



autoChalk Parkade: Blending Fixed Camera LPR with RFID

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Agenda

- Who is Tannery?
- What do we do?
- The challenge for gateless parkades
- Using Fixed Cameras & LPR in Parkades
- Introducing RFID
- Front line experiences



Who is Tannery, What Do We Do?

- Who is Tannery?
 - Canadian Manufacturer located near Toronto
 - Specializes in parking automation and enforcement (software and hardware)
- What do we do?
 - Mobile LPR
 - Digital chalking, Pay by Plate
 - Scofflaw, Permits
 - Fixed Camera LPR
 - RFID



autoChalk Mobile PBL in Action



autoChalk scans 15,000 vehicles (and plates) per day in Calgary (population of 1.1 Million) for the ParkPlus PBL parking system.

ParkPlus, a proprietary solution, offers pay by cell, pay on the web, pre booking, zone pricing, and street kiosk payment.





Gateless Garages

- Garages have no gates on entry or exit
- Require alternate methods of payment and enforcement
- More similar to parking lots and street
- Why Gateless?
 - Quicker entry and exit
 - No queuing onto street
 - More inviting
 - Can be less costly to maintain



Calgary's Parkades

- Calgary Parking Authority has many parkades up to 1200 vehicles in size
- All gateless and feature
 - Pay By License (PBL)
 - CALE pay machines
 - On line, cell phone and smart phone activation
- All have about
 - 80% contract parkers
 - 20% daily
- How to enforce in an efficient manner?

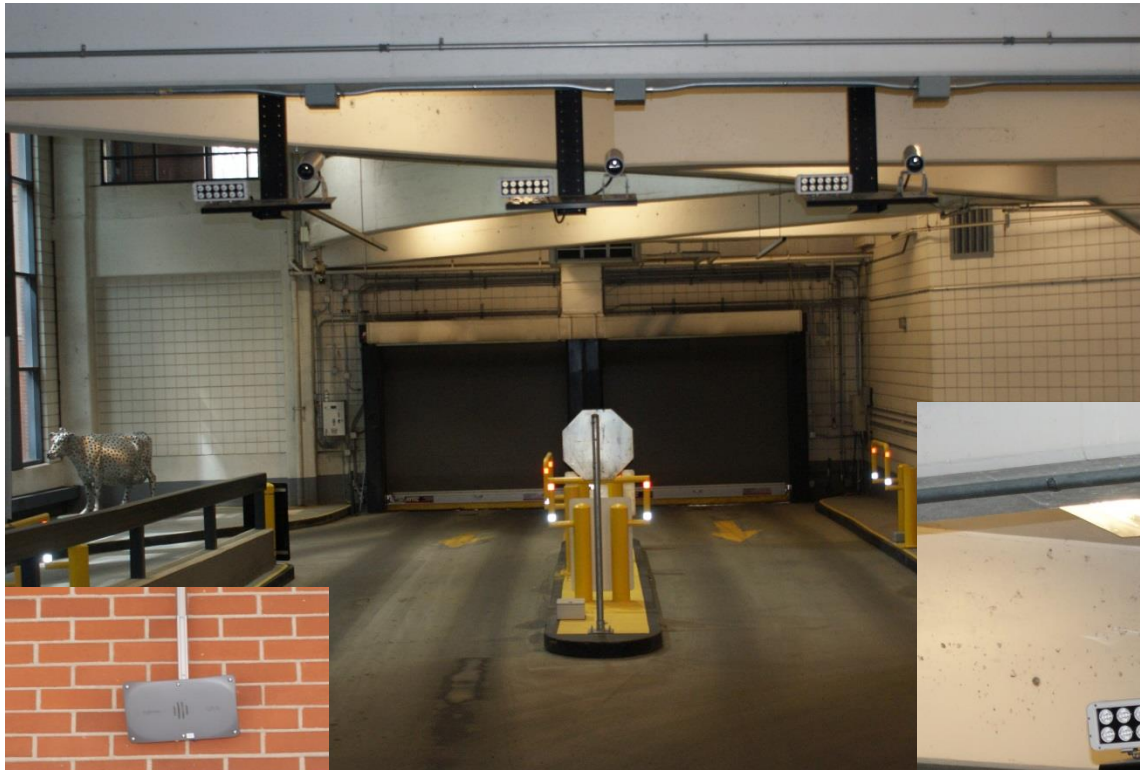


Parkade Access Control

- Challenges
 - Plates non-reflective
 - Plates in winter get covered in snow and salt
 - CPA wanted to minimize empty stalls
 - Needed to integrate into existing PBL system
 - Integrated gate control
 - Gates close when garage is full
- Tannery tapped for solutions



Solutions: Blended LPR & RFID



Fixed LPR



RFID for Contract Parkers





Blending LPR and RFID

- Mix of daily and contract parkers
- Contract parker assigned RFID transponder
- LPR captures vehicles' plate
 - 94% match to records with clean plates
- RFID reader distinguishes contract parkers
 - Achieves 100% match to records
- Combo LPR and RFID achieves about 99% match to records
- Only 1% of vehicles need review and correction



Results for 1200 Vehicle Parkade

- Twice daily mobile LPR scans replaced with fixed LPR
- Citations increased from about 15 to 55 per day (\$600 => \$2000 per day)
- All vehicles captured entering & exiting
- High degree of automation reduced enforcement effort
- Post processing of sessions facilitates
 - better & more appropriate citation issuance
 - Less parker conflict and errors
 - Increased parking utilization measurement accuracy
- Visible cameras and lights increased compliance
- RFID adoption by contract parkers can be slow



Summary

- autoChalk Parkade LPR ideal for parkades
- Significant improvement in productivity
- Efficient and reliable
- Blending RFID improves accuracy
- Seamless operation between RFID and LPR
- Provides better enforcement more efficiently



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