# RAND Transportation Researcher Guide

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The RAND Corporation has been conducting research on transportation since the 1960s. Today's research addresses a range of topics, including approaches to financing transportation that rely upon newer technology; transportation options for reducing greenhouse gas emissions; the interactions of land use, transportation, finance, mobility, and social patterns; the mobility of the elderly; traffic safety; traffic congestion; regulation; and federal research and development allocation. Listed below are RAND research staff who work on transportation projects; note, however, that they all engage in multidisciplinary collaborations across a wider spectrum of research areas—a hallmark of RAND from its earliest days.

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## Martin Wachs, Ph.D.
## Director, Transportation, Space, and Technology Program

Prior to joining RAND in 2005, Martin Wachs was Professor of Civil & Environmental Engineering and Professor of City & Regional Planning at the University of California, Berkeley, where he also was director of the Institute of Transportation Studies. He had previously spent 25 years at UCLA, where he served three terms as chairman of the Department of Urban Planning. Wachs is the author of 160 articles and four books on subjects pertaining to relationships between transportation, land use, and air quality; transportation needs of the elderly; techniques for the evaluation of transportation systems; and the use of performance measurement in transportation planning. His research also addresses issues of equity in transportation policy; problems of crime in public transit systems; and the response of transportation systems to natural disasters, including earthquakes. His most recent work focuses on transportation finance in relation to planning and policy.

Wachs served on the Executive Committee of the Transportation Research Board of the National Academies for nine years and chaired it in 2000. He is the recipient of a Guggenheim Fellowship, two Rockefeller Foundation Humanities Fellowships, a UCLA Alumni Association Distinguished Teaching Award, the Pyke Johnson Award for the best paper presented at an annual meeting of the Transportation Research Board, and the Carey Award for service to the Transportation Research Board. He is a fellow of the American Institute of Certified Planners and a lifetime associate of the National Academy of Sciences. In 2006, he was named Member of the Year by the San Francisco Chapter of the Women's Transportation Seminar and was awarded the lifetime achievement award as Distinguished Planning Educator by the Association of Collegiate Schools of Planning.

## Liisa Ecola
## Senior Project Associate

Liisa Ecola is a transportation planner with interests in transportation finance, transit, transportation demand management (TDM), and smart growth. Since joining RAND, she has analyzed TDM measures for their potential impacts on congestion mitigation, assessed the equity impacts of congestion management, and organized three workshops on the relationship among transportation, energy, and climate change. Prior to joining RAND, she worked in transportation, land use, and policy consulting. She conducted research on the relationship between transportation network and performance at the regional level, and coordinated both technical assistance as well as conference support. Ecola has also conducted several research projects on the effectiveness and best marketing techniques for commuter benefits and taught courses for the National Transit Institute. She earned her M.C.P. (Master of City Planning) from the University of California, Berkeley.

## Richard Hillestad, Ph.D.
## Principal Researcher

Since joining RAND in 1973, Richard Hillestad has been involved in analyzing complex real-world environments, modeling them, and developing solutions. In addition, Hillestad serves on the faculty of the Pardee RAND Graduate School, where he focuses on operations research. Hillestad directed and completed a comprehensive policy analysis of multimodal options for freight transport in the Netherlands; the study evaluated the effectiveness of some 125 policy options for mitigating air pollution, noise, safety, and congestion impacts associated with freight movement by road, rail, and waterway while also considering the cost and economic impacts. He also directed a study of risk management and risk mitigation associated with the growth of Schiphol (Amsterdam Airport)—a study that led to important changes in the way aviation safety is managed at Schiphol and in the Netherlands. More recently, he led a study to identify the most significant U.S. freight transportation issues and to address alternative approaches to their mitigation. Prior to joining RAND, Hillestad developed route optimization and scheduling models for rapid transit systems.

## Julie Kim, Ph.D.
## Senior Engineer

Julie Kim has worked extensively in the United States and Asia-Pacific region (China, Hong Kong, Korea, Philippines, Thailand, Vietnam) on large-scale infrastructure and property development projects. Her involvement in these projects covered all phases of project development, including project feasibility, master planning, design/construction, and operations/maintenance. Her area of specialty is in the air transportation sector and her expertise in this area covers site selection, facility requirements programming, environmental impact assessment, capital improvements and phasing, financial planning, and public–private partnership. Prior to joining RAND, she was the founding executive director of Collaboratory for Research on Global Projects (CRGP) at Stanford University, a collaborative undertaking between Stanford University and other partner academic institutions, private industry, and government affiliates to advance the science of managing large-scale global projects with complex cultural, organizational, and institutional issues.

### Thomas Light, Ph.D.
### Associate Economist

Thomas Light joined the RAND Corporation as an associate economist in 2007. Prior to joining RAND, he worked as an economist at ECONorthwest, specializing in energy, transportation, and environmental policy evaluation and analysis. His research uses modeling and econometric techniques to identify ways of better managing energy use, structuring electricity markets, addressing urban highway congestion, and assessing climate change policies. Light is the developer of the Toll Optimization Model, a special tool for calculating economic and traffic impacts for high-occupancy toll (HOT) lanes projects. He has conducted modeling and analysis using the Toll Optimization Model on more than a dozen road pricing projects in California, Colorado, Minnesota, North Carolina, Oregon, Utah, and Washington. Light also teaches public finance and mentors students at the Pardee RAND Graduate School.

