

# PROJECT OVERCOME



## ABOUT

The Project OVERCOME initiative led by US Ignite was conceived of and funded by the National Science Foundation (NSF Award # CNS-2044448) with additional support from Schmidt Futures. This booklet highlights the impact of the project and is presented with thanks to the community grantees and their partners for sharing their stories.

## FEATURED COMMUNITY GRANTEES

**DigitalC** - Cleveland, Ohio

**Libraries Without Borders US** - Loíza, Puerto Rico

**Missouri University of Science and Technology** - Clinton County, Missouri

**Onward Eugene** - Blue River, Oregon

**University at Buffalo** - Buffalo, New York

**Westchester County Association** - Yonkers, New York

## INNOVATIVE DESIGNS DEPLOYED

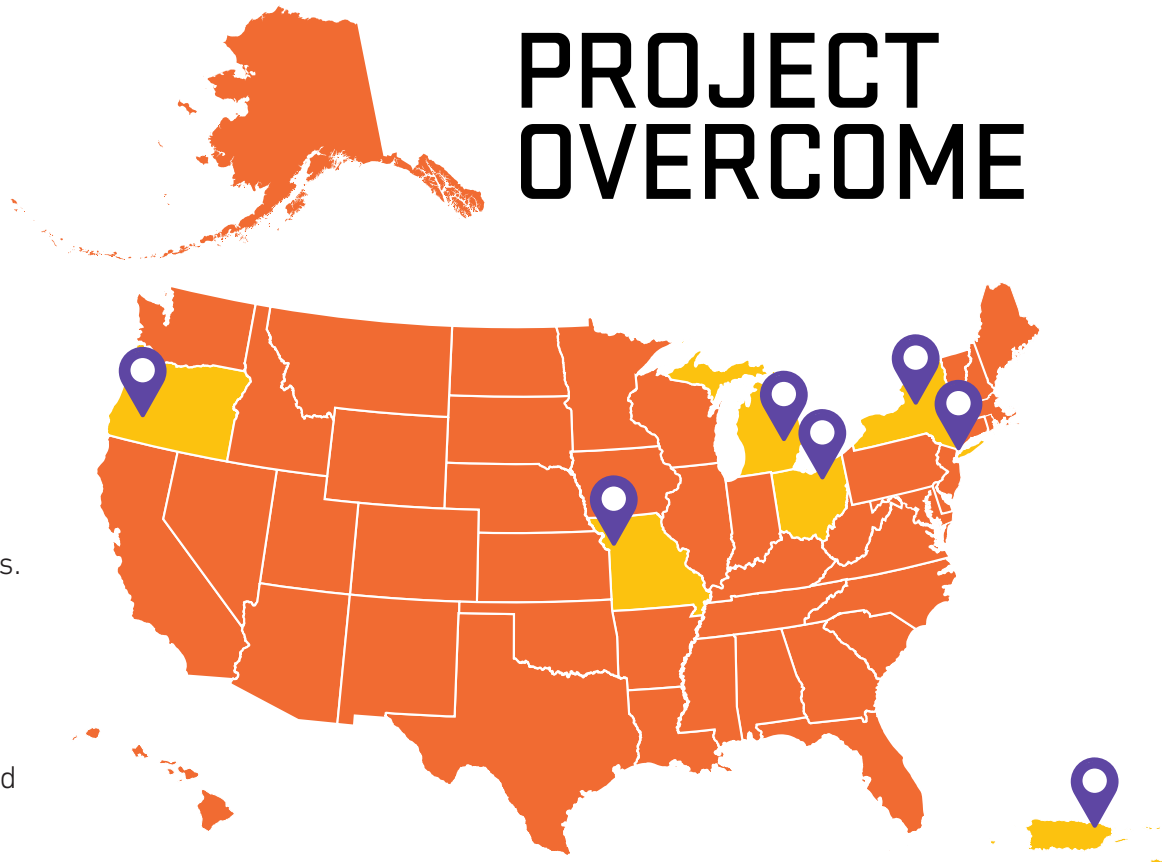
As a nonprofit dedicated to guiding communities into the connected future, US Ignite partnered with the National Science Foundation (NSF) to design Project OVERCOME to test creative solutions to connect the unconnected. The project's design ensured careful consideration of both the technical requirements of broadband access and the community collaboration, outreach, and engagement needed to explore sustainable success.

