boingo
wireless

5G & Wi-Fi Playbook for Mass Transit

How leading transportation authorities are using cutting-edge wireless networks to transform transit.



Introducing the 5G & Wi-Fi Playbook from Boingo Wireless

Wireless technology has the power to revolutionize operations, safety and the rider experience. But where do you start?
Start here. As technology transforms transit, fast and reliable connectivity has never been more important.

Connect with a 5G expert



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5G & Wi-Fi are shaping the future of mass transit

Transportation authorities are modernizing to keep up with rider demands. Today's riders expect seamless, efficient and connected travel experiences with real-time information, convenient booking, digital tickets and wireless connectivity – regardless of where they are on their journey.

Connectivity is the backbone of transit system operations. Communication and data exchange between vehicles, stations, control centers and rider devices is essential for optimizing route planning, monitoring vehicle performance, managing schedules and responding swiftly to operational challenges such as delays or disruptions.

All of this, coupled with the rapid pace of innovation, relies on next generation wireless networks to drive public transportation into the future.



5G & WI-FI ARE TRANSFORMING MASS TRANSIT

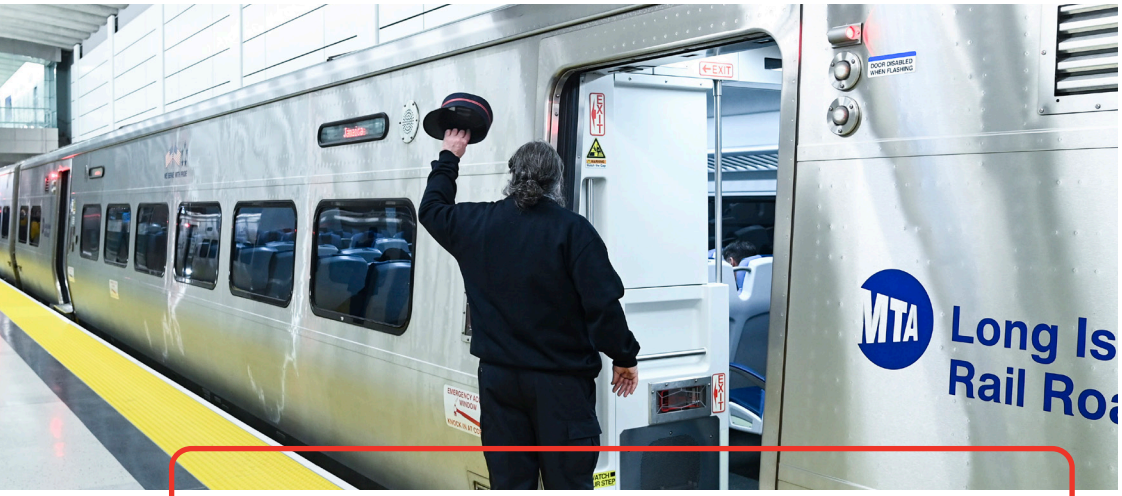
- Enhanced rider experience
- Improved operational efficiencies
- Security and safety
- Predictive maintenance
- Smart infrastructure
- Autonomous vehicles

> **The integration of 5G/LTE technologies into the transportation ecosystem marks a paradigm shift in how our world moves. It's no longer just about reaching from point A to point B; it's about how efficiently, safely and intelligently we can achieve that transit.**
>
> 5G and Smart Transportation Report by TeckNexus

GRAND CENTRAL MADISON

Connecting a major U.S. infrastructure project

New York's Grand Central Madison is the result of the MTA's largest-ever capital project, East Side Access, costing an estimated $11.1 billion and introducing new commuting opportunities on the Long Island Rail Road (LIRR). The massive project includes 40 miles of new tracks, new tunnels under the East River and a 700,000 square foot train station 18 stories below the iconic Grand Central Terminal. One of the largest transportation projects in the United States in recent years, Grand Central Madison increases train capacity to and from Manhattan by 50% and reduces daily commuting times by up to 40 minutes, serving an estimated 160,000 daily LIRR riders.



