

METRANS TRANSPORTATION CENTER
(National Center for Metropolitan Transportation Research)

STRATEGIC PLAN

APRIL 2007

University of Southern California
California State University, Long Beach

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SECTION I – PROGRAM OVERVIEW

Introduction

METRANS, the National Center for Metropolitan Transportation Research, was established in 1998. Per the legislative requirements of TEA-21, METRANS was part of a group of 17 University Transportation Centers (UTCs) required to compete in 2001 for continued designation as a UTC. METRANS was successful again in the 2006 Tier I competition required in SAFETEA-LU. Per the requirements for Tier I UTCs, this Strategic Plan describes our plan for achieving USDOT's desired outcomes from the UTC Program. Specifically, the UTC outcomes are:

- Conducting research that supports the national strategy for transportation research
- Educating the next generation workforce to provide professionals who will effectively construct and manage an increasingly complex transportation system, and thereby contribute to US economic competitiveness
- Transferring problem-solving technologies and methods into professional practice

The remainder of this Strategic Plan presents our Center Theme, and describes our program activities, management approach and proposed budget.

I.A. Glossary

CALMS	Center for Advanced Logistics Management Systems
Caltrans	California Department of Transportation
CATT	Center for Advanced Transportation Technology
CCDoTT	Center for Commercial Deployment of Transportation Technologies
CITT	Center for International Trade and Transportation
CREATE	Center for Risk and Economic Analysis of Terrorism Events
CSULB	California State University, Long Beach
CUTC	Council of University Transportation Centers
DOT	Department of Transportation
ESRI	Environmental Systems Research Institute
FFEI	Future Fuels and Energy Initiative
FHWA	Federal Highway Administration
FMCSA	The Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA R&T	Federal Transit Administration Research and Technology
GIS	Geographic Information Systems
GLS	Global Logistics Specialist
ILWU	International Longshore and Warehouse Union
ISE	Industrial and Systems Engineering
ISI	Information Sciences Institute
ITS	Intelligent Transportation Systems
KII	Keston Institute for Public Finance and Infrastructure
LA Co METRO	Los Angeles County Metropolitan Transportation Authority
MAGL	Master of Arts in Global Logistics
MARAD	United States Maritime Administration
MEP	Mesa Engineering Program
MESA	Minority Engineering and Science Association
METRANS	National Center for Metropolitan Transportation Research
MSCE	Master of Science in Civil Engineering
NASA	National Aeronautics and Space Administration
NHRTP	National Highway Research and Technology Partnership
NHTSA	National Highway Traffic Safety Administration
NOAA	National Oceanic and Atmospheric Administration
NUFC	National Urban Freight Conference
POLB	Port of Long Beach
RD&T	Research, Development and Technology
RFP	Request for Proposals
RITA	Research and Innovative Technology Administration
SAFETEA-LU	Safe, Accountable, Flexible, Efficient, Transport. Equity Act: A Legacy for Users
SCAG	Southern California Association of Governments
SPPD	School of Policy, Planning, and Development
TEA-21	The Transportation Equity Act for the 21st Century
TRB	Transportation Research Board
UCES	University College and Extension Services
UCTC	University of California Transportation Center
USC	University of Southern California
UTC	University Transportation Centers
VSOE	Viterbi School of Engineering
WTS	Women's Transportation Seminar

I.B Center Theme

The theme of this Center is, “transportation within large metropolitan areas.” METRANS will develop and examine solutions to the transportation problems of major metropolitan areas using a multidisciplinary approach that blends engineering and the social sciences. METRANS will also become a national resource for information on solutions to metropolitan transportation problems.

Metropolitan transportation problems are particularly challenging. Large metropolitan areas – especially fast growing ones – suffer from extreme congestion across all modes, aging infrastructure, environmental degradation, large transit dependent populations, and, increasingly, vulnerability to natural and man-made disasters. Large metropolitan areas are also the focus of burgeoning international trade and its impacts. Funding shortages and fragmented governance structures add to the difficulties of problem solving. Developing innovative solutions requires excellent research that draws on many different disciplines and is informed by practice. Implementing innovative solutions requires effective communication of research to practitioners, as well as a broadly skilled and informed transportation workforce.

I.B.1 Our theme is a common focus for center activities

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. These areas are further discussed below. 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.

METRANS focus areas

Metropolitan transportation problems are numerous, and achieving national and international leadership requires focus. We will focus on the substantive areas in which we have particular strength: 1) goods movement and international trade; 2) mobility of urban populations; 3) transportation infrastructure and finance; 4) safety and security.

i) Goods movement and international trade

This area is concerned with how crowded and congested cities can efficiently move goods and provide transportation infrastructure to support economic growth. Growing international trade and changes in manufacturing, warehousing and distribution have major impacts on metropolitan areas. Productivity issues associated with international goods movement are of particular interest. Research focuses on improving productivity and sustainability of ports, inter-modal facilities, and ground transportation. It includes topics such as developing models, technologies or policies for more efficient movement of cargo. Productivity can be studied in a variety of ways, such as new technologies that improve cargo handling, information technology to optimize the allocation of resources, and policies that will promote efficient goods movements. We also include

environmental issues of goods movement, including impacts on vulnerable populations. Reducing environmental impacts of goods movement may include fuel and propulsion technologies, regulatory approaches, compatible land use planning, and alternative institutional arrangements.

ii) Urban mobility

Mobility of urban population addresses congestion, alternative modes, and mobility/accessibility of population segments within diverse metropolitan areas. Metropolitan areas are highly segmented, with different land use patterns, transportation supply, employment mix, and population characteristics. Solving congestion and mobility problems requires solutions that are sensitive to the neighborhood or community environment. Research topics include relationships between travel patterns and urban form; comparative research across location (cities vs suburbs) or population groups (aging, children, transport disadvantaged, race/ethnic minorities). This area emphasizes accessibility and mobility for disadvantaged populations. Given the key role of pedestrian movement in urban travel, non-motorized travel is of particular interest.

This area also addresses strategies to improve the operation, quality and patronage of public transport, and to maximize the efficiency of large public transit infrastructure investments. Research topics include advanced technology applications, bus and route optimization, rapid bus, flexible fare structures, supportive land use policies, service delivery alternatives, and public transit organizational and funding structures.

iii) Transportation infrastructure and finance

Transportation infrastructure is concerned with ensuring and improving the supply of transportation services delivered in metropolitan areas, with an emphasis on providing self-sustaining, environmentally compatible transportation infrastructure that is durable and efficient and that requires fewer human, economic, and environmental resources to produce, operate, and maintain. This area includes research on materials, infrastructure components, systems, and policies. Topics include monitoring, maintenance, rapid repair, rehabilitation, renewal, retrofit, and life extension of transportation infrastructure; including procedures, standards, technologies, and materials.

A second area of transportation infrastructure is financing requirements and techniques, including new pricing options. Constraints on conventional funding sources and rapidly improving information/communications technology are facilitating new approaches to financing: public/private partnerships, user pricing, design/build/operate, bond financing, infrastructure banks, etc. Innovative financing brings new stakeholders into the infrastructure investment process and requires skills that the traditional public sector employee typically does not have. In keeping with our theme, the emphasis will be on large urban infrastructure projects – inter-modal facilities, freeway expansions, etc.

iv) Safety, security, vulnerability

This area is concerned with safety and security issues of large metropolitan areas. There are three sub-areas: 1) personal safety and security, 2) security and vulnerability of major infrastructure, and 3) safety and risk mitigation. Congestion and the concentration of modal traffic impose risks on pedestrians, drivers, and transit passengers. Research areas include personal safety and security on public facilities (pedestrian ways, public transit), and reduction of crash risk (particularly train/car, car/pedestrian crash risk).

Large population concentrations and the presence of major transport facilities (ports, airports, major highway links) make large metropolitan areas particularly vulnerable to both natural and man-made disasters. Our focus will be on major facilities: ports, transit centers, subways, airports, and inter-modal centers. Research includes vulnerability assessment, detection and surveillance methods and technologies, and security policies for the transport labor force. Research on safety and risk mitigation includes methods for “hardening” obvious targets, analysis of seismic and other natural risks of infrastructure components, structures and networks, and risk mitigation for vulnerable human populations.

I.B.2 Our theme and the national strategy for surface transportation research

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 projects.

Table 2 provides similar information for the FTA Strategic Research Plan goals and objectives. We list the strategic objectives related to METRANS research, and provide some illustrative examples of research projects. 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
<u>Safety</u> Transportation-related deaths and injuries	Causal factors and risk Mitigation New technology	Enhanced safety data	Urban train-car collisions; schoolchildren pedestrian 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	Efficient cargo vehicle routing; sensor technologies for truck monitoring; traffic mitigation fees
<u>Global connectivity</u> Reduced trade barriers Int'l supply chain efficiency Int'l leadership, standards Equal opportunity	Support leadership for transportation providers		Computable general equilibrium model of Southern California economy
<u>Environmental stewardship</u> <u>Reduced environmental impacts</u> <u>Streamlined review</u>	Mitigate impacts	Energy efficiency and alternative fuels	Emissions profiles of locomotives; impact of new diesel fuels on subsurface
<u>Security, preparedness and response</u> <u>Intelligence</u> <u>Preparedness</u> <u>Response</u>	Reduce vulnerability; preparedness and recovery		Strategies for mitigating port disruptions; cargo security early warning system
<u>Organizational excellence</u> <u>Human capital</u> <u>Financial, budget performance</u> <u>E-gov't</u>			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	Efficient transit routing; transit use among immigrant populations; mobility of homeless
Capital and operating efficiencies	Transit efficiency	Electoral support for transit funding
Safety and emergency preparedness	Transit safety	LRT safety for drivers and pedestrians
Environment and energy independence	Energy efficiency and emissions	Engine efficiency

Source: FTA Strategic Research Plan, 2005

I.C Center Director's Summary

The METRANS vision is to become a national and international leader in research, education and outreach that contributes to solving metropolitan transportation problems. METRANS is committed to a program of research that reflects both excellence in scholarship and relevance to real-world problem solving; to effectively communicating research findings and fostering implementation; and to providing future transportation professionals with the skills they will need in a rapidly changing and increasingly complex transportation environment. METRANS is eminently qualified to achieve its vision through its past performance, unique research specializations, balanced portfolio of activities, location in Los Angeles, extensive industry and agency relationships, and strong university partnership.

