smarking

Miami Parking Authority Strategizing Parking Meter Changes Smarking, Inc.

Miami Parking Authority

Solution

The MPA deployed Smarking, a parking data management system. And by utilizing Smarking's near-real-time data and analytics to gain a 360 degree view of their parking operations, the MPA team was able to:

- Quickly estimate the impact of meter removal in different neighborhoods of the city
- Plan the pace and scale of removal
- Evaluate the revenue, transaction, and occupancy implications to inform next steps
- Accelerate the time to cost reduction
- Save over $750,000 to date
- And most imporantly, reduce the overall negative impact on parking customers

Background

The Miami Parking Authority (MPA) launched an ambitious "meter removal program" three years ago to reduce on-street parking meters while encouraging mobile parking payments. The goals were to reduce cost and increase efficiency while ensuring parkers have convenient payment options and the MPA maintains consistent parking revenue. Given the diversity of neighborhoods and parker payment preferences across the city, the extent and pace of meter removal needed to vary in different neighborhoods to minimize the disruptions on parkers' usage and on revenue flow. This process typically requires expensive and time consuming parker payment preference surveys across multiple areas of the city. This is particularly challenging in tourist areas where sampling is more challenging. In addition, phased removal means starting small, testing and monitoring the results, then expanding the scale or making adjustments, all of which create ongoing challenges to parking managers and decision makers.

Little Havana Area Paystation Removal

Little Havana is a vibrant Cuban hub with Latin American art galleries, restaurants, clubs, theaters, shopping center, and open spaces. Public parking in this area mainly serves patrons of the businesses and event goers, including both local visitors and tourists. As of January 2017, approximately 13% of all transactions and 15% of the total revenue were paid via pay stations, the rest were made through the a mobile payment system (Fig.1); only 4% of revenues were paid with coins, and the remaining with credit cards.The limited share of pay station and coin usage, combined with the high equipment maintenance and coin collection costs, convinced the MPA of the need and benefit of removing pay stations. In February, 26 pay stations were removed. Mobile payment usage continued to grow in the following months and had reached 96% of all parking transactions and revenue by July. The rapid market buy-in and positive revenue impact provided evidence to support additional meter removal. In August, seven pay stations in two zones within the Little Havana neighborhood were removed. The area achieved significant year-over-year growth in transactions and revenue in the following months (Fig.2).

"Smarking provided a unique view into parking payment behaviors, allowing us to strategically manage payment channels across different neighborhoods. As a result, we are providing better parking experiences to the residents, merchants and visitors at lower equipment installation and operational costs."

- Alejandra Argudin,
Chief Operations Officer

- Within 6 months, the share of mobile payment revenue grew by 11%, while the share of mobile payment transaction grew by 9%.

Fig 1: Little Havana Revenues and Transactions by Payment Type (2017)

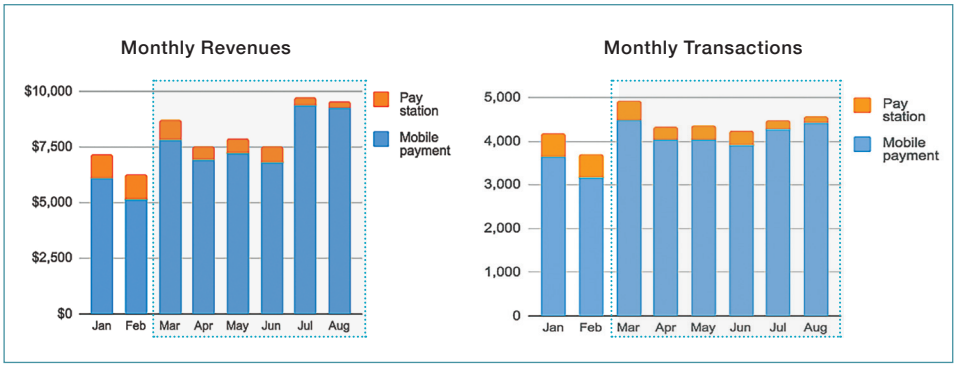
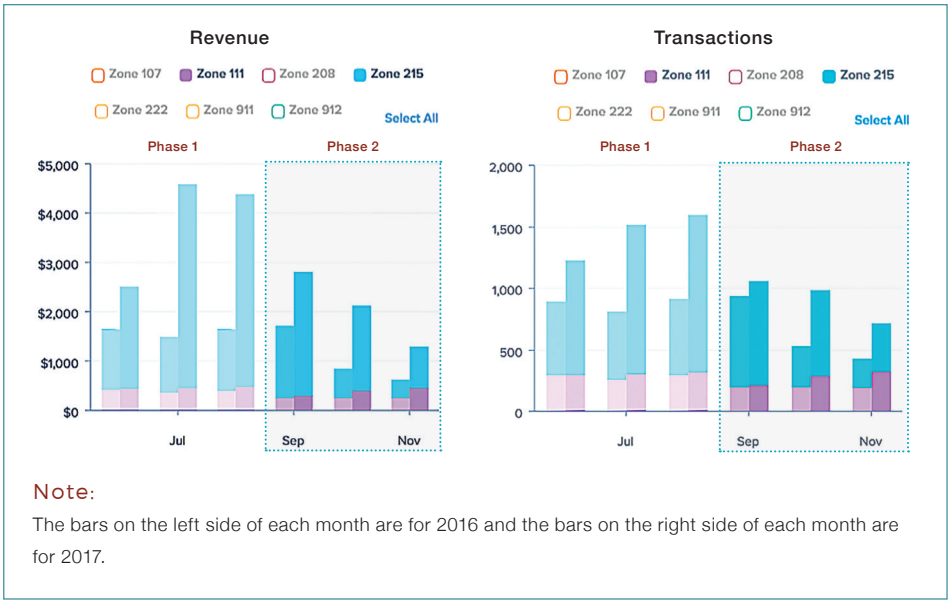


