TN TDOT Department of Transportation

Research Summary

Investigating the Service of App-Based Rideshare and Transportation Network Companies in Tennessee

Project Number:
RES 2020-20

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WHAT WAS THE RESEARCH NEED?

Over the past decade, transportation network companies ("ridesourcing" or "ridehailing" companies) such as Uber and Lyft have experienced dramatic growth, but there is currently limited understanding of how people are using ridesourcing services in Tennessee and how they are affecting urban transportation systems. In particular, most prior research to date has focused on large metropolitan areas, such as San Francisco and New York City, where ridesourcing has been in service the longest. Research to understand users and the impacts of ridesourcing in smaller cities and states is not as extensive. This research begins to address this research gap by conducting a detailed study of ridehailing users in the state of Tennessee.

WHAT WERE THE RESEARCH OBJECTIVES?

The research project had three main objectives:

1. To understand the use of ridesourcing in Tennessee and capture the overall adoption rates in the state.
2. Investigate the demographics and choices of ridesourcing surveys.
3. Assess the effects of ridesourcing on existing transportation systems.

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WHAT WAS THE RESEARCH APPROACH?

The research team use a three-part method to achieve the research objectives. First, a comprehensive literature review was conducted of 44 studies from North America, which revealed that ridesourcing users are likely younger with higher incomes and education levels, are full-time students or employed, and live in urban areas. Similarly, most ridesourcing trips occur on weekends and at night, most commonly for social events. Next, a statistical analysis of the demographics of ridesharing users was conducted at the state, census division, and national level using the 2017 National Household Travel Survey (NHTS). Lastly, a detailed survey data about ridehailing were collected in 2019 for three metropolitan regions in Tennessee: Knoxville, Nashville, and Memphis. The survey results were used to propose a ridehailing user typology based on socioeconomic, attitudinal, and neighborhood preference variables.

WHAT WERE THE FINDINGS?

Four distinct user and non-user types were identified: young urban local users, wealthy travelers, tagalong users, and non-users. The first type is comprised of those who use ridehailing locally; they are typically younger, have higher incomes, and use ridesourcing primarily for social purposes. The second type includes those who use ridehailing when traveling; these users tend to be slightly older and have higher education and income levels. The third type includes those who ride with friends/family; they tend to be younger, female, and/or black, and we coined the term "tagalong users" to describe this group. The fourth and largest group is non-users; they tend to be older, live in rural areas, and have lower income levels.

IMPLEMENTATION AT TDOT

Based on the results of this research, the following three recommendations were made.

1. Assess which term to describe on-demand ride services is most recognizable to users (particularly in Tennessee) and then consistently using that terminology is recommended.
2. Collect, compare, and improve ridesourcing survey questions, particularly within the state of Tennessee, ensuring consistent question wording.
3. Apply good curb space management principles in targeted locations. There are two primary markets of ridesourcing users in Tennessee that should be considered in local curb space management decisions. *Young, urban local users* are likely to make trips to locations with lots of restaurants, bars, and other social venues, which are often concentrated in downtown areas. Similarly, the *wealthy travelers group* will likely make trips to the airport, convention centers, and hotels. Higher volumes of ridesourcing pick-ups and drop-offs will be experienced at these locations, which necessitates good curb space management principles, such as dedicated loading zones and increased signage.

MORE INFORMATION

Find the final report here: https://www.tn.gov/content/dam/tn/tdot/long-range-planning/research/final-reports/res2020-final-reports/RES2020-20_Final_Report_approved.pdf.

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