

By Alan M. Rucker
and David Davitaia

The University of Maryland

NEARLY 25,000 DAILY PARKERS USE LOTS and count on the Department of Transportation to provide an accurately enforced and cost-effective approach to parking at the University of Maryland, College Park. Decades ago, the backbone of that system was bumper stickers indicating lot assignment, and while extremely cost effective, it was significantly unfriendly to customers. A different vehicle, a rental car, or a newly-purchased car resulted in calls to the office and a new sticker being issued or tickets incorrectly being written. The desire for portability moved the department to rearview mirror hangtags, which provided immeasurable customer convenience, but created loopholes that were challenging to overcome. Parkers would switch vehicles without bringing their permits, forget to display the tags, or worse yet, the permit could be altered, copied, loaned, or shared. When coupled with a desire to reduce the annual cost of the permit order (approximately \$80,000) it was imperative that we figure out a new and better way to regulate parking for our customers.



PERMITS? WHAT

Adopts LPR Technology for Parking



PERMITS?

For the University of Maryland (UMD), that way manifested itself in the technology of license plate recognition (LPR). While the technology itself has been used for years at other locales such as airports and hospitals to note whether a vehicle was present, the unique nature of our parking system, lot assignments, and myriad restrictions and regulations made creating an infrastructure for the technology no small feat. The benefits were clear, as the system itself (which cost approximately \$40,000 per truck) would pay for itself after just two years of not ordering hanging permits. The questions were more about implementation—how to roll this out to a very high need-to-know campus community, and how to make the system as error-free as the hanging permits had been.



License plate readers were mounted on car tops.

For campuses or organizations considering the switch to a virtual environment and LPR, the changeover at UMD should provide a valuable roadmap about what to expect and how to implement such a seismic shift of operational policy. First and foremost was testing the equipment to ensure that the key functions of reading and recognizing license plate information actually worked. UMD started small, purchasing one unit and using it to enforce our scofflaw “hot tow” lists. We quickly saw that the system did indeed work, as the effectiveness for the tow list showed that using LPR technology for scofflaw violators would pay for itself even without the transition to a permitless campus. Having seen that the system did indeed work, it was now on us to undertake the challenge of making the system work for more than just tows. Thus began an 18-month process of weekly project management that would catapult UMD into the 21st century of parking enforcement and beyond.

The Change

It became clear almost immediately that this new way of operations would require more than enforcement to institute a change. The impact of this systemic alteration was immense and far-reaching, touching nearly every aspect of our department. It was most helpful that key constituents were identified immediately in the realms of information technology, customer service and operations, enforcement, and public relations, and each of these primary stakeholders’ attendance at any LPR related function or workgroup was mandatory. At each of these weekly meetings, the key voices for project implementation were present and required to speak for their unit and function. The process wouldn’t have gone as smoothly without this considerable amount of forethought and group function.

After identifying the key team members, UMD decided to start the changeover with the student population, for several reasons. Most notably, it was likely that students would feel far more comfortable with the shift from in-person permit operations to an entirely virtual registration with no physical hangtag. Additionally, student parking and more importantly, student payment are significantly less complicated than faculty/staff parking and the various restrictions and payroll deduction. It was imperative that the project be eased into operations to address potential problems or roadblocks without the entire campus community being affected. If student registration and implementation went smoothly, the implementation of faculty/staff parking would follow suit. The steps for implementation began to be formed as a tiered approach that allowed this project to be successful.

First and most important was the technological backbone of the system itself. As one might imagine, a technological wonder such as LPR has immense amounts of infrastructure. The amount of data required to operate a permitless campus is simply staggering. First, a lot table must be created for the zones of enforcement. At the University of Maryland, that means roughly 65 parking lots, all with different restrictions and allowances, had to be created in the system before enforcement could begin. Once that backbone of allowances was created, the data of virtual permit numbers and the affiliated license plates had to be imported from our parking software before the zone file would be able to tell which cars belonged and which did not. Gathering that information required us to somehow compile vehicle information for roughly 12,000 student parkers and 10,000 faculty/staff parkers, which hadn’t been gathered before.



Officers can gather data from inside their vehicles.

Once the informational infrastructure was in place, our customers were educated, the public's information collected, and the enforcement team trained on this new way of operations, it was necessary to ensure that departmental documentation and violations were updated to accurately reflect this change in philosophy. Things such as language on statements of account, violation codes and explanations, regulations, and policies all had to be comprehensively edited and altered. The word "permit" no longer applied,

and as such, new guiding policies and explanations had to be formulated. It seems like a minor detail, but having incorrectly formed language or violations can result in overturned appeals or court dismissals on technicalities that could have been easily avoided.

Marketing

Our customer service and public relations units became invaluable. Through a targeted marketing campaign, students were informed nearly three months in advance of the registration request period that they would not receive hanging permits, but would have to provide at least one vehicle tag that would become their permit. Fail-safes were implemented throughout the registration process to ensure accuracy of data, including checking that tags with numeric "0"s were not, in fact, alphabetic "O"s. Failure to ensure the most accurate data would result in incorrect citations being issued and could result in the entire project being scrapped before it was fully implemented.

We took our message and idea to the people. Department representatives met with members of student government, the residence hall association, and dozens of other departments throughout the campus. Ensuring our customers knew what was happening, how the system would work for them, and that they wouldn't be cited incorrectly was perhaps the most important thing done to ease the transition to a permitless operation.

Avoiding those incorrect citations was of extremely high importance. Anyone receiving a parking citation isn't in the best of moods, but when that citation is incorrectly issued, that's the worst-case scenario. To have that occur on a highly political collegiate campus was simply unacceptable. It became vital to ensure that enforcement was well-trained and comfortable with the system.

It's important to note that LPR doesn't take the place of enforcement at UMD. There is still a human behind the wheel who decides whether to enforce a potential violation. What has changed, however, is the enforcement officers being required to see each and every permit. The LPR system notifies the officer that a vehicle is parked in violation and the enforcement process begins just as it did under the hanging permit system.

Results

Permitless student operations began in fall 2010, and faculty/staff followed in spring 2011. After the system was installed and implemented, additional customer convenience items were added. For example, a customer bringing a different vehicle to campus can go online and make a permanent or temporary change from their home, office, or smartphone. Additionally, the appeals process has seen a sharp downturn in the number of appeals submitted, presumably because there is no longer the time-honored loophole of "Your officer made a mistake," or "I forgot my permit." There are no longer altered permits, copied permits, or lost/stolen permits. The system itself has closed many of those loopholes and restored integrity to parking enforcement that was unreachable with hanging permits creating benefits across the board.

It is indeed a rarity that any parking solution is truly a win-win scenario. Oftentimes, the zero-sum nature of our business means that any one entity's gain is another's loss when it comes to the finances or new enforcement protocols. LPR creates the elusive benefit for all, providing customer-centric convenience, cost savings for the department, and an enforcement and appeals system that is laden with integrity and data rather than loopholes or contradictory statements. The changeover from hanging permit operations to a permitless virtual LPR operation is not for the faint of heart, but it is a process that has far-reaching positive impacts to the organization and the customers it serves if the process is well coordinated and well planned. 📍



ALAN RUCKER is assistant director of the University of Maryland Department of Transportation. He can be reached at arucker@umd.edu or 301.314.9734.



DAVID DAVITAIA is senior associate director of the University of Maryland Department of Transportation. He can be reached at ddavitai@umd.edu or 301.314.8077.