METRANS has been very successful in achieving the goals of its first Strategic Plan. Its vision was, "to become the leading center for research on transportation problems confronting metropolitan areas, especially those requiring major investments in transportation infrastructure" (METRANS Strategic Plan, 1999, p. 5). METRANS research emphasized cross-disciplinary approaches that blend engineering, policy, planning, and other social sciences. METRANS is now a nationally recognized center, and is most prominent for cross-disciplinary research, education and outreach on goods movement. METRANS was committed to 1) establishing a successful partnership between the two participating universities, 2) working closely with public agencies and private industry in Southern California, 3) becoming the single most important source of information on transportation in Southern California, 4) producing highly trained graduates for jobs within the region, 5) becoming a valued resource for research sponsors within the region, and 6) elevating the international stature of USC and CSULB as centers for transportation research. All of these goals have been achieved. We therefore have a strong base for continuing to expand our UTC activities.

I.C.1 Goals for the 2007 Strategic Plan

National and International leadership requires 1) conducting high quality, leading edge research; 2) recruiting, training and placing the best students in academic or industry jobs; 3) translating our research into practice via outreach and technology transfer with government and private partners.

Our success is dependent upon a complementary relationship between the two participating universities. We will use the intellectual resources of USC and CSULB to both increase and broaden our research activities. USC is currently ranked 17 among US research universities, and in 2005 had an extramural research portfolio of \$430 million. CSULB is one of the largest four year colleges in California, with an enrollment of 34,500, offering 81 baccalaureate degrees and 66 master degrees.¹

High quality, leading edge research

METRANS will achieve international prominence in research by building on unique faculty expertise in network simulation, urban activity systems modeling, and goods movement policy analysis. In addition METRANS will expand research on emerging problems within our four focus areas, notably environmental impacts and mitigation strategies in urban goods movement, transportation finance, and risk and vulnerability of urban populations (see previous section for discussion of METRANS thematic areas).

METRANS will utilize its strong collaborative relationships with local public agencies and private industry to leverage UTC funds and attract additional research funding. METRANS researchers will also pursue funding via National Science Foundation and other resources. METRANS funding will support research excellence, raising the visibility of our faculty among peer institutions.

METRANS research will be relevant to real-world problem-solving. By closely collaborating with Caltrans, USDOT, and its local partners, the METRANS research agenda will reflect the priorities of practitioners. Direct collaboration with partner agencies will be encouraged. Research results will be shared via various media.

A major new activity will be a cooperative research and demonstration partnership with Caltrans and several local partner agencies, the Los Angeles Test Bed for Efficient Goods Movement. The primary purpose of the Test Bed is to develop and test technologies that will improve the monitoring and management of freight traffic on the surface transportation system. It will include data sharing and communication, advanced technology development, and the testing of specific technologies. The Test Bed is envisioned as both virtual and physical. The virtual test bed is a set of simulation models that have been developed over the last several years with funding primarily from METRANS and the National Science Foundation. We are now at a point of being able to integrate these models to create a simulation laboratory capable of analyzing operational policies or new technologies for goods movement from a systems perspective. The physical test bed will be located in the area surrounding the Ports of Los Angeles and Long Beach. Its purpose is to demonstrate and test new technologies for managing and monitoring truck traffic. METRANS funds are being used to launch this activity. Additional funds from other sources are expected to support the test bed activity; we see this effort as a way to continue to grow our transportation research despite flat funding levels of the Tier 1 program.

METRANS also will use its visibility at USC and CSULB to encourage recruitment of new faculty in fields related to transportation.

¹ California State Universities do not have PhD programs. However, CSULB has a PhD program with Claremont College.

Student recruitment, training, placement

In view of the expected workforce shortage and the changing nature of the transportation profession, workforce development is a critical component of our goals. CSULB and USC have a number of graduate degree programs with specialization in transportation. Working through schools and departments, we will recruit the top students to our degree programs and seek to increase the number of graduates. Los Angeles provides a rich laboratory for transportation students; they will gain first-hand experience through internships and field study programs with agencies such as Los Angeles County METRO, the ports of Los Angeles and Long Beach, and Southern California Association of Governments (SCAG). In keeping with our commitment to interdisciplinary research and education, we will encourage students to enhance their education through courses in other schools and departments. Finally, students will have access to funding support via participation in research projects.

The Los Angeles region provides enormous opportunities for professional employment. Internships and site visits introduce students to jobs and at the same time give employers the chance to evaluate prospective employees.

Education efforts must extend beyond traditional degree programs. We will use the excellent capabilities of the CSULB University College & Extension Services (UCES) to offer various types of training and certificate programs to the professional community in the area of transportation and international trade.

Translating research to practice

Our graduates are the main conduit for translating research to practice. They are exposed to leading edge research, to new ideas for solving problems. As this new generation workforce proceeds through the professional ranks, many of the ideas communicated in the classroom (and sometimes perceived as academic exercises) will find their way into practice.

We will promote technology transfer and implementation in several ways: 1) use new media technologies to achieve exposure to a wider audience, 2) disseminate research results through conferences, publications, demonstrations, 3) development of the Los Angeles Test Bed, 4) regular communication with state and local sponsors.

In four years, we envision METRANS as one of the top ranked centers in the US, and as an internationally recognized source of research, education and information on transportation related to large metropolitan areas. We envision METRANS as a leader in national and state policy discussions on goods movement and international trade. We envision METRANS as a recognized resource for new analytical tools, new technologies, and new strategies for addressing metropolitan transportation problems. We envision our training and outreach programs being recognized as state-of-the-art and replicated in other parts of the US. We envision our students as among the best prepared to become the next generation leaders in both research and practice. Finally, we envision METRANS as the premier example of a joint university partnership.

The knowledge base produced by METRANS over the next four years will be sustained in several ways. First, the body of knowledge will be disseminated in scholarly publications, research reports, and conferences. METRANS publications are sent to the University of California ITS Library, which contains the largest collection of transportation literature in the West and which is accessible to the public. All METRANS products are available on the web. Longer term, the future academics and professionals trained at USC and CSULB will build on the knowledge base and put it into practice. Second, METRANS funding has served as a catalyst for developing research

that is funded by other sources. Third, investments in faculty and education programs are long term. Finally, METRANS is a nationally recognized center with support from many sources.

SECTION II – PROGRAM ACTIVITIES

II.A Research Selection

Research Selection Goal: An objective process for selecting and reviewing research that balances multiple objectives of the program

1. Baseline Measures

Under the prior Strategic Plan, METRANS reported three research selection measures: 1) number of research projects conducted, 2) total budget for those projects, 3) number of individuals listed as principal investigators. Under this Strategic Plan, we will report the revised measures per the USDOT Instructions for Preparing a UTC Strategic Plan. Baseline measures for Research Selection include 1) number of research projects selected for funding and their allocation to research categories, 2) total budgeted costs for the selected projects. The baseline year is 2005-06, which covers July 1, 2005 through June 30, 2006. We will use the FY 05-06 awards round for the baseline. Full details are available in the METRANS 2005-06 Annual Report. Baseline measures for Research Selection are presented in Appendix A.

2. Research Selection Program Outcome

The METRANS research selection process will encourage research that a) contributes to the state of knowledge in transportation, b) contributes to solving metropolitan transportation problems, c) is consistent with METRANS thematic focus areas, d) leverages METRANS funds to expand transportation research, e) supports graduate students. The research selection process will be both fair and efficient.

3. Planned Activities

METRANS will issue a Request for Proposals (RFP) in the Spring of each year. The RFP will be written by the Director and reviewed by the Executive Committee (see Table 4 for a list of the Executive Committee). The RFP will define the thematic focus areas for which proposals are solicited, and will include guidance on USDOT and Caltrans research priorities to help direct researchers to relevant topics. Specifically, the RFP will provide information drawn from National Highway Research and Technology Partnership, the FTA National Research and Technology Program, the USDOT Strategic Plan, and the USDOT Research, Development and Technology Plan, and the Caltrans Research Strategic Plan. Proposers will be referred to the UTC Program website for further information. The METRANS RFP solicits original proposals on any topic within the thematic focus areas; it does not specify topics.

DOT High Priority Areas: In addition, proposers will be informed of the DOT high priority research areas, currently Advanced Research and Congestion Chokepoints. Congestion Chokepoints is included in two METRANS thematic areas, goods movement and international trade, and urban mobility. Advanced research is included in all four thematic areas. In addition, METRANS is seeking additional funding for development of the Los Angeles Test Bed.

