **Marianne Venieris** (CSULB) won the Women's Transportation Seminar (WTS) – LA Diversity Leadership Award.

In addition to the accomplishments of METRANS affiliated faculty, the Deans of the two USC schools most involved with METRANS were each awarded one of the highest honors in their respective fields. Jack Knott, Dean of USC School of Policy, Planning and Development, was elected a member of the National Academy of Public Administration. Yannis Yortsos, Dean of USC Viterbi School of Engineering, was elected a member of the National Academy of Engineering.

E. DESCRIPTION OF EDUCATION ACCOMPLISHMENTS

The METRANS education program emphasizes student participation in research projects. METRANS continues to make graduate student involvement an explicit criterion in making research awards in our RFP. Involvement of undergraduate students in METRANS funded research is encouraged. As a result, all projects have had significant student participation (some undergraduate, some graduate, and some both). Investigators are strongly encouraged to budget for student presentations at conferences, such as the Transportation Research Board annual meeting.

National Student Competitions

In 2007, METRANS again participated in the USDOT UTC “Outstanding Student Award” program. The METRANS student of the 2007-08 academic year is **Sean Fergus**. As a CSULB research assistant under the direction of Prof. Seiji Steimetz, Fergus participated in a METRANS-funded study to assess the efficiency of traffic mitigation fees near the San Pedro Bay ports. In a recent METRANS project with Prof. Wade Martin, Fergus worked on greenhouse gas emissions of the transportation sector using a computable general equilibrium model of Southern California. He has also worked with a CSULB Economics faculty team—Prof. Joseph Magaddino, Kristen Monaco, and Lisa Grobar—ascertaining the economic impact of international trade and transportation related to the Port of Long Beach. Fergus received his undergraduate degree in 2000 from UC San Diego and his MS in Economics from CSULB in 2008. He is now considering either doctoral studies or finding a job with an economics consulting firm.

Sylvia He, USC PhD student in Urban Development was awarded a National Academies Summer Fellowship and spent the summer of 2007 working at the Transportation Research Board. She also won a 2008 Fulbright Summer School Scholarship to attend and present her paper “Modeling Rent-Price Ratio in Housing Markets with Spatial Heterogeneity” at Fulbright Summer School at Vienna University for Economics and Business Administration.

Bumsoo Lee, USC PhD in Urban Planning, 2006, received honorable mention in the Regional Science Association International Dissertation Competition.

Jiyoung Park, USC PhD in Urban Planning, 2007, was awarded the Public Entity Risk Institute (PERI) and National Science Foundation (NSF) PERISHIP Hazards Fellowship, awarded for work in all aspects of natural and human-made hazards, risk, and disasters in all disciplines.

Edwin Quinonez, USC Master of Civil Engineering student, was selected by the Board of Regents of the Eno Transportation Foundation to participate in the 2008 Eno Leadership Development Conference in Washington, DC, May 19-22, 2008.

Hans Schroots, USC Master of Aerospace Engineering student, was chosen as a Fulbright Scholar. He plans to study transportation technology in Germany.

Philbert Wong, USC Master of Planning 2008, won 2nd place in the American Planning Association Transportation Planning Division Student Paper Awards.

State, Local and Internal Awards

Additional awards were received by the following USC students:

- **Ajay Agarwal**, USC PhD Candidate in Urban Planning, was awarded a Lusk Center for Real Estate dissertation fellowship, the WCTR conference fellowship to participate in the 2007 World Congress of Transportation Research, and the Lincoln Institute of Land Policy Fellowship.
- **Lingqian (Ivy) Hu**, PhD Candidate in Urban Planning, received a School of Policy, Planning and Development dissertation fellowship.
- **Karo Giulakian, Whitney Redfield and Robert Zappia**, undergraduate students in the School of Policy, Planning and Development, were accepted and sponsored to attend the 2007 California Transportation Foundation Transportation Education Symposium.
- **Jela Ellefson**, Master of Planning 2008, received top honors for her Transportation and Infrastructure comprehensive exam and also won a WTS scholarship.
- **Jiyoung Park**, USC PhD Urban Planning 2007, won the John Dyckman Award for the Best PhD dissertation in Planning.
- **Alison Linder**, USC PhD Candidate in Urban Planning and **Erika Humphries**, USC undergraduate student in Public Policy, received WTS scholarships.
- **Robert Takushi**, an undergraduate in the Viterbi School of Engineering, received a grant from the Rose Hills Foundation to study safety issues related to the Exposition Light Rail project.

The following CSULB students received awards:

- **Teri Carpenter, Augusto Nakasone and Georgi Zafirov**, GLS students, each received a Harbor Transportation Club Scholarship Award for the spring of 2008.
- **Laura Guitierrez and Glenn Washington**, both GLS students, were awarded the Mary Bleming Scholarship from the Long Beach Chamber of Commerce/International Business Association.

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- **James Chik, Angela Goyette and Joanna Lai**, Master of Arts in Global Logistics students; and **Cynthia Castillo, Michael Maricic and James Miller**, GLS students, were awarded scholarships from the Port of Long Beach.
 - **Melissa Hughes**, CSULB Master of Arts in Global Logistics student, and **Krista Katayama**, CSULB undergraduate student in Civil and Environmental Engineering received WTS scholarships.
 - **Edgar Lanchippa**, Master of Arts in Global Logistics student; and **Rick Herrera and Daniel Liang**, GLS students, were awarded scholarships from the Los Angeles Transportation Club.
 - **Iker de Luisa**, GLS student, was awarded the GLS Instructor Scholarship.

The METRANS Administrator compiles opportunities for student competitions and advertises them both by email to identified students and by advertisement on the METRANS web site.