Fig 2: Mobile Payment Transactions and Revenue Year-over-year Comparison in Zone 111 and Zone 215 (2017 versus 2016)

- Two zones showed the biggest potential of mobile payment adoption, which supported a more granular mobile payment roll-out plan and continued growth of mobile payment uses.



Note:

The bars on the left side of each month are for 2016 and the bars on the right side of each month are for 2017.

Wynwood Mobile-payment Priority Strategy

Wynwood is home to a community of art galleries, craft breweries, boutiques shops, local retail stores, stylish bistros, bars, and one of the world's largest open-air street-art installations. A hip young crowd frequents the neighborhood, bring economic vitality along with parking demand. Under the assumption that most of these parkers were more accustomed to mobile apps than average Miami parkers, the MPA initially installed fewer pay stations in this neighborhood than in most other areas of the city to encourage people to use mobile payments. There was initially a concern that an insufficient number of meters would cause parkers so much inconvenience that it would discourage people from coming to this area, hurting businesses and parking revenues. As it turned out, the parking has been well utilized, with the occupancy remained above 60% from early afternoon to past midnight. Compared with the previous year, mobile payment contributed more to the total occupancy (Fig.3). Recent data indicates that a greater percentage of parkers have started to use mobile payments: by the end of 2017, 98% of parking transactions were paid via mobile, representing 97% of total revenue, slightly higher than at the beginning of the year (97% and 96%).

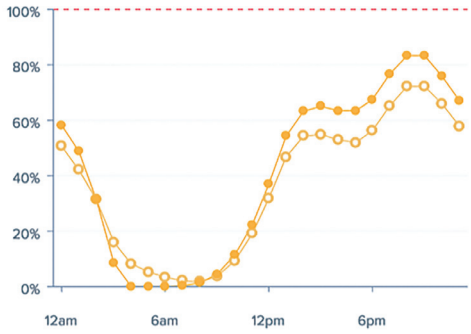
"Using largely the mobile payment modality, MPA launched a new parking regulation program about three years ago in the Wynwood neighborhood. While our projections were based on knowledge of the market, Smarking's data demonstrated even higher occupancy than we had anticipated."

- Henry Espinosa, Director of Information Technology

This demonstrates that by thoughtfully limiting meter provision in neighborhoods with greater potential of mobile payment buy-in, the MPA extended the adoption of the low-cost mobile payment method while achieving the desired utilization level of on-street parking. During this process, parking data backed neighborhood planning knowledge to provide essential support for decision making.

- High mobile payment acceptance helped improve parking utilization in this neighborhood.

Fig 3: Mobile Payment Average Hourly Occupancy (2017 versus 2016)



Note:
The circled line is for 2016 and the dotted line is for 2017.

