Texas A&M University Case Study: Our EPIC Journey to Virtual Permits

How do you fit over 200 facilities, over 250 permit number ranges, and close to 1,000 permit control groups into a virtual parking world?

Lynn Wiggs, Texas A&M Transportation Services, Associate Director
Agenda

• History of License Plate Recognition (LPR) and where we are headed
• The Challenge – what took so long?
• Identifying the pieces - Planning for virtual permits
• Creating a license plate centric world
• Lessons learned
Texas A&M history of LPR and where we are headed
Texas A&M - History of LPR

- Phase 1 (2012)
  - Began using LPR technology for identifying vehicles on hot list
- Phase 2 (2018-2020)
  - Continued hot list process via LPR
  - Implemented virtual permit parking at new, remote campus
  - Required all faculty/staff/students on main campus to input license plate when registering for parking
  - Began testing license plates as permits using LPR
  - Hourly paid lots and pay-by-space areas converted to pay-by-plate
Texas A&M - Where we are Headed

- Phase 3 (2021-2022)
  - License plate = parking permit
  - “Access device” for gated facilities
  - Hangtags issued for very few special use permits
  - Shifting operations and communications from permit centric to license plate centric
  - LPR used for hot list management, permit verification and checking for visitor payment
The Challenge - what took so long?
What took so long?

The Challenge

- New campus with 1,400 spaces gave us ability to gather lessons learned; major difference – built parking program from scratch
- Main campus with 39,857 spaces (12,225 are gated)
- 80% of parking program is simple; 20% of parking rules pose a greater challenge – GOAL: maintain current options and level of service
  - Business permits = departments
  - but LPR = individuals
- Moving from a permit centric world to a license plate centric world
- Special events and auxiliary campuses
Identifying the pieces
## Identifying the Pieces

### Outlining Business Rules

<table>
<thead>
<tr>
<th>Permit Number Range</th>
<th>Description</th>
<th>Gate</th>
<th>Registration</th>
<th>T2 IT Dev. Needed</th>
<th>TS IT Dev. Needed</th>
<th>Allocation</th>
<th>Waitlist</th>
<th>Facility Access</th>
<th>Access Device (Current)</th>
<th>Future Access</th>
<th>Restrictions (Who can register for this lot or permit?)</th>
<th>Rules (What are the rules for the lot or permit?)</th>
<th>Night Lot (2100-0000)</th>
<th>Operating Procedures (Internal documents and manuals)</th>
<th>Operating Procedures (Customer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A022</td>
<td>2020-21 Lot 022</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Permit - ID - Transcode - Code</td>
<td>&quot;Access device&quot;</td>
<td>-Faculty/staff</td>
<td>-RNS 2677 -DVS</td>
<td>N</td>
<td>No changes</td>
<td>No changes</td>
</tr>
<tr>
<td>A023</td>
<td>2020-21 Lot 023</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Permit - ID - Transcode - Code</td>
<td>&quot;Access device&quot;</td>
<td>-Faculty/staff</td>
<td>-RNS 2677 -DVS</td>
<td>N</td>
<td>No changes</td>
<td>No changes</td>
</tr>
<tr>
<td>A079</td>
<td>2020-21 Lot 079</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Permit - ID - Transcode - Code</td>
<td>&quot;Access device&quot;</td>
<td>-Faculty/staff - Graduate student</td>
<td>-RNS 2677 -DVS</td>
<td>N</td>
<td>No changes</td>
<td>No changes</td>
</tr>
<tr>
<td>A098</td>
<td>2020-21 Lot 098</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Permit - ID - Transcode - Code</td>
<td>&quot;Access device&quot;</td>
<td>-Faculty/staff - Graduate student</td>
<td>-RNS 2677 -DVS</td>
<td>N</td>
<td>No changes</td>
<td>No changes</td>
</tr>
<tr>
<td>AMNT</td>
<td>2020-21 Maintenance Park</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Permit</td>
<td>&quot;Access device&quot;</td>
<td>-Application process - Service space or available lot - Some service spaces are timed (2hr limit) - valid TAMU permit with MNT permit</td>
<td>-valid TAMU permit with MNT privileges</td>
<td>Y</td>
<td>No changes</td>
<td></td>
</tr>
<tr>
<td>AHED</td>
<td>2020-21 MEDIA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Permit</td>
<td>&quot;Access device&quot;</td>
<td>-Application process through TAMU MarCom and Athletics - One vehicle per permit at a time - Can park in AVP areas, 50, UCS, SBG</td>
<td>-Ensure LPS are provided by MarCom and Athletics</td>
<td>Y</td>
<td>No changes</td>
<td></td>
</tr>
<tr>
<td>AMG1</td>
<td>2020-21 NS Garage</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>-ID - Transcode - Access device - Students: &quot;Access device&quot;</td>
<td>&quot;Access device&quot;</td>
<td>-Faculty/staff - Student resident</td>
<td>-One vehicle per permit at a time - Business lot (2nd floor and above)</td>
<td>N</td>
<td>-Sofflaws only (2nd floor and above) - First floor transition to pay by plate for LPR use</td>
<td>Access device will be the same every year - Change visitor level signs.</td>
</tr>
</tbody>
</table>