Student Conference Participation

California Transportation Foundation's Transportation Education Symposium. USC civil engineering and urban planning undergraduates consistently participate in the California Transportation Foundation's (CTF) annual Transportation Education Symposium. The symposium gives upper-division undergraduates a unique opportunity to collaborate with senior industry and agency professionals as they prepare competing team responses to a mock request for project proposals. Three SPPD undergraduate students represented USC at the 2007 symposium, held November 15-16 in San Jose.

University of California Transportation Research Conference. Three USC transportation students, Matthew Hissom (MPL), Eric Kramer (MPP) and Robert Zappia (SPPD Undergrad), attended the UCTC Conference held at the University of California, Santa Barbara, from January 31 – February 2, 2007. USC SPPD faculty member Lisa Schweitzer presented a paper titled "Just Pricing: Comparing the Effects of Value Pricing and Transportation Sales Taxes on Low-Income Households."

Other Student Activities

Student Participation in Research

METRANS is committed to student involvement in research. It is the best way for students to acquire research skills, and it is an important source of student support. Students are often attracted to transportation as a result of working on a research project.

Student involvement in transportation research projects is difficult to compare across years. The number of students supported on METRANS research projects reflects year-to-year differences in the number of ongoing projects. METRANS student involvement also includes research projects funded from other sources and reflects the variability of university-wide extramural funding levels. The general trend is toward increased student support, as total research funding in transportation has significantly increased at USC.

The current METRANS projects (all projects in progress at any time during 2007-08) together are supporting 106 graduate students, METRANS projects account for only part of the funded research support of graduate students. At USC, the School of Policy, Planning and Development and the Viterbi School of Engineering provide match funding for tuition. In addition, funding from the National Science Foundation, federal, state and local government, and foundations and industry support a wide spectrum of transportation research beyond that funded by METRANS.

Internships

Students have many opportunities for paid internships to gain professional experience before graduation. The USC MPL program requires 400 hours of professional experience; the USC MSCE program encourages such experience. USC students have interned at the Los Angeles County Metropolitan Transportation Authority, Southern California Association of Government, cities of Los Angeles, Pasadena, and Long Beach, the Ports of Los Angeles and Long Beach, and several major consulting firms.

Institute for Transportation Engineers Student Division

Professor Emelinda Parentela continues to serve as the advisor to the Southern California Chapter (District 6) of ITE (Institute of Transportation Engineers).

MESA Program

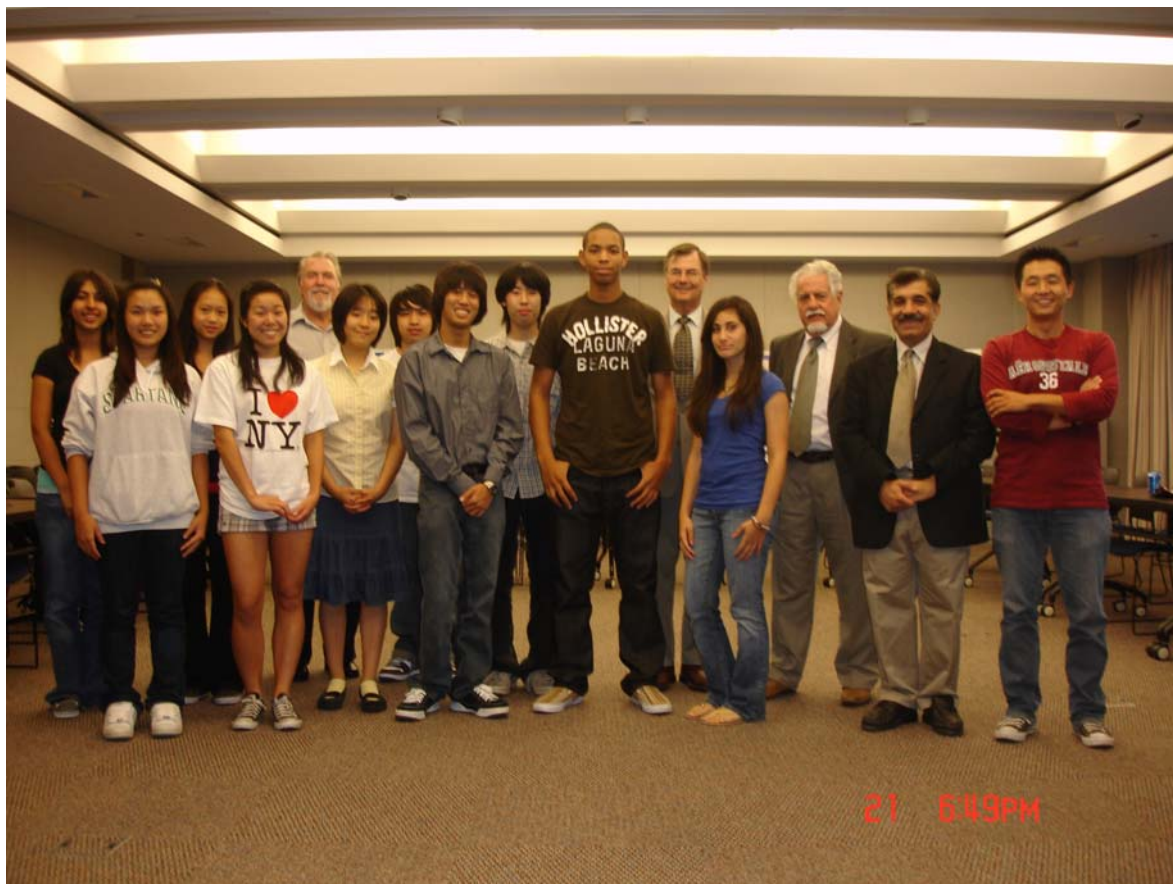
METRANS has partnered with the Gateway Cities Partnership, Inc. (GCPI), Paramount Unified School District, and CSULB's College of Engineering Math, Engineering and Science Achievement (MESA) program in an effort to attract more young disadvantaged students into engineering professions, with a particular emphasis on infrastructure-related engineering. MESA's programs are for students in grades 6-12 and include five Saturday mornings at CSULB College of Engineering, three site visits to organizations with a large engineering staff, and weekly meetings with an advisor/instructor at the school site. Students are eligible to take part in

the program over a three-year period. The program concludes each year with an engineering competition among MESA participants from different school districts.

