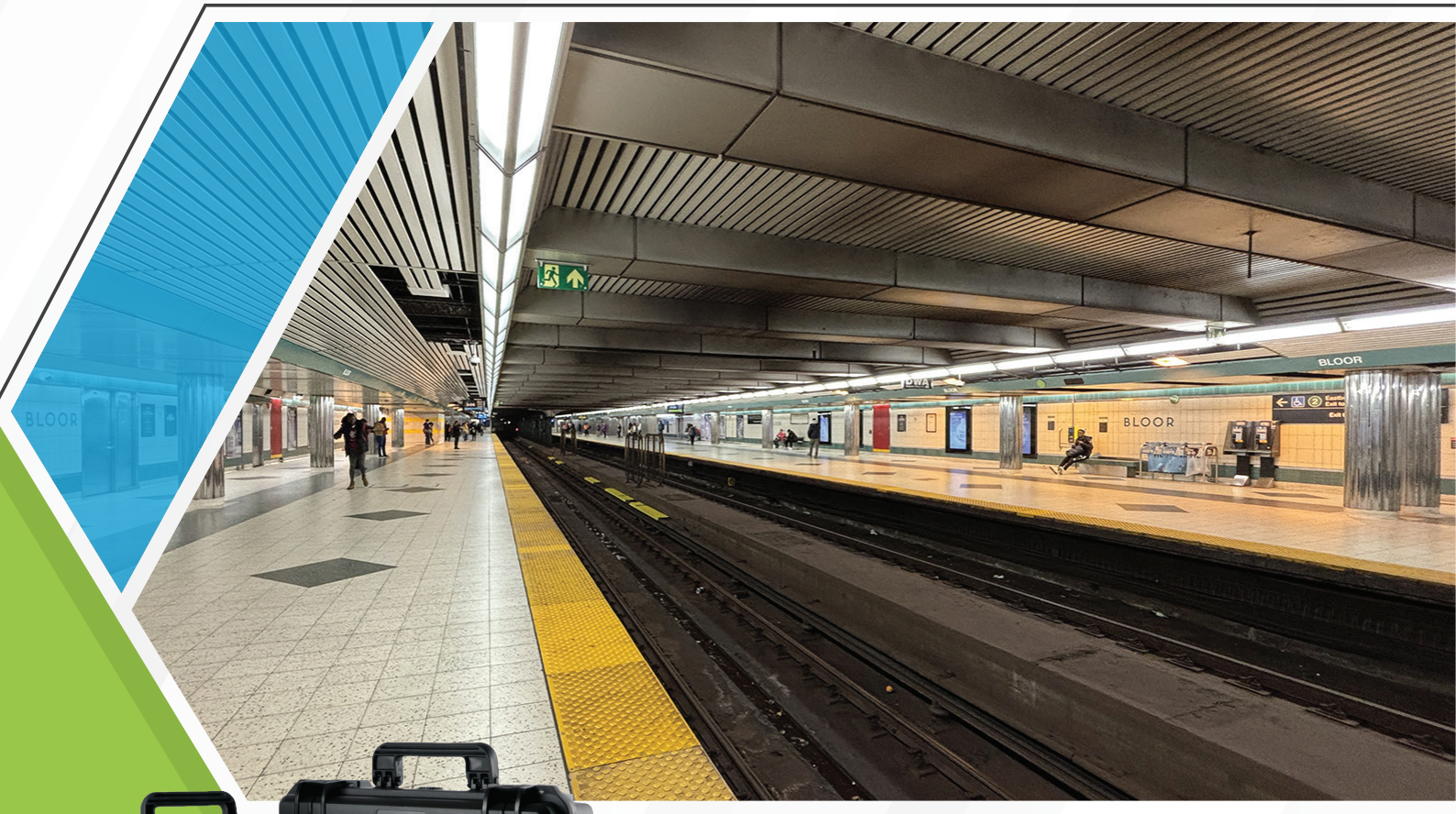
BLOOR-YONGE STATION
CAPACITY IMPROVEMENTS

Problem: Potential of excessive noise causing nuisance to residents and area users

Solution: Reliable 24/7 real-time noise monitoring on site



Hardware: EM2030 Sound Level Monitor
Software: Sonitus Cloud (cloud interface with API data transfer)
Manufacturer: Sonitus Systems
Distributor: Hoskin Scientific (Oakville)

"Our client performs as a General Contractor and they are demolishing some structures and buildings in downtown Toronto. The Consultant requires 24/7 real time noise monitoring at the worst case noise impact locations close to high rise residential buildings in order to protect the public interest while the site activities are ongoing. We have been using EM2030 for a couple weeks and we love its stability and function on the cloud."

Daniel Dong, EnVision Consultants Ltd. Environmental Consulting, Geotechnical

THE PROJECT

Bloor-Yonge Station Capacity Improvements

Situated at the pivotal intersection of Yonge and Bloor streets, Bloor-Yonge Station stands as the TTC's busiest station. Having opened its doors in 1954, it serves as a major interchange between Line 1 and Line 2. Notably, by 2019, the daily average weekday ridership on Line 1 alone surpassed 825,000, earning it a rank among North America's most frequented transit lines. With the population of the GTA on the rise and several transit expansions on the horizon, it became evident that the station necessitated both expansion and modernization to cater to the evolving needs.

