

Parking Supply, Car Ownership, and Driving Rates



The evidence from five studies

Available, “free” parking is associated with increased car ownership

Including parking with rent makes a household 60-80% less likely to be vehicle-free.

Households with parking included with rent (“bundled”) are 60 to 80 percent less likely to be vehicle-free than households without. There is reason to believe that bundled parking causes additional vehicle ownership. Households on the margin for the decision to have an additional vehicle may opt for the additional vehicle when the cost of parking is hidden in the price of housing. Regulations that reduce the incidence of bundled parking may reduce vehicle ownership and by extension vehicle use.

2017 research paper based on American Housing Survey data.

Manville, Michael. *Bundled parking and vehicle ownership: Evidence from the American Housing Survey*. The Journal of Transport and Land Use, Vol. 10 No. 1 [2017] 27-55.

Access to private or reserved parking triples the likelihood of car ownership.

People with access to owned and reserved parking have about three times higher car ownership levels than those without. Overall trip frequency (regardless of mode) does not change with car ownership or access to home parking; non-car owners make about the same number of trips as car owners. There is a reduction in the percentage of trips by car if parking is not on-site, related to the distance between the residence and parking location.

2017 research paper based on data from Norwegian National Travel Survey.

Christiansen, Fearnley, Hanssen, Skollerud. *Household parking facilities: relationship to travel behavior and car ownership*. Transportation Research Procedia 25C (2017) 4189–4199.

Copious parking means more driving

Guaranteed parking at home leads to a greater propensity to drive.

There is a clear relationship between guaranteed parking at home and a greater propensity to use the automobile for journey to work trips even between origin and destinations pairs that are reasonably well served, and very well served, by transit. Because journey to work trips to the downtown are typically well served by transit, the research infers non-commute trips are also made disproportionately by car from areas of high on-site parking.

2012 research of New York City parking using city tax lot data, Google earth data, and work and travel data from the 2000 Census Transportation Planning Package.

Weinberger, Rachel. *Death by a thousand curb-cuts: Evidence on the effect of minimum parking requirements on the choice to drive*. Transport Policy 20 (2012). 93–102.

Increases in available parking is associated with an increase in driving mode share.

When parking spaces provided increased from 0.1 to 0.5 per resident or employee, commuter automobile mode share increased roughly 30 percentage points (roughly from 53% to 85%). Based on causality criteria, researchers assert it is likely that providing excess parking is a cause of increased automobile use, rather than provision of excess parking being a result of increase automobile use.

2016 research paper based on US Census commute data and parking supply from aerials photographs from approximately 1950-2009 from nine mid-sized cities American cities.

McCahill, Garrick, Atkinson-Palombo; Polinski. *Effects of Parking Provision on Automobile Use in Cities: Inferring Causality*. Transportation Research Record: Journal of the Transportation Research Board, No. 2543, 2016, pp. 159–165.

Household decisions about car ownership and driving are influenced by parking availability

A household's decision about the number of cars owned and share of trips made by car are impacted by the availability of parking. Parking has a causal effect on car ownership and mode choice.

Transportation behavior and outcomes are hard to study as populations are hard to randomize. This study looks at a population randomly assigned to live in particular places, by reviewing outcomes from households in San Francisco's housing lottery. The lottery is highly competitive; those that receive housing through the lottery will typically move into the dwelling unit regardless of factors such as location or parking availability.

The results show households adapt car ownership and mode choice based on availability of parking and access to other modes of travel. Greater transit accessibility reduces the propensity to own and drive a car, while increasing the propensity to ride transit. Greater walk and bicycle accessibility also increase the propensity to use those modes. A building's parking ratio not only influences car ownership, vehicle travel, and transit use, but has a stronger effect on these decisions than transit accessibility. Buildings with at least one parking space per unit have more than twice the car ownership rate of buildings that have no parking. If parking is provided on-site for free or at a reduced price, then households appear to take advantage of this amenity. In contrast, households without access to on-site parking are more likely to forgo car ownership altogether. The potential for private automobile trip reductions is large and does not depend on car-free households relocating to car-free buildings.

2021 research paper based on transportation choices of 779 households receiving below-market-rate housing through San Francisco's Inclusionary Housing program between 2015 and 2018.

Millard-Ball, West, Rezaei, Desai. *What Do Residential Lotteries Show Us About Transportation Choices?* Urban Studies (forthcoming, written January 2021).

Questions?

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