Frictionless Parking and Technology Trends

Jeff Weckstein, Consultant, Walker Consultants
OVERVIEW

Technologies
Automated Parking Guidance Systems (APGS)
License Plate Recognition (LPR)
Gateless/Ticketless Systems
Contactless Payment

Case Studies
City of Culver City, CA
Los Angeles METRO, CA
City of Redwood City, CA
WHAT IS AN AUTOMATED PARKING GUIDANCE SYSTEM (APGS)?

- Information network providing parking space availability and directional guidance at key decision points
- Works with Gated & Gateless Solutions
- Tracks/ displays available spaces on dynamic signage and/or mobile apps
- May span multiple parking facilities and integrate with roadway wayfinding signage.
- May also incorporate value-added features such as LPR and “Find My Car”.
- May use many different components and technologies to achieve results.
TYPES OF APGS
VARIABLE MESSAGING SIGNAGE (VMS) OPTIONS

By area or facility

By level or zone

By aisle

By single space or group of spaces
BENEFITS OF APGS

End User Benefits:
- Addresses availability uncertainty
- Provides direction to available space
- Reduces time spent hunting for space
- Reduces stress/provides better customer experience

Owner Benefits:
- Provides parking utilization data
- Removes stress from customer experience
- Single Space APGS may increase utilization from ~85% to 95-98%
- Increasing capacity of current garage may allow owner to avoid or defer new garage construction.
BENEFITS OF FIXED LICENSE PLATE RECOGNITION (LPR)

- License Plate as Permit/Credential
- Works with Gated & Gateless Solutions
- Synergy with Tickletless/Contactless Solutions
- Synergy with LPR-based APGS
- Faster Ingress/Egress
CASE STUDY – CITY OF CULVER CITY, CA

Culver City endeavored to modernize its parking system of 2,400 spaces in the Downtown Core on- and off-street spaces:

• Fiber Network
  • Frictionless PARCS
  • CBD Parking Guidance system
• New Parking Operator
• Shared vision that downtown parking is retail parking.
• Transition towards a technology centered commercial downtown.
BACKGROUND – CULVER CITY PACES AHEAD

Blackwelder:
- 3x stackers, tandem, valet

Helm's Bakery:
- AVSRS
THE THREE LEGS OF PARKING OPERATIONS

Customer Service

Additional Revenue

Revenue Integrity
USING PAID PARKING TO MANAGE DEMAND

**On-street**
- 420± spaces
- Expand/standardize enforcement
- Install meters
- Rationalize rates to encourage turn-over

**Off-Street**
- 2,100 ± spaces
  - Four structures
  - Several parking lots
- Adjust transient rates to market value
- Rationalize monthly rates
- Filming and special event rates

**Benefits**
- Reduced system friction caused by “bargain hunting”
- Increased turn over of spaces creating parking without adding capacity
PARCS UPGRADE – CULVER CITY

Benefits Of A Frictionless Experience

• First municipality to implement LPR credentialing system-wide
  – Improved throughput for existing facilities with narrow drive aisles
  – Limited competition from employees for visitor transient parking
• Automation frees operator staff from cashier booths
  – Staff can now take an ambassadorial approach to their work
• Data will support the design of loyalty programs
CASE STUDY – LA METRO

Paid Parking Pilot Program
- Gateless System with Fixed LPR
- License Plate as Payment & Enforcement Credential
- 19 Park-and-Rides
- Contactless payment though mobile apps
BENEFITS – LA METRO

Key Objectives

- No significant increase in overall commute time to the patron
- Ridership must not be negatively impacted
- Increase availability of parking spaces for transit users

Results

- Increased parking availability for transit patrons at high demand locations
- Gateless/ticketless system worked to expedite ingress/egress
- Paid parking did not negatively affect ridership
CASE STUDY – REDWOOD CITY

APGS Goals

• Improve the customer/visitor parking experience downtown.
• Provide parking options for downtown customers and employees.
• Ensure adequate parking supply to serve existing and future needs.
• Promote alternative access to downtown to reduce parking demand.
• Reduce pedestrian and vehicle conflicts.
• Minimize back end labor required to manage and calibrate APGS.
• Reduce traffic congestion from vehicles searching for parking.
• Reduce vehicle emissions and fuel consumption of circulating vehicles.
• Increase the utilization of the City’s off-street parking supply.
• Improve walkability and bikeability in the downtown core.
CASE STUDY – REDWOOD CITY

APGS and Wayfinding RFP issued in February 2020

- Nine public facilities, one private facility
- Will facilitate use of private parking supply on nights and weekends

The City of Redwood City is currently finalizing selection of a vendor.
QUESTIONS?

Contact: Jeff Weckstein, jweckstein@walkerconsultants.com