

# Making Mobile Service an Amenity: Fourth and Madison, Seattle, Washington

Wireless coverage in office buildings is no longer a nice-to-have feature. It's now something that business tenants expect. Seattle's Fourth and Madison wants to stand out from the crowded office property pack by enhancing mobile coverage for its business tenants. Our thanks to Conner Hayes, assistant property manager of Hines, and Thom Antonopoulos, executive vice president of Connectivity Wireless Solutions, for helping gather information for this profile.

By Sean Buckley / *Broadband Communities*

**A**s one of the fastest-growing cities in the United States, Seattle is a desirable area for real estate developers to locate office properties, and Fourth and Madison is no exception. Built in 2002, Fourth and Madison is located on the southwest corner of Fourth and Madison streets, two blocks west of the Madison exit off route I-5 in Seattle's central business district.

Hines, Fourth and Madison's property manager, responded to businesses' desire for robust wireless connectivity by employing Connectivity Wireless Solutions (CWS) and its sister company Simplifi Wireless Group (SWG) to implement a distributed antenna system, or DAS. Using direct feeds from wireless operators, a DAS can boost weak outside wireless signals and use the exterior antenna to catch and amplify those signals inside. As a neutral host system, Fourth and Madison's DAS supports all wireless carriers' signals.

Conner Hayes, assistant property manager of Hines, says the DAS addresses wireless coverage issues that resulted from the building's architecture.

"One of the major challenges of the Fourth and Madison building is that the reinforced concrete and steel beams that run through the building create a lot of dead spots, so you don't get the greatest cellular

connectivity, and sometimes you get no cellular connectivity at all," Hayes says. "Implementing a DAS allows us to cover the gaps and offer full bars at each level for our tenants."

Supporting the top four wireless operators, CWS and SWG installed neutral host in-building DAS (iDAS) and outdoor DAS (oDAS) systems. Thom Antonopoulos, EVP of CWS, says its installation processes are designed to minimize impacts to the building's tenants.

"We went floor by floor and worked off-hours, and we have cleanup crews that came right behind us to address any issues," he says. "When we're working in a customer's space, we make sure we've got the right processes so nothing is disturbed, and then we do our main work in the telecom closet."

An added value to participating wireless operators is that the oDAS antennas on the sixth-floor balcony



Four and Madison is a Class A office building in the heart of Seattle's central business district.

provide coverage to pedestrians passing by the building.

Four and Madison's DAS investment reflects the growth of in-building wireless traffic. A recent Amdocs study revealed that an estimated 80 percent of mobile traffic originates and terminates within a building.

Further, a joint CommScope/ Coleman Parkes study showed that improving a building's indoor wireless coverage could increase a property's value by 28 percent on average. A \$2.5 million office building could be worth \$700,000 more with a dedicated indoor cellular system, for example.

Hayes says the DAS will help Four and Madison stand out in the hypercompetitive business real-estate market.

"As more technology companies look for space in Seattle in buildings like ours, cellular connectivity is the No. 1 request from technology workers who rely on mobile connectivity,"

Hayes says. "It's a more and more requested amenity."

Although the DAS accommodates today's wireless needs, the platform can address future 5G services with

### PROPERTY OF THE MONTH HIGHLIGHTS

#### ~ Fourth and Madison – Seattle, Washington ~

- Class A, 40-story office tower fueling growth of the city's booming technology sector.
- Tenants include GE Healthcare, K&L Gates, Deloitte, UBS Financial Services and ZGF Architects.
- Cellular connectivity inside and adjacent to the building becomes a differentiating amenity.
- Wireless and fiber vendors include JMA Wireless, Corning, CommScope and Galtronics.



The headend for Fourth and Madison's DAS

minimal upgrades.

“As the network evolves to things like 5G, this building will be positioned for future technology based on the work we have done,” Antonopoulos says. “It has the infrastructure to support 5G.”

Fourth and Madison's amenities include a five-story atrium, a fitness center, and views of Mount Rainier, Elliott Bay and the Olympic Mountains. The building features electric car charging stations, recycling facilities, bike lockers and umbrellas. Tenants also have access to an array of fiber-based services from AT&T, CenturyLink, Comcast, Cogent and Zayo.

## VITAL STATISTICS

**Property Description:** Fourth and Madison is in the central business district of Seattle – one of the

fastest-growing economies in the nation. The 40-story tower sits on approximately 1 acre and has a retail courtyard incorporated in the podium at its base. The project includes a five-story atrium; state-of-the-art building systems; and views of Mount Rainier, Elliott Bay and the Olympic Mountains.

The building is Class A office space with some retail on the ground level. There are almost 1 million square feet of covered space (tenant space, common space and parking). On any typical weekday, more than 2,000 tenants and visitors are in the building.

**Greenfield or retrofit?** Retrofit

**Style:** High-rise

**Time to deploy?** It took 90 days to deploy the DAS. From initial planning meeting to carrier live

and close-out package, the total time frame was almost 18 months. System construction began February 3, 2017.

**Date services started being delivered:**

The first wireless operator was live on December 29, 2017.

**Special requirements:** The venue has some high-profile tenants, including an international consulate, Deloitte, and a financial trading firm.

This required very strict security protocols on some floors.

## SERVICES

**Services offered or planned on the network:** Cellular augmentation/service for all carriers in all areas of the building.

**Provider choice:** The system is designed to support all major cellular carriers – AT&T, Sprint, T-Mobile and Verizon.

**Do additional service providers operate broadband networks on the same property?** Yes. Wireline fiber providers include AT&T, CenturyLink, Cogent and Zayo.