> LIRR customers coming into and out of Grand Central Madison will now enjoy full wireless connectivity and an enhanced customer experience. These updates will keep Grand Central Madison LIRR customers connected to friends, family or co-workers and to MTA news and alerts via the MYmta or TrainTime apps.
>
> MTA Long Island Rail Road

CHALLENGE

The MTA required robust cellular connectivity and Wi-Fi for passengers, operations and security – 18 stories underground – to power use cases such as cashless fare collection, wireless ticketing on trains, on-board diagnostic equipment for maintenance alerts, security cameras, real-time train arrival/departure status and more.

SOLUTION

Boingo custom designed, deployed and manages a converged, neutral host network that enables 5G, LTE and Wi-Fi 6 with all three Tier One carriers live—AT&T, Verizon and T-Mobile. The project comprises over 100 miles of cable, hundreds of access points (APs) and 3 million+ square feet of networking.

OUTCOME

Grand Central Madison showcases a reimagined public transit experience with best-in-class 5G and Wi-Fi. Navigating the complex build required innovative engineering, strategic planning and a deep understanding of the unique telecom challenges posed by high-traffic locations. Boingo exceled at these complex obstacles and set a new standard for connecting large transportation hubs.

GO DEEPER

Watch the video.

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JAMAICA STATION

Enhancing the rider experience in New York

The hustle and bustle at Jamaica Station in Queens, New York never stops. With weekday ridership exceeding 200,000 riders—making it the fourth-busiest rail station in North America—mobile devices are always in use.

CHALLENGE

Modernizing historical transit hubs built in the 1800s is no easy feat. The Long Island Rail Road (LIRR) needed to bring next generation communication infrastructure to busy Jamaica Station. The goal was to make both free Wi-Fi access and strong cellular connectivity from all Tier One carriers seamlessly available to riders.

SOLUTION

To ensure a reliable connected public transportation experience, Boingo was tapped to design, install and manage a converged Wi-Fi and cellular network—and deploy it in an active station without interrupting train service.

OUTCOME

Boingo's unique expertise in connecting large transit environments ensured 5G and Wi-Fi networks were launched seamlessly without impacting day-to-day train service in an active station. Robust cellular connectivity is available for AT&T, T-Mobile and Verizon subscribers and riders can enjoy free Wi-Fi. Riders can also access their mobile tickets and the LIRR TrainTime app for up-to-the-minute information on train schedules and platform changes, as well as get connected to streaming apps and work on the go.

Did you know?

18 MILES

Length of tunneling Boingo's networks cover

$

Boingo's neutral host infrastructure and capital investments help generate long-term revenue for the MTA.



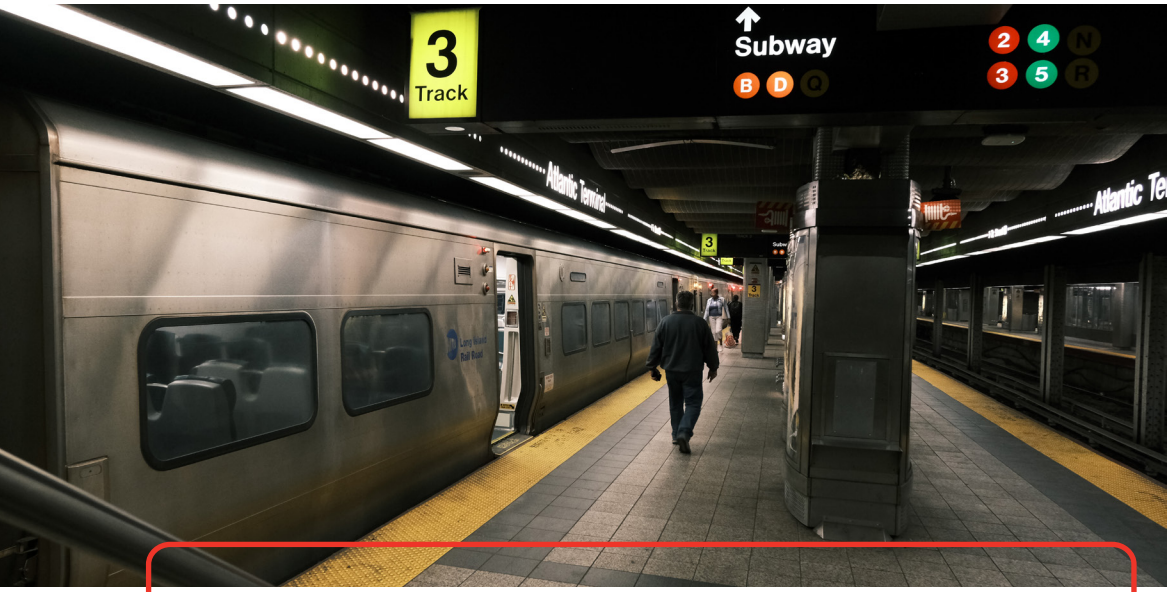
> By adding Wi-Fi and improving cellular coverage at Jamaica Station, we are providing a better customer experience, and critically, making the new TrainTime app even more accessible for mobile ticketing.
>
> MTA Long Island Rail Road

