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October 26, 2020

MTA Pilots Smartphone App to Help Blind and Low-Vision Bus Riders

NaviLens App – Transit Tech Lab 2020 Finalist - Navigates Users to Bus Stops and Tracks Bus Arrivals

Pilot Taking Place at Bus Stops Along 23rd Street in Manhattan

See Photos from the Announcement

See Video of the Announcement and Live Demonstration

The Metropolitan Transportation Authority (MTA) and the Transit Innovation Partnership have launched a pilot program that allows blind and low-vision bus riders to use their smartphones to find bus stops and learn of arrival times. With assistance from the New York City Department of Transportation (NYCDOT), signs along the M23 SBS bus route display decals that allow for use of a new app.

The NaviLens app, which can be downloaded on [Android](#) or [iOS](#) devices, uses a cutting-edge algorithm to translate visual signage into audio and allows customers to determine the accurate location and distance to the nearest bus stop, find out when the next bus will arrive, know how crowded the bus is (if the necessary sensor technology is onboard), and be directed onto the bus when it pulls up to the stop.

Colorful, next generation QR-style unique seven-inch-tall codes are installed on bus stop poles that the app can detect from up to 40 feet away and at an angle of up to 160 degrees. The code does not have to be in focus for app detection and will direct the user by providing audio directional cues including distance and angle from code such as "25 feet away, straight," "right," etc., solving the "last-few-yards wayfinding problem" for the blind in which GPS technology does not guide to a destination's exact location.

The M23 SBS bus route is a popular route, carrying almost 14,500 weekday riders pre-pandemic. It is the eighth busiest bus route in Manhattan with stops near the Selis Manor Residence for the Blind, VISIONS Services for the Blind and Visually Impaired, and Andrew Heiskell Braille and Talking Book Library.

"Accessibility is a key priority for the bus system and MTA family. And this app pilot is another way to help bus riders who rely on audio cues and signals to guide them," said **Craig Cipriano, President of MTA Bus and SVP of the NYCT Dept of Buses**. "I want to thank our partners at Transit Tech Lab, NaviLens and DOT for realizing that accessibility for bus riders begins at the bus stop."

NaviLens was one of nine start-up companies selected as part of the 2020 Transit Tech Lab, which called for private sector innovations to improve public transit accessibility. The Lab is a program of the Transit Innovation Partnership, a public-private initiative created by the MTA and Partnership for New York City in response to Governor Andrew M. Cuomo's call for private sector innovation to improve and modernize public transit.

"Bringing new thinking and cool technology to solve stubborn challenges related to accessibility is a very rewarding part of my job," said **Mark Dowd, MTA Chief Innovation Officer**. "NaviLens is one example of the many technological advances being made for the accessibility community."

"Accessible technology improves the transit experience for all riders," said **Victor Calise, MTA Board Member and Commissioner of the New York City Mayor's Office for People with Disabilities**. "The MTA's Accessible Station Lab pilot at Jay Street–MetroTech was a great step forward, and I am pleased that NaviLens is now being tested on the M23-SBS bus line. I hope that initiatives like this will be expanded throughout the entire transit system, so that all riders with and without disabilities can benefit from the innovative use of new technologies."

"The NaviLens pilot has the potential to make public transit more accessible and responsive to the needs of all customers," said **Rachel Haot, Executive Director of the Transit Innovation Partnership**. "We are thrilled to work with NaviLens and our partners at the MTA and New York City Department of Transportation to create a more connected, inclusive transit network."

"We are so excited to be involved in this pilot of the NaviLens app on NYC DOT bus stop signs, to give blind and low-vision riders access to the Real Time Passenger Information that so many riders have benefited from around the five boroughs," said **NYC DOT Commissioner Polly Trottenberg**. "We thank our partners at the MTA, NaviLens and the Transit Tech Lab, along with the Mayor's Office for People with Disabilities, for promoting innovative technologies to keep more New Yorkers moving as the city continues to emerge from the COVID crisis."

"We are delighted to be participating in a second pilot with the MTA, this time on buses," said **NaviLens Founder and CEO Javier Pita**. "We have already had so much success at Jay St-MetroTech Subway Station and are thrilled about the opportunity to bring our innovative solution to New York City buses."

NaviLens, based in Spain, is an award-winning innovative technology company working to solve the "last-few-yards wayfinding problem": despite GPS navigation becoming a major wayfinding tool for people who are blind or low vision, GPS inaccuracy and inadequate map data brings users within the vicinity of their destination, but not to the exact location. NaviLens codes help solve that problem. Detectable from 40 to up to 150 feet away depending on the size of the code, NaviLens provides the remaining important information: the exact location of a destination and the pertinent visual signage. NaviLens has been implemented in Spain's Barcelona, Madrid, and Murcia transit systems, as well as museums, schools, and offices in Europe and the United States.

NaviLens was introduced to NYCT in October 2019 as one of the technology features tested at the NYCT Accessible Station Lab at Jay St-MetroTech Station in downtown Brooklyn. The MTA living lab tested dozens of new features – new smartphone apps for wayfinding, floor treatments, braille and tactile maps, digital signage and in-station navigation – that make subway stations more accessible for riders of all abilities. "NaviLens is an excellent way for me to access visual information about my environment when traveling in a nonvisual way," said **NYCT Advisory Committee on Transit Accessibility Member Gian Pedulla**. "Not only will

the app read me a sign, it will give me the approximate distance and direction as well. This will help make the buses and their access points a safer, more efficient, and productive means of transportation for blind users." "Lighthouse Guild applauds the MTA for taking steps to engage and support people with vision impairment and other disabilities to navigate the transit system independently," said **Calvin W. Roberts, MD, President and CEO of Lighthouse Guild**. "We have successfully implemented the NaviLens technology in our building, and it is invaluable in helping to ensure that people with vision loss can access their surroundings. We congratulate the MTA and NaviLens on their important collaboration."

"As a technology instructor for VISIONS, I always get asked by my students, many of whom are seniors, what new technology is out there. I'm excited to talk to them about the new NaviLens App and teach them how it can help them gain the independence to take public transportation by themselves," said **Michael Ziminski, CATIS, Senior Technology at Visions/Services for the Blind and Visually Impaired**. "It is apps like these that I love having in my Accessibility App Arsenal. At VISIONS, 'our vision is for everyone to see what is possible.' With NaviLens, people who are blind and visually impaired can see what is possible."

Over the course of the yearlong Transit Tech Lab pilot, dedicated focus groups will test NaviLens periodically with New York City Transit's Systemwide Accessibility team and the Transit Innovation Partnership. This feedback will be leveraged into updates and changes to the app functionality as well as code implementation along the M23 bus route, with the help of NYCDOT.

As the NaviLens bus pilot demonstrates, accelerating accessibility is a top priority for NYC Transit. The MTA remains committed to increasing its number of fully ADA-compliant subway stations and providing more audio and visual announcements, braille signage and tactile warnings, despite significant financial uncertainty brought on by the COVID-19 pandemic.

Without emergency federal funding, projects in the 2020-24 MTA Capital Plan could take longer to be achieved. The MTA has also made it a priority to improve communication with customers on the real-time status of elevators and escalators, improve audio and visual access to information throughout the system, and explore new approaches to priority and courtesy seating on buses.

To learn more about accessibility at the MTA, visit <https://new.mta.info/accessibility>.

To learn more about the Transit Innovation Partnership, visit <https://transitinnovation.org/>.

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