RAYCAP CASE STUDY

Seattle Center Expands Connectivity with 5G

A scalable 5G infrastructure solution improves connectivity across Seattle Center's diverse venues and public spaces.

Raycap, together with Verizon, engineered and fabricated a small cell concealment pole network to support Seattle Center's ambitious event schedule. Eleven custom poles, along with concealment for sites inside of the Armory, were designed and installed in time for the network to come online in advance of the 2026 World Cup and associated watch parties.

Image credit: Felix Mizioznikov / Adobe Stock

The Challenge

Seattle Center is a civic and cultural campus in downtown Seattle, WA, featuring 40 acres of open space. It is home to iconic attractions like the Space Needle, Climate Pledge Arena, the Armory, Chihuly Garden and Glass, and more. The Center hosts a wide range of cultural, arts, and sports events and sees nearly 12 million patrons every year. These visitors need and expect wireless connectivity both inside and outside the venues, which the new 5G network significantly improves by providing faster speeds, lower latency, and more reliable service, enhancing their overall experience.

Seattle Center adopted the "Seattle Center Century 21 Master Plan" in 2008, which guides physical renewal projects to serve the needs of its diverse and evolving community. Guided by the Master Plan's principles and an ever-growing user base, the management team began in early 2024 to research a connectivity upgrade for its patrons. The existing Verizon Wireless (VZW) network technology was outdated, so Seattle Center began working directly with the carrier to implement the necessary updates.

The Project

By 2025, the team had developed a plan to support the network upgrade, which involved building the infrastructure necessary to provide 5G wireless coverage for patrons inside the Center. The network needed to be completed in anticipation of major upcoming events, not the least of which was the 2026 World Cup, which would bring World Soccer to the Seattle Stadium. The games at the stadium, along with viewing experiences for six events and numerous ongoing celebrations, would provide locals, US visitors, and many international visitors the ability to experience first-hand the Seattle Center attractions.

The project required the installation of small-cell nodes housed inside concealed light poles in designated areas of the 74-acre site. The new poles had to blend in with the environment and existing fixtures and support various new equipment configurations to upgrade and improve wireless service. Concealed antennas and radios were also to be installed inside the Armory, Seattle Center's food and event hall.

Verizon turned to Raycap to provide the small-cell poles and concealments because of the company's experience and unique capabilities to meet the Seattle Center's technological, logistical, and scheduling requirements. With detailed input from Verizon and its customer, Raycap designed, manufactured, and delivered two different small-cell pole designs.

> ***"The World Cup was a huge impetus to getting this done. We'd needed an upgrade to the wireless connectivity for our patrons for a while, and this presented the opportunity and gave us a solid deadline."***
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> **— Jeff Reed**
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> Seattle Center Senior Capital Projects Coordinator

Requirements

Seattle Center's general requirements were that their patrons experience seamless coverage and excellent connectivity at any event on or near the Center grounds. To satisfy these concerns, Verizon RF engineers began their due diligence by mapping the sites, with input from Center staff who had a good view of the high-volume areas, and by conducting initial locates for the sites where small-cell communications equipment would need to be installed. They also considered the backhaul capabilities of several of its macro tower sites in the area, two of which are on the campus.

Before any work could begin, plans needed to be presented to the Center commission, City leaders, and the public; then there were lease negotiations and approvals to obtain through the City of Seattle. This took significant time and effort to ensure the network would be appropriate for the location today and support future expansion.

Project installation was green-lit in February of 2026, kicking into high gear. Installations began in March, with a soft launch right before Memorial Day in May 2026 during the Northwest Folklife Festival. That weekend, 80% of the nodes were installed and online. By the time the FIFA World Cup events began in early June, most poles had been installed, and patrons were able to experience the faster speeds.

The construction process was not without challenges at times, as noted by Anthony Accetturo of Verizon Wireless, "The team discovered there was a bank of high-voltage lines that were encased in concrete that didn't show up during the initial locates, so we had to basically move that node from one side of the street to the other, requiring another trip through the City real estate approval process." Despite these obstacles, by the end of August 2026 the team had successfully installed all 11 small-cell poles and two concealed nodes inside the Armory.

Given the tens of thousands of people who visit Seattle Center daily, it is difficult to specify a precise number of connections that the new network can support. Still, it is expected that several thousand wireless users are surfing, texting, and/or using voice or data at any given moment, and that the 4G/5G network easily supports them all and operates exactly as expected.

Fulfilling Project Requirements

Raycap owns and operates three manufacturing facilities in the United States and utilizes the most sophisticated manufacturing equipment in the world, including a plasma cutter that is among the largest, if not the largest, in the industry. Because of its facilities and expertise in providing small-cell poles, Raycap was able to complete the poles needed for this project and delivered them by early March 2026, ready for installation and integration.

The eleven poles vary in height based on campus RF needs and aesthetic requirements. Raycap developed two designs to meet the technology and service requirements of the Seattle Center network. During the pole design, Raycap engineers conducted detailed thermal analyses, interpreted the results, and developed effective approaches to ventilation and cooling where needed. Security, including cameras and lighting, was incorporated in accordance with Seattle Center specifications. Raycap worked with Verizon and its integration partners to determine equipment size and positioning so the poles could be shipped from the factory with all the proper bracketing installed. All equipment was integrated by Verizon Wireless and their contractors onsite during the installation.

Summary

The collaboration between Raycap, Verizon, and their client, Seattle Center, was highly successful. The transition from the old technology to the new network capabilities went smoothly. Today, patrons at Seattle Center can enjoy a variety of activities on campus while staying connected with a new 4G/5G network.

Raycap delivers custom small-cell infrastructure solutions that help transform connectivity in high-traffic venues and public spaces—supporting reliable, high-performance wireless service today and into the future.

Contact us today to learn more about Raycap's connectivity solutions.

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