

Urban Design that Reduces Vehicle Miles Traveled Can Create Economic Benefits

Marlon G. Boarnet, Evgeny Burinskiy, Lauren Deaderick, Danielle Guillen,
and Nicholas Ryu
University of Southern California

February 2021

Issue

Practitioners and scholars have traditionally held the view that building transportation infrastructure, such as highways that facilitate more driving, will improve economic development. Evidence for this view was derived from construction of new transportation networks such as the Interstate Highway System in the 1950s and 1960s that forged new regional connections and contributed to economic growth. But now, decades later, infrastructure improvements to a mature system have less-clear benefits and may simply shift economic activity around. More recently, as cities and regions have begun implementing policies to reduce vehicle miles traveled (VMT), the question of the economic role of less VMT has emerged. In many cases, higher economic performance is associated with walkable, pedestrian-oriented neighborhoods, designed in ways that reduce car travel.

Researchers at the University of Southern California reviewed the literature on property values, business sentiment, and productivity to understand how VMT-reducing *place-making* can help boost neighborhood economies. Placemaking refers to transportation projects that reduce driving and become neighborhood amenities such as complete streets, pedestrian malls, or bicycle sharing (Figure 1). The research showed neighborhoods that support alternatives to car travel are associated with higher—not lower—economic vitality.

Key Research Findings

Neighborhood businesses can benefit from walkability. Studies have found that commercial properties located near rail transit or walkable neighborhoods sell for 16% to 54% more (Table 1). Benefits of pedestrian-oriented urban design include more foot traffic, inviting streetscapes, and opportunities to encourage shoppers to visit and peruse.

In some cases, street closures or traffic lane reductions are associated with improved neighborhood business activity. Two-thirds of merchants along Valencia Street in San Francisco said in interviews that they believed the installation of bike lanes had a positive effect on their business. Union Square North in Manhattan saw a 49% decrease in retail vacancies after the installation of bicycle lanes and a new pedestrian plaza. In contrast to a common fear, a reduction in vehicle traffic did not lead to reduced business traffic in these and other locations.

House prices are higher in places with VMT-reducing urban design. Higher neighborhood walk scores (indicating better pedestrian access to destinations) are associated with higher house values, controlling for other factors, suggesting that people value the package of amenities that is associated with walkable neighborhoods. Transit access is also associated with higher house values, although that effect varies across studies and the transit house price premium is larger in more walkable neighborhoods.

Neighborhoods benefit from placemaking in different ways. Neighborhoods are context-



Figure 1. A VMT-reducing placemaking project on Guerrero St. in San Francisco. Pedestrian-friendly medians were installed along with bike lanes and traffic lights while a traffic lane was removed in each direction. Image courtesy of the San Francisco Planning Department.

STUDY	LOCATION	YEARS (DATA)	COMMERCIAL PROPERTY INCREASE	NOTES
Cervero, R., Duncan, M. (2002) ¹	Santa Clara County, CA	1988-1999	23% property value increase	within 1/4 mile of light rail transit station
Debrezion, G., Pels, E., Rietveld, P. (August 2007) ²	13 studies, mostly U.S.	various	16.3% property value increase	within 1/4 mile of light rail transit station
Pivo, G., Fisher, J. D. (March 2011) ³	National, U.S.	2001-2008	54% value increase (office and commercial)	Walkscore from 20 to 80

Table 1. A sample of studies that have found commercial property value increases associated with proximity to light rail transit or areas with high walkability

specific. It is possible that some studies were conducted in locations where VMT-reducing design was most likely to have an economic impact. The evidence is best interpreted as showing that thoughtfully applied placemaking activity can have positive impacts; not that any and every VMT-reducing placemaking in any location will produce benefits.

The transportation system should balance regional and local needs. While many neighborhoods will benefit from VMT-reducing placemaking activities, an entire metropolitan area of slow-moving traffic in pedestrian-focused places would not allow the high throughput needed to facilitate accessibility through the region. High-throughput backbones such as highways, subways, and arteries are needed to sustain trade and economic interaction within and across metropolitan areas. Regional backbone systems should link to neighborhoods that support multiple travel modes.

A car-only transportation system is ill-suited to support this hybrid of regional accessibility and neighborhood placemaking. Walking-oriented design elements and pedestrian neighborhoods that help create placemaking

benefits are often seamlessly integrated with alternatives to car travel such as first- and last-mile transit access. Regions need throughput, which includes an important role for the car, but a car-only metropolitan transportation plan leaves little room for walkable placemaking and the benefits that those VMT-reducing designs produce at the neighborhood scale.

More Information

This policy brief is drawn from “The Economic Benefits of Vehicle Miles Traveled (VMT)-Reducing Placemaking: Synthesizing a New View,” a white paper from the National Center for Sustainable Transportation, authored by Marlon G. Boarnet, Evgeny Burinskiy, Lauren Deaderick, Danielle Guillen, and Nicholas Ryu of the University of Southern California. The full paper can be found on the NCST website at <https://ncst.ucdavis.edu/project/economic-benefits-placemaking-transportation-implications>.

For more information about the findings presented in this brief, please contact Marlon Boarnet at boarnet@usc.edu.

¹Cervero, R., Duncan, M. (2002). “Transit’s Value-Added Effects: Light and Commuter Rail Services and Commercial Land Values.” *Transportation Research Record*. (1805), 8-15.

²Debrezion, G., Pels, E., Rietveld, P. (August 2007). “The Impact of Railway Stations on Residential and Commercial Property Value: A Meta-Analysis” *The Journal of Real Estate Finance Economics*. (32:2), 161-180.

³Pivo, G., Fisher, J. D. (March 2011). “The Walkability Premium in Commercial Real Estate Investments.” *Journal of Real Estate Economics*. (39:2), 185- 219.

The National Center for Sustainable Transportation is a consortium of leading universities committed to advancing an environmentally sustainable transportation system through cutting-edge research, direct policy engagement, and education of our future leaders. Consortium members: University of California, Davis; University of California, Riverside; University of Southern California; California State University, Long Beach; Georgia Institute of Technology; and the University of Vermont.

Visit us at
ncst.ucdavis.edu

Follow us:

