

Project Title: Mode Shift in Transit Under-served Areas in the New York City Region

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This research investigates the impact of residential parking on household travel behavior in transit under-served areas (TUSA) in the New York City region. It focuses on an important but often overlooked issue in reshaping the travel pattern in

TUSA neighborhoods- residential parking. It finds that TUSA households with only on-street parking tend to have fewer cars, make fewer vehicle trips, and drive less overall VMT, compared to households with a garage. However, when on-street parking becomes a viable alternative to off-street parking--free, convenient, and readily available, households tend to have more cars and use these cars more often.

The study's methodology involved a random sample of 900 households that had participated in the 1998 regional household travel survey conducted by NYMTC which included detailed travel and demographic attributes and parking types for each vehicle trip. Parking surveys, using aerial photos in Google Maps, Google Earth and Bing Maps were also used, and after reconciliation between the data from each survey, 840 households were included in the analysis.

The researchers were able to ascertain whether drivers used alternative parking, (i.e. parked on street even if they had access to off-street

parking). They found that about 50 percent of households park on the street, and 59 percent of them do so by



Crowding level=4, source: Bing Maps

choice. They also studied the impact of parking types and habits on travel decisions.

Some additional observations made through the study's analysis include:

- The relationship between parking supply and car ownership is probably less straightforward than traditionally thought.
- Both on-street and off-street parking affect car ownership and should be considered jointly in making parking policies.
- Available parking types affect commuting mode.
- For trip tours, on average, households with only on-street parking use their vehicles 21 minutes less per day than those with a garage.
- Households with two parking types that choose to use on-street parking are more likely to make longer trips and more stops for a work and/or school tour.

For implementation of these findings, two distinct policy recommendations are offered, which would most likely encourage mode shift from private cars to public transit: (1) In TUSA neighborhoods with insufficient off-street parking, government should protect on-street parking and limit curb cuts to avoid replacing on-street with off-street parking. (2) In neighborhoods with sufficient off-street parking, governments should limit the provision of on-street parking through various policies including:

- Converting on-street parking lanes into exclusive bike lanes, bus lanes, or sidewalk
- Limiting the time usage of on-street parking;
- Charging households for a permit fee to discourage car ownership and promote alternative travel means.

Based on this research, A TRB presentation will be made **on** titled, "Residential Parking Policy and Household Travel Patterns in the New York City Region."

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