

# Communities, MDU Owners Set New Broadband Destinies

Speakers at the **BROADBAND COMMUNITIES** 2022 Summit, held in Houston in May, agreed that every community wants – and needs – great broadband. How best to deliver it to MDUs, master-planned communities, underserved towns and rural areas is still debatable. Following are some highlights of speaker presentations.

By Sean Buckley / *Broadband Communities* and Rollie Cole / *Sagamore Institute for Policy*

## Fletcher: We Need to Support Communities to Expand Broadband

**T**he COVID-19 pandemic highlighted the need to enable broadband in multiple domains – work, telehealth, education and connecting family and friends – and to how essential broadband is to driving community economic growth.

“Broadband can transform local communities by attracting new jobs, investment and competition in every area across the country,” Rep. Lizzie Fletcher (D-TX) told attendees during the **BROADBAND COMMUNITIES** 2022 Summit.

The government aims to equip more Americans with broadband through the Infrastructure Investment and Jobs Act (IIJA), including \$65 billion for broadband access and deployment. The National Telecommunications and Information Administration (NTIA) will pay \$48 billion to states to implement broadband grant funding.

“These programs will ensure that communities that lack the skills, technology



Rep. Lizzie Fletcher

and support needed to take advantage of broadband can have the resources they need to build and provide high-speed internet,” Fletcher said. “It also makes \$14 billion available for the Affordable Connectivity Program to give discounts to eligible households.”

Fletcher emphasized the government needs to recognize each community’s unique needs. “It’s clear to us we must do more, and we must support communities,” she said.

### COMMUNITY BROADBAND INCENTIVES

One way to help cities and towns make the most of the IIJA funds is to equip communities with more permitting staff. This could accelerate approvals for permits to access rights of way and other infrastructure.

Fletcher is spearheading this effort by introducing the Broadband Incentives for Communities Act (H.R. 5058), which requires the NTIA to establish a grant program to assist local governments and Native American tribes with efficient review and approval of zoning or permitting applications that facilitate the deployment of broadband infrastructure.

Grant recipients must use awarded funds to build application processing capacity or

purchase technology, software and equipment to facilitate the processing of applications.

Under the bill, the NTIA would establish the Local Broadband Advisory Council to develop solutions to challenges faced by local governments, tribes and infrastructure providers in facilitating wireless and broadband deployment, including in unserved and underserved communities.

“One way that the government can provide help is giving the communities the resources they need to process the expected increase in permits and applications necessary to build broadband infrastructure,” Fletcher said. “Local governments play a critical and direct role in facilitating upgrades through zoning and permitting functions.”

Houston has become a model in prioritizing broadband. For instance, the city streamlined processes for broadband deployment and permitting. “By improving the permitting process,

Houston has facilitated investments at a time when access to the internet is so critical to our lives,” Fletcher said.

### DRIVING PUBLIC-PRIVATE PARTNERSHIPS

Fletcher’s legislation is focused on solving broadband problems collaboratively at a local level through public-private partnerships between internet service providers (ISPs) and communities.

“Local governments are critical partners in achieving nationwide high-speed broadband,” she said. “We need public-private partnerships to use the funds Congress has made available.”

To make public-private partnerships for broadband successful, it’s essential to help communities enhance their permitting staff. “Communities need guidance on how to use existing funding to expand and strengthen their zoning offices,” Fletcher said. “There’s a lack of clarity around that, and I think we can [clarify] some of that with the bill.”

In addition, Fletcher wants to

drive changes to the current Universal Service Fund (USF) and its impact on consumers, seniors and businesses. She supports the Reforming Broadband Connectivity Act. Co-sponsored by Senators John Thune (R-Iowa), Amy Klobuchar (D-MN) and Jerry Moran (R-KS), the act looks at expanding access to broadband by strengthening the funding mechanisms for the USF.

The USF’s shrinking funding base has placed an increased financial burden on a smaller pool of users. The Reforming Broadband Connectivity Act will modernize the funding mechanism to ensure the USF can be used to expand broadband access.

“Congress needs to make sure via committees that we look at the long-term sustainability of existing federal support programs,” Fletcher said. “The act is aimed at how our federal agencies are using all the tools at their disposal to expand broadband access and other telecommunications services to connect U.S. communities.”

