

## Intelligent Parking Empowers Smart Campus: eleven-x takes parking assets in a smart direction at UBC

### Intelligent Parking Solution



#### Customer Challenge

At the University of British Columbia (UBC), parking assets have significant influence on both the university's budget as well as visitor, staff and student experiences. To help optimize both, UBC's Parking and Access Services (PAS) team was in search of a solution that would help them understand how their current assets are being used, with the goal of streamlining and enhancing the on-campus parking experience. Their must-haves? The solution needed to fulfil their vision to interconnect infrastructure, processes and people, while collecting data that promotes safety, efficiency, sustainability and economic growth.

#### Solution

UBC selected eleven-x's **Intelligent Parking Solution** to help bring this vision to life. The solution - which includes sensors installed in parking stalls throughout the campus that wirelessly communicate real-time usage information - allows UBC to collect valuable short-term and long-term data. The solution also creates a data-rich parking profile, which promotes intelligent data-driven decisions about current and future parking assets - and helps the PAS team operate at peak efficiency.

#### Benefits

- **Real-Time Data:** Access to real-time data allows for agile decision-making to optimize areas where access to the university is needed most.
- **Parking Profiles:** Longer-term, trend-tracking profiles create a comprehensive usage understanding to empower evidence-based decisions-making.
- **Accurate Technology:** eleven-x's technology is accurate, secure and reliable, which lays a solid foundation for future initiatives.



THE UNIVERSITY  
OF BRITISH COLUMBIA

The University of British Columbia (UBC) is a sprawling multi-campus institution with 60,000 students and almost 15,000 staff and faculty. Housing 8,300 parking spaces, it is the largest university parking operation in Canada.

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— Brian Jones, Director, Parking and Access Services



## Challenge Details

For campuses and academic institutions of all types, parking assets and infrastructure have a significant impact on budgets. From management and maintenance costs to impact on revenues, parking is a major consideration in any situation. At UBC, which has more than 60,000 students and almost 15,000 staff and faculty, the PAS team runs the largest university parking operation in Canada, overseeing 8,300 parking stalls in multiple locations.

The challenge facing the PAS team is a daunting one - getting the most out of their current parking assets by exceeding targets for all types of standards and legal requirements, while delivering a positive experience to faculty, staff and visitors. "Our challenge really is one of access points," says Brian Jones, UBC's Director, Parking and Access Services. "We have spots, but everyone wants access to the most convenient spots."

Having answers to questions such as - Are we meeting accessibility parking stall requirements? Can we balance the use of spaces in high traffic areas for multiple-use designations? Are congested delivery/drop off areas being optimized? - will help them provide the best parking and accessibility programs while doing so cost effectively.

According to Jones, these questions are well on their way to being answered through the use of eleven-x's wireless technology. "As a university based on research and innovation, we constantly ask how we can use technology to improve people's lives across our campus," says Jones. "eleven-x is providing a great solution that is well positioned from a technology perspective to help us accomplish our goals."

## Solution Details

UBC partnered with eleven-x to deploy its **Intelligent Parking Solution**. This LoRaWAN™-based system provides data and insight on all parking stalls to support improved access and streamlined operations. The solution included installing parking sensors, wireless connectivity and data visualizations aimed at supporting evidence-based decision-making to ensure the institution's parking assets are used in the most efficient and useful manner.

eleven-x's **Intelligent Parking Solution** is a complete package that provides real-time parking stall occupancy tracking, as well as space usage data collected over time for analytical purposes. Analytics can be provided per stall, by parking level or by overall building. The data can then be used to create a comprehensive parking profile to support decisions on existing stalls, such as multi-purpose stalls that would have the ability through signage to be designated for different uses throughout the day, depending on need and use identified by the data results.

Ready for a smart parking solution? Let eleven-x mark the spot -  
and watch real-time parking data transform your assets.





"From sensors in the parkades that measure general parking and accessible stalls, to others that measure parkade air quality, ice formation on parkade roofs and garbage can fill depths, we are building a test-bed ecosystem around eleven-x products and the LoRaWAN™ network. Interconnected and scalable, this eco-system promotes safety, and the efficient use of scarce resources."

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## Results and Next Steps

After reviewing several different parking management technologies, a pilot using eleven-x's wireless solution was deployed that was designed to monitor parking stall use across the campus designated for accessible parking. This sample was selected to help the university understand the use of these high priority spaces while testing the reliability and accuracy of the eleven-x solution.

As part of an expanded phase, spaces in high-traffic areas were added. Data collection is still currently active in these spaces and the roll-out will expand to include more stalls in the coming year. Additionally, any new infrastructure, including new parkades being built on campus, will be fitted with parking sensors to maximize new asset use from inception.

What's next on the smart parking horizon for UBC? Jones and the PAS team will continue to investigate how eleven-x's IoT solution could facilitate a multi-purpose approach to parking spaces. Using digital signage, spaces located in high-traffic areas can be designated for specific uses at specific times depending on need. This flexible space solution may help address campus congestion issues and ensure efficient access for service vehicles, accessible parking and quick deliveries.

"Now that the program has been implemented and is starting to take root, it is exciting to begin investigating all the possible applications, and the potential we have to completely transform the future of parking at UBC," says Jones. "From sensors in the parkades that measure general parking and accessible stalls, to others that measure parkade air quality, ice formation on parkade roofs and garbage can fill depths, we are building a test-bed ecosystem around eleven-x products and the LoRaWAN network. Interconnected and scalable, this eco-system promotes safety, and efficient use of scarce resources."

The solution deployed at UBC can be applied to any type of parking asset, including indoor and outdoor parkades. A complete, cost-effective solution, eleven-x's **Intelligent Parking Solution** includes parking sensors, secure wireless connectivity, data analytics/visualization and collection, and requires near-zero maintenance.

### FOR MORE INFORMATION:

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### About eleven-x Inc.

eleven-x Inc. simplifies IoT and facilitates faster, evidence-driven decisions through wireless connectivity and real-time data collection for Smart 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.

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