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<https://escholarship.org/uc/item/6rb1j5wb>

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Publication Date

2023-05-01

DOI

10.7922/G2RF5SBH

Transportation Network Companies Might Be Pulling Riders from Public Transit, but This Could Change

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May 2023

Issue

Transportation Network Companies (TNCs, also known as ridehailing and ridesourcing) have expanded across California over the past decade and changed the way people travel. Using a smartphone, travelers can quickly summon a vehicle from almost anywhere and know what the estimated wait time, travel time, and cost will be before stepping into the vehicle. While TNCs are clearly addressing an unmet need for travelers, their growing popularity has raised a number of policy questions, including if TNCs are shifting people away from public transit and other travel modes (e.g., carshare, walking, biking).

Research Approach and Key Findings

Analysis of TNC impacts across two California markets (San Francisco and Los Angeles) was conducted using a variety of original data sources collected during mid-2016 to early-2017 including a: i) passenger survey (N = 5,726), ii) TNC driver survey (N = 3,868), and iii) general population (control) survey (N = 1,100). The researchers also received passenger activity data from Lyft and Uber. Key insights from this research are as follows. (Please note that TNC impacts vary across locations and are not generalizable to other geographic markets.)

The types of trips TNCs are replacing varies by region and time of day. In San Francisco, TNCs more commonly substituted for public transit (bus and rail); however, in Los Angeles, TNCs more commonly replaced driving/riding in a personal vehicle (Figure 1). In San Francisco, substitution with public transit occurred more often during the peak commute hours relative to substitution with other modes (e.g., walking, biking, traveling in personal vehicle). This effect

What is a Transportation Network Company (TNC)?

A TNC is a service that provides the traveler with pre-arranged and/or on-demand access to a ride for fee using a digitally enabled application or platform (e.g., smartphone apps) to connect travelers with drivers using their personal, rented, or leased motor vehicles. Digital platforms are typically used for booking, electronic payment, and service ratings.

was particularly pronounced in the morning, where 20% of all TNC trips that substituted for public transit occurred between the hours of 8:00 AM to 10:00 AM. In contrast, 13% of all TNC trips that substituted for modes other than bus and urban rail occurred during these same hours.

A limited number of TNC trips link to public transit. Overall, TNCs draw more riders away from public transit than adding riders, although TNCs enable a minority of passengers to connect to public transit. In San Francisco and Los Angeles, 13% and 7% of trips linked with public transit, respectively. And while Lyft and Uber enabled some passengers to connect to public transit who would not have otherwise, this was limited (across both markets 2% of survey respondents or less reported using a TNC to make a trip on public transit that they otherwise would not have made).

TNC passengers tend to be younger and more affluent. The majority of Uber and Lyft passengers were under the age of 40. In addition, average per capita incomes among survey respondents were 23% to 34% higher than the general population. Similarly, the proportion of TNC passengers with bachelor's degrees or greater were much higher than the general population.

