Flint AutoPark: A Case Study

By Brian Cassady

FOR YEARS, FLINT, MICH., unsuccessfully sought to solve the principal dilemma of on-street parking: how to balance the need to regulate curbside spaces to serve a downtown commercial district with consumer desires for hassle-free parking. But recently the city implemented a dynamic solution that has produced dramatically improved results and could create a new standard for convenient curbside parking management.

Flint re-introduced paid parking in 2012, when the city's downtown development authority (DDA) installed 34 multi-space payment kiosks to regulate 276 on-street parking spaces. The DDA's goal was to generate revenue and address merchant concerns that curbside spaces were being occupied by all-day parkers.

Flint employed a single parking officer equipped with an LPR-enabled patrol car. Unfortunately, patrols lacked uniformity, did not provide coverage at all times, and did not occur at all when the officer was absent. As Flint's parking footprint grew to 327 on-street spaces, enforcement became less frequent. As a result, by 2019 Flint's metered parking payment compliance rate was only 42 percent. Overtime parking was common. Average monthly parking revenues plateaued at $11,667 and collected ticket revenues were only $2,667. On a per-space-per-month basis, parking revenues were $35.68 and violation revenues were $8.16, for combined revenues of $43.84. After costs, parking operations were basically breakeven.

New Solutions

In considering improvement options, the DDA wanted a solution that would yield higher revenues and better compliance. Obviously achieving these goals would require more strict enforcement. But Flint's downtown had only recently recovered from a long economic slump stemming from the 2008-09 financial crisis, so the DDA had serious concerns about alienating downtown visitors. It somehow needed to balance any steps to tighten enforcement with dramatic improvements in consumer convenience. But what would that look like? How could the DDA deliver paid parking that felt measurably improved relative to the typical consumer experience so that the consumer concerns over elevated enforcement would be mitigated?

Gerard Burnash, DDA executive director, theorized the key was leveraging the latest smart city technology to create something different. He envisioned a system that would remove the typical inconveniences and constraints found in paid on-street parking. For example, why should consumers have to take any action at all to pay? Why not create a touchless experience just like automated toll-pass systems to improve compliance and alleviate the threat of enforcement altogether?

After investigation, Burnash discovered toll-pass parking technology existed, combining metered parking and LPR enforcement in a holistic, software-based parking management system. The heart of the system is vehicle detection technology. It features video cameras embedded inside parking meters and ParkingSticks, which are devices that help monitor each space. The system is capable of recognizing and documenting the entrance and exit of a vehicle into a parallel parking space, and providing photo-enforcement of parking violations.

By recording the license plate number of each vehicle that enters a space, Flint could automatically charge the customer for the actual time parked.

SHUTTERSTOCK / ATOMAZUL

Its real innovation was the focus on an improved consumer experience to elevate compliance instead of a singular reliance on harsh enforcement.

The Challenge

While toll-pass technology is common on freeways, obviously it has rarely been applied to parking. This created a challenge. The DDA reasoned that it was likely that consumers used to manual payment processes might be slow to adopt a system of automatic payments. This would create a painful learning curve. To address this issue, Flint felt it needed to generate improvements over typical manual payment alternatives to help the public bridge the gap and avoid tickets.

The first option Flint conceived of was anytime payment. Burnash reasoned that since Flint could continuously monitor a vehicle while parked, as long as consumers paid for parking at some point before driving away, they would be compliant with paid parking requirements and should not be subjected to photo enforcement for non-payment. This would alleviate the need for consumers to pay for parking in advance. It would also avoid penalizing consumers for under or over estimating their parking time requirements. Instead, consumers could exit their cars, go about their business and then pay for their exact parking time at their leisure or upon exiting the space, just as they might in many parking garages.

Building off the anytime payment concept, Flint then sought ways to avoid inconveniences for consumers who arrived downtown and parked prior to enforcement hours. Again, Burnash tapped the system's capabilities to monitor vehicles by allowing customers to pre-pay upon arrival and only have the paid parking session commence at the start of enforcement hours.

Finally, to facilitate quick visits to the downtown post office, the pick-up of takeout orders from downtown restaurants, etc., Flint incorporated a free, 5-minute grace period at the start of every parking session.

All of these advanced convenience features helped fulfill the DDA's desire to create unparalleled consumer ease of use. The DDA introduced the new system to the public in October 2019 as "Flint Autopark," and braced itself for the reaction.

By the advent of Michigan's COVID-19 stay-at home orders in mid-March 2020, Flint's payment compliance rate had increased to 70.5 percent, a staggering 66.3 percent improvement. Flint expects compliance to eventually reach 90 percent. Financially, Flint has generated $65.17 of parking revenues per space per month—an 83 percent increase—and collected violations revenues of $142.16 per space per month. The combined total of $207.33/space equates to $67,800, or nearly four times Flint's prior monthly revenues. Complaints have been minimal.

Flint's use of technology was recognized when AutoPark was named one of three finalists for the prestigious IDC North America 2020 Smart Cities Award in the Transportation Infrastructure category. But its real innovation was the focus on an improved consumer experience to elevate compliance instead of a singular reliance on harsh enforcement. ◆

BRIAN CASSADY is CEO of Municipal Parking Services, Inc. He can be reached at brian.cassady@mpspark.com.