Harnessing Data for Dynamic Curb Management

By Yifan Lu

MANY OF TODAY'S CURB-PRICING strategies rely on charging personally owned vehicles for short-term use of on-street parking in commercial areas. Parking revenues across cities declined after many cities and states declared stay-at-home orders to help fight COVID-19. In the early days of the pandemic in March and April, many restaurants and local businesses switched to pick-up-only models, which means would-be parkers would only be stopping by momentarily. Meanwhile, other uses of the curb continued at the same rate or even increased, such as on-demand food delivery and parcel delivery. However, these users are typically not charged for their use of curbside space.

The current situation under the pandemic highlights what city officials and transportation planners have been saying for years: Any change in demand for parking from private drivers--which prior to now might have been a switch to ride-hailing or autonomous vehicles--could reduce a key revenue source for cities. Instead of just pricing one user of the curb, the focus must be on strategies to ensure that all curb users pay a fair price for their use of public space. As more people continue to work from home and fewer people go out to commercial districts, cities will likely continue to see a hit to their municipal budgets, so there is more of a necessity to move this debate from theory into practice. With those shrinking budgets, there is also an imperative to make the transition in a cost-effective way.

Paying for the Curb

Different strategies have been debated for how to monitor and properly price the use of the curb by Uber, Lyft, on-demand delivery, food/beverage delivery, and parcel delivery services. Parking payment applications have become an increasingly popular way to pay for metered parking, and they could similarly be used by delivery drivers to reserve and pay for the use of the curb. However, adding new apps as another distraction for drivers may prove difficult and is also tricky to enforce, especially for users of the curb such as Uber, Lyft, and on-demand delivery drivers who may only stop in the space briefly before departing.

Cameras and other sensors could also be used to monitor space and record parking events. Billing from these systems could be difficult, though. Who should

be billed? The ride-hailing driver or Uber or Lyft directly? Without an accurate database of license plates of the vehicles used by those drivers, it might not be possible to bill the companies directly. These sensors can also be more expensive to install and maintain, hindering cities' ability to deploy commercial loading more widely throughout the city.

The good news is that we don't need extensive new technology to understand how commercial vehicles use this public space. Most commercial fleets already track where their vehicles are, either using the GPS from smartphones or a more comprehensive fleet-management system connected to the vehicle. A small subset of that data can easily be leveraged to help inform where commercial loading zones would be most effective in reducing double-parking and ensuring delivery workers can park close to their delivery points, which would be better overall for efficiency and worker health and safety.

This parking event data could be used to invoice companies for the use of space, as car-sharing operators have done in both Seattle and Oakland and which many cities are already implementing for micromobility services (shared bikes, scooters, and mopeds). With GPS-based data, cities could properly charge for commercial loading space throughout the city, and make more dynamic, data-driven decisions based on changing supply, demand,

and transportation patterns. Operators would benefit from having more dedicated space, reducing the instances of double-parking and its associated fines, without needing to reveal more data than would be captured through a camera or sensor (i.e., a vehicle ID, location and duration of stay). It is no longer a debate about whether commercial

users will be asked to pay for their use of public space, but how; data-sharing partnerships could be the most cost-effective and painless way to move forward while also helping operators advocate for better load zone planning and achieve mutual goals for safer and more efficient cities. ◆

This article was co-authored with Rodney Stiles and Regina Clewlow.

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