Potential research topics will be solicited from sponsor agencies as well as public and private entities that have the capacity to offer matching funds. Proposers will be

encouraged to respond to topics for which matching funds are offered. The METRANS Executive Committee will review and approve the RFP. The RFP will provide at least 45 days for proposal submission.

Proposals will be reviewed through an external peer review process, with expert reviewers drawn from both research and practice. Each proposal will be sent to up to 6 referees representing USDOT, Caltrans, university research, and local practitioners. Reviewers will evaluate proposals with respect to the selection criteria listed below. Evaluators will use a five point scale ranging from 5 = excellent to 1 = poor.

- Demonstrated relevance to theme of RFP (a requirement)
- Innovation and research significance
- Student involvement in the form of research that fulfills degree requirements
- Collaboration across campuses and disciplines
- Reasonableness of budget and cost-effectiveness
- Qualifications of the PI to perform work
- Likelihood of successful completion
- Match funding; participation from outside organizations
- Prior METRANS performance (for those funded previously).

In addition to these ratings, evaluators will be asked to recommend priority for funding (highly recommend, fund with modifications, do not fund), and provide narrative comments with suggestions and justifications.

The METRANS Administrator will collect proposals and review them for compliance. The METRANS Associate Director of Research will manage the proposal review process. He will select reviewers, compile referee reports, and, in consultation with the Director, provide summary information on each proposal. The METRANS Executive Committee will review the summary information and select projects for funding. The selection process emphasis is on quality, not balance across thematic areas. Executive Committee members who have pending proposals or other conflict of interest must recuse themselves from deliberations. Proposals selected for funding will be submitted to Caltrans for review and approval. Funded investigators will become members of the METRANS Center. Our goal is to make funding decisions within 90 days of receipt of proposals so that new projects may begin at the start of the academic year (late August).

4. Performance Indicators

Records on proposals submitted, projects selected, and project budgets are maintained by the METRANS Administrator. Records for research project accounts and expenditures will be maintained by a METRANS accounts manager within the Budget Office of the School of Policy, Planning and Development, USC.

In order to better track our own progress, we will also maintain data on 1) number of proposals submitted, 2) total budget request of proposals, 3) proposals and selected projects by thematic area, 4) matching funds obtained.

II.B Research Performance

Research Performance Goal: An ongoing program of basic and applied research, the products of which are judged by peers or other experts in the field to advance the body of knowledge in transportation.

1. Baseline Measures

METRANS will provide information on performance measures 3 (number of reports issued from research projects funded by METRANS) and 4 (Number of research papers based on METRANS projects presented at conferences and professional meetings). In our view, the most relevant measure of research quality is number of peer-reviewed publications generated by METRANS supported research. We will therefore add this metric as measure “4a” in Appendix A.

2. Research Performance Program Outcome

METRANS will conduct research that both makes a significant contribution to knowledge and contributes to real world problem solving. This will occur through the execution of projects, and through communication of research results in a variety of venues. Research publications will recognize Caltrans and USDOT sponsorship as well as METRANS support. Top quality research is assured through the proposal peer review process and the monitoring of individual PI performance.

3. Planned Activities

The METRANS Administrator will monitor the progress of all ongoing research grants to assure timely progress reports and project completion. Funding on new projects will be withheld if any ongoing project has been extended beyond the original end date, until that project is completed. PIs who do not complete projects in a timely manner, or who do not fulfill all committed activities will be unlikely to receive future METRANS funding.

All METRANS Draft Final Reports will be reviewed by the Director or a member of the METRANS Executive Committee with relevant expertise. Authors will be required to respond to review comments in the Final Report. The METRANS Administrator will review all final reports for conformity with format and style guidelines, and for grammatical errors. PIs will be required to present results from METRANS funded research at a METRANS Seminar or conference. PIs will be encouraged to submit papers based on their research for publication in refereed journals, and to acknowledge METRANS funding in all publications.

PIs will be encouraged to budget for presentations at research conferences as part of the research selection process. In addition, a consideration in funding will be the likelihood that research will lead to refereed publications, as well as past performance in refereed publications.

METRANS will also work to expose a broad public to major research results through public events, press releases, the *METRANS News*, and its website. Finally, the METRANS Administrator will seek out opportunities for transportation research awards, publicize these to researchers, and assist in applying for awards.

4. Performance Indicators

Since all METRANS final reports will go through a review process and then be made available on our website, the METRANS Administrator will have the data for performance measure 3. Tracking faculty publications and presentations is more challenging. Most USC schools require a “faculty annual report” in which each faculty provides information on research, teaching and service activities over the past calendar year. We will request a copy of the faculty annual report from METRANS Center faculty. There is no consistent formal structure for faculty reporting at CSULB. We will request either a faculty report or an updated CV from each CSULB METRANS Center faculty. In practice it is unlikely that all Center faculty will respond. We therefore will note the number of respondents for these performance measures.

Given our focus on real-world problem solving, we will also monitor projects with respect to whether recommendations, analytical tools, or new technologies associated with METRANS funded research were adopted or implemented by public or private organizations.

II.C Education

Education Goal: A multidisciplinary program of course work and experiential learning that reinforces the transportation theme of the Center

1. Baseline Measures

METRANS is a university research center, and as such has no authority to offer courses or degree programs. All courses and degree programs operate through the schools at the two universities.

University of Southern California

University of Southern California offers transportation-related graduate degrees in the Viterbi School of Engineering and the School of Policy, Planning and Development. At the undergraduate level there is no formal field concentration in transportation. Undergraduate degrees in Policy, Planning and Development, Geography, Architecture, and many fields of engineering attract students who have interest in transportation. There is no feasible way of tracking such students, and a large number of courses in these areas could be considered “transportation related.” Hence we restrict our list to undergraduate transportation courses.

The Viterbi School of Engineering (VSOE) offers the Master of Science, Civil Engineering, with transportation engineering concentration. The MSCE is also offered with a concentration in construction engineering and management. VSOE offers the PhD in Industrial and Systems Engineering with field concentration in systems engineering, Electrical Engineering with field concentration in advanced technologies and automation, and Aerospace and Mechanical Engineering with field concentration in combustion and fuels technology.

The School of Policy, Planning and Development (SPPD) offers the Master of Planning, Master of Public Administration, and Master of Public Policy with field concentration in transportation. SPPD also offers the PhD in Policy, Planning and Development with field concentration in transportation.

USC transportation related graduate degree programs are somewhat unique, in that they are marketed together and share a common set of elective courses. This promotes multidisciplinary education in transportation. Students from VSOE and SPPD are often in the same classroom, providing a rich interchange of skills and perspectives.

USC also offers the Graduate Certificate in Transportation Systems. It can be completed as a stand-alone program or in conjunction with another USC graduate degree.

California State University, Long Beach

The CSULB College of Engineering offers four-year curricula leading to Bachelor of Science degrees in the disciplines of engineering and engineering technology. There is no formal transportation specialization at the undergraduate level. Undergraduate degrees offer courses in many areas of engineering and the social sciences for students who have interest in transportation. There is no feasible way of tracking such students, and a large number of courses in these areas could be considered “transportation related.” Hence we restrict our list to undergraduate transportation courses.

The College also offers Masters Degrees in six different engineering disciplines. The Ph.D. in Engineering and Industrial Applied Mathematics is offered jointly with The Claremont Graduate School. The Department of Civil Engineering and Construction Engineering Management offers the Master of Science in Civil Engineering (MSCE) with an area specialization in Transportation Engineering. Classes include transportation planning, seaport planning and design, traffic engineering, and pavement engineering.

The Department of Public Policy and Administration in the College of Health and Human Services offers a Graduate Certificate in Transportation Policy and Planning. The purpose of this certificate program is to provide instruction in the skills and knowledge appropriate to professional activity in transportation policy and planning for urban transportation. Key support areas include urban planning, policy analysis, environmental policy, intergovernmental policy, personnel policy, and grants administration. These programs also offer background in computers and their applications to governments.

Also offered is the Public Administration graduate degree with an option in Public Works Administration and Urban Affairs.

The Department of Economics offers a Masters Degree with specialization in transportation economics and international trade.

CSULB'S Master of Arts in Global Logistics is interdisciplinary, combining the analytical skills of a traditional MBA with a strong emphasis on logistics in a global setting. It is offered through the Department of Economics and administered through the Center for International Trade and Transportation and the University College & Extension Services. The program prepares professionals to deal with the complexities of various aspects of supply chain management.

2. Education Program Outcome

The primary objective of the METRANS education program is to train future leaders in transportation research and practice. We have a comprehensive set of graduate programs in place; we seek to attract more and better students into transportation through the presence of METRANS, through various student outreach activities, and through student support on METRANS research grants.

METRANS will expose students to the transportation industry via both classroom and field experiences. It will involve large numbers of students in transportation research. It will serve as a networking center for job placement by maintaining contact with alumni and providing access to transportation leaders.

We expect that METRANS will continue to build enrollment in transportation related degree programs, as has been the case over the past 8 years. METRANS is now a well-recognized asset at USC and CSULB, and students interested in transportation seek out universities with large transportation research programs.