## Bloomfield: It’s a Once-in-a-Generation Time for Broadband

Shirley Bloomfield, CEO of NTCA-The Rural Broadband Association, admits that despite the opportunity to bring broadband everywhere, distinct challenges persist, particularly in rural areas.

A key issue is population density. “If broadband were cheap or easy, we would have all had it long ago,” she said. “In a rural market, density may be five

consumers per mile compared with what we have in Washington, D.C.” The new infrastructure legislation includes a total of \$65 billion for broadband, distributed through various states.

One of the most extensive programs is the \$42 billion Broadband Equity, Access, and Deployment (BEAD) Program, which will distribute funding deployments in unserved

and underserved areas. Areas are considered unserved if they lack access to broadband service offering download speeds of 25 Mbps and upload speeds of 3 Mbps.

“Kudos to Congress for passing into law the Infrastructure Bill,” Bloomfield said. “This is a groundbreaking, once-in-a-generation opportunity to get the job further along.”

### GETTING IT RIGHT

There’s no shortage of federal funding for communities that want to enhance their broadband status. Besides the IIJA, communities and providers can take advantage of financing from the Rural Utilities Service (RUS); American Rescue Plan Act of 2021 (ARPA); The Coronavirus, Aid, Relief and Economic Security (CARES) Act; and the FCC’s Rural Digital Opportunity Fund (RDOF).

RUS was one of the original funders for rural broadband providers. In November, RUS opened an FY 2022



Shirley Bloomfield

application window from November 24, 2021, through February 22, 2022, for the next round of the ReConnect Loan and Grant Program.

“RUS has traditionally been the banker for rural communications providers,” Bloomfield said. “Before anyone else had a funding program, RUS was an early leader in creating broadband programs, funding those investments, and putting in place the ReConnect program.”

She continued, “We have all these different funding opportunities, but we need to figure out how to coordinate. We have one shot at doing this right.”

## STATES' NEW ROLES

As new broadband funding is doled out, states will have a crucial role in implementing the programs.

Some states will get \$100 million in broadband funding. Though this funding is without a doubt a boon, many states have no experience overseeing broadband programs. “Let’s say a state has never managed a broadband program, or the state divides responsibilities between an economic development or labor division,” Bloomfield said. “There could be 50 ways the money will get dispersed.”

The NTCA focuses on developing tools to help states navigate the new

funding sources. It has partnered with the Fiber Broadband Association to create the Broadband Infrastructure Playbook, which will help guide state broadband offices using federal funds made available through the IIJA.

Developed in cooperation with consulting firm Cartesian, the playbook outlines and recommends broadband grant program structures consistent with IIJA objectives and identifies successful examples from successful state broadband programs. “This playbook was put together to say to states, ‘here are some best practices and how to make sure we do it right,’” Bloomfield says.

In addition, the NTCA partnered with the American Cable Association (ACA) to create the BEAD Program State-by-State Tracking Project, which will provide members of those groups with state/territory reports and aims to ensure the BEAD Program is administered fairly.

Available for NTCA and ACA Connects members, the reports will include terms, conditions and deadlines that have been adopted for grants and ways to challenge whether an area is unserved or underserved.

“We’re saying if one state comes out with their rules, we can provide information on the speeds and requirements,” Bloomfield said. “Then

a provider can compare that with what another state is doing.”

## FUTURE-PROOF NETWORKS

As providers pursue funding, fiber-based platforms are being emphasized.

A fiber platform allows for symmetrical bandwidth to support an ever-growing array of bandwidth-hungry business and consumer platforms, such as Zoom and video streaming, which became much more important during the height of the pandemic.

“When I talk to policymakers, I tell them we should focus on doing this right by looking at future-proofed technologies,” Bloomfield said. “We are bullish about what fiber means.”

NTCA member companies prioritize fiber, and a large majority serve rural markets. “There’s been a real push and recognition of what fiber means to networks,” Bloomfield said. “The companies that NTCA represents say that fiber not only serves the customers better but also lowers opex and enhances what people can do with applications.”

Bloomfield realizes, however, that NTCA members can’t bring fiber everywhere. “In rural communities, it will take every tool in the toolbox,” she said. “There are going to be parts of this country where it is going to be hard to reach, and we’re going to have to think about other solutions.”

