

Fragmented or Aligned Climate Action: Assessing Linkages Between Regional and Local Planning Efforts to Meet Transportation Greenhouse Gas Emissions Reduction Targets

Serena E. Alexander, PhD

Ahoura Zandiatashbar, PhD

Branka Tatarevic

Project 2146

November 2022

Introduction

California’s Sustainable Communities and Climate Protection Act of 2008, or Senate Bill (SB) 375, is a first-of-its-kind law that recognizes the key role transportation and land use decisions play in addressing climate change. Under SB 375, each of California’s 18 regional Metropolitan Planning Organizations (MPOs) is responsible for developing a Sustainable Communities Strategy (SCS): a regional transportation and land use vision that demonstrates how the region, in partnership with its local member agencies, plans to meet the GHG emissions reduction targets set by the California Air Resources Board. Lessons learned from the implementation of SB 375 can help state, regional, and local governments encourage better transportation and planning decisions to combat climate change. Despite extensive state efforts in designing climate policies, a progress report published in June 2022 indicates that California is still not reducing GHG emissions from transportation, and particularly personal vehicle travel, enough to meet SB 375’s goals.

A key challenge to meeting California’s ambitious emissions reduction goals is how well regional and local climate policies align. Since the strategies outlined in the SCS often fall under the jurisdiction of local agencies, local officials ultimately determine whether and how SB 375’s provisions are implemented. Local jurisdictions are not required to develop a Climate Action Plan (CAP), although they are encouraged and supported by the state and regional agencies to do so. Although the General Plan (GP) remains the only comprehensive and binding municipal plan, many jurisdictions choose to develop a CAP and funnel GHG-reduction efforts through climate action planning. It is important to note that the SCS does not supersede a local climate action plan (CAP), nor does it require that local plans and policies be consistent with the

SCS. This can result in a potential lack of alignment between regional SCSs and local CAPs. Given the magnitude of disruptive climate impacts the state is already facing, many climate concerned Californians raise important questions:

1. Are the transportation and land use strategies and targets in SCS plans reflected in the local plans to build sustainable communities?
2. Does the alignment of regional and local transportation and land-use strategies help mitigate GHG emissions through vehicle trip reduction?
3. How different are the effects of independent local action and the alignment of local and regional actions on vehicle trip reduction?

Study Methods

The authors used a two-phased mixed-method approach to examine the alignment of local and regional climate strategies and the impact of those strategies on vehicle trip reduction. The first phase involved a qualitative content-analysis of local CAPs and regional SCSs representing the five most populous regions in California, SF Bay Area, Sacramento region, San Joaquin County, Southern California (LA) region, and San Diego County. Within each region, five cities were selected for specific focus, for a total of 25 cities. The sample included both larger and smaller cities and communities with a wide range of transportation needs (e.g., high or low commute range) and climate planning efforts (e.g., cities with or without a CAP). The content analysis focused on identifying and categorizing the transportation and land use (TLU) strategies. The content analysis results were used in alignment operationalization, which included measuring the level of alignment between local and regional plans for TLU strategies and using weights that quantify the impact of such alignments on vehicle trip reduction over

time. Thus, these measures led to an optimal estimation of alignment scores.

Key Findings

The major findings can be summarized as follows: (1) The patterns of local and regional climate policy are diverse across the state, but poor alignment is not necessarily a sign of limited climate action at the local level; (2) Active transportation strategies are the most commonly found strategies in regional and municipal climate action plans that effectively reduce vehicle trips; (3) The analyzed cities and regions consistently plan for densification and land use diversity; (4) Policies that aim to improve mass transit networks and ridership are the most effective in reducing vehicle trips, though the scope and types of these policies differ between larger and smaller cities; (5) Well-aligned regional- and local-level climate-friendly infrastructure appear to have the most significant impact on vehicle-trip reduction, on average a 7% decrease in vehicle trips; (6) Many local level strategies alone, such as for goods movement, urban forest strategies, parking requirements, and education and outreach programs, are effective in vehicle-trip reduction; (7) Built-environmental factors, such as density, land use diversity, walkability, and a strong transit system are all significant indicators of increased non-auto commute; (8) Job-housing balance strategies should be coupled with adequate transit access to effectively impact vehicle trips; otherwise, vehicle trips will increase as the population increases.

Policy Takeaway

A major takeaway from this research is that, although local and regional climate policy alignment can be crucial for successfully reducing vehicle trips, local action is equally important. While there are established best practices for climate action planning, there is no one-size-fits-all approach to reducing transportation emissions. Regional SCSs often use best practices and analysis of regional context to develop climate strategies, while municipalities develop and implement CAPs to address local needs. Some cities have a longer history of climate planning and, by extension, the capacity to take innovative action to address transportation emissions and even lead regional climate efforts. Others are just starting the process of developing a CAP and require more technical and financial support from regional and state governments. The results of this

research also show that while alignment of regional and local policies is important in some areas, local action can be more effective in others. Specifically, strategies to engage communities in climate planning or policies to address local problems, such as parking, can be more successful at the local level. Therefore, the State of California should support both local and regional action to address transportation emissions.

About the Authors

Serena E. Alexander, PhD

Dr. Alexander is an Associate Professor of Urban and Regional Planning and a Visiting Scholar at the U.S. Department of Transportation's Climate Change Center. Her research focuses on developing cutting-edge strategies to address climate change and climate justice.

Ahoura Zandiatashbar, PhD

Dr. Zandiatashbar is an Assistant Professor of GIScience and the Co-director of Spatial Analytics and Visualization institute (SAVi) at San José State University. His research quantifies the economic and public health outcomes of the built environment and transportation amenities.

Branka Tatarevic

Branka is a recent graduate of the Master of Urban Planning program at San José State University.

To Learn More

For more details about the study, download the full report at transweb.sjsu.edu/research/2146



MTI is a University Transportation Center sponsored by the U.S. Department of Transportation's Office of the Assistant Secretary for Research and Technology and by Caltrans. The Institute is located within San José State University's Lucas Graduate School of Business.