3. Planned Activities

The METRANS education program will support the national strategy for surface transportation research as identified by the National Highway Research and Technology Partnership, the programs of the National Research and Technology Program of the FTA, and the national research, development, and technology priorities of DOT and its Operating Administrations. It will do so by offering a broad range of degree options, and by promoting multidisciplinary and experiential learning.

Student involvement in research will be an important criterion in the research selection process. We expect that all METRANS funded projects will include student research assistants, and that through this work experience students will attain a deeper understanding of the transportation industry and of transportation research. This will be

reflected in a variety of ways, including MS and PhD theses completed in transportation, and the number of students working on transportation projects.

METRANS will continue to hold the METRANS Seminar Series. The Series will be monthly, and will include a mix of speakers from within USC and CSULB, from other universities, and from industry. METRANS Seminars will be open to the public and advertised via email and the website. Speakers this year include Kostas Goulias (UC Santa Barbara), Robert Breugmann (University of Illinois, Chicago), Samer Madanat (UC Berkeley), as well as a special seminar featuring transportation dissertation presentations.

METRANS will support experiential learning in three ways. First, we will organize tours and field trips to major transportation facilities, as well as meetings with local industry and agency leaders. Los Angeles is an exceptionally rich environment for transportation. Field trips may be arranged to traffic operations centers, port terminals, distribution centers, transit garages, air cargo terminals, etc. Field visits promote informal interactions between faculty, students and professionals, in addition to providing a unique learning experience. Local industry and agency leaders are invited to teach classes and meet with students. For example, Richard Steinke, CEO of Port of Long Beach, recently presented a lunch seminar on activities at POLB and job opportunities. Second, we will encourage internships and laboratory classes in the various transportation-related degree programs by serving as a communications link to promote internship positions and by seeking out appropriate instructors and topics for laboratory classes. Third, we have access to a large pool of practitioners who are available for guest lectures in classes and for professional practice seminars.

Each year a graduate student will be selected to serve as METRANS Research Assistant. The METRANS RA is the conduit for all student-related activities and events. S/he will organize the METRANS Seminar Series, coordinate student conference participation, and coordinate field trips. Each year an email listserve will be set up that includes all students expressing an interest in transportation. The listserve will be used to distribute information on seminars, special events, field trips, scholarship opportunities, award opportunities, conferences, etc. A Research Assistant will also be selected at CSULB to assist with similar activities on the Long Beach campus and the coordination of the applied research program.

METRANS will play an active role in recruiting highly qualified graduate students. Our brochure, *Transportation Programs at USC*, will be distributed at recruitment events through VSOE and SPPD. Faculty with METRANS grants will be encouraged to offer and provide support for promising applicants. METRANS will also provide information on undergraduate and graduate programs as part of its professional development training efforts, which often target public sector officials working in transportation and transportation-related fields.

METRANS will promote interdisciplinary education in transportation by facilitating elective courses that are open to students in other schools or departments, and by facilitating degree programs that are multidisciplinary.

METRANS faculty will continually monitor transportation course offerings in their respective programs to keep them timely and relevant. We will encourage incorporation of transportation subjects in courses or degree programs by providing information, referrals, and by coordinating site visits and tours.

METRANS will annually select an Outstanding Student of the Year. The student will receive an award of \$1,000. All travel expenses to attend the Transportation Research Board Meeting and receive the award will be covered by METRANS.

4. Performance Indicators

METRANS will report performance indicators 5 (number of transportation-related courses added since beginning of grant) and 6 (number of students participating in transportation research projects). The baseline for indicator 5 will be based on the degree programs described in section 3.1 above. Defining a course as “transportation related” is a subjective task. In order to be as clear as possible, we will define “transportation related” as the set of courses offered in each of the USC and CSULB degree programs described in section 3.1. In addition, we will also report on “transportation courses,” meaning those courses in which transportation is a central topic (performance indicator 5a). Course information on 5 is readily available through the respective university catalogues. METRANS faculty associated with the various degree programs have information for 5a.

The number of students participating in all transportation research at both universities is not feasible to obtain. METRANS research at USC accounts for about 1/3 of all USC transportation research; METRANS does not have access to the detailed account records of other transportation research projects at USC or CSULB. Therefore indicator 6 will be based only on METRANS funded research. Students are counted as positions, not as individuals, again because of data limitations.

II.D Human Resources

Human Resources Goal: An increased number of students, faculty, and staff who are attracted to and substantively involved in the undergraduate, graduate, and professional programs of the Center.

1. Baseline Measures

A critical goal of the University Transportation Centers program is to train the next generation transportation workforce. As the Baby Boomer generation moves to retirement, the transportation profession will lose its most experienced human capital. At

the same time, changes in technology, growing environmental concerns, and changes in transportation institutions are creating a need for a workforce with new skills.

Baseline data for performance indicators 7(number of transportation-related advanced degree programs), 8 (number of students enrolled in these degree programs), and 9 (number of students receiving degrees through these degree programs) are presented in Appendix A.

2. Human Resources Program Outcome

METRANS will continue its efforts to broaden faculty participation in transportation research, to increase the number of students graduating with transportation-related degrees, and to increase the number of professionals served by continuing education programs. We expect to increase the number of students employed in the transportation profession, and to see increased demand for our students. We also expect our PhD students to be placed in leading universities and research institutions. In the longer term, we expect them to be leaders in their respective fields.

3 Planned Activities

Human resource outcomes will be achieved primarily through our education and technology transfer activities.

Students are often drawn to transportation as a result of research experience. Interesting and challenging work will demonstrate intellectual opportunities in transportation research. Student participation in research will be encouraged, as described in Section II.C. Sometimes one course is the deciding factor. We therefore will promote transportation electives among all students in the various transportation-related degree programs.

An important aspect of the student experience is exposure to professional practice. As noted in Section IIC, METRANS will facilitate internships and laboratory courses for masters level programs.

METRANS will also facilitate student participation in conferences and other networking events. PIs are encouraged to include conference travel expenses in research grants, and to fund student presentations whenever possible. METRANS will be a co-sponsor of the University of California Transportation Center annual student conference. This conference brings students from throughout California to share ongoing research. The local chapter of WTS is a major professional networking organization; students will be encouraged to join WTS and participate in its many activities.

4 Performance Indicators

Performance indicator 7 is the number of transportation-related advanced degree programs added. The degrees discussed in Section IIC constitute the baseline. It should be noted that the addition of advanced degree programs is a rare event; more likely are revisions to existing degree programs.

Performance indicator 8 is the number of students enrolled in transportation-related advanced degree programs. We will follow the same procedures as in Section III; we will also report on the number of students enrolled in transportation field specializations (performance indicator 8a). Number of students enrolled in each degree program is available from each university's enrollment records. Number of students in

transportation field specialization will be obtained directly from the relevant degree program offices or departments.

Performance indicator 9 is the number of students who received degrees in transportation-related advanced degree programs. Again, we follow the same procedures as in Section IIC, and also report on the number of students graduating with transportation field specializations (performance indicator 9a). The number of graduating students for each degree program is available from each university's graduation records. Number of students graduating with transportation field specialization will be obtained directly from the relevant degree program offices or departments.

II.E Diversity

Diversity Goal: Students, faculty and staff who reflect the growing diversity of the US workforce and are substantively involved in the undergraduate, graduate, and professional programs of the Center.

1. Baseline Measures

The Los Angeles Region is among the most diverse in the US. As of the 2000 US Census, Hispanics accounted for about 44% of Los Angeles County population, followed by non-Hispanic whites at 30%, Asians at 12%, and Blacks at 10%. For California, the non-Hispanic white population share dropped below 50%, so the state as a whole has no majority ethnic/race population. The university student population does not reflect these percentages. METRANS will strive to increase diversity with respect to race/ethnicity and gender.

Because of privacy concerns regarding data on the race, ethnicity and gender of students, performance measures on diversity will not be collected.

2. Diversity Program Outcome

Both USC and CSULB will continue to attract diverse students. Both universities have comprehensive programs for promoting diversity in the student body. The state university system is intended to provide affordable higher education to a large portion of the state population. USC has a series of programs and scholarships to enhance diversity. At the graduate level, USC and CSULB will place special emphasis on increasing the number of US Citizens and Permanent Residents receiving transportation degrees.

3. Planned Activities

Increasing diversity requires comprehensive and consistent efforts over a long period of time. METRANS will engage in the following activities to achieve diversity goals:

Increase diversity of the METRANS Advisory Board: The METRANS Advisory Board is our primary linkage to industry and the professional community. As leaders in their

respective fields, they can serve as mentors for underrepresented students, and provide access to prospective graduate students as well as job opportunities. We have restructured our Advisory Board to include more women and minorities. As openings occur, we will continue this effort.

Increase diversity of METRANS affiliated faculty: Faculty serve as role models to their students. A diverse faculty conveys the message that transportation is a field where opportunities exist for underrepresented groups. The Director and Executive Committee members will promote research opportunities to colleagues in order to increase diversity among the METRANS affiliated faculty.

Participate in the various university minority student programs: USC has several programs, including the Minority Engineering Program, the McNair Scholars Program, and the Women in Science and Engineering Scholarships. In 2006, *Diverse Issues in Higher Education* ranked CSULB sixth in the nation on its list of “Top 100 Undergraduate Degree Producers,” a list of the best minority degree producers among United States higher education institutions. It is the only national report on the ability of U.S. colleges and universities to award degrees to African-American, Latino, Asian-American and American Indian students. The United States Department of Education also selected CSULB as one of 33 Hispanic-serving colleges and universities to share in grants that will improve the academic attainment of Hispanic and low-income students. Funds may be used for student support services, academic facilities and equipment, and faculty and academic program development. A Hispanic-serving institution is defined as having at least 25 percent Hispanic full-time equivalent enrollment, of which at least 50 percent are low income. METRANS faculty will participate in programs at both institutions and use them for seeking graduate and undergraduate research assistants.

