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Case Study

Balancing Parking Demands While Improving Mobility In A Campus Environment

24/7/365 Access to Accurate, Real-Time Data Supports Parking Improvements

Customer Challenge

The University of Wisconsin-Milwaukee (UWM) wanted to improve the parking experience on its main campus by enabling a more seamless parking experience for students, faculty, visitors and staff. Like many academic institutions and campuses, the two main challenges UWM was facing were first, the size of their campus – 104-acres which equates to approximately 78 football fields – and second, the many different parking spaces offered. The various types of parking spaces available across the campus include permits, daily and specialty stalls as well as on-street and garages spaces.

The university wanted to understand how parking zones, and specifically individual spaces, were being used before in order to move forward in a manner that would help them optimize the usage of their assets. They were particularly interested in gaining insights on how the spaces for the different campus zones, like daily, specialty and hourly, are being used. UWM parking administrators understood that they could only make informed decisions that improved parking and mobility on the campus if they had access to accurate usage data. As such, they were looking for a system that could capture 24/7/365, real-time monitoring, stall availability.

Payment transaction data was not a useful data proxy for parking utilization for UWM because this data is fundamentally flawed as the accuracy of occupancy data is dependent on payment compliance. It does not account for days/times that are free nor for the estimated 50% of drivers who don't pay despite parking regulations or those who have permit parking.

Additionally, due to the environmental and weather conditions in Milwaukee during certain seasons, a camera-based system would be useless for UWM. Cameras could become damaged or foggy during heavy rain, and not provide enough visibility during snowy periods and ultimately not clearly capture the utilization of all parking spaces.

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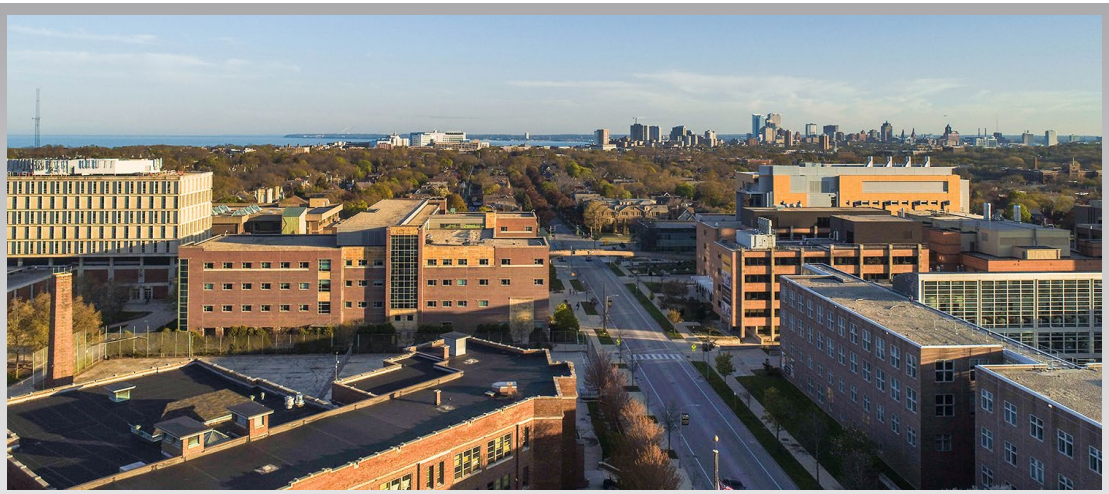
The University of Wisconsin-Milwaukee is home to Wisconsin's top-ranked bachelor's programs and the largest university in the Milwaukee metropolitan area. Its 104-acre main campus on Downer Avenue hosts 4,700 employees, 23,000 students and countless visitors every day.



Why the eXactpark™ Smart Parking Platform?

eXactpark is driven by the patented, award-winning SPS-X™ sensor from eleven-x®, which integrates with a comprehensive software suite to provide real-time occupancy monitoring at the stall level, along with data collection and analysis. Key data points collected include individual space use counts, turnover, dwell time, and parking duration, which when analyzed can help the university streamline their parking operation. UWM can also publicly share real-time parking availability with drivers, helping reduce traffic congestion and improve mobility.

Capabilities UWM was seeking that eXactpark has include:

- Fully embedded sensor with no profile above ground with 99.7% accuracy in all weather conditions
- Real-time status and data collection
- Ability to share publicly with campus visitors and drivers
- Integration with other technologies enabling data collection and analysis
- Digital availability and guidance options

Thus far, eleven-x has installed 1,500 SPS-X sensors across UWM's various parking structures and street spaces on campus. 75% of these sensors are on-street and embedded while the remainder are in parking lots and surface mounted. Additionally, solar powered signage has been installed in specific zones at key points to help drivers with wayfinding, helping reduce cruise times, improve pedestrian safety and enhance the overall campus environment. UWM's SPS-X sensors were integrated with the eXactpark's software platform to provide real-time insight on parking availability and also collect accurate data on parking usage.

Results and Next Steps

Desiring high accuracy and consistent usage data on the parking spaces was a key objective from the onset, and the solution has delivered, even when temperatures hit below zero. The embedded sensors have also remained intact and since they are underground, there have been no issues with snowplows or street cleaning

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"eleven-x's solution stood out to us because of its unrivaled accuracy, powerful reliability and low maintenance costs. With the eXactpark sensors and software platform we will be able to streamline our parking operations and provide our community a seamless parking experience while improving mobility on our campus."

Prasanna Nanda
Director – UWM Transportation Services
University of Wisconsin-Milwaukee

UWM is now collecting precise data on what is happening with parking across their campus and critically, with the eXactpark software capability, are gaining key insights and understanding as to how specific types of spaces, like permit, daily, hourly and specialty spots, are being used. This capability is crucial for universities that have a variety of parking zones across campus. The consistent, accurate data for each space across their various lots has enabled UWM to gain a better understanding of real usage. The university has leveraged these analytics to inform more strategic parking policies such as reallocating spaces or zones as needed. Since the parking needs of their student and employee population will evolve, UMV can continue to assess the usage per type of permit or stall on an ongoing basis and adjust as needed.

The university is also looking at sharing real-time parking availability with drivers and is investigating an integration with eleven-x's eXactnav™– a proprietary navigation app (available for iOS and Android). It provides drivers with real-time parking information and flexible navigation options to open spaces. eXactnav capabilities include:

- Offers 24/7 parking stall status and guidance, allowing drivers to quickly and easily know where available parking is to save time, reduce congestion and provide a better experience for staff, students and visitors.
    - If target parking spot or zone becomes occupied, eXactnav will automatically select a suitable alternative
- Selecting parking availability radius
- Parking spot type filter and fullness thresholds
- Integrates with payment applications to provide a seamless parking solution

UWM has undergone a parking and mobility transformation since launching a smart parking program in 2022. The university has been able to accomplish its goal to streamline their parking operations and provide their community with a positive parking experience while improving safety and mobility on its campus.

Ready to deliver a better parking experience on your campus? Let's connect!