

Ride-hailing increases vehicle miles traveled

27 September 2018, by Meme Moore

Ride-hailing accounts for an 83 percent increase in the miles cars travel for ride-hailing passengers in Denver's metro area, according to a study published this week in the journal *Transportation* by researchers at the University of Colorado Denver.

Lead author and CU Denver civil engineering Ph.D. graduate Alejandro Henao signed up as a driver for Uber and Lyft. He collected exclusive driver data providing hundreds of rides throughout the Denver metropolitan area in fall 2016, according to the paper, "The impact of [ride-hailing](#) on vehicle miles traveled."

For this first-of-its-kind study, the researcher-driver collected real-time data and surveyed passengers for feedback and demographic information. By surveying passengers, Henao learned that a combined 34 percent of his ride-hailing passengers would have taken transit, walked, or bicycled if ride-hailing hadn't existed.

"Vehicle miles traveled increased mainly due to two factors; additional empty miles from ride-hailing drivers going around without passengers, and ride-hailing substituting more efficient and sustainable modes such as transit, biking and walking," said Henao.

There is decrease in overall transportation efficiency due to more car miles on the road, often traveling without passengers. For every 100 miles carrying passengers, Uber and Lyft drivers travel an additional 69 miles without a [passenger](#), conservatively.

"Given the lack of data and existing research, this study represents a nice step forward in helping us better understand how ride-hailing impacts the transportation system," said co-author Wes Marshall, associate professor, Civil Engineering Department, College of Engineering and Applied Science, CU Denver. "However, cities still need better data to inform policy decisions about the many mobility-disrupting companies, and we have

reached a point where we should expect, and probably need to require, more data transparency."

In this study, passenger demographics were better distributed across Denver's income and education demographics compared to research conducted in other cities; however, the city's disadvantaged populations are underrepresented. Further research is needed to study the equity impacts of ride-hailing services, Marshall said.

"Studying ride-hailing has big implications for automated and autonomous vehicles, especially when it comes to empty miles and mode replacement. As an analogy, the empty miles that ride-hailing are putting into our systems today will be added by zero-occupancy driverless cars, or zombie cars, in the future," said Henao.

More information: Alejandro Henao et al, The impact of ride-hailing on vehicle miles traveled, *Transportation* (2018). [DOI: 10.1007/s11116-018-9923-2](#)

Provided by University of Colorado Denver

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