

Caroline Rodier

Urban Land Use and Transportation Center (ULTRANS)
Institute of Transportation Studies
University of California
3114 Hart Hall
Davis, CA 95616
rodier@pacbell.net

Education:

- *Doctor of Philosophy* (Ph.D.) in Ecology with major emphasis on Environmental Policy Analysis and Transportation Planning, University of California, Davis, **2000**
 - Dissertation: Uncertainty in Travel and Emissions Models: A Case Study in the Sacramento Region. Dissertation Committee: Robert Johnston, Patricia Mokhtarian, James Cramer & David Layton
- *Master of Science* (M.S.) in Community Development, University of California Davis, **1994**
- *Bachelor of Arts* (B.A.) in U.S. History, Barnard College, Columbia University, **1989**

Research Activities at the University of California (1992-Present)

URBAN MODELING RESEARCH

- Applied the Sacramento PECAS model with the SACSIM travel model to evaluate the equity and total economic effects of the Blueprint Plan for the Sacramento region relative to business-as-usual.
- Research support to the California Air Resources Board: (1) development of the scoping plan for Assembly Bill 32 (the *Global Warming Solutions Act*), including an international review of the modeling evidence on the effectiveness of transit, land use, and auto pricing strategies and (2) implementation of SB 375 (“Anti-Sprawl Act”) developing criteria and methods to evaluate sustainable community plans.
- Modeled and evaluated the travel, economic, and air quality effects of intelligent transportation systems technologies, high occupancy vehicle lanes, transit improvements, and road pricing and land use control measures using the Sacramento land use, travel, and emissions models.
- Apply methods of uncertainty analysis to assess errors in land use, travel, and emissions models due to model structure, population projections, and induced travel in the Sacramento region.

EVALUATION RESEARCH

- Apply research evaluation methods (data collection, focus groups, and surveys) and conduct analyses to evaluate the travel, economic, and environmental effects of transportation and environmental policies (e.g., land use, downtown parking pricing, transit-based smart parking, transit access technologies, social marketing, automated speed enforcement, and changeable message signs).

- Conduct analysis of institutional barriers and steps to overcome those barriers (including literature reviews and expert and stakeholder interviews) related to implementation and enforcement of transportation and air quality regulations.
- Investigate the transportation needs and preferences of diverse population groups, such as elderly, immigrants, and Native Americans, and explore innovative transportation programs to address those needs.
- Senior Researcher, Transportation Sustainability Research Center, Institute of Transportation Studies, University of California, Berkeley
- Senior Researcher, Urban Land Use and Transportation Research Center (ULTRANS), University of California, Davis

Selected Expert Service/Professional Activities:

- Travel Demand Management and Parking Management Joint Sub-committee, Co-Chair, 2009 to present
- Transportation Research Board, Integrated Transportation and Land-Use Modeling Subcommittee, Member, 2001 to present
- Research Associate, the Mineta Transportation Institute
- Transportation Research Board, New Public Transportation Technologies Committee, Friend, 2004 to present

Selected Publications:

- Rodier, C.J., J.A. Abraham, B. Dix, and D. Hunt (2010) Equity Analysis of Land Use and Transportation Plans Using an Integrated Spatial Model. Preprint for the 89th Annual Meeting of the Transportation Research Board. National Research Council, Washington.
- Rodier, C.J. and S.A. Shaheen (2010). Transit-Based Smart Parking: An Evaluation of the San Francisco Bay Area Field Test, [Transportation Research Part C: Emerging Technologies Volume 18, Issue 2](#), 225-233.
- Rodier, C.J. (2009). An International Review of the Modeling Evidence on the Effectiveness of Transit, Land Use, and Auto Pricing Strategies. *Transportation Research Record*. 2132, 1-12..
- Rodier, C. J. (2007). Verifying the Accuracy of Land Use Models Used in Transportation and Air Quality Planning: A Case Study in the Sacramento, California Region. WCTR Annual Meeting, June.
- Rodier, C. J. (2005). A multi-objective analysis of regional transportation and land development policies. Preprint for the 84th Annual Meeting of the Transportation Research Board. National Research Council, Washington, D.C.
- Rodier, C. J. (2004). Verifying the Accuracy of Regional Models Used in Transportation and Air Quality Planning. *Transportation Research Record*, 1898, 45-51.
- Rodier, C. J., R. A. Johnston, and D. R. Shabazian. (2003). Evaluation of advanced transit alternatives using consumer welfare. In *Transportation and Information Systems*. Cheltenham, England: Edward Elgar Publishing, 139-153.
- Rodier, C. J. and R. A. Johnston. (2002). Uncertain socioeconomic projections used in travel and emissions models: could plausible errors result in air quality nonconformity? *Transportation Research A*, 36, 613-631.
- Rodier, C. J., and R. A. Johnston. (2002). A comparison of high occupancy vehicle, high

occupancy toll, and truck only lanes in the Sacramento region. Preprint for the 81th Annual Meeting of the Transportation Research Board. National Research Council, Washington, D.C.

- Rodier, C. J., J. E. Abraham, and R. A. Johnston. (2001). Anatomy of induced travel using an integrated land use and transportation model. Preprint for the 80th Annual Meeting of the Transportation Research Board. National Research Council, Washington, D.C.
- Hunt, J. D., R. A. Johnston, J. E. Abraham, C. J. Rodier, G. Garry, S. H. Putnam, and T. de la Barra. (2001). Comparisons from the Sacramento Model Testbed. *Transportation Research Record*, 1780, 53-63.
- Rodier, C. J., R. A. Johnston, and J. E. Abraham. (2002). Heuristic policy analysis of regional land use, transit, and travel pricing scenario using two urban models. *Transportation Research D*, 7:243-254.
- Rodier, C. J. and R. A. Johnston. (1998). A method of obtaining consumer welfare from regional travel demand models. *Transportation Research Record*, 1649, 81-85.
- Rodier, C. J. and R. A. Johnston. (1997). Travel, emissions, and consumer welfare effects of travel demand management measures. *Transportation Research Record*, 1598, 18-24.
- Rodier, C. J. and R. A. Johnston. (1997). Incentives for local governments to implement travel demand management measures. *Transportation Research A*, 31: 4, 295-308.