



# Potential Economic Consequences Of Local Nonconformity To Regional Land Use And Transportation Plans Using A Spatial Economic Model

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MTI Project 2902

June 2011



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California led the nation by passing the first global warming legislation in the U.S. (AB 32) and is now tasked with reducing greenhouse gas emissions to 80

percent below 1990 levels by 2050. Senate Bill 375 (SB375) – mandates regional targets linked to land use and transportation plans (called Sustainable Community Strategies or SCSs) and thus acknowledges the view that GHG reductions from the transportation sector can only be met by changing the way communities grow, switching from low-density, auto-oriented development to compact, transit-oriented development. Although SB375 requires regions to develop SCSs to meet these goals, it does not require local governments to adopt general plans consistent with the land use plans included in SCSs.

This study was conducted to understand what the economic and equity consequences might be to jurisdictions that do and do not implement SCS land use plans in a region. An understanding of these consequences may provide insight into jurisdictions' motivations for complying or not complying and, thus, strategies to improve jurisdictions' compliance.

## Study Method

Using the Sacramento region as a case study, the 2035 build forms of the region's SCS and the business-as-usual scenario were input into the Sacramento spatial economic model (PECAS) along with inputs from the Sacramento activity-based travel model (SACSIM). The PECAS model enabled the simulation of the effects of non-conformity by a single jurisdiction with the SCS on the average cost of living for and economic benefit to an average household by geographic location. Four scenarios were constructed in which the effect of a jurisdiction's non-conformity resulted in different combinations of centralization or decentralization of employment and housing in the region.

## Findings

This study found that the impact of non-conformity on average households in the region and in specific jurisdictions depends, among other factors, on whether the non-conforming land uses further centralizes or decentralizes housing and employment in the region. In the Lincoln scenario, non-conformity contributes to centralization of housing and employment and increases economic benefits for the average household in all jurisdictions in the region. In the remaining three scenarios, in which housing and/or employment decentralize, the cost of living

largely increases and consumer surplus decreases for the average regional household.

## Policy Recommendations

The study results provide deeper insight into the potential pitfalls and thus suggest strategies for more effective implementation of SB375.

### **1. In the development of SCSs that increase the centralization of activities in a region, care should be taken to understand the particular transportation needs of rural and low-income residents.**

If plausible inequities are identified, then creative policy instruments should be developed to redress these inequities, without further encouraging decentralizing.

### **2. The potential risk of economic losses to communities that continue business-as-usual development patterns should be explicitly addressed in the development and communication of SCSs.**

These include higher costs for business operations, which may diminish regions' ability to compete economically with other regions both nationally and internationally.

### **3. The distribution of jurisdictional benefits should be explicitly examined and addressed in the development of SCSs.**

Non-conforming jurisdictions may benefit at the expense of other jurisdictions and the overall regional economy.



### **4. The actual implementation of SB375 by local jurisdictions should be carefully monitored.**

If non-conformity becomes a significant problem, then the legislature should consider amending SB375 to include strong sanctions for non-compliance.

## About the Authors

Caroline Rodier is the Associate Director of the Urban Land Use and Transportation Center (ULTRANS) at the University of California, Davis. Her major areas of research include transportation and environmental planning and policy analysis. Margot Spiller is a Junior Specialist at the University of California, Davis and holds Master's Degrees in Transportation Engineering and City Planning from the University of California, Berkeley. John Abraham has expertise in developing and calibrating models to provide accurate and practical computer simulations for analyzing policy and scenarios; his development and use of models has focused on understanding and measuring the relationship between the transportation and the larger community, and modeling these relationship in land use transport interaction models. John Douglas Hunt is a professor in Transportation Engineering and Planning in the Department of Civil Engineering at the University of Calgary, whose interests include mathematical modeling of transportation-related aspects of human behavior.

## To Learn More

For more details about the study, download the full report at [transweb.sjsu.edu/project/2902.html](https://transweb.sjsu.edu/project/2902.html)