Why MDUs Need Fiber From
Guidance on Inside Wiring

By Heather Burnett Gold

Nearly 50% of new buildings built in 2016 included fiber to each living unit. That's a great start, but we believe that 100% of new buildings should include fiber. Fiber is the best way to connect Americans across the country to fast, reliable, and cost-effective Internet access.

There are 4 strong reasons why new MDUs and MTUs need to be wired with fiber:

Reason #1.
Fiber lasts.

It is future-proof unlike copper, coax, and other wireless technologies, which require regular, expensive upgrades. Copper, for example, has had 6 major changes to its cabling since the 1990s alone. Fiber quality and performance has improved over the years, but the basic design has stayed the same since the 1980s.

Eliminating the need to waste time and money on repeated installations and upgrades, not to mention avoiding the headache and inconvenience to residents, is always good. But it's especially advantageous as our digital world experiences more and more changes. Bandwidth consumption is rising rapidly. Fiber is the best choice for long-term viability. It can meet the rising needs and without needing to be constantly replaced.

Reason #2.
Residents want quality broadband.

Fiber is also a huge selling point for residents. A National Multifamily Housing Council (NMHC) 2015 survey of 120,000 apartment renters found that high-speed Internet was the highest-rated home feature, beating out features such as soundproof walls and in-unit washers and dryers.* According to data from RVA LLC (www.rvallc.com), high-speed Internet is a factor for 88%

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of people deciding where to buy a home, and for 91% of people deciding which community in which to live.

Simply put, people want high-speed, reliable Internet -- and fiber is the best way to get it. Fiber has upload speeds 2.8 times better than competing technologies and requires up to 61.3% less time waiting for online content to load. It's no wonder, then, that fiber-equipped apartments have an 8% greater rental value and a 2.8% greater sales value than apartments without fiber. Fiber attracts residents who are willing to pay more for this top-notch access to high-speed Internet.

Reason #3.
Fiber is simpler and less expensive.

Fiber is the best method for accessing high-speed Internet, so it should also be the most complicated method, right? Wrong. Fiber is simple. In the past, buildings using alternative technologies needed different kinds of cabling structures to deliver different kinds of services: a coaxial cable for video services, for example, and a copper telephone cable for telephone services. That's not the case with fiber. With fiber, you can build just 1 network instead of 2. One high reliability single-

of building residents around the country. Fiber, on the other hand, is much smaller and is easily concealed. Fiber can be installed out of the way, which not only looks better but also better protects it from any tampering or damage.

How Do Buildings Become Fiber-Ready?

Building owners can choose how involved they are in network preparation. Typically, the building owner takes 1 of 2 approaches: 1.) creating only the path for fiber to be laid, or 2.) actually building out the passive fiber network.

Both of these approaches begin with building preparation. The first step of building preparation is securing a cable entrance into the building. If fiber is deployed aerially outside the building, the building must provide for attachment to the building and an entrance hole into the building. Underground fiber access requires a conduit (2 inches or larger is standard) from outside to inside.

These pathways should be planned to minimize sharp bends in the duct, and the duct must meet certain requirements for bend radius and diameter. The majority of outdoor-rated fiber optic cables have a minimum bend diameter that is 20 times the cable's outside diameter.

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mode glass fiber can take care of all services delivered to the home, which means that builders can save time, money, and materials, during deployment.

Reason #4.
Fiber is less intrusive.

Deploying fiber is cost-effective, labor-effective, and is less intrusive than other technologies. The fiber industry has developed fiber cabling that can be bent, tied into knots, and even stapled, with no significant reduction in performance. That makes fiber cable easier to install in ways that keep it, as the saying goes, "out of sight, out of mind."

Other forms of cabling can be large, intrusive, and, frankly, ugly. Their appearance is a common complaint

When in doubt, service providers can help with questions about any conduit diameter, materials, and minimum bend radius requirements they may have.

This conduit will, preferably, connect to the telecom closet, or FDH (Fiber Distribution Hub) in the building, the space dedicated to fiber connections and equipment. This is often on a lower floor in the building with access to riser spaces. Setting up power and HVAC services in the telecom closet is an asset if the service provider plans to install active electronics in the space. Again, potential service providers can be great resources about any space, power, and HVAC, requirements.

It's also important to discuss with service providers how much space, if any, is needed for terminals. Fiber distribution terminals (FDT) or patch panels can be used to

connect riser cables, also known as distribution cables, to the drop cables, the cables which run to each living unit. Providing any necessary space for these terminals makes deployment a much smoother and faster process.

The second key step of building preparation is pathway development, the arrangement of riser and drop pathways. There are several different ways to arrange these pathways, which can be indoors or outdoors. To provide a couple of examples, homerun single fiber drop cables in small buildings can be run directly from the FDH to the living unit. Multifiber cables can also be run up a riser and directly down a hallway floor, or to drop cables on a hallway floor.

Whichever way the fiber pathways are arranged, it's important that the pathways are large enough to accommodate the fiber counts required to reach each building resident.

A Fiber Future for MDU Buildings

Fiber is too advantageous not to include in all new buildings going forward. Fiber is future-proof, fast, and simple. It attracts residents, increases property values, and is cheaper and easier to deploy than alternative technologies.

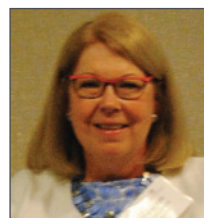The Fiber Broadband Association is committed to accelerating fiber broadband deployment, and we have released a white paper with specific guidance for optimal fiber deployment in residential buildings. The white paper *How Do I Make My Building Fiber-Ready?* outlines and walks through each step of the aforementioned deployment process, from building preparation and pathway development to installation methods.**

Our nation's communities, businesses, and economy are fiber-ready. Our residential buildings need to be fiber-ready as well. A fiber future for MDU buildings is a fiber future for building residents, for neighborhoods, and for all of us. ■

Endnotes

*For more information about the *2015 NMHC/Kingsley Apartment Resident Preferences Survey,* please visit the National Multifamily Housing Council (NMHC) website at http://www.nmhc.org/residents/.

**For more information about the FBA white paper *How Do I Make My Building Fiber-Ready? Guidelines from the Fiber Broadband Association to Facilitate Fiber Deployment in a Residential Building,* please visit http://glenechogroup.isebox.net/fiber-connect-2017?default=uPO3tPa4.

Heather Burnett Gold is the President and CEO of the Fiber Broadband Association (FBA; formerly the FTTH Council Americas), a non-profit organization established to help its members plan, market, implement, and manage FTTH solutions. Prior to joining the Association, Gold served as Senior VP of External Affairs for XO Communications, a $1.5 billion telecommunications company, where she was responsible for the creation and execution of a comprehensive public policy strategy, and regularly interacted with Congress, the FCC, the White House, and state lawmakers and regulators. For more information, please visit www.fiberbroadband.org.