The comprehensive retrofit and expansion project for the station has been designed to meet both current and future ridership demands. Key elements of this project include the expansion of both Line 1 northbound and southbound platforms, the introduction of a new platform to cater to eastbound passengers on Line 2, and the reconfiguration of the existing Line 2 platform to serve westbound passengers. In addition, infrastructural enhancements are on the cards, with plans for a new barrier-free entrance, an additional exit leading to Bloor Street, and other amenities such as new escalators, elevators, and station finishes. Further augmenting the station's facilities will be a new electrical substation, fan plants for improved ventilation, and essential utility upgrades. An exciting phase post-completion will see the activation of platform edge doors on Line 1, thanks to the pre-existing ATC signal system. Simultaneously, groundwork for future platform edge doors on Line 2 will be laid, contingent upon the installation of the full ATC signal system.

Safety and accessibility are at the heart of this project. Every design nuance has been tailored to adhere to the standards set by the Accessibility for Ontarians with Disabilities Act, 2005 (AODA) and the Ontario Building Code. By integrating features like barrier-free entrances and additional elevators, the project aims to foster an inclusive transit experience for all.

As for the construction timeline, advanced construction activities began in May 2023. This phase entailed the removal of specific buildings, paving the way for a new and accessible subway entrance. Alongside, the former carwash at 830 Church Street was taken down to establish a new fan building, essential for enhanced air circulation within the station. Advanced utility relocation activities on Bloor Street East have been marked for Q3 2023, leading up to the commencement of major construction activities in 2024.

The Bloor-Yonge Station Capacity Improvements project symbolizes TTC's unwavering dedication to delivering a seamless, safe, and accessible transit experience in the face of growing ridership challenges.

THE PROBLEM

The project is centrally located in a high-traffic area. The project team identified a need for 24/7, real-time noise monitoring at the worst case noise impact locations close to high rise residential buildings, in order to protect the public interest while demolition and construction activities are ongoing on site.

THE SOLUTION

EM2030: A Cutting-Edge Solution for Noise Monitoring on Public/ Transport Construction Projects

In today's increasingly urbanized environments, effectively monitoring and managing noise levels in key public and transport construction projects is critical. The EM2030 is a state-of-the-art technological solution tailored for situations demanding reliable noise measurements with utmost ease. What makes the EM2030 stand out is its simplicity; power it up and it seamlessly begins monitoring, with all data automatically uploaded to an intuitive online reporting system.

Some of its key attributes include:

- Precision in line with IEC 61672 Class 1 standards, capturing a comprehensive range of measurements like LEQ, L05, L10, L50, L90, L95, and LMAX.
- A broad frequency range of 20Hz to 20kHz and a vast memory capacity supporting long-term data storage.
- User-friendly Wi-Fi interface and an automatic upload feature to a secure cloud-hosted analysis system.
- A rugged design suitable for challenging environments, complete with a weatherproof microphone that even offers a heater option for colder climates.

Designed with durability and functionality in mind, the EM2030 kit comprises a rugged measurement unit, a weatherproof outdoor microphone, a microphone mounting stand equipped with a cable, and a mains power supply – though battery options are available for greater flexibility. This system can be set up and configured over a Wi-Fi link using everyday devices like laptops, tablets, or smartphones, making it especially advantageous in scenarios where accessibility or safety might pose challenges, such as construction sites or roadside installations.

But the EM2030 is more than just hardware. It's backed by a robust online analysis and reporting system, allowing users to access their sound level readings from virtually anywhere. Packed with features developed in collaboration with users to meet their specific needs, this equipment offers automated operation to minimize site visits, live email and SMS alerts for project stakeholders, advanced measurements including 1/3 octave analysis, and the capability to capture audio samples for easy noise source identification. Additionally, remote performance alerts notify users if the equipment goes offline, ensuring uninterrupted monitoring.

The EM2030 ensures that once on site, users can quickly set up the system. Its design is so intuitive that additional custom requests can be easily accommodated by the manufacturer. Additionally, it comes with an assortment of parts and accessories, like a microphone holder with weather protection, optional microphone heaters, variable cable lengths, and diverse power options ranging from mains power to solar power kits.

The EM2030 epitomizes the ideal fusion of technology and utility, providing an unrivaled solution for noise monitoring in pivotal public and transport construction projects. This tool not only ensures regulatory compliance but also exemplifies a commitment to maintaining a harmonious balance between development and environmental considerations.

Sonitus Systems offers both the hardware and software for a range of environmental parameters on a continual basis, with real-time information available through our Sonitus Cloud dashboard. For more details on our indoor and outdoor noise and air quality monitoring products and services, please contact the team at **https://www.sonitussystems.com/contact-us**