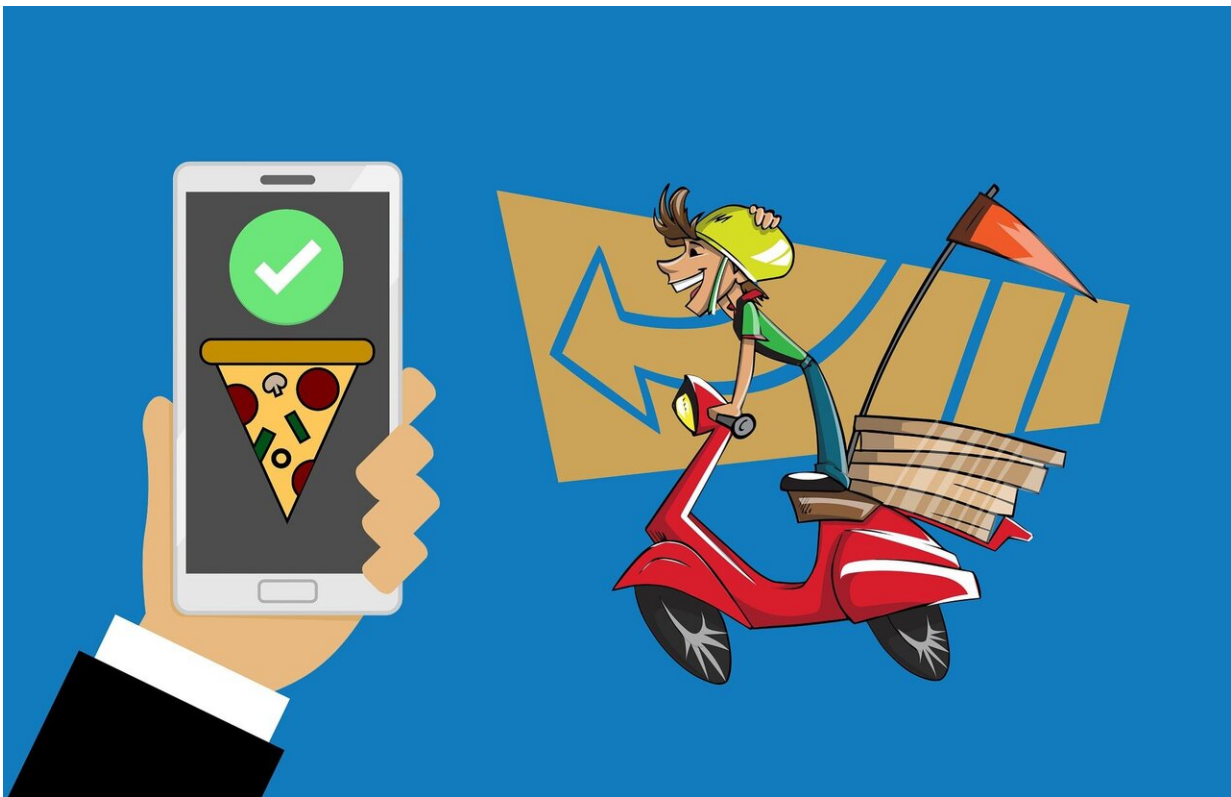


# New research says changes in driver shifts and pick-up choices for food delivery services can boost profits

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The food delivery business, popularized by mobile online services such as Grubhub, OrderUp, and DoorDash, has become a \$200 billion

industry, which is expected to grow by more than 15% annually over the next five years. New research published in the INFORMS journal *Transportation Science* reveals how food delivery businesses can implement changes in driver shifts and order delivery structures that can decrease costs and contribute to higher profits.

The study, "Provably High-Quality Solutions for the Meal Delivery Routing Problem," conducted by Martin Savelsbergh of the Georgia Institute of Technology (GIT) and Baris Yildiz of Koc University, using data from Grubhub, finds that improving [delivery](#) drivers' shifts can reduce the difference between meal ready time and meal pick-up time by up to 50%. This illustrates the importance of having the right number of drivers at the right time.

The time it takes to prepare a meal at a desired restaurant accounts for 80% of the click-to-door time, or the time between placing an order and receiving an order. As a result, encouraging diners to choose restaurants that are close to the drop-off location of a meal can result in a 17% reduction in click-to-door time and can also result in reducing [delivery costs](#).

"Our findings highlight the importance of sizing and scheduling delivery capacity and show that well-managed delivery capacity reduces the need for order bundling, which has an average cost improvement of only half a percent," said Savelsbergh, a professor in the H. Milton Stewart School of Industrial & Systems Engineering at GIT.

Another significant finding is that because delivery drivers do not necessarily accept all orders offered to them, using incentives to induce desired courier behavior can be highly beneficial.

"By introducing a minimum guaranteed hourly pay, platforms can gain more reliability among [drivers](#) and the benefits seem to outweigh the

minimal cost increase," said Savelsbergh. "A guaranteed pay rate of \$15 an hour is 1.5 times the payment for a delivery if the delivery fee is \$10. If a driver completes at least 1.5 deliveries per hour, the minimum-pay guarantee becomes inactive."

**More information:** Baris Yildiz et al, Provably High-Quality Solutions for the Meal Delivery Routing Problem, *Transportation Science* (2019).  
[DOI: 10.1287/trsc.2018.0887](https://doi.org/10.1287/trsc.2018.0887)

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