

How Technology has Transformed Parking

• By Kristin Phillips

The headline of an article recently published by *The Outline* declared: Americans are pretty ugly when parking their cars. The subhead read: The worst part of driving will never get better. *The worst part of driving will never get better.*

But is parking really the worst part of driving? How can anyone who is familiar with the modern parking industry think that the parking experience will never get better? In fact, over the past decade it has gotten immensely more convenient and pleasant, largely because of the introduction of innovative technologies designed to make parking more driver-friendly and manageable.

"We are in the midst of a technology revolution that has seen the introduction of unprecedented technological advancement," said Dan Kupferman, director of Car Park Management Systems for Walker Consultants. "Technology has made parking more efficient, more precise, and easier to operate. It's also making parking more customer-friendly than ever before."

Access and Revenue Control

Parking access and revenue control systems (PARCS) have long been technology staples for parking facilities. PARCS is also the cornerstone of one of the most exciting new trends in parking: frictionless parking. Frictionless parking permits drivers to park without interacting with traditional payment systems, and it revolves around a suite of technologies built on top of a Parking Access Control System. In addition to PARCS a frictionless suite can include license plate recognition (LPR), barcode readers, and reservation software. When combined in a frictionless suite, these technologies can make parking seamless and interactive by removing the need to stop at gates to enter or stop at exits to pay.

Parking Guidance

Parking guidance systems (PGS) represent another technology that has improved the parking experience. By guiding drivers directly to open spaces, PGS eliminates the anxiety that often comes with parking and significantly reduce the amount of time it takes to find a space. "Parking guidance systems take all the uncertainty out of finding a parking space," said Dale Fowler, director of INDECT USA, a leading provider of parking guidance systems. "By guiding drivers directly to open spaces, and then directing them back to their cars when they are ready to leave, the technology eliminates the parking frustrations that used to be so common."

Some parking guidance sensors have license plate recognition technology built in so each sensor can identify individual vehicles. This feature can be used in frictionless parking systems or to enforce spaces using black and white lists, notifying enforcement officers if an unauthorized vehicle parks in a reserved space.

Most PGS systems also come with Find My Car features that allow drivers to find their vehicles if they've forgotten where they parked. Finally, sensors can be equipped with surveillance video equipment monitoring individual spaces so if a parked car is hit by another vehicle, or if a parker is the victim of a crime at his vehicle, the entire episode will be recorded for the protection of those parkers.

PGS systems collect utilization data that can be used by parking owners to make informed parking management decisions. They also maximize utilization of available spaces by reducing the risk that parkers will give up and look for someplace else to park. PGS can also allow help owners defer capital costs because garages that appear to be full when they aren't often lead owners to mistakenly believe they need to invest in new facilities or expansion.

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"When you consider that owners typically consider their facilities to be fully occupied at 85 or 90 percent, being able to fill that remaining 10 to 15 percent of currently unused spaces can be a huge benefit," said Fowler. "For the typical mid-sized parking structure that translates to tens of thousands of dollars a year in additional revenues."

Managing Free Parking

Clearly, parking guidance isn't the only role that sensors can play. Sensor technology can also serve as a powerful Virtual Parking System, making it easier to manage parking behaviors. One example can be found at Assembly Row, a massive mixed-use project just outside Boston.

Three hours of free parking is provided for the convenience of patrons of tenant shops and entertainment venues. However, parking shortages had become a problem



because the spaces were frequently used by commuters traveling into downtown Boston via a subway station located on the site.

To combat this the owners of Assembly Row implemented an integrated wireless parking solution that utilizes wireless in-ground sensors to manage the free parking. The largest installation of its kind the United States, the sensor network features 1,144 in-ground sensors and specialized software to manage the system. The wireless in-ground sensors allow management to monitor parkers' length of stay in real time and ensure that time limits are observed. If parkers do overstay the limits, enforcement officers can be notified.

The brain of the system is specially-developed software that was created to meet the unique needs of Assembly Row, its tenants, and customers. The software also collects data and creates reports providing comprehensive information about how the parking spaces are being used, how long vehicles tend to remain parked, and when peak parking hours occur. This data is used by Assembly Row administrators to manage the parking lots more efficiently and determine how to handle parking enforcement.

"The software is the key to making this whole program work," said Gorm Tuxen, President of IPsens, a leading provider of cloud-based parking solutions. "It doesn't matter how good your equipment is if you don't have the right software to run it."

Exciting Times

Technology has transformed the parking experience, and far from being "the worst part of driving," today's typical parking experience is more convenient and pleasant than ever before. And with the constant pace of innovation we can expect even more exciting advancements in the coming years.

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FRICTIONLESS PARKING

Westfield Century City in Los Angeles recently set the standard by installing the world's most advanced frictionless parking system. Westfield's parking suite includes parking access and revenue control technology, parking guidance technology, license plate recognition (LPR) technology, specialized management software, a cloud-based validation system, and advanced parking reservation technology. Visitors can reserve their parking space online before they visit the shopping center, and when they arrive they just drive into the parking facility and are guided to their reserved space. For non-reservation customers, the LPR system recognizes the car associated with the transaction opens the gates automatically, and bills the account on file.

"This is the simplest and most convenient parking system in the world," said Seth Shurtleff, Vice President of Business Development of Sentry Control Systems, the technology provider that developed the parking technology suite. "It's literally hands-free. Because of this frictionless parking suite, customers can be assured of always finding parking, and they just breeze in and out of the garage without giving it a thought."

"The Westfield parking reservations suite represents the future of parking pre-booking," said Theresa Hughes, Chief Executive Officer of Chauntry, the company that developed the reservations platform. "Now, shoppers can leave their homes knowing that there will be a parking space waiting for them, and that that space will be located close to the particular shops they plan to visit."