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ATLANTIC TERMINAL

Seamless travel to and from Brooklyn

Atlantic Terminal is the Long Island Rail Road's (LIRR) third largest terminal, following Penn Station and the new Grand Central Madison. It serves as a vital connection point for commuters and travelers throughout the region.



> The installation of high functioning Wi-Fi at one of our busiest terminals is yet another example of the LIRR continuously seeking to improve service for our customers. As customers continue to return to the system, they'll be greeted with modernized infrastructure and tools, including our world-class app and enhanced connectivity. We'll continue to innovate and expand our Wi-Fi capabilities, eliminating remaining dead spots throughout the system and across carriers.
>
> MTA Long Island Rail Road

CHALLENGE

As part of their commitment to expand and upgrade cellular service, the LIRR sought to add 5G and LTE coverage to bring critical connectivity to Atlantic Terminal and between LIRR stations. It was imperative for the MTA and LIRR to launch all Tier One cellular providers to ensure strong cellular connectivity for all riders.

SOLUTION

Boingo custom designed, deployed and manages a converged, neutral host network that enables 5G and LTE and is complemented by existing free public Wi-Fi. The wireless networks deliver service throughout Atlantic Terminal and cover more than 18 miles of tunnels, designed to make travel and commuting easier, faster and more convenient.

OUTCOME

Cell connectivity is now available for AT&T, T-Mobile and Verizon subscribers at a highly-trafficked LIRR terminal and throughout LIRR tunnels. These new state-of-the-art wireless networks streamline transit operations, enhance safety and reliably connect riders and staff.

WORLD TRADE CENTER OCULUS

Connecting a New York landmark

The World Trade Center Oculus is a cultural landmark in the heart of downtown Manhattan. At over 800,000 square feet, the Oculus serves as a transportation hub, retail destination, architectural marvel and a symbol of resilience. The Oculus connects 12 subway lines and the World Trade Center PATH station, serving over one million people every week.

CHALLENGE

The Port Authority of New York and New Jersey (PANYNJ) required ubiquitous connectivity for visitors to the Oculus. The venue had a difficult wireless environment with complex building geometry and high capacity demands to serve a significant volume of foot and train traffic. Additionally, this was a high-profile new build with a star architect, constant media interest and strict security protocols.

SOLUTION

Boingo custom designed, deployed and manages a comprehensive network solution including a neutral host distributed antenna system (DAS) and fast, secure Wi-Fi and Passpoint across open spaces, corridors, retail and train areas. Stealth access point (AP) placement and custom-designed APs minimize architectural impact while ensuring coverage.

OUTCOME

Since its doors opened in 2016, Boingo has delivered superior cellular service for all major carriers and fast, secure Wi-Fi that allows commuters, tourists and retail shoppers to fully enjoy the space with a seamless connected experience. Boingo worked within strict design constraints, leveraged future forward technologies and stayed on schedule to achieve PANYNJ's project vision and goals.

GO DEEPER

Watch the video.