US Ignite selected communities to build proof-of-concept networks - including fiber, fixed wireless, and wireless deployments - across a mix of rural and urban communities. Selected communities received funding to deploy a novel solution to connect unserved and underserved areas and measure the project's social impact. The project aimed to understand the strengths and weaknesses of novel broadband solutions that communities can deploy to expand their reach.

Project OVERCOME illustrated successes across rural and urban communities, bridging the digital divide with a variety of technologies. With financial support and input from the NSF and Schmidt Futures, participants expanded job opportunities, increased access to health and educational resources, and strengthened community ties.

Now, we celebrate the successes of the projects and the human stories behind those connections.

# PROJECT OVERCOME



### **BLUE RIVER OREGON**

PAGE 10-11

### **CLINTON COUNTY MISSOURI**

PAGE 8-9

### **CLEVELAND OHIO**

PAGE 4-5

### **BUFFALO NEW YORK**

PAGE 12-13

### **YONKERS NEW YORK**

PAGE 14-15

### **LOÍZA PUERTO RICO**

PAGE 6-7



# CLEVELAND, OHIO

**“We are recruiting and partnering with some of the nation’s brightest organizations to ensure we create true digital equity in broadband access.”**

– **Katie Grootegoed**, Director of Sales, Customer Experience and Engagement, DigitalC



A diverse set of local partners leveraged the Internet connectivity outreach efforts to provide valuable information on healthcare, education, and workforce development to residents.

Out of the 80 US cities with 100,000 or more households, Cleveland has the highest percentage without broadband access. Organizations across the region recognized the need to recruit new stakeholders to address the problem, and DigitalC used the opportunity in Project OVERCOME to attract resources and build momentum for a more connected and equitable city.

The need for connectivity across underserved Cleveland communities was evident at community outreach events. During one event, kids dragged their mom to DigitalC’s information desk and pushed her to sign up for an affordable home Internet connection. They were tired of relying on Wi-Fi at a fast food restaurant or the library to complete their homework.

Initially, DigitalC’s connectivity plan through Project OVERCOME called for using millimeter wave (mmWave) technology to provide broadband service to low-income residents in the Lexington Village Apartment complex. However, plans changed when local permitting issues prohibited using the route necessary to connect the equipment to electrical power. The plans for the mmWave equipment were saved for another neighborhood, and the team pivoted to a private LTE over CBRS solution for broadband access.



# CLEVELAND, OHIO



Community outreach events allowed DigitalC to educate residents about the features of the different types of wireless technologies.



Digital literacy events hosted by the affordable housing partners helped increase the use of the Internet among residents.

About 30% of those connected by DigitalC have received adoption and training support through either digital clinics or one-on-one training. Training builds up technical skills and fosters trust with residents who may need to seek out additional resources. For example, Stephanie, a mother who completed computer training, now attends various other digital workshops and avidly advocates for more training events, particularly ones that offer educational resources for children.

DigitalC's work through Project OVERCOME and other digital equity initiatives led the organization to secure \$20 million from two local foundations to help them continue working toward closing the digital divide.



## GRANTEE AND PARTNERS

DigitalC, Millennia Housing Management, Cleveland Metropolitan School District, Cuyahoga County, MetroHealth, Cleveland Clinic, Cleveland Public Library, and Case Western Reserve University

# LOÍZA, PUERTO RICO

**“This isn’t just a place where people can connect to high-speed Internet or access technology- it’s a place where residents can come together, build trust, develop solutions to the problems most relevant to their lives, and work toward promoting the wellbeing of their community.”**

– **José Moreno**, Project Coordinator, Libraries Without Borders US



Bridging the digital divide requires an entire community - organizations, industry, and individuals - to commit to finding innovative solutions to pervasive challenges.



Digital literacy training is critical for ensuring broadband adoption among community members of all ages.

Hurricanes, gang violence, and poverty present Loíza, Puerto Rico with significant challenges. Despite the obstacles, community members are committed to their neighbors and to working together to improve their quality of life.

