

# 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?*

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

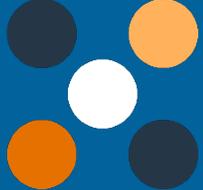


# Agenda

- 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

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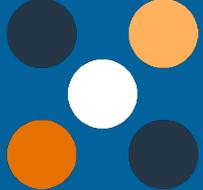
# Texas A&M - History of LPR

- 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?

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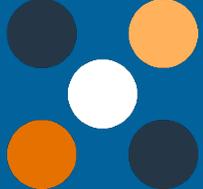
# What took so long?

## *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

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# Identifying the Pieces Outlining Business Rules

Legend		Critical (Dual Imp.)	High Importance (Full-Imp)	Moderate (Not needed for implementation)	Wishlist	Question									
Permit Number Range	Description	Gate	Registration	TS IT Dev. Needed	T2 IT Dev. Needed	Allocation	Waitlist	Facility Access	Access Device (Current)	Future Access	Restrictions (Who can register for this lot or permit?)	Rules (What are the rules for the lot or permit?)	Night Lot (1700-0600)	Operating Procedures (Internal documents and manuals)	Operating Procedures (Customer)
A022	2020-21 Lot 022	Y	Y	Y	N	Y	Y	Y	- Permit - ID - Transcore - Code	- "Access device" - ID - Transcore - Code (DVS)	-Faculty/staff	-RNS 24/7 -DVS	N	-Spaces are plate specific -DVS (currently ignore the hit)	No changes
A023	2020-21 Lot 023	Y	Y	Y	N	Y	Y	Y	- Permit - ID - Transcore - Code	- "Access device" - ID - Transcore - Code (DVS)	- Faculty/staff	-RNS 24/7 -DVS	N	-Spaces are plate specific -DVS (currently ignore the hit)	No changes
A073	2020-21 Lot 073	Y	Y	Y	N	Y	Y	Y	- Permit - ID - Transcore	- "Access device" - ID - Transcore	-Faculty/staff -Graduate student	Ensure behind-the-scenes development matches on-the-ground operations			
A098	2020-21 Lot 098	Y	Y	Y	N	Y	Y	Y	- Permit - ID - Transcore	- "Access device" - ID - Transcore	-Faculty/staff -Graduate student				
AMNT	2020-21 Maintenance Permit								- Permit	- "Access device"	-Application process	-Service space or available lot -Some service spaces are timed (2hr limit) -valid TAMU permit with MNT permit	Y	-valid TAMU permit with MNT privileges	No changes
AMED	2020-21 MEDIA										-Application process through TAMU MarCom and Athletics	-One vehicle per permit at a time - Can park in AVP areas, 50, UCG, SBG	Y	-Ensure LPs are provided by MarCom and Athletics	No changes
ANSG	2020-21 NS Garage	Y	Y	Y	N	Y	Y	Y	- Permit (students) - ID (students) - Transcore	- Transcore - "Access device" Students: - "Access device"	-Faculty/staff -Student resident	-One vehicle per permit at a time -Business lot (2nd floor and above)	N	-Scafflows only (2nd floor and above) -First floor transition to pay by plate for LPR use	-Access device will be the same every year. - Change visitor level signs.

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

# Identifying the Pieces

## Outlining Business Rules

Permit Number Range	Description	Future Access	Restrictions <i>(Who can register for this lot or permit?)</i>	Rules <i>(What are the rules for the lot or permit?)</i>	Night Lot (1700-0600)	Operating Procedures (Internal documents and manuals)	Operating Procedures (Customer)
A1AM	2020-21 1AM VIP	-Permit -ID -Transcore	-TS office approval	Operates like a business permit	Y	-Check 1AM permit if officer gets hit	No changes
ABUS	2020-21 Business Permit	-ID -Code (How do we issue this since the permit changes and access expires?) -Does assigning a business permit to a permit holder give access to their access devices?	- Faculty/staff only (distinction from student needs to be part of development).	-Must have valid TAMU permit - Lot versus space - Timed versus not-timed		-IT development will	-DPR procedure will change.
ACMP	2020-21 Campus	-ID -Code (How do we issue this since the permit changes and access expires?) -Does assigning a business permit to a permit holder give access to their	- Faculty/staff only (distinction from student needs to be part of development).	-Operates like a business permit, CMP is your valid permit. - Lot versus space - Timed versus not-	Y	-IT development will illustrate how to describe process to DPR.	-DPR procedure will change.

