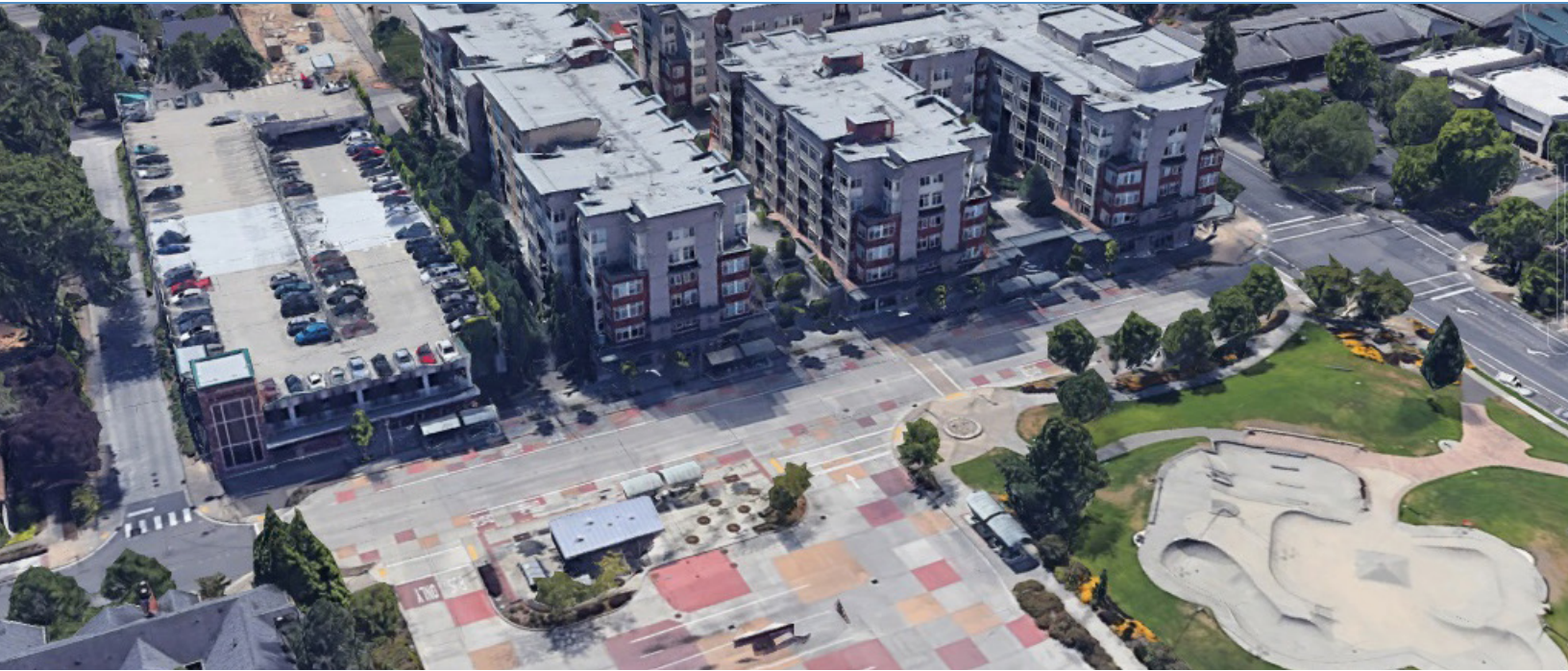


TOD and Park-and-Ride: Which is Appropriate Where?

Project 1820
January 2021

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Walk to transit or drive to transit? The global climate crisis should make us want to walk, since most greenhouse gas emissions come from cars. In North America, beginning in the 1990s, a strategy of governments for boosting transit and reducing automobile driving has been to promote construction of more housing near bus and train stops. It's called transit-oriented development, or TOD. People living within walking distance of public transit ride it more, and drive cars less than people who live farther away.

But most people don't live near transit, so an older strategy going back to the 1930s is building car parking lots and garage structures near train stations and express bus transit centers. This is called park-and-ride, or PnR.