The Project OVERCOME effort in Loíza, led by Libraries Without Borders - US (LWB-US), connected three community centers with 5G hotspots and antennas. The three centers - Tocones and Piñones, Sector la 23, and Colobo - now offer Wi-Fi access and digital services, making each an educational and civic hub for their community. However, the Internet connection is only a part of the transformational impact of Project OVERCOME in Loíza, where local leaders paired the connectivity initiative with efforts to overhaul community centers for more effective use. Zuleima, an interior designer who facilitated conversations and placemaking efforts with the community, consulted residents on their wishes and needs for a renovated community space before work began. This move fostered community trust in the project and inspired volunteers.



# LOÍZA, PUERTO RICO



Activating Loíza's resident support built accountable relationships across the community, and ensured inclusive and equitable growth of digital education programs.



Project OVERCOME stimulated support from local organizations and funded the retrofitting of community facilities with new computer labs and solar power resources.

The community's eagerness to help was welcome, given the massive muscle power required to clean, paint, and restore the centers. Project volunteers organized a few "Gran Pintata" (Great Painting) events where the entire community came out to work on the centers. These events even yielded the birth of a local renovation business led by two cousins, Jose Luis and Alejandro. These cousins developed critical project management skills and the confidence necessary to venture into entrepreneurship by managing the workflow.



## GRANTEE AND PARTNERS

Libraries Without Borders US, Link Puerto Rico (LinkPR),  
Information Technology Disaster Resource Center



# CLINTON COUNTY, MISSOURI

**“Finding out is the point of the experiment, and it feels great to be actively working together to find some solutions to the desperate pleas from our county’s friends and neighbors who are at a disadvantage by not having reliable high-speed broadband service at home.”**

- **Christel Gollnick**, Maximize NWMO Navigation Team Member



Partnerships between university and community organizations increased research opportunities and broadband adoption in rural Turney, Missouri.

Large Internet Service Providers (ISPs) avoided Turney, Missouri (in Clinton County) when building connectivity infrastructure around neighboring Kansas City, leaving the local rural population without critical broadband coverage. In a close collaborative effort, the Missouri University of Science and Technology, Worcester Polytechnic Institute, United Fiber, Maximize NWMO, and the University of Missouri Extension responded by successfully connecting local households and a church as part of Project OVERCOME. Building off an existing rural electric cooperative’s fiber network, the team installed a millimeter wave (mmWave) connection to a grain elevator, the tallest nearby structure, enabling wireless LTE with Ubiquiti gear and future Citizens Broadband Radio Service (CBRS) connectivity to cover the town.

The Turney project immediately impacted residents, who reported quality-of-life improvements such as being able to use multiple Internet-connected devices at a time. Residents cited better experiences in employment, education, and healthcare. One small e-commerce business owner said they were able to “post more and stay in contact with customers more efficiently.” Another resident reported that their daughter, a college student who is enrolled in online courses, “no longer has issues getting assignments submitted due to poor service.” Other residents found that newly enabled telehealth visits saved gas money and the cost of taking off time during work.

# CLINTON COUNTY, MISSOURI



Fun and engaging community events - like ice cream parties - drove interest and participation in new free Internet programs.



Fixed wireless can offer new fiber-like speeds for hard-to-reach communities.

Once connected, Clinton County residents also engaged in enhanced digital literacy training. A University of Missouri journalism professor led a series of media literacy workshops, including one at a community meeting and two in high school classes, which provided responsible browsing and sharing strategies in a complex information culture. One of the workshop participants reflected that "it was a lot of good information on how to be ethical users of the Internet and digital media allies for each other by fact-checking before sharing emotional news that might not be real."



## GRANTEE AND PARTNERS

Missouri University of Science and Technology,  
Worcester Polytechnic Institute, United Fiber,  
Maximize Northwest Missouri (NWMO), and  
University of Missouri Extension

# BLUE RIVER, OREGON

**“...with Project OVERCOME, we are delivering world-class Internet access to the region and truly building it back better.”**

- **Geoff Turner**, CEO, Elevate Technology Group



Thanks to new and reliable connectivity, a live-streamed Olympic qualifying event raised over \$3,000 for the community in one night.

In 2020, the Holiday Farm Fire devastated the Blue River, Oregon community. The forest fire wiped out Blue River's Internet infrastructure, burning down wooden poles used to anchor the community's above-ground fiber network. Local activists recognized the need for a more resilient connectivity solution. They used funds from Project OVERCOME to construct a 60-foot solar-powered communications tower and created a robust wireless backhaul link with spectrum in the 11 GHz band.