Participate in and support the MESA program: The Minority Engineering and Science Association has chapters at USC and CSULB. MESA is a high school outreach program that seeks to encourage disadvantaged students to attend college and major in engineering or the sciences.

4. Performance Indicators

Per RITA, performance indicators for diversity are not required. However, METRANS will collect sufficient information to be able to track progress internally.

II.F Technology Transfer

Technology Transfer Goal: Availability of research results to potential users in a form that can be directly implemented, utilized, or otherwise applied.

1. Baseline Measures

Dissemination of research results through outreach, training, and transfer of technologies is the third component of the UTC program. METRANS has developed a unique and

comprehensive technology transfer program that will continue to develop innovative communication and training programs. The METRANS technology transfer program includes conferences, workshops, seminars, professional training, publications, website and other communications, and direct technology transfer via cooperative research. USC conducts most of the academic outreach activities. CSULB conducts most of the professional outreach activities. Both USC and CSULB hold the METRANS Seminar Series, and USC organizes the annual research conference.

CSULB primarily focuses on applied research, technology transfer and training, and is therefore ideally suited to emphasize the METRANS technology transfer goal. METRANS activities are conducted by CSULB's Center for International Trade and Transportation, which is housed within the University College & Extension Services (UCES). Through the applied research program, CSULB produces research products that can be directly implemented, utilized, or otherwise applied. CITT offers the Global Logistics Specialist Certificate (including the online version) and the Certified Logistics Employee program which prepares individuals for entry-level positions in the international trade and logistics industry. The Master of Arts in Global Logistics was launched via UCES. CITT organizes the annual Town Hall, coordinates the METRANS annual research conference, and conducts all METRANS publication and communication activities.

CITT also offers training programs that contribute to the development of a well informed cadre of goods movement professionals in both the public and private sector, as well as for users and providers of global logistics services. Programs include certificate classes in worksite compliance training that address how hazardous goods are transported, handled and stored from manufacturing to disposal. They also include introductory training programs for elected officials and public agency representatives so that they may become more informed decision makers. Recent programs have focused on maritime port operations as well as air cargo operations.

METRANS will provide performance measures 10 (number of education and training events) and 11 (number of transportation professionals participating in these events). See section 4 below for more discussion.

2. Technology Transfer Program Outcome

METRANS will become a national and international model for its technology transfer program, particularly in the thematic area of goods movement and international trade. One of our goals is to link research and dissemination through professional training and outreach. METRANS has developed a suite of professional outreach and training techniques that form the basis of a comprehensive program. It will continue to be responsive to the needs of industry and public agencies and develop new products accordingly. We see professional education as a strong growth area, and are actively seeking funds from outside the UTC program to support more outreach and training.

An important program goal is the education of public policy-makers. Transportation problems (particularly in goods movement) are becoming more serious and visible, yet those who must make decisions regarding public investments or regulation at the state and local levels often have little knowledge of the transportation system. METRANS will develop innovative information delivery systems in combination with education and research for effective communication, training and education. It will foster greater public awareness and understanding of transportation issues.

3. Planned Activities

This section describes the types of activities that will be undertaken in technology transfer.

a) Required Activities

METRANS Website: The METRANS website, www.metrans.org, contains all of the information required by the UTC reporting requirements. All METRANS publications are available for download. Information on the METRANS research program, degree programs at both universities, outreach activities, and all other activities is available. Links to other information sources are provided. The website was reconstructed and updated in 2005; major changes are not anticipated. The website will be updated on a regular basis, and will be used as a major disseminator of METRANS activities. The website is hosted by Urban Insight and managed by CITT.

Meeting Participation: The METRANS Director or her representative will attend all CUTC/UTC semi-annual meetings, and all meetings with DOT experts on high-priority topics as requested. METRANS faculty will be available to provide expert advice to DOT on technical or educational topics. During the past year, METRANS representatives have attended a special DOT workshop on congestion, and have participated in a training workshop supported by FHWA, and in the organization of a joint TRB/UTC conference.

b) Other Activities

Technology transfer projects will be developed through a proposal process, with proposals reviewed and approved by the METRANS Executive Committee. The Center Director will be responsible for negotiating budgets and specific scope of work, as required. Technology transfer programs will be offered primarily through CITT.

Annual Conference: METRANS will make the National Urban Freight Conference (NUFC) its signature annual conference event. The second NUFC will be held in December 2007. In keeping with the METRANS theme, the conference addresses freight issues in an urban context. It will provide a forum for multidisciplinary research on a new and emerging area of research. The conference will bring together researchers, students, industry, public agencies, and policy leaders from throughout the US and the

world. The conference will solicit papers to be published in journal special issues or books.

Other Conferences: METRANS will conduct other smaller conferences as timely topics are generated. METRANS will partner with other research centers, universities or public agencies on topics of mutual interest. Partnerships for upcoming events include the USC Keston Institute for Public Finance and Infrastructure, the USC Sea Grant Program, the USC Future Fuels and Energy Initiative, and the five California University Transportation Centers.

Town Hall Meetings: One of METRANS' most well known activities is the annual State of the Trade and Transportation Industry Town Hall meeting. Originally established to provide a forum for outreach to ILWU labor, it now brings together port labor and management, stakeholders from throughout the goods movement supply chain, state and local elected officials, and community and environmental advocacy groups. It is unique in providing a neutral forum for exchange of ideas on how to solve pressing problems. Videos produced for the Town Hall have received awards and provide a means of educating a wider audience once the event has been completed. We will continue the Town Hall series and build on it by facilitating workshops and forums on topics of interest to the transportation and international trade community.

Global Logistics Specialist: The Global Logistics Specialist (GLS) professional designation program is the foundation for other professional training and outreach programs offered by METRANS. It offers a curriculum that provides broad-based, hands-on training for individuals involved in or looking to enter the logistics field. The GLS is also offered on-line so that it is available to an even wider audience. METRANS will continue to promote the GLS programs.

Other Professional Training: The modular approach of GLS and MAGL provides a model for other METRANS professional development programs. We have offered special training to state DOT employees, local elected officials, and local industry groups. We will continue to expand our professional training to cover a broader range of topic areas including environmental issues/regulation, and sustainable goods movement, and to expand our customer base. We will make workshops available outside of the region and the State, customizing offerings to meet the needs of individual clients including federal employees.

Newsletters: METRANS will continue to publish two newsletters. The *METRANS News* features research projects and researchers, as well as student, education, and outreach information. It is distributed both in hard copy and as an e-newsletter, and is also available at the METRANS website. *Building Bridges* provides research results and other information relevant to the international trade community. It is distributed in hard copy, and is available at the CITT website.

Other Publications: In addition to research reports and other required publications, METRANS will publish conference summaries, white papers, conference paper compendiums, and other materials on the METRANS website. Under our *Monitoring the Ports* program we will offer visual material, data resources, and an event timeline for California ports.

Public Media and Other Dissemination: METRANS faculty and staff will work with public media to communicate research findings to the larger public. The Town Hall video will be distributed to public television stations, educational institutions, etc. METRANS faculty will participate in newspaper columns, public television programs, and other media venues. METRANS faculty will serve as experts for public agencies and public policy-makers, and will participate in public meetings and workshops.

4. Performance Indicators

METRANS and CITT organize and conduct all Center technology transfer activities, and hence have the information for these activities. It should be noted that with respect to distance learning, there is no equivalent to a “class,” as students participate asynchronously with the exception of GLS instructor sessions and online capstone presentation. Further, the GLS program has been licensed and is being offered in China. METRANS has only limited data on GLS activities in China. METRANS will categorize technology transfer activities and report data for each group.

SECTION III – MANAGEMENT APPROACH

The success of METRANS in achieving its goals is dependent upon an effective and efficient management plan. This section describes the METRANS management plan.

III.A Institutional Resources

The METRANS Transportation Center is a partnership of USC and CSULB, with USC the lead university. The Center is housed at USC.

METRANS relationship with pre-existing centers

The USC Center for Advanced Transportation Technology was established in 1991, and hence pre-dates METRANS. The Director of CATT, Prof. Petros Ioannou, is the METRANS Associate Director of Research. All METRANS activities are administered independently of CATT, and funding sources for CATT are separate from METRANS. There are complementarities between the centers in the area of advanced transportation technology. CITT was established in 1977 as the Transportation Institute at CSULB, and later became a multidisciplinary center for intermodal transportation studies and integrated logistics research, education and training, and policy analysis. The Executive Director of CITT, Marianne Venieris, is the METRANS Deputy Director. CITT serves as the professional training and outreach provider for METRANS.

The combined resources of USC and CSULB provide a rich array of research and training facilities, human resources, physical facilities, and institutional support capabilities.