**Ensure behind-the-scenes development matches on-the-ground operations**

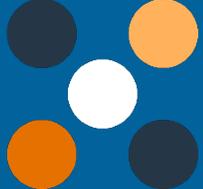
# Identifying the Pieces Genetec

T2 Flex Permits		Genetec Autovu Permit Restrictions (Where Permits are Recognized as Valid by LPR)																																											
Type	Facility/Purpose	Description	Ref	Associated Autovu Permit	001	003	004	005	006	007	008	008a	008b	011	012	013	014	015	018	019	020	021	022	023	024	025	026	027	030a	030c	030d	030e	032	033	034	035	036a	036c	036d	036e	037	038	040a		
Garages	CCG	Central Garage	1	CCG	T	T		T							NW	NW				NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	NSG	Northside Garage	2	NSG	T			T							NW	NW				NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	PRG	Polo Road Garage	3	PRG	T	T		T							NW	NW				NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	SBG	Stallings Blvd Garage	4	SBG	T	T		T							NW	NW				NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	SSG	Southside Garage	5	SSG	T	T		T							NW	NW				NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	UCG	University Center Garage	6	UCG	T	T		T							NW	NW				NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	UCX	University Center Garage	7	UCX	T	T		T							NW	NW				NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	WCG	West Campus Garage	8	WCG	T	T		T							NW	NW				NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	WCR	West Campus Resident	9	WCR	T	T		T							NW	NW				NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	004	Lot 004	10	004	T	T	T	T							NW	NW				NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	005	Lot 005	11	005	W	T		T												W		W				W	W	W	T						W	NW			NW	NW	NW	NW	W	W	
	006	Lot 006	12	006	T	T		T	T						NW	NW				NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	007	Lot 007	13	007	T	T		T		T					NW	NW				NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	008	Lot 008																				T	NW			NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	010	Lot 010																				T	NW			NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	011	Lot 011																				T	NW			NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	012	Lot 012																				T	NW			NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	013	Lot 013																				T	NW			NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	014	Lot 014	19	014	T	T		T							NW	NW	T			NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	
	015	Lot 015	20	015	T	T		T							NW	NW		T		NWS	T	NW				NW	NW	NW	T	NWBS	NWBS	NWBS	NWBS	NW	T		T	BS	BS	BS	BS	NW	NW	BS	

22,743 facility combinations

# Planning for operations

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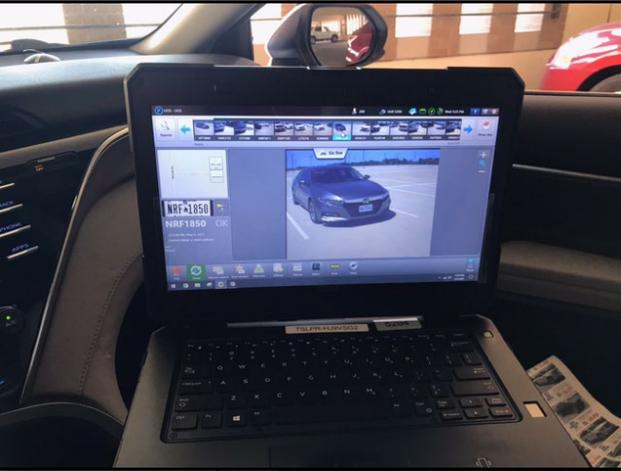


# Preparing for a License Plate Centric World Operations

- 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

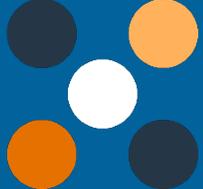


# Preparing for a License Plate Centric World *Operations*



# Planning for IT development

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# 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)

Home

**NEW**

- Fall 2021 New Hire Parking Allocation

**Departmental Parking**

- Parking Registration
- View Dept Parking
- Business Permit (IDT)
- Departmental Parking Request
- Campus Permits Request
- Guest Permit (IDT)
- View Guest Parking
- Validate a Permit
- View Online Validation
- Edit Custodian on permits
- Citations

