Powerful Parking Performance Data & More

5 Myths About Smart Parking Sensors

Introduction

Fueled by innovation and advancements in technology, parking management has improved over the years. However, there are still many challenges associated with parking, made worse by inaccurate parking data and a complete lack of insight into actual usage due to ineffective collection methods.

Stall-based sensors provide a flexible, efficient option to address some of the most common parking challenges, and they enable a true smart parking solution by expanding the possible use cases to include wayfinding, intelligent enforcement, dashboard/analytics and more. The ability to collect real-time occupancy status of parking stalls reliably, continuously and with minimal maintenance is foundational to sustaining a parking system that consistently delivers on key performance indicators and meets the needs of community members.

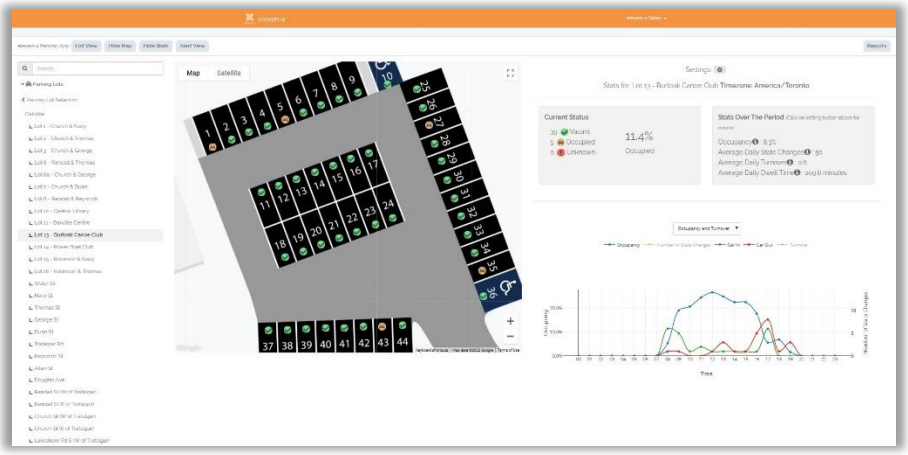
As with any new technology, the first sensors to hit the market were not perfect and the perception that they have a short lifespan and are not as accurate or reliable as other solutions remains to this day. However, sensors have come a long way since those early days and many of the initial beliefs surrounding their use are no longer true.

Myth #1: Sensors are expensive

For most cities, budget and resources are a major focus, so cost-efficiency is a requirement when looking into any smart parking technology or approach. The first sensors were very expensive. Over time, the advancement of technology has made it possible to develop a highly accurate, completely wireless device that is both accurate and reliable, at very affordable price-per-stall.

Beyond the parking stall, sensors act as a springboard to enable a complete smart parking solution, without having to pay for additional technologies, creating further cost-savings. eleven-x's patent-pending SPS-X smart parking sensor enables the eXactpark® Smart Parking Solution, giving users access accurate, real-time data to increase revenues, improve enforcement, enable wayfinding and guidance, develop dynamic pricing programs, and streamline operations. The SPS-X is a LoRaWAN®-based device with a high-power lithium battery that undergoes continuous monitoring and testing modeling to ensure

maximum battery life. Thanks to its exceptionally long battery life and near-zero maintenance, the total cost of ownership is extremely low.



eXactpark® Smart Parking Solution helps drivers find available parking spaces quickly and easily

Myth #2: Sensors are not reliable

As with any early and introductory technology, reliability is a key component to monitor and field-test. In the past, sensors were not the most reliable. For smart parking sensors, they must be able to work in any parking scenario and need to be able to continue working no matter what the environment is while maintaining accuracy and reliability. Through innovation and technology advancements, sensors are now designed for reliability.

With a heavy emphasis on reliability, sensors should be able to perform in even the harshest environmental conditions. Before purchasing any sensor, it is important to check what design and testing elements have been included. For example, sensors that are designed with multiple technologies such as magnetic sensing, radar, Bluetooth, and AI will maximize reliability. Sensors should also be designed with environmental factors in mind and ruggedized for any condition.

