

Case Study

Brown University Enhances Campus Connectivity with Highway 9 Private Mobile Networks

Background

Brown University, a global research university, is known for its academic excellence, vibrant campus community, and commitment to innovation and collaborative learning. Brown University sought to enhance its campus-wide wireless connectivity to better support event-driven operations and critical campus functions. Existing Wi-Fi and public carrier networks did not consistently meet the demands of high-density venues, pop-up events, and live athletics streaming. To enable reliable, scalable, and centrally managed connectivity, Brown University embarked on deploying a dedicated Private Mobile Network tailored to their unique campus needs, with plans for future expansion. By working with Highway 9, Brown was able to realize significantly expanded wireless coverage range—within a brief timeline and at reasonable cost. The entire design, fulfillment, and materials sourcing/installation were completed in just six weeks, delivering a Time-to-Value up to 6× faster than traditional private LTE or on-premise 5G deployments.

Challenge

Brown faced critical challenges related to ensuring pervasive and reliable connectivity for modern campus operations, particularly in non-traditional areas and high-density events:

- Inconsistent Wi-Fi Coverage:** Brown experienced connectivity access problems in specific spots around the buildings where Wi-Fi coverage did not reach. They required a solution to leverage connectivity in these difficult-to-access areas.
- Reliability for Remote Commerce:** The university needed a robust solution to facilitate remote payment systems and ticketing, enabling reliable card swiping and payment system technology for pop-up events (such as setting up a tent for commencement ticketing) and within the dining facility and other locations.
- Uplink Streaming Demands:** The athletics department sought a stable system to enable cameras for sports events at Brown Stadium, requiring reliable uplink streaming capabilities for live footage.

Client Overview:

Customer: Brown University

Sector: Higher Education

Location: United States

Project Type: Private Mobile Network (PMN) for athletics streaming, pop-up events, and campus operations

Brown University required reliable, high-performance connectivity to support campus-wide events and operational systems:

- **Athletics live streaming:** Stadiums and sports complexes needed seamless coverage to broadcast games without buffering or interruption.
- **Pop-up events:** Commencement, dining hall events, and other temporary gatherings required ticketing devices and payment systems to operate reliably.
- **Device reliability:** Existing Wi-Fi and public carrier networks were inconsistent during high-density events, impacting user experience and event operations.
- **IT efficiency:** Campus IT needed centralized control over multiple device types and event locations without deploying temporary infrastructure each time.
- **Future security expansion:** Plans to add cameras and monitoring systems require a network capable of scaling additional mission-critical applications.

Brown sought a dedicated, centrally managed PMN that could reliably support current event-focused use cases while being scalable for future security and campus operations.

Highway 9 Solution

Brown University deployed a Private Mobile Network (PMN) with plans to expand into Hybrid Mobile Network as a Service (HMNaaS) for additional capacity and future security coverage.

Solution Highlights:

- **PMN:** Dedicated network supporting:
 - Ticketing devices for pop-up events
 - Dining services payment systems for campus events
 - Athletics live streaming at stadiums
- **Future HMNaaS:** Planned hybrid deployment for carrier extension (CX) to support larger events and security camera integration.
- **Centralized orchestration:** Single management platform for IT to monitor performance, prioritize traffic, and optimize connectivity across campus.



Core Use Cases

1. **Ticketing Devices** – Seamless operation during pop-up events, ensuring smooth sales and access control.
2. **Dining Services Payment Devices** – Reliable connectivity for temporary point-of-sale systems across campus events.
3. **Athletics Live Streaming** – High-quality video broadcast from stadiums ready for upcoming athletic season.
4. **Future Security Cameras** – Planned integration of indoor/outdoor cameras into the PMN/HMNaaS network for centralized monitoring.

Outcomes & Benefits

Challenge	Solution	Value Delivered
Unreliable connectivity for pop-up devices	PMN	Smooth ticketing and payment operations at events
Athletics streaming interruptions	PMN	High-quality, live video for fans and staff
Fragmented event infrastructure	Centralized PMN	Reduced IT overhead, simplified device management
Future security integration	HMNaaS (planned)	Scalable network ready for cameras

Brown University’s deployment of Highway 9’s Private Mobile Network (PMN) provided reliable, high-performance connectivity to support campus event operations and core systems:

- **Smooth Ticketing and Payments:** PMN ensured smooth operation of ticketing devices and dining services payment systems during high-density pop-up events, eliminating previous connectivity disruptions.
- **Boosted wireless coverage range:** Enabled Brown to expand its physical coverage area by over 15 acres of high-quality coverage around the football and rugby stadiums, another 25 acres across the athletic fields, and extended an additional 15 acres from the elevated Science Library site, covering key campus greens and surrounding areas.
- **Rapid Time-to-Value:** Designed and deployed in weeks, faster than any alternative solutions.

- **Cost Effective:** This high fidelity network was procured at a competitive price point, which was substantially less than other outdoor wireless solution alternatives.
- **Uninterrupted Athletics Streaming:** The network delivered high-quality, low-latency video streaming for live sports events at stadiums, enhancing fan and staff experience without buffering or dropouts.
- **Future-Ready Scalability:** The planned expansion into Hybrid Mobile Network as a Service (HMNaaS) will enable seamless carrier extension and ensure the network can scale to meet evolving campus connectivity and operational demands.

Customer Quote

“Highway 9 has been a strategic partner in helping us modernize and strengthen our campus connectivity. Their private mobile network has delivered the reliability, speed, and performance our teams in Athletics, Dining Services, and Media Services rely on during high-demand events where traditional carrier networks often fall short. From point-of-sale and ticketing to live media streaming, the solution has consistently met our operational needs with confidence. The implementation process was smooth, and their team has been responsive and easy to work with throughout. We now have a secure and dependable platform that not only solves today's challenges but also positions us well to scale for future growth and innovation.”

– Kevin Da Silva, Director - Network Technology, Brown University

Looking Ahead

Brown University plans to:

- **Expand HMNaaS Coverage:** Scale network capacity and coverage for larger campus events and high-traffic venues using hybrid cloud-hosted mobile core capabilities.
- **Integrate Advanced Security Applications:** Deploy indoor and outdoor security cameras centrally managed through the network to enhance campus safety and monitoring.
- **Sustain Reliable Connectivity:** Continue supporting critical campus applications including athletics streaming, pop-up ticketing, and dining payment systems with consistent, high-quality wireless performance.
- **Explore Broader Use Cases:** Leverage the private mobile network infrastructure for academic and operational innovations, driving further digital transformation across campus.