1. Research and Training Facilities

The two universities have numerous research and training facilities. We focus here on the most directly relevant centers from both campuses: those that collaborate with METRANS, conduct joint activities, or have linkages through faculty research. We provide only brief descriptions; see websites for more information.

a) USC Research Centers

Center for Advanced Transportation Technology (CATT)

www.usc.edu/dept/ee/catt/index.html

CATT was established in 1991 as a USC organized research unit in order to perform high-impact research on urgent transportation issues in cooperation with industry and government. CATT's main focus is on the use of advanced technologies for making current and future defense and commercial transportation infrastructure more efficient. Research involves engineering analysis, infrastructure engineering and modeling, automated container terminals, fast ship technologies, intelligent aerospace transportation and is funded in cooperation with several research consortia including PATH, and the University Research Center established at California State University in Los Angeles funded by NASA. The CATT Director is Petros Ioannou, METRANS Associate Director of Research.

Center for Risk and Economic Analysis of Terrorism Events (CREATE)

www.usc.edu/dept/create

CREATE is a US Dept. of Homeland Security Center of Excellence. Its purpose is to assess the risks of terrorism, develop tools for analyzing economic and societal consequences of terrorist attacks, and provide guidance on investments to counter terrorism and make the nation safer. Like METRANS, CREATE pursues an interdisciplinary approach integrating research, education and outreach. The Center offers a professional Master's Degree and a professional certificate program in System Safety and Security. Eight METRANS-funded researchers are also CREATE investigators (Dessouky, Gordon, Hall, Meshkati, Moore, Ordonez, Redfearn, and Richardson).

Future Fuels and Energy Initiative (FFEI)

www.usc.edu/research/initiatives/future_fuels

FFEI is a research initiative launched by the USC Provost's Office. Its purpose is to develop a cross-disciplinary research program that both advances the science of alternative fuels and energy conversions and addresses the economic, social, environment and policy issues associated with transitioning to a new energy/fuel paradigm. FFEI is funding seed research, holding seminars and workshops, and conducting a major hiring initiative. Genevieve Giuliano, METRANS Director, is a member of the FFEI committee and hiring committee.

Information Sciences Institute (ISI)

www.isi.edu

ISI was founded in 1972 and emphasizes programs that blend basic and applied research through exploratory systems development. ISI was one of the birthplaces of ARPANET (the Internet's predecessor), the Internet itself and other computational tools and systems. ISI research divisions and groups cross traditional disciplinary boundaries to investigate a broad range of advanced topics in computer science, information technology, and electrical engineering. ISI researchers design, model, and implement systems. Their goals include 1) New core technologies, along with supporting architectures, toolkits, and test beds for deployment in real-world applications, leading to fully integrated practical prototypes that can be employed as is, or adapted for national defense, commercial, or academic use; 2) intensive design development of systems and technologies to improve robustness, scalability, and versatility; 3) Integration of heterogeneous systems and technologies for synergistic performance. ISI and METRANS researchers (Ambite, Giuliano, Gordon, Heidemann, Silva) have collaborated on several cross-disciplinary research projects.

Keston Institute for Public Finance and Infrastructure (KII)

www.usc.edu/schools/sppd/lusk/keston

The Keston Institute was founded by a private donor in 2002. It seeks to actively address the economic policy, financial, demographic and other dimensions of public infrastructure development in California. The Institute compiles, evaluates, and disseminates data and research pertaining to California infrastructure trends, mechanisms and implications of investment spending, linkages between infrastructure investment and state and local economic activity, and related infrastructure issues. Three METRANS researchers (Gordon, Moore and Myers) have recently published reports for the Keston Institute. METRANS and KII jointly sponsored the 2004 Alameda Corridor Conference.

Sea Grant Program

www.usc.edu/org/seagrant

The Sea Grant Program has served the Southern California coastal region for 30 years, funding research, transferring results to government agencies and user groups, and providing information about marine resources, recreation and education to the public. Sea Grant research and outreach projects cover a broad spectrum of areas, with particular emphasis on topics related to the "Urban Ocean," USC Sea Grant's thematic focus. USC Sea Grant is one of a national network of 30 Sea Grant Programs. Primary funding comes from the National Oceanic and Atmospheric Administration (NOAA). METRANS has partnered with Sea Grant in conferences, and the Sea Grant Marine Outreach Coordinator (Fawcett) teaches in SPPD.

Other related centers at USC include Center for Economic Development, Center for Sustainable Cities, GIS Research Laboratory, Lusk Center for Real Estate, Southern California Earthquake Center, Tomas Rivera Policy Institute.

b) CSULB Research Centers**Center for International Trade and Transportation (CITT)**

www.uces.csulb.edu/citt

CITT was established in 1977 in the College of Business Administration as the Center for Transportation Studies. In 1998 it was renamed and assigned to University College and Extension Services as a self-governing multi-function special unit. CITT is the primary venue for METRANS outreach activities. CITT's Executive Director acts as METRANS Deputy Director, and the METRANS Director is a member of the CITT Policy and Steering Committee and the CITT Executive Committee. CITT's mission is to provide a collaborative forum that will facilitate the growth of international trade and the regional economy in an environmentally sustainable manner. CITT is home to both the Global Logistics Specialist Program and the Masters in Global Logistics (in partnership with the Department of Economics). The METRANS Applied Research Coordinator is housed at CITT and oversees the METRANS "Monitoring the Ports" program. Finally, CITT coordinates one of the major outreach events for METRANS each year, the annual State of the Trade and Transportation Town Hall meeting.

Center for Commercial Deployment of Transportation Technologies (CCDoTT)

www.ccdott.org

CCDoTT is a CSULB-sponsored and government approved R&D center dealing with maritime-related transportation issues on behalf of both commercial and military interests. It was established in 1995 to address military and commercial issues relating to emerging High-Speed Ships and their related agile port systems. It conducts advanced research on ports, ships, and surface goods transport. It is funded by Department of Defense, US Transportation Command, the Maritime Administration, and the Office of Naval Research. CCDoTT projects have involved METRANS researchers (Chassiakos, Hahn-Griffin, James, Lee, Toossi, Wechsler) as well as USC's Center for Advanced Transportation Technology (CATT).

Center for Advanced Logistics Management Systems (CALMS)

CALMS is a new center at CSULB. It will conduct research in new technologies and methods (including but not limited to Mesh Embedded Network Systems and Sense &

Respond Logistics); to provide instruction and special training; and to promote collaboration across multiple disciplines inside and outside of the university. The center will develop curriculum and provide research opportunities for students that support the design, implementation and debugging of self-organized network transport platforms (e.g., hardware, embedded OS, embedded communications software and integrated networking). The center will develop methodologies for adaptive distributed systems and disseminate these systems in support of scientific research critical to local, national and global communities. Finally, the center will develop a partnership with the business community to advance research and development of tangible commercial products. METRANS Executive Committee member Mahyar Amouzegar is CALMS Director.

2) Human Resources

Perhaps the most important human resource is the faculty at the two universities. USC and CSULB are large universities with a wide variety of research, education, and training programs (about 3100 USC and 1400 CSULB full-time faculty). As noted previously, our multi-disciplinary approach has enabled us to recruit faculty into transportation research from many different departments. As of July 2006, we have funded 60 different faculty from 19 different departments (includes peer-reviewed and applied research). We have graduate and undergraduate programs with transportation specialization in civil and environmental engineering, industrial and systems engineering, mechanical and aerospace engineering; public administration, business, public policy, urban planning, geography and economics. At CSULB, the University College of Extension Services has excellent training, curriculum development, distance learning and media expertise.

3) Physical Facilities

The METRANS administrative offices are located in the School of Policy, Planning and Development (SPPD) at USC. Research space is provided by SPPD and the Viterbi School of Engineering (VSOE). METRANS has its own server within the SPPD computer system. All SPPD faculty and student researchers have accounts on the server; they also have access to a wide variety of major software programs, including statistical packages, the ESRI GIS suite, and various transportation simulation software packages. Extensive data resources are also available. These resources are provided by SPPD. An advanced transportation research lab in VSOE was refurbished this year. METRANS activities at CSULB are located in CITT. Research space is provided in CITT and the College of Engineering.

4) Institutional Support

Institutional support includes space, administrative support, and cost-sharing. In addition to office and research space, SPPD provides general administrative support for the Director and cost-share for a portion of her academic salary. USC contributes a portion of overhead as cost-share. In addition to the specific facilities and support to METRANS, the universities provide access to libraries and other information services, grants management services, student support services, and of course support the many faculty involved in METRANS research.

III.B Center Director

The Center Director will be a tenure track member of the USC faculty, and will be appointed by the President of USC. Prof. Genevieve Giuliano was appointed Center Director in 2001; she will continue as Center Director and as Principal Investigator of the UTC grants. Prof. Giuliano is an internationally recognized scholar in transportation planning and policy. She received her BA from UC Berkeley and PhD from UC Irvine. A bio is attached as Appendix B. The Center Director position is 50% time for the calendar year, with partial support from SPPD.

The Center Director will be responsible for the funds, personnel and programs of METRANS. The Director will be responsible for overall management of METRANS, including reporting, matching fund solicitation, outreach, publications, education, supervision of METRANS staff, and project management. The Center Director, with the advice of the METRANS Executive Committee, will develop the center research agenda and requests for proposals/qualifications. The Center Director will be responsible for chairing meetings of the Executive Committee and Advisory Board. The Director will serve as point of contact with CSULB faculty and staff participating in METRANS. The Director will represent METRANS at external meetings, and will participate in up to two annual meetings held by DOT with the directors of all UTCs.

