Exploring Pay By Cell in the District

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INTRODUCTION

Objective

The District Department of Transportation (DDOT) seeks to incorporate Pay by Cell (PBC) on a District wide basis. The PBC program is intended to alleviate meter-related problems from the District in terms of how metered curbsides are managed, the revenue are collected, maintenance, and customer satisfaction.

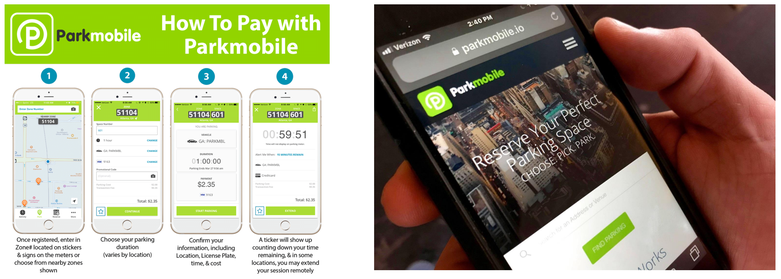


Figure 1: District PBC Application (Parkmobile)

Quick Facts

District's Curbside Overview

- 1,392 miles of public curbside spaces are managed by DDOT
  - IPS single smart meters (**9,797 assets at $1,000**) & Parkeon multi-space meters (**1,046 assets at $11,000**)
  - Other available spaces that can be leveraged (RPP, loading zones, etc.)

District's PBC Overview

- ***Cashless payment*** method launched in July 2011
- Administered by ***"Parkmobile"***
- Roughly **18,500** on-street metered spaces in the District
- There is a $0.45 fee added to each PBC transaction

Goals

1. Reduce metered curbsides operating cost and increase its revenue
2. Expand upon the active PBC adoption rate by winning over lower and non-PBC zones.
3. Understand and alleviate factors that could influence the adoption rate of pay by cell service.

STUDY ANALYSIS

PBC Benefits

- Reduces system costs and increases cost effectiveness

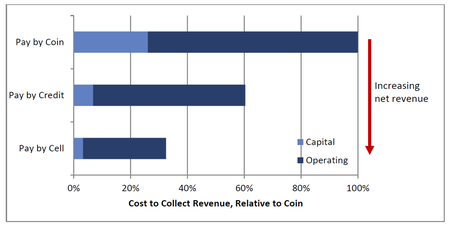


Figure 2: Revenue Collection Cost (Dey; Dock; Patterson)

- Reduce maintenance issues

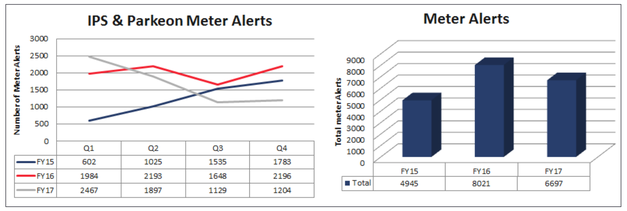


Figure 3: Meter Issues

- Coin/card payment fault
- Power supply and configuration problems
- Crash on parking related assets
- Broken meter repair respond time
- Environmental factors (weather)

- Potential for high customer adoption, convenience and satisfaction

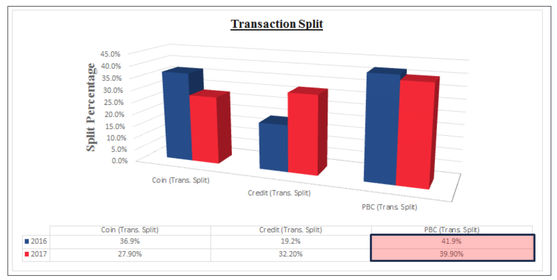


Figure 4: Parking Payment Split

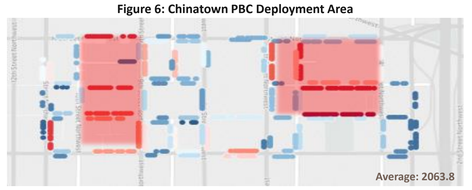
Penn Quarter/Chinatown Pilot Study Area

Figure 5: Chinatown Meter Rate Study Area

Central Business District (CBD) pilot study area

- Between 11th Street NW and 3rd Street NW and between H Street NW and E Street NW
- Data from August to September 2017

Figure 6: Chinatown PBC Deployment Area



The map above shows PBC deployment areas in red. Collectively, these zones average 2,064 total parking transactions per day.

