



Market Insight Report Reprint

MBTA enables digitization of transportation operations with Orion Labs

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We look at how the Massachusetts Bay Transportation Authority is using the Orion Collaboration Platform for Transportation – including Orion’s Dispatch Console, team communication and location management services, automation tools, and message recording and archiving – to connect frontline workers and support the digitization of transportation operations.

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Introduction

The Massachusetts Bay Transportation Authority (MBTA) operates The RIDE, a door-to-door paratransit service for senior and disabled citizens within the Greater Boston metropolitan area. In 2020 it sought to upgrade the two-way radio technology used by drivers and dispatchers with a new, intelligent technology to support centralized management and decision-making and provide real-time organizational visibility of its transportation network. In this report, we look at how its deployment of the Orion Collaboration Platform for Transportation helped the MBTA address the real-time-communications requirements of its staff, including frontline workers, managers and supervisors, and support staff.

Snapshot

Company name	Massachusetts Bay Transportation Authority
Industry	Transportation
Head office	Boston
Number of employees	6,300
Key supplier	Orion Labs

THE TAKE

By eliminating manual radio checks, the MBTA estimates savings of up to 10 minutes per driver at the start of each shift. This adds up to nearly 45 hours per year saved for each weekday driver and 17 hours saved for weekend drivers – accumulating an estimated total cost savings of \$700,000 per annum. These results exemplify how its deployment of the Orion Collaboration Platform for Transportation is enabling the digitization of frontline operations – including the standardization and digitization of forms, checklists and procedures – and the opportunities for the MBTA to tackle productivity and safety improvements, reduce costs, and address compliance requirements. More broadly, they highlight the key role that real-time communication and collaboration play, supporting digital transformation and the modernization of public transportation.

Early adopter snapshot

Created in 1964, the MBTA is Greater Boston's public transportation service. The agency provides services via its rapid transit system, commuter rail service, bus service, ferry routes and a paratransit service called The RIDE, which provides door-to-door transportation for passengers with temporary or permanent disabilities. Prior to COVID-19, The RIDE managed 7,500 trips a day at peak in its 22-hour operating day, seven days a week. It serves 58 cities and towns around the Greater Boston area, with drivers and dispatchers managing and navigating dynamic, on-demand routes throughout Eastern Massachusetts, including rural and urban areas.

Key challenges

The RIDE's frontline workers, including drivers and dispatchers, previously relied on traditional two-way radio technology for real-time communication. The use of this technology presented several limitations, including cost- and scalability-related issues, as well as lack of coverage in some areas. Since two-way radios only support a limited range, the service could be unreliable for drivers operating in remote areas, limiting effective real-time collaboration and access to support staff such as mechanics, customer service and safety personnel.

Additionally, two-way radios lack the capabilities to support the digitization of manual processes for The RIDE's fleet communications and operations. For instance, its communications system required staff to conduct a manual check to ensure radios were online and wait for an individual response from dispatchers, often resulting in delayed start times.

Deployment summary

Given the limitations previously outlined, the MBTA decided to upgrade its legacy radios to the Orion Collaboration Platform for Transportation. The platform provides voice services and collaboration with AI-enabled push-to-talk (PTT) 2.0 functionalities delivered over LTE, private LTE, Wi-Fi, satellite and mesh to a mobile application and desktop browser. Additionally, it provides bots and workflows to improve productivity and safety via voice-enabled commands and integrations to business systems and third-party platforms.

The MBTA's Command Center has equipped dispatchers with Orion's web-based Dispatch Console and 750 vehicles with a Samsung Tab A tablet featuring a digital speaker/microphone for sending and receiving messages, a commercial-grade tablet case and docking station, and the Orion mobile app.

Key functionalities enabled include:

- **Voice-first incident response communications.** Drivers use PTT on the tablet app to reach dispatch personnel, who use the web-based Dispatch Console. During an incident or emergency, dispatchers can create an ad hoc 1-1 or dedicated group call with support staff – such as supervisors, customer service representatives, emergency responders or maintenance personnel – for immediate undivided attention.
- **Process automation.** Manual procedures, such as radio checks required for safety and compliance, were automated using a Status Check Bot, which automatically responds when drivers speak the words “radio check” to confirm they are online – without needing a manual response from dispatch.
- **Operational control.** The management console provides advanced location services, providing managers, customer service representatives and dispatchers with a driver's location in real time to confirm they are on their assigned routes. Message archiving enables supervisors and dispatchers to download message logs and play back or view sent messages.

Outcome

Its deployment of the Orion Collaboration Platform for Transportation allows the MBTA to enable the digital transformation of transportation operations of The RIDE, leading to several benefits. These include improving incident response, with features such as ad hoc groups that can be created to manage dynamic situations quickly and effectively. Dispatchers are able to assess the situation in real-time and rapidly communicate with drivers to provide immediate assistance; they can also expand the conversation to include other staff members – such as customer service, maintenance, safety, operations and on-demand drivers – a task previously improbable with radios.

Furthermore, the platform supports safety and compliance requirements for the MBTA. All messages are stored and recorded for review or future compliance needs, allowing operations management to review, analyze and evaluate incident information to improve driver and passenger safety and prevent future incidents.

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