To further enhance MESA's successes in Paramount, the Paramount Education Partnership (PEP) program has established a math and science tutoring lab with 15 computers to provide supplemental instruction to MESA participants in Paramount. Supplementary education programs will be provided to MESA students throughout the academic year.

CEERS High School Summer Research Fellowship Program

METRANS research plays an important role in the High School Summer Research Fellowship Program, run by the Center for Energy and Environmental Research and Services (CEERS) at CSULB. METRANS Researcher Hamid Rahai is CEERS Director. The objective of the program is to expose high school students to the exciting and rewarding world of engineering research and education and to provide the foundations necessary for the development of tomorrow's outstanding researchers, engineers and scientists.



The program offers high-achieving high school students the opportunity to work side-by-side with graduate students and professors over the course of five weeks on projects related to air and water pollution, mitigation processes, energy resources and productions, and related developments. Students are engaged in all aspects of research and are given lessons in technical report writing. The projects are selected by faculty in consultation with the CEERS advisory board and sponsoring agencies and have included METRANS-funded research projects. All students in the High School Fellowship Program receive \$800 stipends for their contributions to the research projects.

Degree Programs, Courses, and Seminars

Student involvement in transportation education and research continues to be strong at both USC and CSULB. There were no changes in degree programs or courses this year.

USC Transportation Students

In the USC School of Policy, Planning, and Development (SPPD), three students completed the comprehensive examination in the Master of Planning “Transportation and Infrastructure” field specialization in 2007-08. Additional transportation specialization graduates include two in Public Policy and one in Public Administration. There are currently about 15 Master of Planning students in the transportation field concentration in SPPD. Approximately nine SPPD students are pursuing transportation-related Ph.D. degrees.

In the USC School of Engineering, eight students received the MSCE- Transportation Engineering degree. Two students completed the Ph.D. in Civil Engineering and two in Electrical Engineering with an emphasis in transportation.

Eight new USC doctoral dissertations in transportation were either defended or filed by spring 2008. Ph.D.’s were granted in Urban Planning, Civil Engineering and Electrical Engineering. Dissertation titles are listed below, together with their current positions.

- “The Earthquake Response of Bridge Pile Foundations to Liquefaction Induced Lateral Spread Displacement” **Sharid Khan Amiri**, Ph.D. in Civil Engineering. Amiri works for Caltrans in its Irvine, California office.
- “Institutional Analysis of Stakeholder Collaboration in Freight Movement at the Ports of Los Angeles and Long Beach.” **Swati Chaudhuri**, Ph.D. in Planning. Chaudhuri works as a consultant at WCL Consulting in Long Beach, CA.
- “An Intelligent Utilization of Freight Transportation Networks in Metropolitan Areas” **Hwang Chang**, Ph.D. in Electrical Engineering
- “Systematic Performance and Robustness Testing of Transport Protocols with Congestion Control” **Shirin Ebrahimi-Taghizadeh**, Ph.D. in Electrical Engineering. Ebrahimi-Taghizadeh works at Microsoft Research.

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- “Roles of Household Responsibilities in Women’s Commute Lengths: An International Study.” **Elif Karsi**, Ph.D. in Planning. Karsi has accepted a position as a Lecturer in Planning at Appalachian State University in Boone, NC.
 - “Beyond Spatial Mismatch: Immigrant Employment in Urban America” **Cathy Liu**, Ph.D. in Planning. Dr Liu is now an Assistant Professor at the Andrew Young School of Policy Studies, Georgia State University.
 - “Walkability as ‘Freedom’: The Ecology of School Journey in Los Angeles Inner City Neighborhoods.” **Jung A Uhm**, Ph.D. in Planning. Jung Uhm continues to work and study at USC.

Two graduates from previous years have been appointed to new academic positions. **Bumsoo Lee**, PhD Urban Planning 2007, has been appointed tenure track assistant professor in the Dept of Urban and Regional Planning at the University of Illinois at Urbana-Champaign effective Fall 2008. **Jiyoung Park**, PhD Urban Planning 2007, has been appointed tenure track assistant professor in the Department of Urban Planning at the University of Buffalo effective Fall 2008.

CSULB Students

CSULB’s Master of Arts in Global Logistics (MAGL) debuted in spring 2002. In 2005, the admission of new cohorts occurred in the fall, in line with CSULB admission practices. 8 students graduated from Cohort V in the spring of 2008. Cohort VI began in the fall of 2007 with 19 students enrolled.

The MAGL degree is interdisciplinary, combining the analytical skills of a traditional MBA with a strong emphasis on logistics in a global setting. It is a 30-unit accelerated graduate program that can be completed in less than two years (21 months). The program prepares professionals to deal with the complexities of supplier relations/selection, purchasing negotiations, operations, e-commerce and many other dimensions of supply chain management. Graduates hold positions in various senior management positions and are employed by companies as diverse as Sony Logistics, Toyota Motor Sales, Boeing and the LA Unified School District.

In 2007-08, 61 students completed the CITT professional designation Global Logistics Specialist program in either the on-ground or on-line format. See details in Section E.

