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# The Learning Curve of Smart Parking

By RANDALL STROSS

PLACE “smart” in front of a noun and you immediately have something that somehow sounds improved.

In its current state, however, “smart parking” is in some ways little different from regular parking. The term refers to a beguiling technology, now being tested in several cities, that uses sensors to determine whether a particular spot on the street or in a parking garage is occupied or vacant. When a car has overstayed its allotted time, the technology can also send the information to a parking enforcement officer with ticket book in hand.

The sensors’ data can also be used to adjust parking prices, using higher rates to create more turnover on the busiest blocks and lower prices to draw drivers to blocks with underused spaces.

Smart-parking technology for on-street spaces is expensive, and still in its early stages. The largest examples are pilot projects with costs covered primarily by grants from the federal Department of Transportation. In San Francisco, the [SFpark](#) pilot project uses sensors from [StreetSmart Technology](#) for 7,000 of the city’s 28,000 meters. In Los Angeles, [LA Express Park](#) has installed sensors from [Streetline](#) for 6,000 parking spots on downtown streets.

Cities are marketing the programs as experiments in using demand-based pricing to reduce traffic congestion — the kind caused by circling drivers desperately seeking parking spots — and to make more spaces available at any specific time. Drivers are encouraged to use mobile apps to check parking availability and pricing, though coverage is not universal. Parker, for example, from Streetline, gives detailed information about on-street parking for Los Angeles, but not for San Francisco.

SFpark is using “smart pricing” to achieve a target of having one parking space available most of the time in the areas it covers, says Jay Primus, the SFpark program manager. SFpark, he says, “de-emphasizes inconvenient time limits and instead uses smart pricing” to achieve those targets. The same spot, for example, may have different parking rates for different times of day. That intraday pricing is adjusted at multimonth intervals, but theoretically, it could be altered on the fly, depending on availability at any given hour.

One way to increase availability would be to use sensor technology to deter drivers from the



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tactic of staying parked in one place and repeatedly feeding the meter. Or a system that resets the meter automatically when a vehicle leaves a spot, so any remaining time is zero. The latter meter resetting is “a fairly politically charged issue,” says Zia Yusuf, the C.E.O. of ParkSense, and his company doesn’t provide it. (Many cities have found that midblock payment systems that replace individual meters solve this problem handily.)

In San Francisco, the sensor technology installed by Streetsmart Technology has been bedeviled by electromagnetic interference from overhead trolley lines. Mr. Primus says the vehicle-detection sensing is only about 90 percent accurate.

Daniel E. Mitchell, a senior transportation engineer who manages LA Express Park for the City of Los Angeles, says the accuracy of his program’s sensors has been in the mid-90 percent range, but he sees that as inadequate for automatically issuing tickets. Even if the sensors were 97 percent accurate, Mr. Mitchell says, “you’d have 3 percent of your customers experiencing a problem and that would be too many.”

Smart-parking apps aren’t as useful as might be expected for drivers seeking open spots. When a parking space is vacated, there is a short delay before a sensor’s signal moves through the wireless network, reaches the centralized system and finally arrives on a driver’s phone. But if other cars are circling, even a 30-second or one-minute wait can be too long.

As for parking enforcement, San Francisco and Los Angeles have begun to use the sensor technology to dispatch officers to cars that have stayed past their limits. That’s far more efficient than having officers roam streets in search of random meter violations.

Program officials in both cities say that they don’t yet know how many more tickets are being issued as a result of the new systems. But opportunities for “improved enforcement operations,” as a Streetline promotional video delicately refers to it, seem enormous. Mr. Yusuf says that without smart parking, “no more than 8 to 10 percent of parking payment violations are ticketed.”

As smart parking spreads, I’ll miss the comfort of knowing that when I accidentally stay a few minutes too long in a parking spot, I may get a reprieve. After all, the enforcement officer two blocks away still has to check every meter between us before discovering my mistake.

When I shared those feelings with Mr. Yusuf, he pointed out that the technology could distinguish between those whose paid time elapsed just a few minutes previously and those who have been parked for hours. He argues that cities “want to attract more drivers to the downtown area, and it is the blatant offenders they want to target.”

Making such distinctions would be smart enforcement.

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