The Executive Committee will advise the Director on Center research agenda and programs. It will participate in the research selection process, and will review and approve technology transfer projects. The Committee will include the Director, Deputy Director, and faculty from each university.

The Advisory Board provides overall policy guidance for the Center, suggesting research priorities, assisting in student job placements, and assisting in outreach activities. It meets annually and includes representatives of the METRANS sponsoring agencies and public and private supporters. Members serve as liaisons to their agencies and industries. They are active supporters of METRANS and contribute funding support for research projects and outreach events. Current membership is listed in Table 3. Additional members representing freight rail, trucking and the larger Los Angeles transportation professional community are under consideration.

Table 3: METRANS Advisory Board current membership

Name	Title	Organization
Dan Beal	Manager, Public Policy and Programs	Auto Club of Southern California
Doug Failing	Director, District 7	Caltrans
John Ficker	President	National Industrial Transportation League
Anthony Furst	Director, Freight Management & Operations	FHWA
Richard Hollingsworth	President and CEO	Gateways Cities Partnership, Inc
Fran Inman	Sr. Vice President	Majestic Realty
Randell Iwasaki	Senior Deputy Director	Caltrans
Gloria Jeff	Director	Los Angeles Dept. of Transportation
Geraldine Knatz	Executive Director	Port of Los Angeles
Stephen Lantz	Director, Communications and Development	Metrolink (Southern Calif Reg Rail Auth)
Jack Levis	Portfolio Project Manager	United Parcel Service
Domenic Miretti	ILWU Senior Liaison	Ports of LA and LB
Eugene Pentemonti	Vice President, Government Affairs	Maersk Sealand
Mark Pisano	Executive Director	Southern California Association of Governments
Richard Powers	Executive Director	Gateway Cities COG
Cindy Quon	Director, District 12	Caltrans
Roger Snobel	Chief Executive Officer	Los Angeles County Metropolitan Transportation Authority
Barry Wallerstein	Executive Officer	South Coast Air Quality Management District
VACANT		FTA

METRANS is a member of the Council of University Transportation Centers and will continue to be an active participant. The METRANS Director is a member of the CUTC Executive Committee. CUTC participation will allow coordination and collaboration with other UTCs and transportation research centers. The METRANS Director will continue to meet periodically with Caltrans and the other California UTC Directors to coordinate research and outreach activities within the state, and METRANS faculty will participate in statewide research and outreach events.

III.C Center Faculty and Staff

The METRANS Center management structure includes the Director, Deputy Director, and Associate Director. Director responsibilities are described in the previous section. Ms. Marianne Venieris serves as Deputy Director, and in that capacity is responsible for the administration of funds, personnel and programs at CSULB. Ms. Venieris serves as Conference Organizational Chair for NUFC, develops and organizes all CSULB outreach and training activities, and oversees the Applied Research program. Ms. Venieris has an MBA degree in Organizational Development from CSULB. She is also Executive Director of CITT. The position is 34% time. The Deputy Director reports to the Director.

Prof. Petros Ioannou is Associate Director of Research. The Associate Director is responsible for the METRANS test bed research activity, and for managing the research proposal review process. The Associate Director reports to the Director, and the position is 10% time. Bios of the Deputy Director and Associate Director are available in Appendix B.

METRANS Center administration includes the following positions:

- METRANS Administrator: The METRANS Administrator, Ms. Victoria Valentine, is responsible for the day to day administration of center activities, including administration and monitoring of research projects, coordination of the RFP and review process, gathering information needed for annual reporting, coordination of outreach activities (seminars, conferences, publications, website, etc.), maintenance of all Center files and records, information dissemination to students, and coordination of student activities. The METRANS Administrator also serves as liaison for CSULB activities. The position is 80%, with 30% contributed by SPPD. The METRANS Administrator reports to the Center Director.
- METRANS Accounts Manager: Ms. Shu-Yun Lucia Kung is the METRANS Accounts Manager. She is responsible for the administration of all METRANS funds and accounts. This includes administration of the METRANS master accounts, gathering financial information for reporting, development of annual budgets, establishment and administration of sub-accounts at USC and CSULB, and financial coordination between departments, schools and universities. The position is 50%. The METRANS Accounts Manager reports to the Center Director and to the SPPD Contracts and Grants Accounts Manager.
- METRANS CSULB Research Coordinator: Dr. Thomas O'Brien is the METRANS CSULB Research Coordinator. Dr. O'Brien manages the Applied Research Program, distributes information to CSULB faculty and students, manages CSULB campus research seminars, serves as staff researcher for the Town Hall and other conferences, and, in consultation with the Deputy Director, develops workshop and training materials and curriculum. The position is 25%. The METRANS Research Coordinator reports to the Deputy Director.
- METRANS CSULB Administrator: Ms. Alix Traver is the METRANS CSULB Administrator. The CSULB Administrator provides administrative support for the Deputy Director, coordinates all CSULB outreach activities, serves as NUF conference coordinator, administers production of the newsletters, and administers the METRANS website. The CSULB Administrator is also responsible for gathering information needed for annual reporting. The position is 60%, and reports to the Deputy Director.

Center faculty and researchers include all those who have received research funding from METRANS. METRANS will help promote the talents of Center members through listing on the METRANS website (including links to home or school web pages), inclusion in METRANS conferences and other events, and providing information on research funding opportunities outside of METRANS. METRANS will expand Center faculty and researchers by actively promoting research and other Center activities throughout the two universities. In keeping with METRANS' multidisciplinary emphasis, Center researchers will be drawn from all fields of engineering, planning, public

administration, public policy, business, the social sciences, health sciences, and humanities.

The Director will operate under the guidance of the Executive Committee, consisting of at least three faculty from CSULB, at least three faculty from USC, and the Director and Deputy Director. When vacancies occur, faculty from the home university will nominate a new member, and the Executive Committee as a whole will review and approve. All faculty members must hold full-time tenure track positions, and may hold administrative positions. Current membership of the Executive Committee is listed in Table 5.

Table 4: METRANS Executive Committee

Genevieve Giuliano	School of Policy, Planning and Development, USC
Marianne Venieris	Center for International Trade and Transportation, CSULB
Petros Ioannou	Dept. of Electrical Engineering-Systems, USC
Maged Dessouky	Dept. of Industrial and Systems Engineering, USC
James Moore	Dept. of Industrial and Systems Engineering, USC
Mahyar Amouzegar	Dept. of Electrical Engineering, CSULB
Anastasios Chassiakos	Dept. of Electrical Engineering, CSULB
Joe Magaddino	Dept. of Economics, CSULB

III.D Multiparty Arrangements

University of Southern California is the lead institution and home for METRANS; CSULB is a sub-grantee/sub-contractor to USC. USC is the recipient of the UTC grant. UTC grant funds are shared approximately equally, e.g. a 55/45 split. All funding opportunities are equally available to both institutions. Collaboration between institutions is encouraged in the RFP process. The METRANS program takes advantage of the complementary strengths of the two institutions; USC conducts most of the fundamental research and provides advanced graduate education; CSULB conducts most of the applied research as well as the METRANS outreach and training programs.

III.E Matching Funds

Caltrans provides the full UTC match for METRANS, and a master contract is in effect that budgets funds through the end of SAFETEA-LU. Under the agreement, Caltrans participates in the proposal review process, and approves the research projects selected by the Executive Committee for funding. Caltrans funds are used to fund research projects and, secondarily, to fund technology transfer projects.

Additional matching funds are provided by USC in the form of overhead reduction, partial compensation for the METRANS Director and staff, and tuition contribution on research projects. Matching grants for research, grants for workshops, or donations and sponsorships for conferences and other events will be sought from other public agencies and industry. Examples of local agencies include the Los Angeles County Metropolitan Transportation Authority, local district offices of Caltrans, Ports of Los Angeles and Long Beach, ILWU, South Coast Air Quality Management District, Southern California Association of Governments, City of Los Angeles, and Gateway Cities Partnership. Examples of federal partners include FHWA, FRA and MARAD. Representatives from these agencies have participated in METRANS conferences and other events. Any funds received from these agencies are not counted as match funds for the UTC.