Transportation and Location Research Seminar

This seminar series serves to 1) provide speaking experience for advanced graduate students, 2) remind faculty of interdisciplinary transportation research opportunities, 3) provide a focus for transportation teaching and research, 4) provide a speaking forum for external visitors, and 5) increase the visibility of transportation research at USC and CSULB. The seminars are typically scheduled on Wednesdays throughout the academic year. In some cases external visitors are jointly sponsored with other groups in order to provide wider opportunities for seminar participation. USC and CSULB faculty and graduate students, local alumni, and local agency

representatives are invited to the seminar. As a practical matter, the distance between USC and CSULB has proven to be a significant barrier to participation from CSULB. This year we began video-conferencing the seminars. In Spring 2008 three seminars took place at USC, and one took place at CSULB. Each was broadcast to the other campus, allowing students and faculty at both campuses to participate in the seminars. When video-conferenced from USC, the presentation is recorded, making possible further dissemination via webcast. The 2007-08 seminars are listed in Table 11 below.

Table 11: METRANS Speaker Series, 2007-2008

Fall 2007

Date	Speaker	Location	Topic
September 19	James E. Moore II Professor of Industrial and Systems Engineering and Public Policy and Management University of Southern California	RGL 219	Quantifying Economic Losses from Travel Forgone Following A Large Metropolitan Earthquake
October 17	Volodymyr Bilotkach Assistant Professor, Economics University of California, Irvine	RGL 100	Distribution of Airline Tickets: A Tale of Two Market Structures
November 28	Seiji Steimetz Assistant Professor of Economics, California State University, Long Beach	RGL 101	Spatial Hedonics and the Willingness to Pay for Residential Amenities

Spring 2008

Date	Speaker	Location	Topic
January 23	Matthew Barth Director, Transportation Systems Research University of California, Riverside	RGL 219	Traffic Congestion and its Impacts on Greenhouse Gas Emissions: Can ITS Help?
February 13	Anastasia Loukaitou-Sideris, Department Chair, Professor of Urban Planning, University of California, Los Angeles	RGL 103	Death on the Crosswalk -- Pedestrian Safety in Los Angeles
March 5	Jeffrey Sellers Associate Professor, Political Science University of Southern California	RGL 103	Funding and Direct Democracy: Sources of Successful Coalition-Building
March 26	Maria Todorovska Research Associate Professor, Civil and Environmental Engineering University of Southern California	RGL 103	Probabilistic Seismic Hazard Assessment for Highway Bridges
April 16	Christine Jocoy, Assistant Professor, Geography, California State University, Long Beach	Foundation Building 204 (CSULB)	The Mobility of Homeless People and Their Use of Public Transit in Long Beach, California
April 30	Yoram Shiftan, Assistant Professor, Civil and Environmental Engineering, Israel Institute of Technology (Technion)	RGL 100	The Role of Travel Demand Models in Cost-Benefit Analysis

Continuing Education Programs

These are described in the technology transfer section under professional training.

F. DESCRIPTION OF TECHNOLOGY TRANSFER ACCOMPLISHMENTS

METRANS technology transfer activities are conducted primarily at CSULB through the University College and Extension Services and the Center for International Trade and Transportation, under the direction of Marianne Venieris. The CITT has a Policy and Steering Committee that plans and approves all outreach events. The METRANS Director is a member of the CITT Policy and Steering Committee. The METRANS Executive Committee reviews and approves all major technology transfer activities. Technology transfer at METRANS is more appropriately described as professional training and information dissemination. The topical focus of METRANS technology transfer is goods movement and international trade.

Professional Training

CSULB offers a series of industry driven training programs through the University College and Extension Services and the Center for International Trade and Transportation (CITT).

Global Logistics Specialist

The Global Logistics Specialist (GLS®) professional designation is the foundation of a spectrum of programs to cover the industry's training/education needs. It is designed to set a professional standard for the international trade logistics industry and, as such, is aimed at foreign traders and all stakeholders involved in the movement of cargo around the world. Carefully selected topics have been grouped into six core modules that are offered within a one-year time frame one night class per week. Each module contains up-to-date, practical information delivered through innovative hands-on instruction and site visits, making the program a unique training concept in this industry.

In 2007-2008, 61 students were awarded the Global Logistics Specialist professional designation (27 in the fall and 34 in the spring, both online and on-ground). During this 10th anniversary year for GLS, the program and founders Marianne Venieris and Richard Hollingsworth were recognized by FuturePorts and by the Harbor Transportation Club for contributions to the goods movement industry.

The GLS program was also featured in a June 2008 Los Angeles Times feature on job opportunities in international trade titled "Move Your Career Forward: International trade has spurred tremendous job growth in Southern California." William Ward, an 85-year old GLS student, was the subject of a September 2007 article in the LATC Transporter, a publication of the Los Angeles Transportation Club.

GLS Online

The online version of the GLS® certificate program makes available throughout the US and in other parts of the world the courses taught by top practitioners from every facet of the industry. The inaugural class started June 9th 2004 and as of July 1, 2007 more than 100 students have enrolled in various modules of the GLS Online.

The online version follows the same format as the regular program; it is organized in five modules plus a module that focuses on the capstone project. The program has seen a significant increase in enrollment over the past two years. As of July 2007, 22 students had completed the entire online program and 20 new graduates joined them in the spring of 2008.

The online program continues to extend the reach of the GLS. Students have come from New York, Florida, Montana, Wisconsin, Maryland, North Carolina, Texas, Washington, Arizona, Virginia, Nevada, Oregon and Utah and from the Dominican Republic, Canada, Vietnam, Mexico, India, Nigeria and Pakistan.

Outreach Events

Major transportation complexes generate significant public benefits but also significant localized costs. Increasingly communities bearing these costs are seeking to limit the growth of these transportation complexes. These efforts may limit overall economic growth of the region and the nation.

