Incentivizing Commuters to Carpool:
A Large Field Experiment with Waze
by
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Abstract: Traffic congestion is a serious global issue. A potential solution, which requires zero investment in infrastructure, is to convince solo car users to carpool. In this paper, we leverage the Waze Carpool service and run the largest ever digital field experiment to nudge commuters to carpool. Our field experiment involves more than half a million users across four U.S. states between June 10 and July 3, 2019. We identify users who can save a significant commute time by carpooling through the use of a high-occupancy vehicle (HOV) lane, users who can still use a HOV lane but have a low time saving, and users who do not have access to a HOV lane on their commute. We send them in-app notifications with different framings: mentioning the HOV lane, highlighting the time saving, emphasizing the monetary welcome bonus (for users who do not have access to a HOV lane), and a generic carpool invitation. We find a strong relationship between the affinity to carpool and the potential time saving through a HOV lane. Specifically, we estimate that mentioning the HOV lane increases the click-through rate (i.e., proportion of users who clicked on the button inviting them to try the carpool service) and the on-boarding rate (i.e., proportion of users who signed up and created an account with the carpool service) by 133-185% and 64-141%, respectively relative to a generic invitation. We conclude by discussing the implications of our findings for carpool platforms and public policy.

(Joint work with Michael-David Fiszer, Avia Ratzon, and Roy Sasson)

Bio: Dr Maxime Cohen is an Associate Professor of Retail and Operations Management, Co-Director of the Retail Innovation Lab, and a Bensadoun Faculty Scholar at McGill University. Before joining McGill, he was a faculty at NYU Stern and a Research Scientist at Google AI. His core expertise lies at the intersection of data science and operations. He has collaborated with Google, Waze, Oracle Retail, IBM Research, Via, Spotify, Aldo Group, Circle K, Staples as well as several startups. Dr Cohen serves as an Associate Editor for *Management Science*, *M&SOM*, and *POMS*. He holds a Ph.D. in Operations Research from MIT and a BS and MS from the Technion.

All interested are welcome!
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