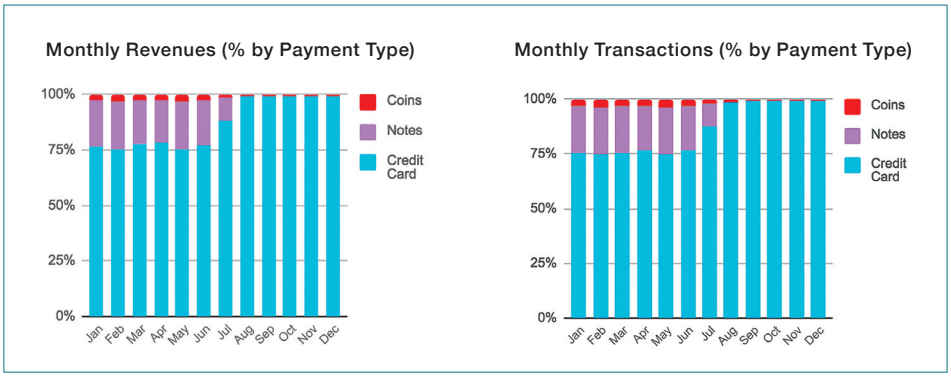
Data enabled the MPA to identify and reduce under-utilized payment equipment, and as a result was able to save thousands of dollars per year.

Biscayne Blvd (Lot 19) Note Collector Removal

The Biscayne Blvd is a north-south artery along the Biscayne Bay on the east edge of Miami. Adjacent to the Lot 19 location is a cluster of regional shopping center, restaurants, event venues, and tourist destinations, which is the main draw for visitors and parkers. Largely due to the high concentration of tourists who are less likely to download the mobile parking payment app, this area historically has had over three-fourths of all transactions paid via meters. The preconception was that removing meters on a large scale may create inconvenience, affect businesses, and jeopardize parking revenues. Nevertheless, based on payment data analysis, the MPA redirected its attention to payment method and identified a new opportunity to improve efficiency. As shown in Fig.5, over the first six months of 2017, credit card payment represented 76% of all transactions and 77% of all revenues, whereas paper money (notes) payment only represented 21% of all transactions and 20% of all revenues. The contribution of notes payment was rather trivial considering the cost of installing and maintaining the note collectors. This convinced the MPA to remove the note collectors from the meters in July. In the following months, both total revenue and transaction volume remained stable; credit card payment increased to account for 99% of all revenue and transactions (Fig.4); the occupancy from credit card parkers exceeded the total occupancy contributed by credit card and notes parkers together before the meter removal (Fig.5). In other words, removing notes collectors not only saved the MPA thousands of maintenance cost every year without turning away parkers or losing revenue, but also had the unintended effect of shifting parkers from coin payment to credit card payment, which led to the MPA's decision to remove a pay-station in October 2017. Having proved that the pay-station removal didn't cause transaction or revenue to decline, the MPA can continue to remove more pay-stations to achieve greater cost saving with strong confidence.

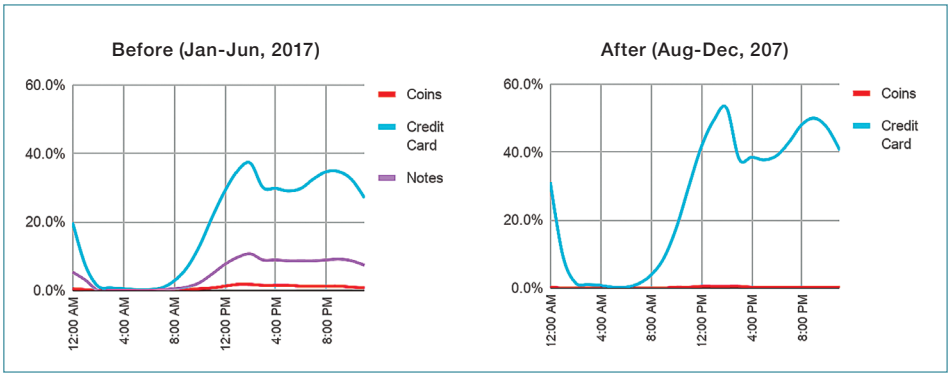
- Share of credit card revenue increased from 77% to 99% immediately after removing note collectors.

Fig 4: Biscayne Blvd (Lot 19) Revenues and Transactions by Payment Type (2017)



- Credit card payment now drives over 99% of occupancy.

Fig 5: Average Hourly Occupancy by Payment Type (2017)



Summary

By using Smarking, the Miami Parking Authority avoided costly and time consuming parker surveys to learn about payment preferences, and trends and quickly identify payment patterns in different neighborhoods of the city. Rapid access to accurate information enabled the Miami Parking Team to design meter removal, note collector removal, or other payment management strategies, and to, in near-real-time, track and evaluate their effects. So far over 50% of all multi-space meters and over 95% of all single-space meters have been removed, achieved the initial goal of having over 25% of all the meters removed, and have saved approximately $750,000 in total cost to date, including $370,000 for equipment maintenance, $350,000 for collector salary, and collection gas cost. Smarking data created efficiency, supported complex policy options, and promoted transparency.