The region and the transportation industry are deeply divided on how growth can be absorbed over the next several years. METRANS, through its outreach activities, attempts to provide a forum in which to discuss these issues in an environment of mutual respect.

Town Hall Meeting

The I-710 expansion project, together with some high visibility lawsuits by environmental groups over port expansion projects, have placed increasing pressure on port and international trade interests to broaden their perspective. The Annual State of the Trade and Transportation Industry Town Hall Meetings, sponsored by METRANS over the past decade, have consequently evolved to focus more on the larger impacts and less on the operational issues of the ports. The challenge for METRANS and CITT is to maintain their role as a neutral forum while fostering education, research and information exchange that positively contribute to resolution of these conflicts.

The Annual Town Hall meetings offer goods movement stakeholders, particularly longshore labor, an opportunity to discuss the issues most critical to the industry. The issue that was perhaps most critical to the industry over the past year was the renegotiation of the longshore labor agreement. Because these negotiations shift the focus of likely Town Hall participants and limit their ability to act as partners in its design and implementation, METRANS decided to postpone the 10th annual Town Hall until after a contract settlement was reached. This occurred in the summer of 2008. As a result, the 10th Town Hall is being planned for the spring of 2009, and will be part of the events scheduled to celebrate METRANS' 10th anniversary year.

There is Town Hall news to report this year however. The video prepared for the 2007 Town Hall, *Port Security: Guarding America's Front Door*, was nominated for a WAVE Award by the Alliance for Community Media's Western Regional Conference in October. The Town Hall video was nominated as one of three finalists in the Community Issues category. Nominees are composed of participants from California, Nevada, Arizona, Colorado, New Mexico and Hawaii.

This is the third year in a row that a Town Hall documentary has been nominated for a WAVE Award. The 2006 video on balancing the economy and the environment won the award in the Community Issues category.

National Urban Freight Conference

The National Urban Freight Conference is described in Section C.

Other Outreach Activities

FHWA Transportation Education Development Pilot Program

METRANS Associate Director of Long Beach Programs, Tom O'Brien, is the Principal Investigator leading a team of researchers from CSULB and USC who have been awarded a grant from the Federal Highway Administration to develop models for collaborative workforce development involving educational institutions and local and regional transportation organizations. The grant was awarded in June 2008; work begins August 2008.

Panama Canal Seminar

On March 4, 2008, METRANS sponsored a special presentation on "Current Developments and Expansion of the Panama Canal, and Business Strategies and Plans to Attract US and Asian Trade." The speaker was Eduardo Lugo, Leader of Liner Services Segment, Corporate Planning and Marketing Department of the Panama Canal Authority.

ARB Seminar

On June 9, 2008, METRANS researcher Hamid Rahai presented on "Emission Control and Ocean-going Vessels" as part of the California Air Resources Board web seminar series.

Members of the METRANS management team are active in a variety of outreach and professional service activities.

METRANS Director **Genevieve Giuliano** is a member of the Executive Committee of the Council of University Transportation Centers and was elected Treasurer in June 2008. She is completed participation in a policy study, Global Climate Change and Transportation, jointly sponsored by the Board on Atmospheric Sciences and Climate and the Transportation Research Board, and is chairing a TRB policy study, Funding Options for Freight Projects of National Significance. At the state level, she is chair of the California Transportation Research and Technology Advisory Panel.

METRANS Deputy Director **Marianne Venieris** is a member of several local business associations. She serves on the Transportation Research Board (TRB) Education & Training Committee, ABG20, is co-vice chair of the Board of the California Marine and Intermodal Transportation System Advisory Council (CALMITSAC), is a member of the Board of the International Business Association of Southern California, a member the Board of Directors of

International Trade Education Programs, and on the Board of Directors of the Gateway Cities Partnership, Inc. a regional, nonprofit economic collaborative comprising twenty-seven cities in Los Angeles County. She is a member of the Goods Movement Task Force with Southern California Association of Governments (SCAG), and a member of the Board of the International Business Association of Southern California, and a member of the Harbor Transportation Club.

METRANS Executive Committee member **Maged Dessouky** serves as a member of the California Transportation Research and Technology Advisory Panel.

METRANS Executive Committee member **James Moore** is a director at large and an active member of the Los Angeles Chapter of WTS (formerly Women's Transportation Seminar).

METRANS Associate Director of Long Beach Programs **Thomas O'Brien** currently serves on the National Cooperative Freight Research Program Project Panel on Institutional Strategies in the Freight Transportation System and is a board member on the Council of Supply Chain Management Professionals (CSCMP) Southern California Roundtable. He also contributes a regular column to the Perspectives section of the *Long Beach Business Journal*, a bi-weekly publication. The column appears on a monthly basis and highlights important issues in goods movement and international trade and features CITT and METRANS activities, including research. In the past year, METRANS researcher Kristen Monaco has also contributed to the column.

Publications

Building Bridges

Building Bridges began publication in January 2001. It appears 4 to 6 times per year. The four-page newsletter is a briefing document to inform and promote dialogue within the maritime/logistics industry community. The objectives of Building Bridges are:

- To provide a neutral communications channel on industry issues
- To lead to fruitful and open dialogue
- To encourage closer cooperation among all industry stakeholders

Seventeen hundred fifty hard copies of each issue are printed. One thousand of these are mailed and about four hundred electronic versions of each issue are distributed to ILWU local members, industry leaders, government agencies, and METRANS Advisory Committee Members. In addition, the newsletters are made available at the Town Hall meetings, trade association meetings, to the distribution list of the Marine Exchange of Southern California and via the METRANS and CITT websites. Over the past year, METRANS has reduced the number of printed copies and encouraged readers to download copies from the websites. As of June 2008, 26 issues have been published. Issues were published in August and November of 2007 and in February and May of 2008.

