

Reducing Car Dependence Has Economic, Environmental, and Social Benefits

Susan Handy
University of California, Davis

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POLICY BRIEF

Issue

Californians live in a car-dominant society. Decades of transportation and land use planning practices have created communities in which driving is a virtual necessity to access most destinations. Personal vehicles provide mobility benefits, but they also have many negative financial, public health, environmental, and social impacts. Technological innovations such as vehicle electrification can lessen some, but not all, of these impacts. A more comprehensive approach is to shape communities in a manner that gives people viable options other than a personal vehicle—such as walking, bicycling, or transit—to get where they need to go.

Researchers at UC Davis reviewed published studies to summarize the range of household- and community-level benefits that can be realized by reducing car dependence in California.

Key Findings

Using transportation modes other than driving can make people healthier and happier. Research shows that driving, a sedentary activity, contributes to obesity. Long car commutes are often stressful and are associated with negative mood, poor concentration, driver error, and traffic collisions. Living in more auto-dependent areas can contribute to increased blood

pressure, headaches, social isolation, and depression. By contrast, commuters who use active modes, such as biking and walking, report their travel to be more relaxing and satisfying than do their driving counterparts.

Driving less can save money for households and communities. The average U.S. household spent over \$9,000 on its cars in 2017, amounting to 16% of household expenditures. The high purchase price and regular fuel, maintenance, and insurance costs can be a financial burden, especially for lower income households (Figure 1). It is also very expensive to build and maintain the roads necessary for private vehicles. Highway maintenance costs have ballooned to over \$500 million a year in California. Promoting lower-cost travel alternatives can free up finances to be used for other important needs.

Reducing car dependence improves public health and environmental outcomes. On-road transportation is the state's top source of climate change-causing greenhouse gas emissions and a significant source of other air pollutants that cause respiratory and

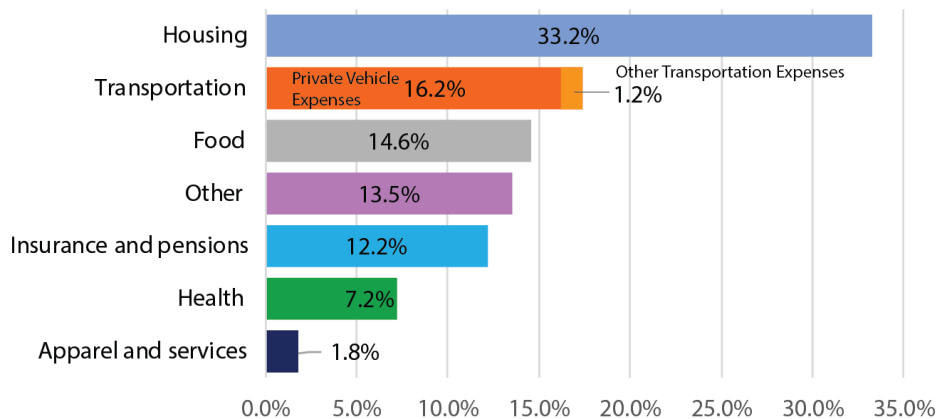


Figure 1. In 2017, 16.2% of the average U.S. household's expenditures (\$9,032) went toward owning, operating, and maintaining a personal vehicle—more than any other household expenditure category besides housing.

cardiovascular disease. Even cars with zero tailpipe emissions produce water and air pollution from brake and tire wear, cause wildlife mortality through vehicle strikes, and fragment wildlife habitat through the proliferation of roads necessary to operate them. Using alternative transportation modes reduces these impacts on human health and the planet.

A less car-dependent society uses energy and space more efficiently. Walking, bicycling, and transit can all move people using less energy and less of the roadway than private cars (Figure 2). Especially in dense urban areas where space is at a premium, dedicating more roadway to these other modes can be the most efficient way to increase travel capacity. It also gives people choices to avoid traffic congestion.

A society with more travel options is a more equitable society. Over-reliance on personal vehicle travel limits opportunities for many. Not everyone is able to drive for themselves due to age or ability. Car ownership is outside the means of some low income households. Creating more travel options opens up access to services, jobs, and other activities and thus expands economic and social opportunities and ensures fuller participation in society by everyone.

Policy Implications

The benefits described above make alternatives to driving appealing to many. But promoting alternative transportation modes can benefit even those who choose not to use them. Reductions in pollution and congestion from fewer cars on the road are positive outcomes for those who continue to drive as well.

Governments should consider the full range of benefits of reducing car dependence, including the benefits to society at large, when making land use decisions and transportation investments. Considering all of these economic, health, and environmental benefits provides stronger justification for revising some of the entrenched land use and transportation policies that have created our car-dependent society. While it

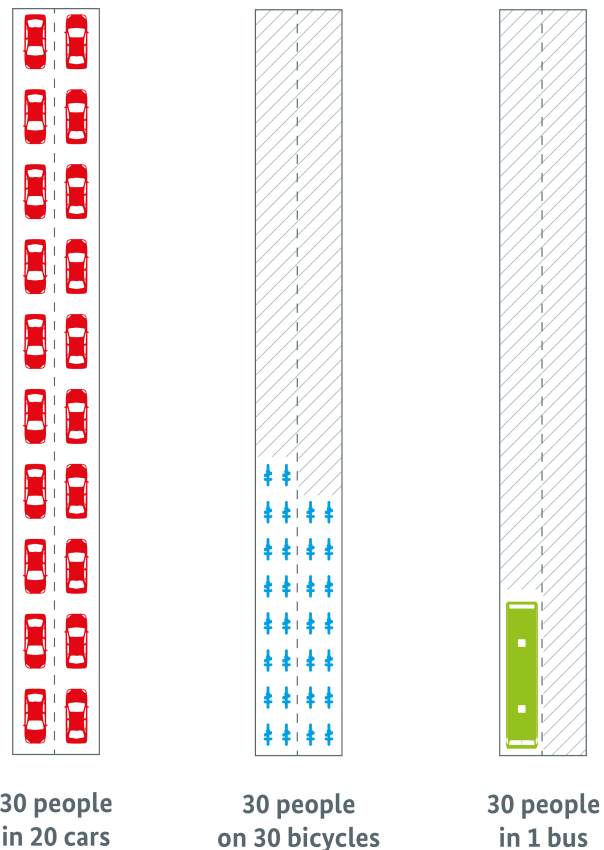


Figure 2. Alternative transportation modes can move people much more efficiently than private vehicles. (Image courtesy of Transformative Urban Mobility Initiative)

isn't realistic in the foreseeable future for Californians to live without their cars, it is realistic to aim for a healthier, more equitable world in which they use them less.

More Information

This policy brief is drawn from "What California Gains from Reducing Car Dependence," a white paper from the National Center for Sustainable Transportation, authored by Susan Handy of the University of California, Davis. The full white paper can be found on the NCST website at <https://ncst.ucdavis.edu/project/what-california-gains-reducing-car-dependence>. For more information about the findings presented in this brief, please contact Susan Handy at slhandy@ucdavis.edu.

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