Over the past 20 years in California and Washington State, the two concepts of TOD and PnR have begun to emerge as competitive land uses adjacent to stations, in some cases leading to planning for the reduction of existing parking in favor of transit-adjacent housing. In

other cases, large parking structures are still built within TOD zones.

A commuter-dedicated parking space near a transit station consumes less land than a housing unit, so commuter parking as a land use choice should generate more ridership per acre than TOD housing. However, no research until now has examined the comparative influence of housing and parking on transit ridership. This report provides an answer to that question.

Study Methods

The researchers examined available ridership data for 2017 morning boardings at the bus and train stops of Valley Transportation Authority (VTA) in San Jose, and LA County Metro in Los Angeles, and the bus stops of King County Metro in Seattle. The amount of housing and population within a quarter mile of these bus stops was estimated from Census data. The size and location of park and ride facilities dedicated to transit riders were

identified. Then a special version of regression analysis applicable to counts of population, transit ridership, and parking spaces was applied to compute the marginal influence on morning ridership of the two land uses, housing and parking.

Furthermore, an examination of the public record on the history and policy justifications for TOD and PnR in the three jurisdictions was conducted for insights into why authorities emphasize one or the other.

Findings

Parking is surprisingly important. The influence of 100 PnR spaces on morning weekday transit ridership computes to 2.4 times that of 100 near-transit housing units for Santa Clara Valley Transit and 1.9 times for Los Angeles County Metro. For King County Metro the ridership influence ratio of parking over housing is 4.0. These effects are an average across each agency's entire network.

Despite the differential effect on ridership in favor of parking, the explicit public policy trend of promotion in all three jurisdictions is to emphasize TOD over PnR, especially where PnR was not well used prior to the 2020 pandemic. To meet climate goals through a reduction in driving, supporting TOD reflects the benefit of more people living in vibrant, walkable communities near to transit, rather than expanding PnR to support life styles where driving is necessary for all trips, even to gain access to public transit. Furthermore, revenue coming in to a transit agency is more certain from leasing transit adjacent land to the private sector for housing than in owning and operating PnR.

Park and ride is the multi-modal point of connection between the automobile oriented suburbs and the walkable urbanism closer to downtown, providing an option to reduce parking and car traffic in the city center.

Policy/Practice Recommendations

The public interest in promoting ridership on public transit and the strong effect of PnR as an influence on transit ridership mean that parking is always an important option to consider, even when TOD is also pursued. Establishing free parking for transit riders is

no more justified than rent-free housing. Pay-to-park facilities with price-managed capacity utilization to avoid unhealthy crowding in both the parking and in the transit coaches are options to boost ridership, especially toward the edges of the transit network.

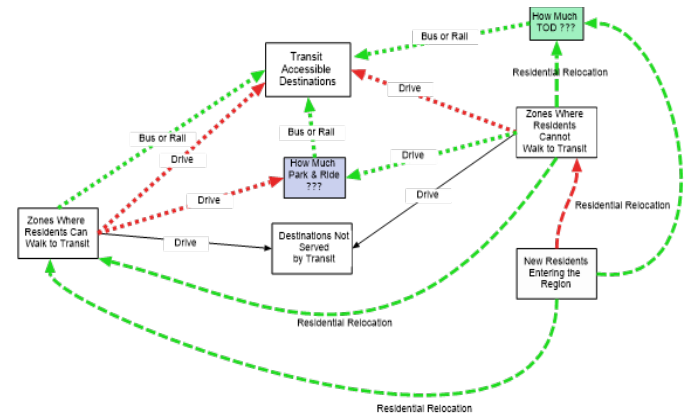


Figure 21 in report: Strategic Landscape of Transit Network Access

About the Authors

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Previous page photo: Redmond, WA Transit Center
From Google Earth, Image Landsat/Copernicus

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For more details about the study, download the full report at transweb.sjsu.edu/research/1820



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.