The newsletter is formulated, edited, and distributed by an Editor-in-chief selected by the CITT Engagement Subcommittee with the assistance of the METRANS Administrator at CSULB. An

Editorial Board that includes members of the subcommittee and the METRANS Director provides oversight.

METRANS News

The first issue of the *METRANS News* was published in February 2003. This newsletter summarizes METRANS research, education and information dissemination activities. It complements the METRANS website and broadens our exposure to the research community, government, and industry. The newsletter features METRANS researchers, conferences and other events, recent publications, interviews with key individuals involved in METRANS, and other newsworthy activities and events. There are two-to-three 8-page issues published each year. It is distributed electronically to the national research community, federal, state and local leaders, industry leaders, and federal, state and local transportation agencies. 800 printed copies are distributed to the METRANS Advisory Committee, public agency managers, elected officials and other interested parties. The newsletter is also circulated to the distribution list of the Marine Exchange of Southern California and is available on the METRANS website. As of June 2008, fifteen issues have been published. Issues were published in July and November of 2007 and in April 2008.

Outreach - Website

The METRANS website is the primary source for dissemination of information on METRANS activities. The METRANS Strategic Plan, Annual Reports, and Semi-Annual Reports are available in downloadable form. All research project final reports, conference summaries, and technology transfer reports are also available. The *Building Bridges* newsletter and *METRANS News* are available, as well as information on CSULB's Master of Arts in Global Logistics and the new GLS® Online. An in depth program description including a list of core courses and options of specialization courses is provided. The website also provides links to USC transportation-related degree programs, identifies educational programs in transportation and links to 120 sources of transportation information. In particular, we have sought out organizations that provide funding for transportation research, student internships, student awards and professional organizations, and provided links to their web pages. The UTC search engine locates documents on all other UTC websites by keyword.

METRANS website statistics continue to show an impressive level of website traffic. The total number of visits for 2007-08 was 197,547, which is over 16,000 visits per month, a number which continues to increase year over year. Visitors represent numerous countries; and the largest percentage goes directly to the site, i.e. they are not referred from another Internet location. This suggests a prior awareness of the METRANS center. The goal of facilitating access to research appears to have been met. Of the 10 METRANS pages most downloaded, six are METRANS-funded research reports.

The METRANS website will be used to coordinate paper submission for the 2009 National Urban Freight Conference. It will also be used to promote the conference and provide up-to-date

information on the event. Event and hotel registration, and corporate sponsorships will be coordinated through the website.

In the coming year, METRANS will make available an interactive and searchable timeline of goods-movement related activities on the website and will debut a new podcast feature called the METRANS TRANSCast.

Project Reports

Project reports are distributed through the METRANS website.

The Research page of the site provides a convenient mechanism for downloading and viewing reports. All completed reports are available online. All Final Reports completed after May 2003 are available in print form by request.

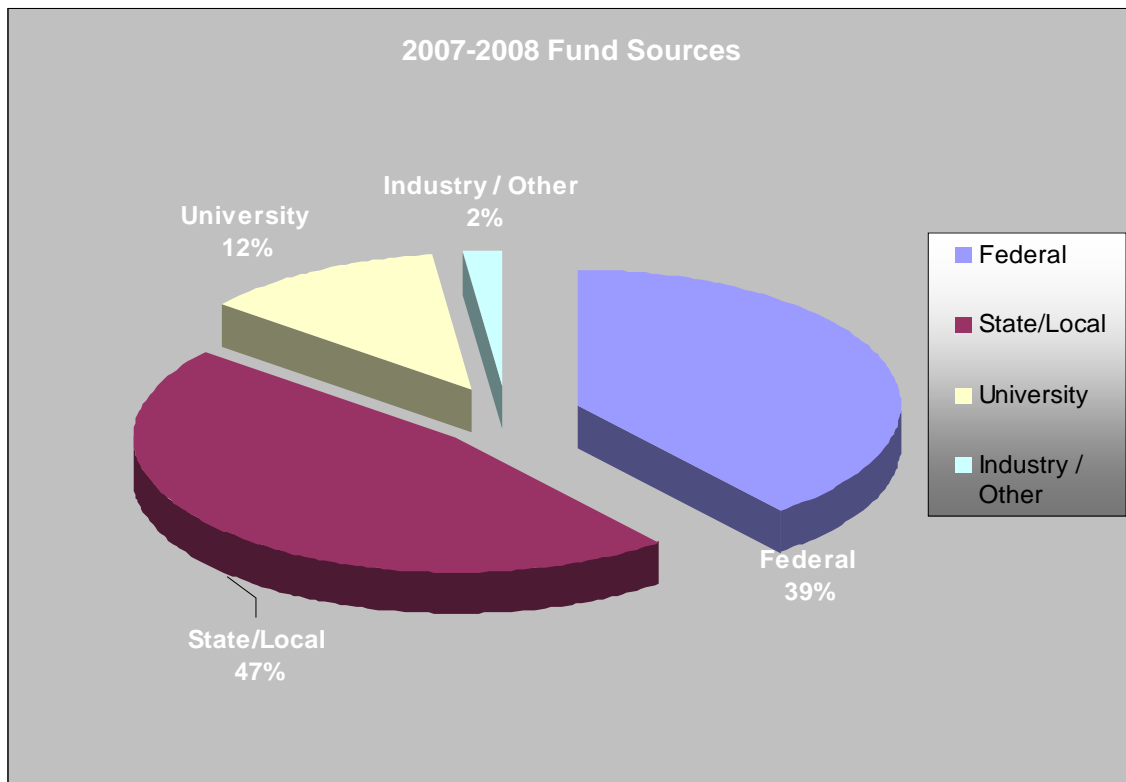
Final reports are also sent to the Transportation Library at Northwestern University, the Institute of Transportation Studies Library at the University of California, Berkeley, the Transportation Research Board Library, the Volpe National Transportation Systems Center, the U.S. Department of Commerce National Technical Information Service and the California Department of Transportation.