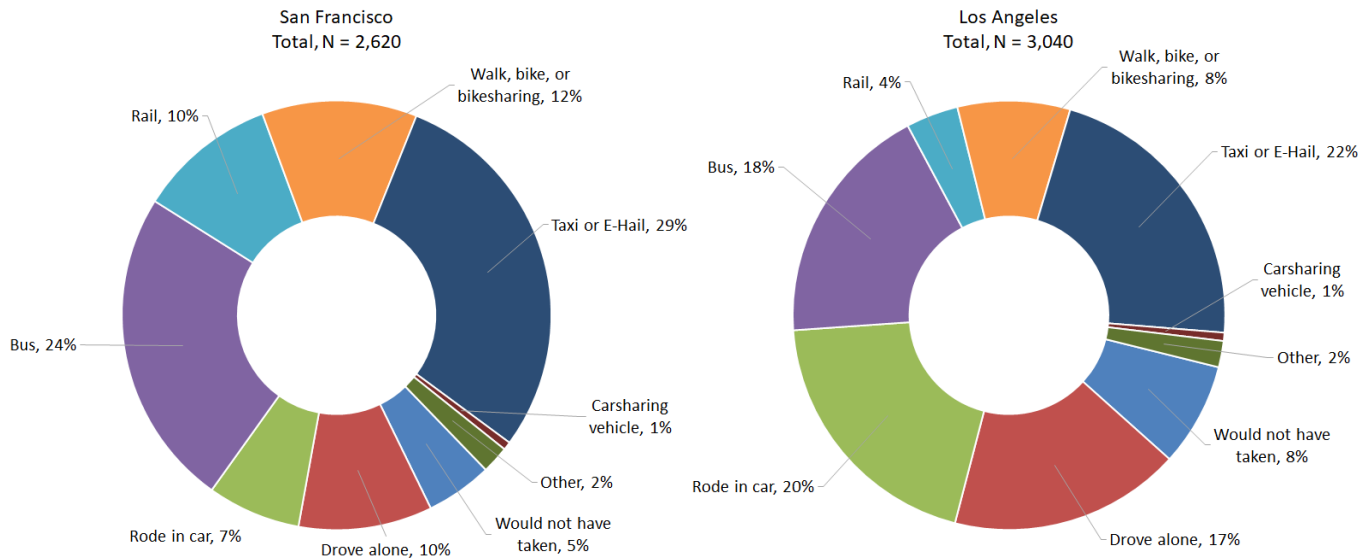


Figure 1. TNC Mode Substitution in San Francisco and Los Angeles

Policy Considerations

While TNCs are currently pulling away more riders from public transit than contributing, this does not have to always be the case. In fact, many public agencies have and are working with TNCs to test different public-private partnership models to address specific use cases where public transit service has limited spatial and temporal coverage and where fixed-route public transit service using larger vehicles is inefficient and not cost-effective. Specific use case examples include providing first- and last-mile connections to public transit, serving low-density areas, providing late night and off-peak service, and providing paratransit service. Unfortunately, a number of these partnerships have ended due to public sector concerns about: i) the ongoing cost of TNC subsidies, ii) limited to no data sharing by TNCs, and iii) changing business models of TNCs (e.g., varying emphasis on individual vs. pooled rides, passenger service vs. goods delivery).

More experimentation is needed to better understand the potential of public transit agencies to partner (rather than compete) with TNCs; however, the challenges outlined above need to be addressed. For example, transportation agencies require timely and reasonably detailed data to understand regional travel behavior and to make informed planning and policy decisions. Outside of a few public agencies in the U.S. that receive data from TNC operators, there are generally limited data sharing requirements for TNCs. Enhancing data sharing between TNCs and public transit agencies could help both entities more effectively provide mobility options to travelers. In addition, given that TNC users tend to be younger, more affluent, and more educated than the general population, policies or subsidies may be needed to encourage TNCs to serve lower-income areas and/or geographical areas (i.e., rural).

Martin, E., Shaheen, S., & Stocker, A. (2021). Impacts of Transportation Network Companies on Vehicle Miles Traveled, Greenhouse Gas Emissions, and Travel Behavior Analysis from the Washington D.C., Los Angeles, and San Francisco Markets. UC Berkeley: Transportation Sustainability Research Center. <http://dx.doi.org/10.7922/G2BC3WV9>

Research presented in this policy brief was made possible through the Resilient and Innovative Mobility Initiative (RIMI) led by the UC Institute of Transportation Studies (UC ITS). RIMI is supported by the State of California through a one-time allocation in the 2021 State Budget Act. The UC ITS created RIMI as a living laboratory – bringing together university experts, policymakers, public agencies, industry stakeholders, and community leaders – to inform the state transportation system's immediate COVID-19 response and recovery needs, while establishing a long-term vision and pathway for directing innovative mobility to develop sustainable and resilient transportation in California. Established by the California Legislature in 1947, the UC ITS has branches at UC Berkeley, UC Davis, UC Irvine, and UCLA.

Project ID UC-ITS-RIMI-4B | DOI: 10.7922/G2RF5SBH