## Affordable Housing Broadband Is All About Trust

With the passage of the historic \$65 billion BEAD Program, multifamily owners and broadband operators have opportunities to expand broadband services to those who need it most, particularly in affordable housing units. But for all the benefits broadband brings, none can come to fruition without first establishing trust with residents.

Angel Rogers, director of learning and development at National CORE, a nonprofit affordable housing developer, said the affordable housing market is different from the conventional housing population because of the residents’ backgrounds. “Trust is a deep-seated issue with affordable income residents,”

she said. “There’s a deep mistrust they have with anyone in a position of authority.”

Even in properties in which CORE offers managed Wi-Fi, renters still often pay rent in person. “In affordable housing developments that have Wi-Fi, most renters don’t pay rent online because they don’t trust the process,” Rogers said.

Christy Zeitz, CEO of Fellowship Square, a senior living facility in Arizona, agreed and added that the trust factor begins with the service provider relationship.

“As a property owner, I start with how I trust the ISP,” she said.

“The trust begins with understanding your agreement with the ISP and what it is doing.”

## BULK SERVICES FACTOR

A growing factor for affordable housing is the advent of bulk internet services.

Bulk services are agreements between a homeowners association (HOA) or condominium association and a company to deliver internet services to all community members. Bulk services offer a variety of benefits to residents, but panelists agreed that “people want choice.”

Hunter Pieklik, senior partnerships manager of EducationSuperHighway, a national nonprofit organization with



MDU leaders discuss broadband affordability and accessibility.

the mission to close the digital divide for the 18 million households that have access to the internet but can't afford to connect, said that residents need to be brought up to speed on how a bulk agreement can work for their needs. "We need to do a good job at providing education and building trust in these apartment buildings," she said.

Programs such as Comcast's Internet Essentials have enabled low-income families to get internet service, but residents still need guidance on how to take advantage of them. For these types of programs to work, providers must understand residents' needs.

"Programs such as Internet Essentials put a foot in the door," Zeitz said. "But it was hard to get our residents to sign up because they don't know what it is."

To help educate its residents about internet services, particularly for seniors, Fellowship Square decided to bring free managed Wi-Fi to two of its buildings.

"We spent two years showing our seniors how to get online, and we have a registered partner to provide support," Zeitz said. "You must explain how to access the internet, so it's a long-term commitment to usability."

Pieklik agreed that a property needs help from the ISP and employees who can help guide residents. ISPs often don't have the workforce to help residents, she says, "so what we do need is constant handholding for residents."

EducationSuperHighway has developed a playbook to work with tenants to access the FCC's Affordable Connectivity Program. "Our playbook ensures that residents have a better relationship with the ISP [...] and start to trust the ISP," Pieklik said.

#### THE AFFORDABILITY ISSUE

To close the digital divide in affordable housing units, ISPs have to address the affordability issue. More-affordable

housing communities equip their properties with managed Wi-Fi services. Managed Wi-Fi means the ISP actively operates all aspects of subscribers' Wi-Fi experiences.

"When EducationSuperHighway brings managed Wi-Fi to an affordable housing unit, it needs to be affordable," Pieklik said. "If the managed service provider is going to provide that support, it needs to accommodate multiple languages and seniors."

Similar to other organizations that support affordable housing, CORE recognizes the need for on-site staff and an IT department. However, Rogers said the definition and outlook on broadband should be treated the same as water and electricity are today. "Many don't consider broadband a utility," Rogers said. "If we want to serve properties better, broadband needs to be defined as a utility."

## Navigating Brownfield MDU Broadband Deployment Challenges

Installing fiber or using managed Wi-Fi is easy when equipping greenfield/new construction in multifamily properties with broadband, but technology choice is challenging in brownfield facilities. Service providers must consider various issues, including existing wiring, infrastructure and provider contracts.

Matt Wootton, general manager of property acquisition for AT&T

Connected Communities, said it serves a diverse brownfield multiple-dwelling-unit (MDU) market. "It's more challenging to build to a brownfield," he said. "There are unique challenges on brownfield assets, and we need to make the best investment to get a return on our capital."

