

BOOSTING EFFICIENCY WITH REAL-TIME PASSENGER INFORMATION

AUTOMATED PASSENGER INFORMATION IMPROVES WMATA'S SERVICE



Real-time passenger information has become an increasingly important requirement for mass transit customers. Gone are the days when riders would patiently wait at a stop for the next bus; today's transit passengers want to know when their bus will actually arrive, not when their bus is supposed to arrive based on a paper schedule that doesn't account for weather or traffic conditions.

As one of the largest transit systems in the United States, the Washington Metropolitan Area Transit Authority (WMATA) intimately understands this. Providing efficient, on-time services while safely moving approximately 120 million bus riders annually throughout multiple transit jurisdictions in the District of Columbia, Maryland, and Virginia can be a daunting challenge.

WMATA's ridership has grown to expect continued system enhancements such as easy access to arrival and departure information, the route their bus will travel – including stops; and intermodal and interconnective routes to neighboring transit agencies.

Passengers also want to know when service delays or changes occur that may impact their trip. Delays and changes caused by accidents, weather, mechanical issues, traffic congestion (sometimes due to road closures surrounding special events and high security meetings held in the nation's capital), or other unplanned events leave passengers frustrated if they are not kept informed.

To enhance system efficiencies and keep its passengers informed, WMATA searched for a solution to provide reliable information that could be upgraded and scaled for expansion throughout the vast WMATA service area.

WMATA can create and utilize messages from a saved library, or easily build ad hoc messages with the message editor. These can be uploaded easily, and automatically displayed at specific times or locations.



Luminator’s displays are ADA compliant, providing information in both written and audible formats. Support for multiple languages delivers targeted communications for both District area residents and visitors.

The system needed to be able to seamlessly integrate and consolidate Automatic Vehicle Location (AVL) bus tracking information from six different transit jurisdictions into a unified solution.

“Our goal was to enhance customer satisfaction by replacing our static outdated information with real-time status updates,” said Yonathan Guder, WMATA project manager. “Being able to quickly push out ad hoc messages to customers, such as weather impacts, is important to us and to our customers.”

Due to its long-standing experience in the mass transit industry, and unique design capabilities, Luminator Technology Group (Luminator) was the selected solution provider. Installation of the bus shelter signs began in 2014. As the prime contractor on a multi-year contract, Luminator delivered a turnkey solution that included hardware, software, installation, training, hosted services and on-going support. The project management team was an integral part of the success of this project, particularly given the wide-spread effort to complete installations.

Today, along WMATA’s network of bus stations, shelters and stops, arrival and departure data is pushed out to hundreds of signs using the standard format of multi-jurisdiction GTFS Realtime. GTFS Realtime is an

open data format specification that allows public transportation agencies to provide real-time transportation schedules and geographic information about their fleet to application developers. If real-time information is not available, standard schedule information is displayed until the information feed becomes available again.

Catering to the needs of a diverse and global-minded city, the passenger information displays are ADA compliant, providing information in both written and audible formats. Additionally, support for multiple languages delivers targeted communications for both D.C. residents and tourists.

Luminator’s content management system software enables WMATA to create and utilize messages from a saved library or easily build ad hoc messages using the message editor. The content can be uploaded easily and automatically displayed at a specific time or location and includes public safety and service announcements, local news updates and even advertising. Messages are targeted to specific locations and routes, or populated throughout the WMATA network.

Reliability of sign communication within the network is key to maintain timely updates and ensure uptime. The IP-based design enables WMATA to reliably communicate

with each sign in the network. This includes transmitting information to the signs as well as receiving diagnostics information.

By providing health and diagnostic data, maintenance personnel can be dispatched to specific signs with information about failures before they arrive, further enhancing efficiency for the maintenance team.

While the benefits of providing real-time information to passengers are bound to increase satisfaction and ridership, there is also a tangible cost savings to WMATA through the efficiency of automation: there is no further need for the laborious task of manually changing paper signs.

An additional efficiency for WMATA is the utilization of Luminator's cloud hosting. This transfers IT responsibility and infrastructure resources, maintenance and support to Luminator's datacenter, providing guaranteed support and uptime, and state of the art security. Luminator's cloud hosting ensures the system can be quickly scaled for future growth.

Transit agencies' service areas can grow faster than surrounding infrastructure. The signs installed at WMATA's

bus stations are all in locations with a readily-available power source. Should WMATA require additional signs in more remote locations, solar powered signs that are fully compatible with existing infrastructure are also available. These signs are available in e-Paper format; with displays that utilize reflective technology they require energy only for a brief time during information updates. The last displayed information remains visible without additional power until the next update is made. A text-to-speech voice announcement function can also be added to these signs, ensuring the system meets ADA requirements.

Whether passenger information is displayed in the heart of a dynamic city, or an outlying suburban or rural route, Luminator provides a complete turnkey solution with the capability to grow as needs evolve. By helping transit operations gain efficiencies while improving the rider experience, these solutions keep passengers informed throughout their journey, from the moment they arrive at a bus stop to the time they arrive safely at their destination.

For more information about this project and other transit solutions please contact Luminator at: 972.424.6511.

INTELLIGENCE, SAFETY AND EFFICIENCY IN TRANSIT

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

WASHINGTON, D.C.

Rank of Busiest Bus
Network in the US

6th

Rank of Busiest Rail
Transit System in the US

3rd

Rail Stations (in DC, MD, VA)

91

Bus Lines

164

Total Passengers FY2019

220 MILLION



Data obtained from WMATA FY2020 Budget:

<https://www.wmatabonds.com/wmata-bonds-dc/documents/download-report-direct/i2812?mediaId=348568>

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