**Employee Parking**

- Parking Registration
- View Employee Parking
- Parking Request
- Pay Assigned Permits

**Vehicles**

- SMV Vehicles
- SMV Registration

**Fleet**

- Fleet Info

**Others**

- University Vehicle Toll Tag
- DPR/DPR Admin Request
- Forms

**DPR Admin**

- Departmental User

**Admin**

- Create a New User
- View Users

## CURRENT PARKING PERMITS

Departmental Permits
Employee Permits

[Export Employee Permits to Excel](#)

Account ID	UIN	Name	Status	Permit Type	Permit #	Space #	Issue Date	Mail Stop
756815			ACTV-ST	069	A06920190		07-24-2020	1228
59436			RTRD-RTR	RET	ARET50809		07-24-2020	1228
65823			-CO	085N	A08523754		08-06-2020	1228
510371			WAGE-ST	100	A10033116		08-10-2020	1228
557969			ACTV-ST	069	A06920252			
665064			ACTV-ST	102	A10241922			
39393			ACTV-ST	069	A06920140			
603361			ACTV-ST	048	A04810005			
756645			ACTV-ST	048	A04809845			
32865			ACTV-ST	069	A06920137			
722169			ACTV-ST	048	A04809895			
15945			ACTV-ST	100R	A10038209	100		
761940			ACTV-ST	048	A04809849			
68144			ACTV-ST	069	A06920145			
67971			ACTV-ST	069	A06920144			
552259			ACTV-ST	048	A04809820			
749874			WAGE-ST	100	A10031048			
58816			RTRD-RTR	RET	ARET50780			
264370			ACTV-ST	048	A04809798			

TEXAS ARM UNIVERSITY  
Transportation Services

Logout

**2021-2022 Parking Registration**

**Permits Go Virtual!**  
Your license plate is your parking permit starting Fall 2021!

Take a picture of your license plate to use during registration, ensuring accuracy to avoid citations.

**CONGRATULATIONS! You have completed your parking registration.**

Confirmation #: 322621027  
Submitted on: 4/27/2021 2:12:42 PM

View/Change Registration

**My Active Permits**

A05112986 2020-21 LOT 051 - Unpaid Update Plate

Purchase event or available annual permit

**My Vehicles**

TOYOTA Corolla FOUR DOOR

**My AggieEpass**

No AggieEpass is associated with your account.

Purchase/Reload AggieEpass

**My Citations**

17205700567 04/19/2018 \$0.00 Voided  
136801892 05/05/2014 \$0.00 Zero Balance  
135600888 11/27/2013 \$0.00 Zero Balance

Note: Vehicles of customers with three or more unpaid citations or fines exceeding \$100.00 or any citation balance due older than 90 days may be booted and/or towed and impounded at the owner's expense until the account is paid in full. If your vehicle was relocated, released or towed, you will need to search by license plate to make sure all citations on the vehicle have been paid.

**My Bikes**

No registered bikes are associated with your account.

Bike Registration

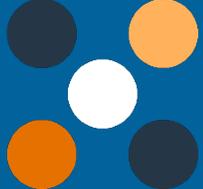
Note: Getting your bike permit is a 2 step process. After registering your bike, please click the button on the bike registration successful page or click the Get Permit link on the Registered Bikes page to purchase your bike permit.

**My Contact Information**

Update your addresses through Workday (Faculty/Staff) or MyRecord at Howdy Web Portal (Students)

# Planning for customer experience

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# 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

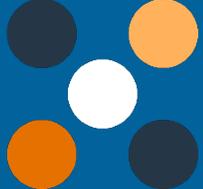


Link to video:

<https://www.youtube.com/watch?app=desktop&v=5QgDVF2x3mw>

# Planning for special events

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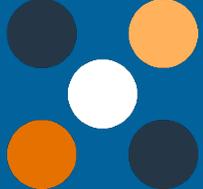
# Preparing for a License Plate Centric World *Special Events*

- 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

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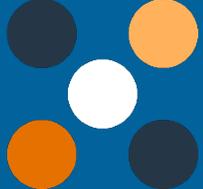


# Preparing for a License Plate Centric World *Affiliates*

- 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

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T2 RECONNECT 



# 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

- 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 😊

T2 RECONNECT 

**Thank You**

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