### David S. Ortiz, Ph.D.
### Engineer

David Ortiz specializes in improving the performance of large, highly stressed, and tightly integrated systems, including transportation networks, energy supply systems, and the environment. With his RAND colleagues, Ortiz has developed new methods for assessing security and efficiency in transportation systems and is leading efforts to develop a cohesive freight transportation policy for North America. Ortiz led a RAND team that helped the U.S. Army Corps of Engineers formulate plans for restoring the Louisiana coast while addressing uncertainties such as the effects of global climate change, technical costs, and regional economic development. Other recent work includes the assessment of strategic options for the United States regarding unconventional fuels derived from coal and other sources, taking into account uncertainties in the global market for oil and likely constraints on the emissions of carbon dioxide and other greenhouse gases. Current projects incorporate uncertainty into greenhouse gas life-cycle analysis of biomass energy crops, and assess the biomass energy resource base to assist in the planning of energy facilities.

### Eric Peltz, M.B.A., M.S.E.
### Director, RAND Supply Chain Policy Center
### Director, Military Logistics Program, RAND Arroyo Center

Eric Peltz directs a research program that helps the U.S. Army, Defense Logistics Agency, and the U.S. Transportation Command improve support to operational forces, enhance the effectiveness of business processes, and optimize the industrial base and support infrastructure. Peltz also directs the Supply Chain Policy Center, which conducts research that addresses issues critical to the supply chains that drive the U.S. and international economies, with a special emphasis on freight transportation policy and infrastructure. He has led research projects on a broad range of supply chain management, fleet management, and deployment issues. Key projects have included an overall assessment of Operation Iraqi Freedom logistics that led to significant improvements in the supply chain, an overall concept and guiding principles for an ideal Department of Defense supply chain, and improved integration of inventory and transportation planning that has led to better support in Southwest Asia at substantially less total cost. Before joining RAND, Peltz held positions in production and engineering management, and he also served in the U.S. Army. He

is a graduate of the U.S. Military Academy and earned both his M.B.A. and M.S.E. at the University of Michigan. Peltz serves on the Research Strategies Committee of the Council of Supply Chain Management Professionals.

### Paul Sorensen, Ph.D.
### Operations Researcher

Paul Sorensen focuses on policy research in the areas of urban and regional planning, transportation, energy, environment, and emergency response. His technical expertise encompasses geographic information systems analysis, optimization modeling, and simulation, and he also conducts qualitative policy analysis. Recent examples of Sorensen's work include evaluating short-term policy options to reduce traffic congestion in Los Angeles, examining performance-based accountability systems in transportation planning and policy, assessing the potential for electronic tolling technologies to support innovative forms of transportation finance, exploring the costs and benefits of endangered species habitat conservation in Riverside County, examining logistical challenges associated with mass distribution of antibiotics in the event of a large-scale public health emergency, and evaluating potential strategies to promote the recovery of affordable housing in coastal Mississippi in the wake of Hurricane Katrina. Sorensen also authored several resource papers for the National Surface Transportation Policy and Revenue Study Commission, chaired by the U.S. Secretary of Transportation.

### Ben Van Roo, Ph.D.
### Associate Operations Researcher

Ben Van Roo's primary research activities lie in the area of supply chain management, multiechelon inventory theory, queuing theory, and developing quantitative and simulation models of stochastic systems. He has several years of experience working as a supply chain consultant and strategic advisor to private and public firms in the United States. His industrial experience includes working in the areas of industrial manufacturing, consumer packaged goods, life science and pharmaceutical distribution, and software engineering. Van Roo's primary research efforts have focused on strategic and tactical models for the United States Air Force. In addition, he has worked with several hospitals to understand and model operations challenges in health care systems.

### Henry Willis, Ph.D.
### Policy Researcher

Henry Willis's research applies decision analytic tools and risk analysis to help decisionmakers choose among competing resource management strategies or policy options. He has applied this approach to maritime and freight transportation policy, homeland security, emergency preparedness, and management of federal research and development programs. Examples of Willis's recent research include assessing risk-based approaches to allocating homeland security preparedness resources and assessing personal protective equipment needs of emergency responders working in a post–structural collapse environment. More recently, Willis has completed two studies of security of the U.S. freight transportation infrastructure, assessing the appropriateness of container security efforts and the costs and benefits of proposals to inspect containers entering the United States.

## Keenan Yoho, Ph.D.
## Associate Operations Researcher

Keenan Yoho's primary research activities lie in the area of supply chain management, outsourcing, quality assurance, logistics, risk analysis, resource management and decisions under conditions of uncertainty. He has several years of experience teaching and developing master's students and business executives in the United States and Europe. Prior to joining RAND, Yoho served as a supply chain advisor and consultant to U.S. and European firms for several years in the petrochemical, semiconductor, paper and pulp products, and steel industries, focusing on enabling corporate strategy by using the supply chain as a competitive weapon.

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