APPENDIX A**BASELINE PERFORMANCE MEASURES****METRANS Baseline Year: 2005-06****Research Selection**

Performance Indicator	Number	Amount (Perf. Ind.2)
1. Projects selected for funding	8	\$536,411
1.b Basic research projects	1	\$ 35,000
1.b Advanced research projects	6	\$416,431
1.b Applied research projects	1	\$ 84,980

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	66
4. Papers presented at academic/professional meetings	24
4.a. Peer-reviewed publications	66

* Eleven faculty reporting

Education

University of Southern California

Level	Transportation-related degree program		
	Degree program	Total # courses	Transportation courses
Undergrad	N/A	N/A	CE 471 Principles of Transportation Engineering PPD 280x The Automobile and the City PPD 360 Urban Transportation Planning and Policy
Total			3
Grad	Master of Planning/Master of Public Policy/Master of Public Administration	102	PPD 531L Core Laboratory Workshop: Transportation PPD 633 Urban Transportation Planning and Management* PPD 634 Institutional and Policy Issues in Transportation* PPD 635 Principles of Transportation Systems Analysis PPD 692 Transportation and the Environment PPD 693 Coastal Policy and Planning
	Master of Science Civil Engineering	72	CE 579 Introduction to Transportation Planning Law CE 583 Design of Transportation Facilities CE 585 Traffic Engineering and Control CE 589 Port Engineering: Planning and Operations
	PhD in Planning, Policy and Development	102	PLUS 680 Advanced Urban and Regional Transportation Planning
	PhD in Industrial and Systems Engineering	38	ISE 516 Facilities Location and Layout ISE 532 Network Flows ISE 561 Economic Analysis for Engineering Projects
	PhD in Electrical Engineering	117	EE 585 Linear Systems Theory EE 567 Communications Systems SAE 549 Systems Architecting
Total			17

*Course is cross-listed in Civil and Environmental Engineering

California State University, Long Beach

Level	Transportation-related degree program		
	Degree program	Total # courses	Transportation courses
Undergrad	N/A	N/A	CE 426 Transportation Engineering CE 427 Highway Design CE 429 Traffic Engineering Econ 455 Transp. Economics EE 402 Eng. Modeling & Sim. EE 403 Systems Engineering
Total			6
Grad	Master of Science Civil Engineering	56	CE 520 Seaport Planning & Design CE 522 Transportation Planning CE 526 Pavement Engineering CE 529 Traffic Engineering CE 629 Traffic Operations CE 729 Traffic Operations
	Master of Public Administration	42	PPA 522 Automating Gov't Admin (One of two requirements for transportation certificate) PPA 543 Coastal/Marine Resource Policy PPA 550 Urban Transportation Policy and Planning PPA 554 Public Works Facilities and Urban Policy
	MA Economics	2	Econ 555 Transp. Economics Econ 666 Seminar in Transp. Ec.
	MA Global Logistics	N/A **	GLG 540 Benefit-Cost Analysis for Logistics GLG 556 Economics of Logistics Management GLG 560 Research Methods for Global Logistics GLG 570 International Trade and Finance for Global Logistics GLG 655 Seminar in Global Logistics
Grad	Other courses		Engr 532 Logistics Principles and Practices EE 502 Eng. Modeling & Sim.
Total			19

**Curriculum is interdisciplinary with course offerings from the following: Economics, Management and Human Resources Management, Civil Engineering, Public Policy and Administration

Performance Indicator 5:
Total Courses Offered

Total Undergrad Transportation Courses:	9
Total Grad Transportation Courses:	36

Performance Indicator 6:

Number of students participating in METRANS funded transportation research projects:

	USC	CSULB	Total
Undergraduate	0	9	9
Graduate	52	22	74

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:
Number of transportation-related advanced degree programs:

	USC	CSULB	Total
Masters	4	4	8
PhD*	3	1	4

* 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	375	21	396
PhD	104	1	105

Performance Indicator 9:
Number of transportation-related advanced degrees granted:

	USC	CSULB	Total
Masters	186	10	196
PhD	20	0	20

Performance Indicator 9a:

Number of advanced degrees granted with transportation field concentration:

	USC	CSULB	Total
Masters	6	15	21
PhD	14	0	14

Technology Transfer

10. Tech transfer events	11. Number participants
Global Logistics Specialist Training	50
GLS Training on Line	35
Caltrans Goods Movement Logistics Seminar – Long Beach	30
Caltrans Goods Movement Logistics Seminar – Oakland	20
Caltrans Goods Movement Logistics Seminar for Elected Officials	30
8 th Annual Town Hall Meeting	1,200
National Urban Freight Conference	280
Total	1,645

APPENDIX B

BIOS OF KEY PERSONNEL

Genevieve Giuliano

Genevieve Giuliano is Professor and Senior Associate Dean of Research and Technology in the School of Policy, Planning, and Development (SPPD), University of Southern California, and Director of the METRANS joint USC and California State University Long Beach Transportation Center. She also holds courtesy appointments in Civil Engineering and Geography.

Giuliano received her PhD in Social Science from University of California, Irvine, and has a Bachelor's degree in History from University of California, Berkeley. She is a former Fellow of the Lincoln Institute of Land Policy.

Professor Giuliano's research focus areas include relationships between land use and transportation, transportation policy analysis, and information technology applications in transportation. She has published over 120 papers, and has presented her research at numerous conferences both within the US and abroad. She serves on the Editorial Boards of *Urban Studies* and *Journal of Transport Policy*, and is former Co-editor of *Urban Studies*.

She is a past member and Chair of the Executive Committee of the Transportation Research Board. She was named a National Associate of the National Academy of Sciences in 2003, received the TRB William Carey Award for Distinguished Service in 2006, and was awarded the Deen Lectureship in 2007. She received the SPPD Outstanding Faculty Award in 2003.

She has participated in several National Research Council policy studies; currently she is on the Committee for Global Climate Change and Transportation, and is chairing the Committee on Funding Options for Freight Projects of National Significance. She was recently appointed Chair of the California Research and Technology Advisory Panel, which will advise both Caltrans and the Department of Business, Housing and Transportation on the implementation of the Growth Management Plan.

She is a current member of the Council of University Transportation Centers Executive Committee, and a former member of the Executive Board of the Association of Collegiate Schools of Planning.

For recent publications, see
<http://www.usc.edu/schools/sppd/research/publications/index.html>

Marianne Venieris

Marianne Venieris is executive director of the Center for International Trade and Transportation (CITT) at California State University, Long Beach (CSULB) University College and Extension Services and Deputy Director of METRANS Transportation Center. In a partnership with the international trade logistics industry, Ms. Venieris develops, administers, and markets graduate level and professional development training programs, certificates, professional designations, and manages technology transfer and outreach activities. She is responsible for the establishment of the CITT and under her leadership CITT received the International Achievement Award in 2000 from the International Business Association of Southern California (IBA).

Ms. Venieris is on the Board of Directors at Gateway Cities Partnership, Inc., a regional economic development organization for 27 cities in southeast Los Angeles County, and chair of the Gateway Cities' Trade and Transportation Cluster. She is Co-vice Chair of the California Marine and Intermodal Transportation Advisory Council (CALMITSAC) and a member of the Goods Movement Task Force with Southern California Association of Governments (SCAG). She serves on the Transportation Research Board (TRB) Education & Training Committee, ABG20.

She is the recipient of the prestigious Stanley T. Olafson Bronze Plaque in 2005 in recognition of her outstanding contributions to the advancement of World Trade and international relations in the greater Los Angeles area. In 2002, she received the Soroptimist's Woman of Distinction Award in International Goodwill and Understanding. She is a graduate of Leadership Long Beach, class of 1997, and the Journal of Commerce profiled her in 2004 by as one of 22 Women in US Trade and Transportation with important and influential positions.

Ms. Venieris is a native of Germany, where she worked in the construction industry, specializing in reinforced concrete. She has lived in the USA since 1977 and earned a bachelor degree in Marketing and an MBA with a HR Management/ Organizational Development emphasis, from the California State University, Long Beach. Ms. Venieris was a lecturer at the College of Business Administration, CSULB, teaching Organizational Behavior and Training and Development.

Petros Ioannou

Petros A. Ioannou received the B.Sc. degree with First Class Honors from University College, London, England, in 1978 and the M.S. and Ph.D. degrees from the University of Illinois, Urbana, Illinois, in 1980 and 1982, respectively.

In 1982, Dr. Ioannou joined the Department of Electrical Engineering-Systems, University of Southern California, Los Angeles, California. He is currently a Professor in the same Department and the Director of the Center of Advanced Transportation Technologies which he founded in 1992. He also holds a courtesy appointment with the Department of Aerospace and Mechanical Engineering. He has been the Associate Director of Research for the University Transportation Center METRANS at the University of Southern California since 2006. He was visiting Professor at the University of Newcastle, Australia and the Australian National University in Canberra during parts of Fall of 1988, the Technical University of Crete in summer of 1992 and Fall of 2001 and served as the Dean of the School of Pure and Applied Science at the University of Cyprus in 1995. As the Dean, member of the Senate and member of some vital for the University of Cyprus committees he pioneered the establishment of the School of Engineering at the University of Cyprus. He has been an Associate Editor for the IEEE Transactions on Automatic Control, the International Journal of Control, Automatica and IEEE Transactions on Intelligent Transportation Systems. He also served as a Member of the Control System society on IEEE ITS Council Committee and his center on advanced transportation technologies was a founding member of IVHS America which was later renamed ITS America. He is currently Associate Editor at Large of the IEEE Transactions on Automatic Control and Chairman of the IFAC Technical Committee on Transportation Systems. He is a member of the Board of Governors of the IEEE Intelligent Transportation Society. He is one of the founders of the Mediterranean Control Association and a member of the Board of Governors. He was one of the founders of the IEEE Mediterranean Control Conference which has been taking place annually since 1992. He was one of the founders of the University Transportation Center, METRANS, at the University of Southern California and California State University Long Beach.

Dr Ioannou's research interests are in the areas of adaptive control, neural networks, nonlinear systems, vehicle dynamics and control, intelligent transportation systems and intelligent flight control systems. In 1984 he was a recipient of the Outstanding Transactions Paper Award by the IEEE Control System Society and of the 1985 Presidential Young Investigator Award for his research in Adaptive Control. Dr. Ioannou is a Fellow of IEEE, Fellow of the International Federation of Automatic Control (IFAC) and the author/co-author of 8 books and over 150 research papers in the area of controls, neural networks, nonlinear dynamical systems and intelligent transportation systems.

More information regarding publications, research interests, awards and services can be found at the personal web page <http://www-rcf.usc.edu/~ioannou/>.