Sandy Jack, global lead of market development for CRE/MDU at CommScope, agreed that most of

the buildings broadband providers target are brownfield. "The fact of the matter is that most of the buildings are vintage," she said. "You have to invest in what will it take to replace the existing network."

#### UNRAVELING MANAGED WI-FI

One technology some MDU owners use to upgrade an existing brownfield network is managed Wi-Fi, which is



Panelists discuss brownfield broadband, which is not one-size-fits-all.

an outsourced wireless network that allows residents, guests or customers to connect to the internet via multiple access points throughout a building, ensuring propertywide access. Because it's a cloud-based technology, an ISP controls a business or property's Wi-Fi, removing the need for an on-site IT department to manage the network.

Managed Wi-Fi usage continues to increase. A Market Research & Statistics report shows that the global managed Wi-Fi solutions market is expected to reach \$7.2 billion by 2023.

For AT&T, the utility of managed Wi-Fi depends on an MDU's structure. The telco offers a bulk, propertywide Wi-Fi solution using the AT&T Fiber

network and Wi-Fi 6 technology.

Wootton said that although AT&T's community Wi-Fi product fits a niche need, it's not a fit for every property. "I have learned that giving owners a choice in infrastructure and flexibility and infrastructure options is the best thing," he said. "Whether it's AT&T Community Wi-Fi or AT&T

## INDUSTRY PERSPECTIVES

"When the FCC broadband maps come out, we have to know if there are gaps for each community."

–Kirk Burgee, Chief of Staff,  
Wireline Competition Bureau, FCC

"Broadband funding is important for rural America."

–Laurel Leverrier, Assistant Administrator, Rural Utilities  
Services

"To reach every location with broadband, we must do it efficiently, and we need broad participation."

–Joseph (Joey) Wender, Director, Capital Projects Fund,  
U.S. Department of the Treasury

"People should have a choice for broadband service."

–Will Aycock, General Manager, Wilson Greenlight

"If you tell me a business needs internet, I bet there's a house next to it that also needs internet."

–Kenrick Gordon, Director,  
Maryland Office of Statewide Broadband

"Where there's a will, there's a way to build broadband networks."

–Roger Timmerman, Executive Director, UTOPIA Fiber

"People now understand why symmetric speeds are important."

–Joe Plotkin, Director of Business Development,  
Stealth Communications

"The FCC E-Rate program offers us a way to justify extending our fiber network to isolated buildings."

–Kelly McGriff, Vice President and  
Deputy General Counsel, Uniti Group

"The last-mile network is only as good as the middle-mile backhaul network."

–J. Brent Legg, Executive Vice President,  
Government Affairs, Connected Nation

"Because telehealth requires robust broadband, advocates can use telehealth to drive the demand for broadband."

–Craig Settles, Digital Equity Strategist, Nevada Governor's  
Office of Science, Innovation, and Technology

"Knowing what providers have to say about the issues they face is important."

–Peggy Schaffer, Executive Director, ConnectME

Fiber with an overbuild, it comes down to looking at every individual property and what makes sense for the owner's long-term strategy."

Jack agreed, noting that "nothing can increase a property value more than having a managed network, but that's not for every property."

Scott Buehrle, vice president of MDU sales for strategy at Frontier, said the use of managed Wi-Fi should be focused on the application. "Managed Wi-Fi is a great solution, but it's not always the greatest solution for the application," he said. "In discussing a property's goals, we need to understand the MDU demographic."

### LEVERAGING EXISTING, NEW INFRASTRUCTURE

Though managed Wi-Fi and fiber are delivering broadband in existing MDUs, leveraging a building's existing wiring is a popular alternative. Emerging technologies, such as Multimedia over Coax Alliance (MoCA) and G.hn, are proving good options for brownfield MDU broadband deployments.

Positron Access Solutions advocates using existing wiring to deliver broadband using G.hn. Pierre Trudeau, president and CTO of Positron, said that although managed Wi-Fi has potential, a provider still needs a wireline backbone. "Managed Wi-Fi is a means and not an end," he said.

A provider does not have to disrupt current tenants or a building because there's still useable wiring. The Positron GAM solution can achieve fiber-like data rates, for example. The vendor is developing a solution that can deliver up to 10 Gbps.

"Don't break open the walls and create a mess when you have existing, reusable infrastructure on your hands," Trudeau said. "Positron is planning on doing 10 Gbps symmetrical on existing coax in a few years."