G. FUNDING SOURCES AND USES

Funding Sources

This section reports on budgeted expenses and income for 2007-08. Figure G.1 below gives fund shares by sources. METRANS received a total of \$1,988,652 from all sources; the USDOT share accounts for 39 percent. The largest share continues to come from state and local sources: the full dollar-for-dollar match from the California Department of Transportation, plus additional contributions from state and local agencies. University matching funds account for 13 percent, with the remainder from private industry and other sources. The ratio of match to USDOT funding for 2007-08 is \$1.55, compared to \$1.69 in 2006-07.

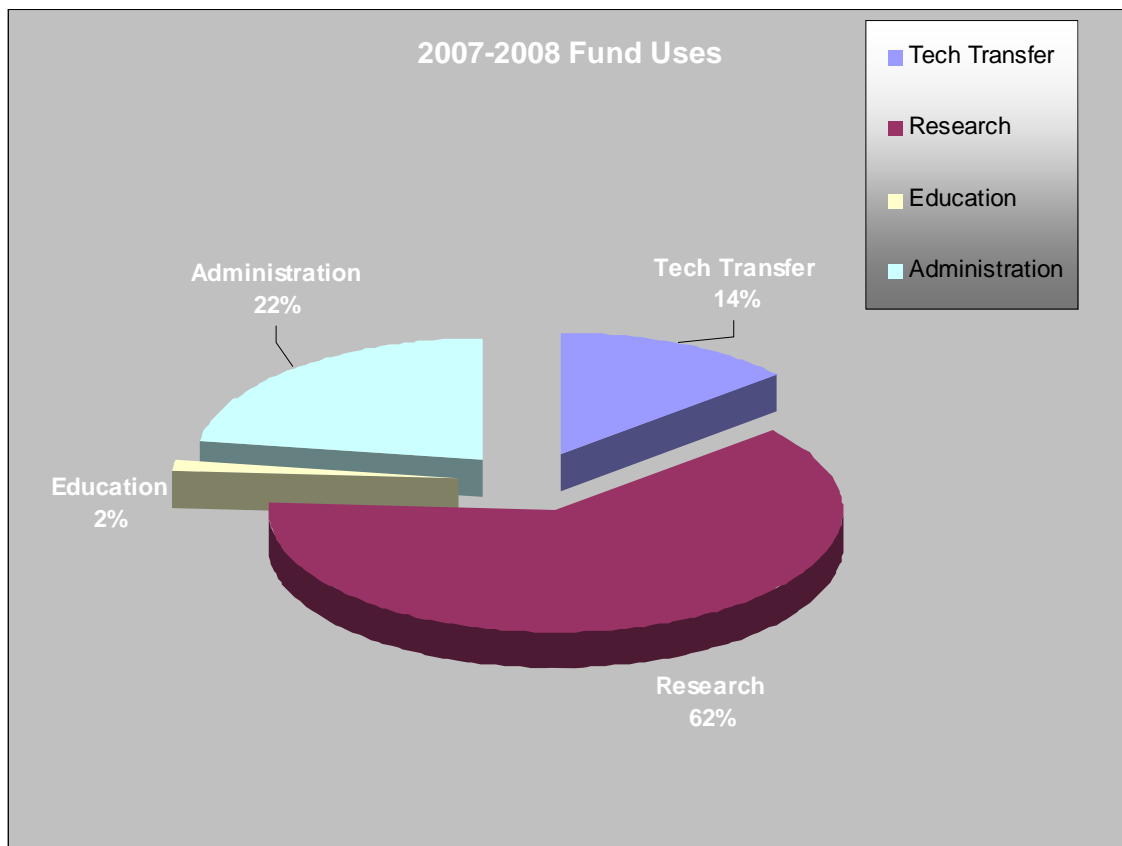
Figure G.1



Funding Uses

Figure G.2 gives METRANS funding by use categories for 2007-08. The chart is based on allocated budget expenditures and includes budgeting of surplus funds from previous years. The total is about \$2.0 million. This year research accounts for 62% of the allocated budget, as all surplus funds were allocated to new research projects. Education accounts for a small proportion of funds, as METRANS does not have a scholarship program; students are supported on research grants. Roughly $\frac{1}{4}$ of the research budget of a typical project is for student support, not including tuition contributions.

Figure G.2



Description of Funding Sources and Expenses

The 2006-07 fiscal year was the first after the Tier 1 competition. With funding secured for the next three years, we were able to start spending down funds that had been held in reserve in case we were not successful in the competition. These reserve funds were allocated to new research projects, resulting in the single largest amount of research funding since METRANS was established. In 2007-08 METRANS continued to spend down remaining surplus funds, all of which were allocated to research.

The Financial Status Table shows 2007-08 funding status as of June 30, 2008. The first column, “approved budget”, shows the final budget as approved by USDOT based on the total federal share of \$816,600. The second column, “allocated budget”, shows funding as it was allocated after the research selection process and after selection of outreach and training activities. This reflects both a “revised budget” for 2007-08, as well as budgeting of reserve funds to new research projects. The third column, “expenses”, reflects actual expenses as of June 30, 2008. The fourth column, “encumbrances”, is the difference between the allocated budget (column 2) and expenses (column 3). The final column “approved budget balance” shows the difference between the original approved budget (column 1) and the allocated budget (column 2).

The total approved budget for 2007-08, including match shares, is \$1,892,242. The allocated budget is \$1,959,000, leaving a negative balance of \$66,758. We are in the process of revising and closing out prior year budgets, and will be submitting them as budget revisions for USDOT approval.