Over 250 permit number ranges and close to 1,000 permit control groups

Ensure behind-the-scenes development matches on-the-ground operations
### Identifying the Pieces

#### Outlining Business Rules

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<tr>
<th>Permit Number Range</th>
<th>Description</th>
<th>Future Access</th>
<th>Restrictions (Who can register for this lot or permit?)</th>
<th>Rules (What are the rules for the lot or permit?)</th>
<th>Night Lot (1700-0600)</th>
<th>Operating Procedures (Internal documents and manuals)</th>
<th>Operating Procedures (Customer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1AM</td>
<td>2020-21 1AM VIP</td>
<td>-ID, Transcore</td>
<td>-TS office approval</td>
<td>Operates like a business permit</td>
<td>Y</td>
<td>-Check 1AM permit if officer gets hit</td>
<td>No changes</td>
</tr>
<tr>
<td>ABUS</td>
<td>2020-21 Business Permit</td>
<td>-ID Code (When the permit changes and access expires)</td>
<td>-Faculty/staff only (distinction from student needs to be part of development)</td>
<td>-Must have valid TAMU permit</td>
<td>IT development will change</td>
<td>-IT development will change to illustrate how to describe process to DPR</td>
<td></td>
</tr>
<tr>
<td>ACMP</td>
<td>2020-21 Campus</td>
<td>-ID Code (When the permit changes and access expires)</td>
<td>-Faculty/staff only (distinction from student needs to be part of development)</td>
<td>-Operates like a business permit, CMP is your valid permit.</td>
<td>Y</td>
<td>-DPR procedure will change</td>
<td></td>
</tr>
</tbody>
</table>

Ensure behind-the-scenes development matches on-the-ground operations.
Identifying the Pieces
Genetec

22,743 facility combinations
Planning for operations
Preparing for a License Plate Centric World

Operations

- Developed written protocols for using LPR technologies for enforcement
- Administered extensive training for 40 parking service officers
- Determined the right number and types of LPR vehicles
- Researched and acquired smaller, electric utility vehicles capable of u-turning at the end of a parking aisle
Preparing for a License Plate Centric World

Operations
Planning for IT development
Preparing for a License Plate Centric World

**IT Development**

- Multiple interfaces
- Flex records
- Parking registration
- DPR page
- My Parking Account (MPA)
- Genetec
  - Upgrade to Genetec 5.9.4
- Digital IRIS – ParkMobile
- Data warehouse
- Switching to new version of MEA
  - Flat file vs. live (some of our processes limit live)
Planning for customer experience
Preparing for a License Plate Centric World
Shifting the Culture

- Customers required to input license plate for the past 2 years
- Pandemic gave a fresh start since many people were not on campus regularly over the past year
- Waitlist and exchange process
- Shifting mindset from permit centric to license plate centric
- Education plan
- Communication campaign
  - Messages change as we switch from permit registration to parking assignment

Link to video: https://www.youtube.com/watch?app=desktop&v=5QgDVF2x3mw
Planning for special events
Preparing for a License Plate Centric World

Special Events

- Current procedure: uses permit as visual confirmation for entry
- Biggest event is football – (in a normal year) over 5,000 permit holders park across campus on gameday
- Challenges with running LPR vehicles through parking lots on gameday
- Mobile devices deployed on gameday boost Wi-Fi service in densely populated and remote parking areas
- New procedure: customers will present permit receipt with barcode and cashier will scan to confirm permit ownership
Planning for affiliates
Preparing for a License Plate Centric World

Affiliates

• Cross parking
  • Texas A&M Health Science Center (HSC)
  • Texas A&M Galveston (TAMUG)
  • Permits from HSC and TAMUG can park in Texas A&M lots (vice versa)
• Departmental Guest Permits
• Association of Former Students
Creating a license plate centric world
Implementing a License Plate Centric World

- Parking Services: educate and overcommunicate for a smooth transition
- Customer Service: virtual business processes
  - Round-the-clock customer care
  - Real-time data challenge to avoid unnecessary citations
- Establish a checklist to update business rules to capture all components of the change to the virtual world
- Bulk permits
Lessons learned
Lessons Learned

• Planning perspective:
  • Identify all the business rules
  • Set expectations: the importance of really smart people and great ideas but knowing at some point the ideas need to stop and the development must begin
  • On the ground-folks and developers need to be part of the brainstorming sessions
  • Planning and communication cannot start early enough
    • This includes internal and external communication

• Implementation perspective:
  • We will see you next year folks 😊
Thank You

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