> It's imperative that the Hub offer the most innovative technology and services to visitors, and the new wireless networks are key to offering an exceptional customer experience.
>
> Port Authority of New York and New Jersey

PATCO

Neutral host DAS connects PATCO underground stations

The Port Authority Transit Corporation (PATCO) runs 24/7 between the heart of Philadelphia and Camden County in New Jersey, serving as a crucial regional connection between the NJ Transit and the Southeastern Pennsylvania Transportation Authority (SEPTA).

CHALLENGE

PATCO's underground stations experienced cellular dead zones, resulting in a significant disruption to commuters' public transit experience. Supporting more than 5.5 million regional riders a year, PATCO's underground stations required more robust cellular coverage to ensure seamless connectivity to support phone calls, text messages, checking emails, streaming and more.

SOLUTION

PATCO turned to Boingo to deploy a state-of-the-art, neutral host DAS throughout six underground stations. High-speed 5G cellular connectivity from T-Mobile complements existing Verizon coverage.

OUTCOME

Boingo's DAS solution provides a more streamlined, convenient and enjoyable commute, ensuring riders can text, call, stream, email and use the full functionality of their mobile devices with ease.

Did you know?

Neutral host cellular networks can accommodate multiple carriers to provide wireless coverage for their respective customers.

62%

of commuters said they spend more time checking email than they did two years ago, making it the most popular smartphone activity.

Modern regional transit lines:

Offer fast connectivity
Reduce air pollution
Ease traffic congestion
Drive economic growth



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SALESFORCE TRANSIT CENTER

Robust communication for emergency responders

The Salesforce Transit Center in downtown San Francisco is a sprawling mixed-use transportation hub and cultural center. Spanning over a million square feet, it connects transportation services including AC Transit, Muni, Greyhound and Amtrak and features retail, dining, and a five-acre rooftop park for concerts and events.



> Salesforce Transit Center represents San Francisco at our best. It reflects our commitment to innovation, transportation, environmental sustainability, and community development.
>
> **London Breed,** Mayor of San Francisco

CHALLENGE

The Transbay Joint Powers Authority engaged Boingo Wireless during the build phase of the all-new $2 billion Salesforce Transit Center. The authority's goal was to deliver premium wireless coverage to meet the connectivity demands of the nation's most innovative city. The venue required strong mobile connectivity to support commuter needs like mobile ticketing, retail purchases and streaming services as well as dependable cellular service for public safety and first responders.

SOLUTION

Boingo designed, deployed and manages a neutral host distributed antenna system (DAS) network network covering 1.5 million square feet to seamlessly fit Salesforce Transit Center's unique environment. Tier One carriers deliver cellular coverage using Boingo's DAS. A public safety network was also installed to deliver dedicated coverage for first responders.

OUTCOME

The Salesforce Transit Center's state-of-the-art neutral host DAS delivers improved wireless coverage for riders, visitors and staff – regardless of their carrier – while helping enhance safety in San Francisco's vibrant downtown. The venue also has 24/7 network monitoring with on-demand data and analytics.

GO DEEPER

Watch the video.

LAS VEGAS MONORAIL

Vegas bets big on Wi-Fi 7

Las Vegas is a budding tech hub, leading the way with technology-driven innovation. The Las Vegas Monorail is part of that innovation and recently became the first mass transit system to deploy Wi-Fi 7, the newest generation of Wi-Fi technology.

CHALLENGE

Las Vegas welcomes more than 40 million visitors annually and hosts some of the world's largest events. For an entertainment destination of this magnitude, successfully fusing together cutting-edge technology and convenient transportation is a must to deliver a world-class experience.

SOLUTION

The Las Vegas Convention and Visitors Authority, which owns and operates the Las Vegas Monorail, partnered with Boingo to operate a new cutting-edge wireless network at the monorail's Las Vegas Convention Center station, now named the Boingo Station.

OUTCOME

In a city known for groundbreaking technology unveilings, Boingo deployed the first-ever Wi-Fi 7 network at a public transportation venue. The network is designed to deliver extreme speeds, low latency, enhanced security protocols and increased capacity for an exceptional user experience. The Boingo network enables riders to conveniently connect to their favorite entertainment and productivity applications, including social media, email, mobile boarding passes and digital conference badges.