a. **Deployment Boundary 1** – H Street NW to E Street NW and 10th Street NW to 9th Street NW
b. **Deployment Boundary 2** – H Street NW to F Street NW and 6th Street NW to 4th Street NW

Research Identified Pilot Study Areas

1. **D St, SE** – 2nd Street, SE to 7th Street, SE **(5 blocks)**
2. **K St, NW** – 26th to 17th Streets, NW **(9 blocks)**
3. **H St, NE** – 6th Street, NE to 14th Street, NE **(8 blocks)**
4. **8th St, SE** – D Street, SE to I Street, SE **(3 blocks)**
5. **Georgetown** – Reservoir Road, NW & Wisconsin Ave. NW to Wisconsin Ave. NW & M Street, NW **(8 blocks)**
6. **Eastern Market** – 2nd Street, SE & Pennsylvania Ave. SE to 8th Street, SE & Pennsylvania Ave. SE **(6 blocks)**
7. **Eastern End of H St NE** – 7th Street, NE & H Street, NE to H Street, NE & Maryland Ave., NE **(9 blocks)**

Figure 7: PBC Pilot Identified Areas

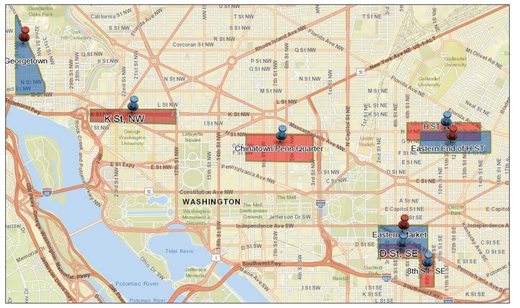
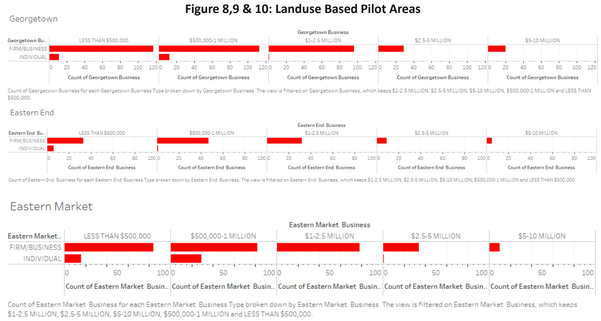


Figure 8: Transaction Based Pilot Areas

Location	Inventory	Zone	Average Revenue	Average Transactions
D St, SE	61290791	21200	$91,575.80	45,913
K St, NW	21102192	22864	$141,646.75	45,025
H St, NE	61431292	21918	$75,720.80	43,040
8TH St, SE	60730692	21171	$120,251.65	41,779

Figure 8,9 & 10: Landuse Based Pilot Areas



PROGRAM CONSTRAINTS

1. **Equity in transportation - Title VI**
   - ❖Consideration of minorities and the low-income population
2. **Visitors and tourists that are coming into the District may not be aware of the PBC service**
   - ❖ DDOT should make PBC easily accessible for all types of customers, including customers that are from outside the region including international travelers that may not have access to a data plan or even cell phone when here.
3. **Pay by Cell Marketing**
   - ❖Having a marketing campaign to publicize PBC is essential for initially integrating the pilot program.
   - ❖DDOT should coordinate with advisory neighborhood commissions (ANCs) meetings and business improvement districts (BIDs) to market the program.

RECOMMENDATIONS

1. **Phone and Bank Limitations**
   - ❖ Partnership with local businesses in the area: prepaid options can be available at local convenience stores.
   - ❖ If the customer has no smartphone or internet enabled devices, then the customer can use PBC through an automated phone system without the need of an internet-based device.
2. **Commuters from another state or international**
   - ❖ Make PBC an open contract.
3. **Business affiliated parking needed**
   - ❖Make company fleet/business account membership option available.
4. **Allow permits to be purchased through WMATA similar to how SmarTrip cards are sold.**
   - ❖ Purchase of a weekly, monthly, or yearly permit.
   - ❖ Send a monthly parking invoices to users. Operational percentage fees can be added to this payment method to recuperate administrative costs to the District.

CONCLUSION

Implementing PBC universally throughout the District is feasible with the right approach. DDOT recommends making areas that already have high PBC utilization a primary focus to serve as an example for the rest of the city. Converting areas with little to no PBC utilization will be more challenging, but it can be justified depending on the land use/business factors of the said area as well as the operations and administrative advantages. Special considerations should be made for potential users with technological or financial restrictions to ensure they can access PBC zones. With the framework of PBC provided, implementing this program will be beneficial to the District.

District Department of Transportation