The match share includes the Caltrans match and the USC match. Although additional research projects were funded by Caltrans, we are not including these funds in the allocated budget. METRANS receives additional funds for scholarships, conference support, training and research. We list these as additional match sources at the bottom of the table and count them as part of our overall match ratio, but we do not include them in the METRANS budget.

FINANCIAL STATUS

**07-08 Funding
As of June 30, 2008**

Categories	APPROVED BUDGET	ALLOCATED BUDGET	EXPENSE	Encumbrance	APPROVED BUDGET BALANCE
Center Director Salary	122,874	102,929	102,929	0	19,945
Faculty Salaries	217,937	235,509	31884	203,625	(17,572)
Administrative Staff	211,309	243,940	140,573	103,367	(32,631)
Other Staff Salaries	0	102,929	6,274	0	0
Student Support Subject to Fringe	9,080	46,843	10,697	36,146	(37,763)
Fringe Benefits	167,100	161,058	82,494	78,564	6,042
Student Support Not Subject to Fringe	185,760	177,094	58,191	118,903	8,666
Total Salary & Benefits	914,060	967,373	408,077	559,296	(53,312)
Scholarships	28,558	28,558	7,110	21,448	0
Permanent Equipment	0	0	0	0	0
Expendable Property and Supplies	113,134	160,976	99,029	61,946	(47,824)
Domestic Travel	36,000	53,095	21,908	31,187	(17,095)
Foreign Travel	0	0	0	0	0
Tuition and Student Health Fees	110,297	90,874	9,660	81,214	19,423
Other Direct Costs	83,670	50,911	8,811	42,100	32,759
Total Direct Costs	1,285,719	1,351,786	554,596	797,190	(66,067)
Indirect Costs	606,522	607,213	370,208	1,167,400	(691)
Total	1,892,242	1,959,000	791,600	1,167,400	(66,758)
Indirect Cost Match	(259,042)	(86,866)	(37,606)	(49,260)	(172,176)
Total (Less Indirect Cost Match)	1,633,200	1,872,133	753,995	1,118,138	(238,933)

Federal Share	816,600
Matching Share	<u>1,075,642</u>
Total	1,892,242

Matching Sources

USC Director Academic Salary	63,299	(includes associated fringes)
USC Indirect Costs Match	195,743	(includes tuition)
Caltrans	<u>816,600</u>	
Total	1,075,642	

Additional match sources, not included in above:

Federal Government

FHWA, National Urban Freight Conference	\$10,000
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State and Local Governments

Scholarships

Port of Long Beach – MAGL & GLS Scholarships	\$50,000
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National Urban Freight Conference

Port of Los Angeles	\$ 5,000
Port of Long Beach	\$ 2,000
South Coast Air Quality Management District	\$ 5,000
Southern California Association of Governments	\$ 5,000

Virtual Weigh and Compliance Station Project

California Department of Transportation	\$87,950
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Industry

Scholarships

Harbor Transportation Club Scholarships	\$12,320
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National Urban Freight Conference

Transport Solutions	\$ 1,000
Alameda Corridor Transportation Authority	\$ 1,000
Los Angeles Customs Brokers & Freight Forwarders	\$ 1,000
Gateway Cities Council of Governments	\$ 2,000
Majestic Realty	\$ 5,000
FuturePorts	\$ 1,000
American-Maglev Technology	\$ 1,000
American Assoc. of State Hwy & Transportation Officials	\$ 5,000

Total additional match sources:

Federal	\$ 10,000
State/Local	\$154,950
Industry	\$ 29,320
Total	\$194,270

APPENDIX

PERFORMANCE INDICATORS

METRANS Reporting Year: 2007-08

Research Selection

Performance Indicator	Number	Amount (Perf. Ind.2)
1. Projects selected for funding	15	\$1,084,323
1.a Basic research projects	2	\$180,000
1.a Advanced research projects	11	\$724,344
1.a Applied research projects	2	\$179,979

DEFINITIONS: Basic = fundamental or theoretical research that advances technical, scientific knowledge; Advanced = research that develops innovative solutions or contributes to understanding specific transportation problems; Applied = research that applies existing tools or strategies to specific cases.

Research Performance

Performance Indicator	Number*
3. Transportation reports published	23
4. Papers presented at academic/professional meetings*	58
4.a. Peer-reviewed publications*	102

* 38 faculty reporting

DEFINITIONS: PI 3 = METRANS project draft and final reports

Education

Performance Indicator 5:

Cumulative number transportation-related courses added since baseline year:

Total new undergrad transportation-related courses:	0
Total new grad transportation courses:	0

Performance Indicator 6:

Number of students participating in METRANS funded transportation research projects:

	USC	CSULB	Total
Undergraduate	8	13	21
Graduate	74	32	106

Note: Counted as student positions budgeted in ongoing research projects. Data on transportation research not funded by METRANS is not available.

Human Resources

Performance Indicator 7:

Cumulative number of new transportation-related advanced degree programs since baseline:

	USC	CSULB	Total
Masters	0	0	0
PhD*	0	0	0

* California State Universities do not have PhD programs. However, CSULB has a PhD program with Claremont College.

Performance Indicator 8:

Number of students enrolled in transportation-related advanced degree programs:

	USC	CSULB	Total
Masters	474	32	506
PhD	177	0	23

Performance Indicator 9:

Number of transportation-related advanced degrees granted:

	USC	CSULB	Total
Masters	225	8	237
PhD	23	0	23

Performance Indicator 9a:

Number of advanced degrees granted with transportation field concentration:

	USC	CSULB	Total
Masters	18	8	26
PhD	8	0	8

Technology Transfer

10. Tech transfer events	11. Number participants
Global Logistics Specialist Training	84
GLS Training Online	55
National Urban Freight Conference	200
Total	339