

Urban Land Use and Transportation Center University of California, Davis

The Urban Land Use and Transportation Center (ULTRANS) at the UC Davis Institute of Transportation Studies (ITS-Davis) is tackling the challenges of urban sprawl, vehicle travel, and greenhouse gas (GHG) reduction head on. ULTRANS and ITS-Davis researchers have provided strong input to the design and analysis of the entire array of California's proposed transport-related GHG policies and laws, including those targeting vehicles, fuels, and vehicle travel. Our research teams will continue to synthesize the underlying science and tools, and to work with policymakers to design policies that meet climate, economic, equity, political, legal, and administrative criteria.

The mission of ULTRANS is to refocus transportation and land use planning to create livable communities with enhanced mobility options by:

- *Designing rules and policies that are both effective and politically acceptable,*
- *Constructing the tools and models needed to support those policies and rules, and*
- *Mounting an active outreach and training initiative to assist implementation of policies, rules and models.*

Designing Effective Rules and Policies

Successful policies must have a solid basis in science, and ULTRANS has the resources to provide the objective research needed. Policymakers are now considering a wide range of policies and practices to reduce vehicle miles traveled, from parking pricing to infill development, with limited information on their effectiveness. To address this gap, ULTRANS will review and assess the available evidence on the effect of selected policies and practices and summarize our results in policy briefs. These easy-to-understand summaries will transfer science-based, defensible knowledge to the people who make policy decisions.

As another step in building a strong research foundation for land use, transportation and economic policies, ULTRANS researchers will work to more accurately quantify the relationships between land use characteristics and vehicle travel. To develop targeted policies with scarce resources, cities, counties, and regions will need guidance on which policies will be most effective. The challenge is that the particulars of local and regional context play a large role in determining which actions will be most effective, but existing research provides little evidence on the role of context. This work will begin to fill this gap, providing context-sensitive estimates of the effect of local policies on travel choices. A spreadsheet tool will be developed to allow local policymakers immediate access to the portion of our findings that is relevant to their particular community. In addition, our findings will serve to improve the underpinnings of scenario planning models being developed by ULTRANS.

Policymakers need better information about how cities and regions can tackle climate change efficiently and effectively. ULTRANS researchers are conducting case studies of voluntary climate initiatives in eight California cities. Using a semi-structured interview process, information has been collected from government officials, staff, and other stakeholders in six of the cities so far. A document highlighting lessons learned from the studies is being prepared to help policymakers and other stakeholders identify the political feasibility, cost, and effectiveness of city initiatives to reduce greenhouse gases.

ULTRANS will also develop and disseminate improved information about the impact of policies on behavior, to guide decision-making and enhance models. New data collection efforts are needed to evaluate the impacts of policies as they are implemented, through "before and after" studies. Evaluation opportunities are occurring throughout the state; we will engage local governments as active participants in studying these opportunities. We will develop standardized evaluation protocols for use by local agencies to collect data before and after the implementation of policies, and will work with selected local communities as they carry out policy evaluations. Results from policy evaluations throughout the state will be compiled and disseminated to policymakers at the state, regional, and local levels.

Tools and Models to Support Policy

ULTRANS is leading the world in producing the most comprehensive statewide model and corresponding regional models that integrate land use, transportation and economic activity. The statewide integrated land use, transportation, and economic model will be coupled with similar regional Metropolitan Planning Organization (MPO) models throughout California. Together they will demonstrate the capability of projecting the impact of statewide policies and investments on regions and the interaction of regional policy choices and investments with those statewide efforts, thus serving as a national and international example of fully integrated state and regional policy and infrastructure investment modeling.

ULTRANS will work to implement cutting-edge land use, transportation, and economic modeling tools for California and its MPOs in cooperation with local governments to guide GHG reduction planning within regional and general plans, transportation plans, and economic and housing initiatives. These advanced models offer strong scenario analysis for use by all stakeholders, to reduce vehicle travel and thus GHG emissions, increase economic viability, and ultimately reshape California's communities into sustainable places with walkable neighborhoods, more mobility options, and better quality of life.

Implementation of comprehensive integrated modeling tools will substantially advance our ability to make wiser land use and transportation decisions that include consideration of environmental, economic, and equity impacts. Outreach to the public and to local governments through the use of computer models has proven to stimulate community action and political success in introducing innovative land use change. Providing this decision support at a statewide and national level will play a key role in introducing expanded choice for housing types, transit options and alternative economic models.

Outreach and Training for Implementation

Extending research findings beyond the university is central to the mission of ULTRANS. Accomplishing changes in land use and travel behavior will depend on the actions of a broad range of stakeholders. Efforts to create more sustainable communities require cooperation and coordination at many levels, and ULTRANS researchers have played a valuable role in helping state and regional agencies work together toward this goal. We currently offer modeling advice and support to the California Department of Transportation, as well as four major MPOs and fourteen smaller Councils of Government in California.

Training and outreach by ULTRANS through the statewide Blueprint Learning Network was central to the success of programs across the state carrying out California's Blueprint process. We hope to play a similar role by providing technical assistance to local governments in California as they develop Sustainable Community Strategies—helping MPOs and their constituent cities talk to each other, learn from each other, and work together to achieve California's ambitious goals.

ULTRANS researchers have advanced training in the broad range of disciplines needed to investigate the intricate relationships between land use, transport infrastructure, government policy, and choices that people make. Our research and outreach on the effectiveness of various transportation and land use policy options, analysis and dissemination of currently existing travel behavior data, and guidance on testing the outcomes of new policies and regulations will be essential to the practical and political success of efforts to meet the challenges of climate change, air quality, mobility, economic revival, equity, and community livability.

Background

ULTRANS, created in 2008 to support the design and implementation of new land use and transportation policies through research, education, and outreach, is part of the UC Davis transportation community organized by ITS-Davis. ITS-Davis was established in 1991 and is now a multi-faceted, internationally recognized program with more than 60 affiliated faculty and researchers and over 100 graduate students. ITS-Davis is unique in its multidisciplinary approach to a range of transport topics in core areas of research and analysis, including environmental vehicle technologies and fuels; climate change, air quality, and other environmental impacts; and travel behavior, location choice, land use and economic modeling.

Contacts

Mike McCoy, Director
530/754-9171
mcmccoy@ucdavis.edu

Joan Sollenberger, Deputy Director
530/754-6888
jsollenberger@ucdavis.edu

Susan Handy, Deputy Director
530/752-5878
slhandy@ucdavis.edu