Jack suggests that a provider should go with the latest infrastructure. "If you're going to pull something, then pull something new," she said. "If it's fiber to the building, have two runs of CAT 6a wiring."

### BRACING FOR MULTI-GIG SPEEDS

As providers equip more buildings for broadband, the next step is delivering multi-gigabit speeds. At AT&T, fiber is a key priority. The telco plans to equip 30 million locations with fiber by 2025.

In the near term, AT&T has enhanced its fiber speed suite, announcing a 2 and a 5 Gbps plan in January. These speeds will be available to 5.2 million homes and businesses in more than 70 metro areas.

"We can argue that 2 gigs or 5 gigs or 10 gigs are needed, but we'll let customers show us what's needed," Wootton said. "In earlier conferences, we discussed whether we needed 1 gig, and now we're talking about 10 Gbps. Fiber enables us to grow with customers."

Trudeau said that G.hn could work alongside fiber. The company has Native XGS-PON ONU Management Control Interface (OMCI) integration.

OMCI defines a mechanism and message format that the OLT uses to configure, manage and monitor ONUs. The OMCI protocol messages are carried over an ONU Management and Control Channel (OMCC) and are encapsulated into the GPON Encapsulation Method (GEM) frames.

"You can use switching technology and G.hn to deliver multi-gig services, including 10 Gbps symmetrical, which complements the fiber infrastructure," he said. "With OMCI integration, you can deliver fiber-like services and manage with the same backend and investment."

Frontier, which told investors in May that it's on target to exceed its 1 million fiber locations target in 2022, is seeing greater demand for gigabit-speed services. The telco expects to exceed its 2022 build target of 1 million fiber locations by adding 100,000–200,000 locations.

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Though some of its MDU customers sometimes require Frontier to use twisted-pair copper or coax, “we try to convince customers to let us

bring fiber to the unit,” Buehrle said. “I have done many builds where coax and twisted-pair will work, but we have to be careful not to overgeneralize

that because there might be different results.”

## American Association of Public Broadband Gives Munis a Broadband Voice

Broadband has become a key priority for cities and towns across the country – especially during the COVID-19 pandemic – but communities often face roadblocks when they want to take broadband matters into their own hands.

The American Association of Public Broadband (AAPB) hopes to change that. AAPB’s focus is on helping states and local municipalities craft broadband plans. The organization was formed in response to the federal government’s allocations of billions in broadband funding to states. Municipal network providers could get some of that funding.

“We want to make sure municipalities have a voice in Washington,” said Bob Knight, co-founder and member at large of AAPB. “We are funded by groups of agencies and the private sector to advance the needs of communities.”

### FOCUS ON STATES, COMMUNITIES

Some states now have laws encouraging municipal networks. Another option local communities have is to engage in a public-private partnership with a local incumbent or competitive provider.

“Money from ARPA and IJA will flow into the 50 states, and we have to be part of that conversation,” Knight said. “We must make sure communities have options, and that choice could be partnering with a local ISP or building networks and operating them themselves.”

Kim McKinley, secretary of AAPB and vice president of marketing at open-access network pioneer UTOPIA Fiber, said there had been a lack of resources for city and town officials to access information about building broadband networks. “One of the biggest holes I have seen in municipal broadband is that there’s not a place



AAPB leaders give voice to municipal providers.

city officials can go,” she said. “AAPB wants to be a guiding force for them.”

### OVERCOMING OBSTACLES

An initial priority for AAPB will be to help eliminate anti-municipal broadband laws. Today, 18 states have laws restricting municipalities from building their own networks, even in areas where incumbents refuse to make any meaningful upgrades.

According to the AAPB, lobbying groups for the large telcos and cable companies spend \$8 million daily to thwart municipalities from pursuing broadband businesses.

Municipal networks could involve public-private partnerships between service providers and communities. AAPB has established a five-member board comprised of people who have been involved in building municipal networks. It will focus on working with state broadband offices to bring them up to speed on the options and how municipal broadband can work.

“We need to educate policymakers at every level about the successes,” Knight said. “A lot of policymakers have only heard about the failures of earlier municipal broadband efforts, but a lot of the early muni networks failed because there was legislative action against them.” ❖



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