**Technical support:** SWG provided a turnkey monitoring and maintenance contract with the overall service offering, called ConnectProtect. It monitors the DAS 24/7/365 and sends alarms and notifications to the CWS network operations center. For resident technical support, the first point of contact is property management and the second point of contact is CWS/SWG and the ConnectProtect Team.

## BUSINESS

**Which parts of the network are owned by the service provider, and which are owned by the property owner?** The service provider (CWS/SWG) owns all of the network and network elements. This ensures that the customer does not have to deal with obsolete equipment or worry about network upgrade paths.

**Is there a marketing agreement with the property owner?** Yes, there is

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# PROPERTY OF THE MONTH

a lease and an exclusive marketing agreement that is part of the lease. This ensures that all potential wireless carriers go to one entity to get on the DAS and that wireless carriers do not have the option to “cherry pick” certain portions of the building or certain blue-chip tenants, for example.

**Does the agreement include an incentive?** Yes, there is a revenue component for the building owner.

**How do the service provider and owner work together to market the services?** CWS/SWG has a team of carrier specialists, most of whom

have worked at carrier companies for much of their careers. These carrier specialists are familiar with carrier engineering requirements, financial metrics for project participation and other related aspects of cellular and network augmentation.

**Network benefits:** Typically, a DAS helps retain existing clients and attracts new clients. It may be valid to say that the DAS increases property values.

## TECHNOLOGY

**Architecture:** We use single-mode fiber as the backbone from the headend to DAS remotes, which

are in intermediate distribution frames (IDFs). From the IDFs, we use coaxial cable to connect to in-building cellular antennas.

**Methods for running cables:** We typically run fiber for all trunked signals between buildings for carrier backhaul, as well as for bridging between facilities when combined into one headend. We believe fiber provides the most future-proof medium for 5G and beyond, and running additional fiber strands is always advantageous for future uses. Subsequently, from the riser closets out to the tenant spaces, we find that coaxial cable is sufficient for the passive RF signals and typically requires less maintenance, providing fewer intrusions into tenant spaces.

Ideally, a riser cable system in a multiple-floor building will be pulled through vertically aligned closets using connecting sleeves or “cored” holes. This design provides every floor with access to the backbone and permits the distribution of signals to each floor. Some economies may be realized by placing RF amplifiers or remotes on every “nth” floor, depending on system requirements. Horizontal cables, typically RF, are installed above ceiling grids from riser closets out to the tenant areas. The only evidence of cabling is antennas approximately every 3,000 square feet. In any case, this work is usually done after normal business hours for the venue being cabled. We also work with any security and cleaning vendors the building uses to ensure there is as little evidence as possible the facility is being worked on.

## Vendors/products:

JMA Wireless Teko: DAS OEM  
Corning: Fiber cable  
CommScope: Fiber and coaxial cable  
Galtronics: DAS antennas

## LESSONS LEARNED

**What was the biggest challenge?**

Working with Hines property management in a manner to ensure tenants were not disrupted.

## IN MEMORIAM: RICHARD HOLTZ



*Richard Holtz, CEO of InfiniSys and one of the leaders in the MDU broadband world, died on February 10. He profoundly influenced the industry, and he will be greatly missed. Nicole Kane, president of Property Connect Advisors and one of many who learned from Richard, sent us this affectionate remembrance of him:*

*“I was in my early 20s, completely green to the world of FTTH and new to a role that threw me into the deep end, when I dialed into a retrofit kickoff call, eager to prove I was capable – and was greeted with the firm voice of Richard Holtz. Richard seemed to know everything about this network, and my eagerness to prove my capability*

*quickly turned to eagerness to not look stupid. I kept my mouth shut and listened. Over the years, there were a lot of calls, and though I eventually stopped worrying about looking stupid, one thing never changed: Richard knew everything.*

*This is not to say that Richard was a know-it-all (though many would argue that was exactly what he was), but he truly knew every minute detail of the networks he designed. Being the guy on the phone who knows it all usually doesn’t make you a lot of friends, but it was the passion with which Richard conveyed information that made him so endearing and liked as well as respected.*

*Richard Holtz was a pioneer in FTTH networks deployed in MDUs, he had a bigger-than-life personality and he was fiercely passionate yet incredibly kind. Though we didn’t always see eye to eye, I learned a great deal from Richard and will miss his presence in the industry he helped to shape.”*

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The DAS enables robust cellular connectivity in outdoor spaces as well as indoors.

*What was done – and what could have been done better – to limit disruption?* CWS conducted installation during off-hours. It also has a cleanup crew that ensures the premises looks the same after conducting installation work.

*What was the biggest success?* The end result: Hines now enjoys a no-cost, carrier-funded, multicarrier DAS.

*What feedback does the leasing office get from tenants? What has the experience taught it about*

*marketing, installing or supporting these services?* Our building is nearly fully leased, and our current leasing prospects for our few remaining vacancies have been underway prior to the finalization of the DAS, so we haven't heard any specific feedback yet. Overall comments from current tenants have been encouraging, and they are pleased with the improved cellular service.

*What should other owners consider before they get started on a similar deployment?* Recognize the long planning cycles for DAS, driven by the budget and planning cycles of the carriers that fund them. Start early! The long lead time and the potential risk are worth the wait. ❖

*Sean Buckley is the associate editor of Broadband Communities. You can reach him at [sean@bbcmag.com](mailto:sean@bbcmag.com).*

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