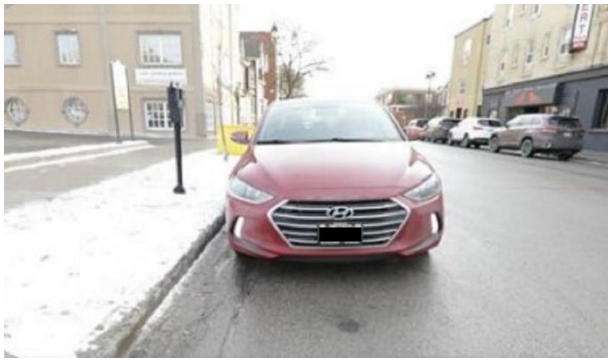
Expected lifespan is a key indicator of reliability and should be verified. For example, eleven-x verifies, through a rigorous ongoing certification process, that their SPS-X, whether installed in-ground or above, will function with no issues under any condition for more than five (likely up to ten) years. The battery-life of the SPS-X is continuously monitored, modeled, and reported, allowing for easy lifecycle planning that can be checked on in an app.

Myth #3: Sensors are financially risky

As previously mentioned, the first generation of sensors were quite expensive and as such, there was a significant financial risk involved with respect to early system failures. The general perception at the time was that other smart parking solutions like cameras and radar-based solutions were much more reliable and affordable.

Thanks to ongoing innovation and advancements in technology, the overall cost of sensors has been reduced significantly and coupled with high sensor reliability and accuracy, the financial risk has been effectively mitigated. The initial cost of deploying a sensor-based stall-occupancy system will vary depending on each situation but IoT-based sensors like the SPS-X are a cost-effective option because there is no need to replace or upgrade existing infrastructure or to run wires through conduit because no external power source is required. Once they are installed, there is almost no maintenance required.

Sensors that have an in-ground option can be used in any scenario, making sensors the best tech for per-space parking management when compared with other parking technologies. For example, camera-based solutions are expensive to install and will not work in every scenario, especially if there is interference with line of sight. License plate readers can be more affordable but there are privacy concerns surrounding them and apps, while more affordable, are not as reliable as they can be easily bypassed.



Unlike most other technologies, sensors can be installed on-street

Myth #4: Sensors are not consistently accurate

One of the biggest benefits to using stall-based parking sensors is that they can provide stall-level insights. As such, parking sensors need to be able to detect that a parking space is occupied with virtual certainty. They must also be able to do this accurately, in any environment, under severe temperature extremes or under snow and ice.

In the past, sensors used a single detection mechanism but now we can combine multiple technologies for pinpoint accuracy: With the SPS-X, eleven-x incorporated dual sensing technologies, magnetic and radar, which have both been determined to provide the highest accuracy. That, coupled with both edge and cloud-based artificial intelligence ensures that the SPS-X achieves a 99.5% accuracy rate. Ongoing testing and modelling ensure high accuracy and validation.

Myth #4: Sensors are difficult to install and manage

Most smart parking sensors have multiple installation capabilities depending on the parking scenario that they are being used for. In-ground sensor options are a game-changer for the industry as it is now possible to install sensors anywhere (including on streets where in the past it has been difficult to gather insight from) and there is no risk of damage from maintenance vehicles or vandalism.

As mentioned previously, wireless sensors like the SPS-X are not difficult to install as there is no need to replace any infrastructure. Since they are wireless, there is no need to run wires through conduit, which will also lead to significant cost savings.

eleven-x SPS-X is easily installed in the ground

Conclusion

Innovation has driven advancements in sensor technology, changing the potential of parking management and providing data beyond simply counting cars. Sensor technology is now helping to solve parking challenges by helping cities and organizations get full visibility into their parking assets, improving efficiency, safety, and the overall parking experience.

Sensors like eleven-x's patent-pending, award-winning SPS-X are changing the parking game, providing organizations with options never before available in terms of accuracy, integration capabilities, product life and ease-of-use. In addition to moving sensor technology forward, eleven-x's full smart parking solution improves the driver experience by helping them easily find available spaces, reducing congestion and greenhouse gas emissions. With these capabilities, sensors are well ahead of other technologies when it comes to enabling a frictionless parking experience and making them the best tech for per-space parking management.

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About eleven-x Inc.

eleven-x simplifies IoT and facilitates faster, evidence-driven decisions through wireless connectivity and real-time data collection for Intelligent Cities, Campuses, Buildings and Industry. We offer complete device to cloud LoRaWAN® solutions, comprised of accurate and reliable sensor networks delivering secure data to our customers through easy-to-use dashboards and industry standard APIs. Organizations rely on eleven-x's wireless connectivity expertise to deliver turnkey solutions that improve operations, simplify processes, and deliver value in today's connected world.