Payment Options for Parking – DC Perspective

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Presentation Outline

- Background & Overview
- DC Parking Meter Pilots
- Decision Drivers
Curbside – A Precious Asset

Land Use Considerations
- Residential
- Commercial
- Office
- Entertainment
- Dining
- Museums
- Shopping/Retail

District’s Curbside Parking System
(~26,000 block faces)

Customers
- Commuters
- Residents
- Transit
- Tourists
- Commercial

Modes of Traffic that could Utilize District Curbside Parking
- Motorcycle
- Bus
- Automobile
- Bicycle

Types of Parking
- Metered (2200 block faces)
- RPP (10500 block faces)
- No Parking
- Unrestricted (2 hr. parking, loading zone, rush hour, etc.)
- Restricted with no meters
## District’s Parking Meter Assets

<table>
<thead>
<tr>
<th>Meter Type</th>
<th>Network</th>
<th>Payment Options</th>
<th>Age</th>
<th># of Meters</th>
<th>Spaces</th>
<th>% of Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi space Pay &amp; Display (Parkeon Stelio)</td>
<td>Yes</td>
<td>Coin / Credit</td>
<td>&lt;10</td>
<td>514</td>
<td>3923</td>
<td>23%</td>
</tr>
<tr>
<td>Single space – Duncan Eagle 2000</td>
<td>No</td>
<td>Coin</td>
<td>&gt;10</td>
<td>7240</td>
<td>7240</td>
<td>42%</td>
</tr>
<tr>
<td>Single space – Mackay Guardian XL</td>
<td>No</td>
<td>Coin</td>
<td>&lt;10</td>
<td>4994</td>
<td>4994</td>
<td>29%</td>
</tr>
<tr>
<td>Single Space – IPS Credit Card accepting Networked Meters</td>
<td>Yes</td>
<td>Coin / Credit</td>
<td>&lt;1</td>
<td>1100</td>
<td>1100</td>
<td>6%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>13,748</strong></td>
<td><strong>17,157</strong></td>
<td>Asset / Space = 0.80</td>
</tr>
</tbody>
</table>

**Asset / Space = 0.80**
Asset Characteristics

AGE DISTRIBUTION

- > 12 years: 41
- 7 to 12 years: 30
- < 7 years: 29

NETWORK/PAYMENT OPTIONS

- Networked: 30
- Non-Networked: 70
Root Cause Analysis

Aged Assets

Non-communicating meters

Increased transactions

Limited payment options

Broken meter
Call Volume
Customer dissatisfaction
Goals of DC Parking Program

- Improved customer service
  - Multiple payment options
  - Maximize convenience
  - Real-time parking availability
  - Fewer broken meters
- Enhanced operational efficiency
  - Dynamic pricing
  - Real-time operational status
  - Exception based enforcement
  - Better uptime
  - Lower operating cost
- Better revenue management
  - Minimize coin transaction
  - Real-time auditing
Parking Pilots
Principal Parking Stakeholders

- Maintenance & Operation (DDOT)
- Parking Patrons (car, bike, trucks)
- Land Use Planning (OP)
- Adjudication (DMV)
- Technology (OCTO)
- Enforcement (DPW, MPD, DDOT, Others)
- Service Request Intake (UCC)
DC Parking Meter Pilots

- Credit card accepting single space meters
- Multi-space meters
  - Pay by space
  - Pay by license plate
- Pay by cell
- In-car meters
90,000 customers to date
Vehicles registered in all states have used the system
60% of customers are repeat users
365,000 transactions to date
Highest day – 7,000 transactions
Highest week 31,000
55% transactions initiated using mobile application
Decision Drivers
Decision Drivers – Customer Perception

- Based on initial survey response
  - Multi-space preferred over smart single space
  - Preferred MSM configuration
    - Pay and display (53%)
    - Pay by space (43%)
  - Least preferred MSM configuration
    - Pay by license plate (49%)
Decision Drivers – Policy

- Should we have a policy on where to use single space meters vs. multi-space meters
  - Side-streets off major arterial that have less than 6-8 spaces?
- Is it acceptable to have multiple configurations for MSMs?
- Do we want to have the capability of performing congestion/dynamic pricing citywide?
  - If not, what specific area?
- What is the space sensing error rate for pay and display and pay by license plate configurations?
  - Is the error rate acceptable for dynamic pricing?
  - Traveler information?
Decision Drivers - Operations

- System reliability will most likely not be a discriminating factor
- Discriminating factor will be how well the system functionality meets stated or agreed upon policy goals
- Buy off from DPW on enforceability
  - Ready for change (vs. status quo)?
  - Targeted enforcement
Need to consider total cost of ownership over product life cycle, capital cost and operating cost

Is pay by cell business model more attractive?
## Assessment of Configurations

<table>
<thead>
<tr>
<th>Functionality/Metrics</th>
<th>Pay-and-Display</th>
<th>Pay-by-Space</th>
<th>Pay-by-Plate</th>
<th>Smart Single Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment Options</td>
<td>2</td>
<td>2/3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Customer Convenience (based on customer survey results)</td>
<td>Very High</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Traveler information</td>
<td>Not accurate</td>
<td>Accurate</td>
<td>Not accurate</td>
<td>Accurate</td>
</tr>
<tr>
<td>Curbside Utilization</td>
<td>Maximized (10-20% higher)</td>
<td>Fixed</td>
<td>Maximized (10-20% higher)</td>
<td>Fixed</td>
</tr>
<tr>
<td>Dynamic Pricing Capability</td>
<td>Not accurate</td>
<td>Accurate</td>
<td>Not accurate</td>
<td>Accurate</td>
</tr>
<tr>
<td>Public Space Clutter</td>
<td>Minimized</td>
<td>Minimized</td>
<td>Minimized</td>
<td>No positive impact</td>
</tr>
<tr>
<td>Real-time operational status</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Historical operational status</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Real-time financial audit function</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Ease of enforcement</td>
<td>No change</td>
<td>Targeted enforcement</td>
<td>Targeted enforcement</td>
<td>No change</td>
</tr>
<tr>
<td>Cost</td>
<td>Higher capital/lower operating</td>
<td>Higher capital/lower operating</td>
<td>Higher capital/lower operating</td>
<td>Lower capital/higher operating</td>
</tr>
</tbody>
</table>
## Goal Assessment

<table>
<thead>
<tr>
<th>Program Goals</th>
<th>Pay –by-cell</th>
<th>Smart SSM</th>
<th>Smart MSM</th>
<th>In-car meter</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IMPROVED CUSTOMER SERVICE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple payment options</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Customer convenience</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Real time parking availability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ENHANCED OPERATIONAL EFFICIENCY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fewer broken meters</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Dynamic Pricing</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Real-time operational status</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Better uptime</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Lower operation cost</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td><strong>BETTER REVENUE MANAGEMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimize coin transaction</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Real-time auditing</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>
A Holistic Parking Solution

- Integrated Solution
- Smart Assets
- Congestion Pricing
- Electric Charging
- Smart Enforcement
- Pay by phone/In-car meters
- Traveler Information
Putting the Pieces Together

Questions?