Did you know?

100 MILLION
riders have traveled on the Las Vegas Monorail.

The Monorail is
100%
electric and runs zero emission trains.

38 MILLION
The amount of vehicle miles the monorail has eliminated, significantly reducing emissions in Southern Nevada.



> We are pleased to partner with Boingo and appreciate that our Monorail passengers will benefit from this partnership with enhanced connectivity at our [Boingo] Convention Center Station.
>
> **Steve Hill,** Las Vegas Convention and Visitors Authority President and CEO

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Leading beyond the tracks

When it comes to connectivity across diverse industries, Boingo Wireless is unmatched. From railways to runways to military bases to stadiums and beyond, leading organizations from the public and private sectors trust Boingo to deliver high performance, highly secure cellular and Wi-Fi connectivity. From New York to LA to London, here's a small Boingo customer snapshot.



O'Hare International Airport



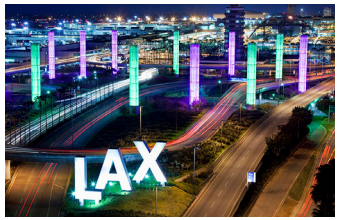
Rockefeller Center



Live Nation



JFK International Airport



LAX International Airport



Lincoln & Holland Tunnels



Delta Center



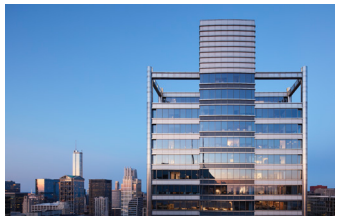
State Farm Arena



London Heathrow Airport



Soldier Field



One North Wacker



State Farm Corporate HQ



100+ U.S. Military Bases



Petco Park



Las Vegas Convention Center

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Why partner with Boingo Wireless?

Boingo helps the world's largest transportation authorities realize their vision of the connected rider experience with future-proofed networks that are designed to meet what's next.

Mass transit leaders trust Boingo.
From coast to coast, leading transportation hubs turn to Boingo as their 5G and Wi-Fi connectivity partner to ensure safety, a great rider experience and seamless operations.

Many networks. One partner.
From DAS and small cells to Wi-Fi, private 5G and macro towers, Boingo is a one-stop-shop for all of your connectivity needs. We design, install and manage our networks for an end-to-end solution.

We're neutral host.
Boingo networks are designed to ensure that all riders enjoy a great cellular experience, no matter who their carrier is.

We have deep carrier relationships.
Boingo's deep relationships and master agreements with all Tier One wireless providers can drive maximum carrier participation from AT&T, Verizon and T-Mobile.

Our expertise is unmatched.
Boingo is one of the largest providers of indoor Wi-Fi and DAS in the U.S., with over 20 years of experience.

We're future focused.
From autonomous vehicles and advanced driver-assistance systems to smart infrastructure and traffic management, Boingo ensures that our networks are designed to meet what's next in transportation technology. Our on-demand insights empower businesses to make swift, informed decisions by providing real-time access to critical data and analytics.

We're committed to sustainability.
Boingo's green initiatives are paving the way for smart and sustainable cities. That's one of the reasons we were recognized as Green Company of the Year.

We're experts at network transitions.
Whether it's aging infrastructure or new technology, we meet you where you are to improve the performance, scalability, security and compatibility of your network.

Military-grade security for your venue.
Trusted by more than 100 military bases, Boingo's in-house security team mitigates the risk of costly security breaches by providing real-time protection for your networks and data.



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LET'S GET STARTED

Meet connectivity demands with Boingo's world-class network solutions

Connect with a 5G expert



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#WirelessSimplified

Boingo Wireless, Inc. simplifies complex wireless challenges to connect people, business and things. We design, build and manage converged, neutral host public and private networks at major venues around the world. Boingo's vast footprint of distributed antenna systems (DAS), Wi-Fi, small cells and macro towers securely powers innovation and connectivity in airports, transit stations, stadiums, military bases, hospitals, commercial properties and enterprises worldwide. Learn more at boingo.com. © 2024 Boingo Wireless

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