

Technology Is Transforming Campus Parking

By Bill Smith



It's often challenging for universities to satisfy all campus parkers. The good news is that in recent years, numerous new technologies have been introduced to make campus parking more user-friendly and manageable.

"The rate of technological advancement is unprecedented, and these advances are providing significant benefits to colleges and universities," says Dan Kupferman, director of Car Park Management Systems for Walker Parking Consultants. "Technology has made parking more efficient, more precise, and easier to manage. It's also making parking more customer-friendly than ever before, which should make campus parkers very happy."

PARKING GUIDANCE

One of the most useful technologies is parking guidance, which points drivers directly to free spaces. Parking guidance systems (PGSs) have recently been installed in campuses across the United States, most notably Texas A&M, Oklahoma University, and Colorado State University. These systems utilize sensors to monitor whether a parking space is occupied and LED lights to inform parkers of their status. In garages, the sensors are typically installed on the facility's ceiling; while parking lots and garage rooftops use surface-mounted sensors. Guidance systems feature signage at major decision points, such as facility entrances and on each floor, indicating how many spaces are available.

"Parking guidance systems allow universities to provide a much more customer-friendly experience," says Dale Fowler, director of INDECT USA, a provider of PGSs. "By guiding drivers directly to available spaces, they eliminate the need for drivers to search for a parking space, which makes parking much more convenient and safer."

Fowler points out that PGSs are particularly useful for major universities with large parking facilities. Texas A&M's Cain Garage, which serves more than 60,000 students, staff, and faculty, also provides premier parking for fans attending football games at Kyle Field, the fourth-largest stadium in the United States. The garage's PGS has significantly reduced congestion there since it was installed last year. Research suggests that PGSs can reduce the amount of time it takes to park by as much as 40 percent.

Customer service isn't the only reason universities turn to PGSs. Colorado State University installed a system to support its commitment to sustainability. CSU was named America's Greenest University by BestColleges.com in 2017, and university planners installed parking guidance as part of a campus-wide green parking initiative. The CSU system promotes sustainability by minimizing the time spent searching for parking, thus dramatically decreasing the amount of vehicle exhaust emitted in the structure and the amount of unnecessary fuel wastage.

SENSOR TECHNOLOGY

Sensor technology can also serve as a powerful virtual parking system, making it easier to manage parking behaviors to achieve campus planning goals. The University of Central Missouri uses sensors to support on-campus businesses, while simultaneously managing valuable parking spaces more effectively. UCM was one of the first American institutions to implement a "Shop & Go" program that establishes dedicated short-term parking zones for visitors wishing to make quick shopping runs. The 53 Shop & Go spaces are located adjacent to an on-campus, mixed-use facility that provides upper-class housing, a university store, and retail establishments. The spaces offer free short-term

parking so patrons can conveniently find spaces close to their destinations, do their business, and return to their vehicles. The ticketless system permits one-hour parking, which promotes frequent turnover of spaces.

The Shop & Go system is managed by single-space wireless parking sensors and a proprietary software system that monitors the spaces. The ground-based sensors detect the presence of a vehicle and record the amount of time the parker has remained in the space. If a car stays too long, the system alerts enforcement officers via their mobile devices, letting them know which parking space contains the offending vehicle. The officer can then take the appropriate steps: issuing a warning, writing a ticket, or arranging for the vehicle to be towed.

“This is the first program of its kind at an American university,” says Gorm Tuxen, president of IPsens, a provider of cloud-based parking solutions. “But it’s just the tip of the iceberg when it comes to utilizing sensor and other technologies. As programs like this become more common, software developers will be able to create tools that provide even more benefits.”

FRICTIONLESS PARKING

The latest trend in parking technology, frictionless parking, allows drivers to park without interacting with traditional payment systems. Frictionless parking revolves around a suite of technologies built on top of a Parking Access Control System—technologies such as license plate recognition (LPR), barcode readers, and reservation software that make parking seamless and interactive by removing the need to stop at gates to enter or stop at exits to pay. Parkers just drive in and out as they wish, and the system recognizes the vehicle, associates it with a previously generated credential, and bills the driver or credits it to a permit, often through a smartphone.

The University of North Carolina at Charlotte recently installed a system utilizing EMV-compliant payment terminals (EMV stands for “Europay, MasterCard, and Visa”), LPR technology, specialized software, and reservation technology. Through the system, virtual parking permits are linked to license plates, eliminating the need for physical parking permits and allowing drivers to manage their accounts online.

“This frictionless suite provides an ex-

traordinarily convenient parking experience,” says Blair Taylor, vice president of Sentry Control Systems. “UNC Charlotte has become one of the first universities in the United States to offer frictionless parking to students, staff, faculty, and visitors.”

EXCITING TIMES

These are exciting times for campus parking administrators. Gone are the days of staffing lanes, handling cash, and guessing how to manage utilization. These new technologies allow colleges and universities to provide a much better parking experience, while at the same time managing parking assets more efficiently and effectively. And with the constant pace of parking technology innovation, we can expect even more exciting advancements in the not-too-distant future. ☛

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