

Research Results

Planning/ Policy/ Programming

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Project Title: The Environmental Impact and Policy Implications of Supercommuting in the Northern California Megaregion

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The Environmental Impact and Policy Implications of Supercommuting in the Northern California Megaregion

Analysis and evaluation of supercommuting impacts on the environment

WHAT WAS THE NEED?

Statewide, supercommutes comprise only three percent of all commutes, but represent a much larger share of journeys-to-work in specific communities - up to 12 percent in Stanislaus County, for example. The higher supercommuting rate in counties like Stanislaus that are adjacent to the core Bay Area counties like Alameda was emblematic of the challenges and opportunities tied to supercommuting. The project's descriptive overview of supercommuting patterns and trends will highlight those communities hosting large shares of very long-distance commuters and the sub-regional distribution of their workplace destinations. The researchers will then relate these patterns to housing, demographic, and economic data to identify the prevalence of supercommuting hot spots, their emissions consequences, and the factors driving them. Answers to these questions inform policymakers on strategies to prioritize where affordable housing should be incentivized to minimize excess congestion and emissions from long distance commute travel and strategies to accelerate the transition to cleaner transportation options, including telecommuting.

WHAT WAS OUR GOAL?

The purpose of the research was to assess the prevalence of and trends in very long-distance commuting, and how supercommuting contributes to transportation-linked Greenhouse Gas (GHG) emissions.

WHAT DID WE DO?

The researchers began with an assessment of supercommuting focused on the scale, prevalence, and location of



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supercommuting, as well as the characteristics (age, race/ethnicity, gender, income, etc.) of supercommuters. They used a combination of individual-level data and fine-grained geographic data to gain insights into the characteristics of workers most likely to commute long distances. The researchers developed measures of origin and destination pairs (locations of beginnings and endings of commutes) from the Streetlight data, and used those pairs to get estimates of the total distance people are likely to drive to and from work. Distance were based on road network analyses and incorporated estimates of excess travel time due to congestion by comparing average travel time at peak and off-peak hours from Streetlight, Inc. data. Finally, the team developed scenarios to model the environmental impacts of different sets of factors including travel behavior and vehicle type.

WHAT WAS THE OUTCOME?

The research was successfully completed, with new insights related to the emissions and environmental impact of supercommuting, revealing that supercommuting has an outsized impact on emissions for the distance traveled and VMT produced and that a reduction in this process would reduce the GHG emissions and VMT of these commuters by half. This information will be useful in crafting better targeted policies for mitigation purposes.

WHAT IS THE BENEFIT?

This assessment will directly inform policy recommendations we will develop to mitigate the negative consequences of supercommuting. This will allow for better targeting of environmental policies seeking to reduce the range of negative externalities resulting from the current state of automotive vehicles undertaking supercommuting activities.

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<https://www.metrans.org/assets/research/the%20environmental%20impact%20and%20policy%20>

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IMAGES



Image 1: Map of the Northern California Megaregion showing the main urban center.