The momentum started by Project OVERCOME immediately sparked progress in the Blue River community. In June 2020 - a few months after the start of the project - Blue River hosted the McKenzie International event, a Tokyo Olympic qualifying track meet. Because of Project OVERCOME, the event organizers could offer a pay-per-view live stream of the race. Thanks to this capability, over \$3,000 in net proceeds were donated to the McKenzie Track and the Oregon Community Foundation – Community Rebuilding Fund.



# BLUE RIVER, OREGON



In fire-ravaged Blue River, Oregon wireless engineers and community volunteers deployed an Internet connection to help their neighbors.

The wireless network deployment directly impacted community members' lives as well. The experience of Tracy, a mother of a couple of McKenzie School District students living in the underserved area, illustrates the effect on day-to-day activities. Previously, Tracy's family used a low-performance satellite Internet service. The speed of the satellite connection was nearly unusable for homework, telehealth, and streaming needs.

Project OVERCOME facilitated the build of core infrastructure to provide high-capacity and low-latency connections which enabled additional investments by Elevate Tech Group to run fiber to private residences, including Tracy's home. Using the wireless link for backhaul, Tracy's family and many of her neighbors now enjoy symmetrical fiber services. This connection allows for downloading, uploading, video calls, remote learning, telework, and much more.

The Project OVERCOME tower also established a permanent network hookup for multiple air quality and wildfire detection cameras that help protect citizens in the region. The real-time view from the cameras on the Project OVERCOME tower can be accessed online at [alertwildfire.org](https://alertwildfire.org) and contributes to Blue River's general public safety strategy. With Project OVERCOME, these "digital lookouts" help protect public property, private assets, and critical infrastructure.



## GRANTEE AND PARTNERS

Onward Eugene, Elevate Tech Group, McKenzie School District

# BUFFALO, NEW YORK

**“We are thrilled to provide families in the Fruitbelt neighborhood with wireless broadband Internet access.”**

- **Dr. Filippo Malandra**, Assistant Professor - Electrical Engineering Department, University at Buffalo



Partnering with faith organizations can create trust by proxy in historically underserved communities.



Tower height and line of sight are critical for signal strength in CBRS deployments.

Although an iconic part of Buffalo, the historic Fruitbelt Neighborhood has long lacked adequate Internet connectivity, making it difficult for residents to access basic digital services. One Fruitbelt resident explained that “with Internet, we can share with one another and ...have access to things that surrounding neighborhoods have had access to for years.” Through partnerships with leaders from the community, the project team tackled the digital divide plaguing the Fruitbelt Neighborhood.

Progress was difficult at first, with distrust from community members presenting a critical obstacle on the ground. Over the years, many outside groups and organizations delivered failed pilots in this community, making residents skeptical of new efforts and the group’s commitment to positive outcomes. With this awareness, the Buffalo team trained and empowered residents to engage the Fruitbelt neighbors. Digital Stewards oriented neighbors to the technology and its benefits and fostered trust. Through community connections, installations, and word of mouth, the Digital Stewards began to earn community trust as they educated neighbors on the project.

Leveraging unlicensed Citizens Broadband Radio Service (CBRS) and a new base station at Buffalo General Medical Center, the Project OVERCOME team built a private LTE network to connect previously underserved households. The network also provided free coverage for a community anchor institution at the historic Promiseland Missionary Baptist Church.



# BUFFALO, NEW YORK



Project partners like Mission: Ignite emphasized the importance of digital training and devices to ensure Internet adoption.

In addition to the new Internet access, and thanks to support from the John R. Oishei Foundation, the Fruitbelt clients also received a desktop computer kit that included a desktop computer, monitor, keypad, mouse, web camera, and headset. The kits were essential to ensuring Internet use given the community's early hesitancy to participate in this project. In one case, the owners of a local barbershop initially declined the free desktop computer. However, they later accepted the donation to enable their clients' children to complete homework assignments with an Internet-enabled desktop.



## GRANTEE AND PARTNERS

University at Buffalo, Mission: Ignite, Buffalo General Medical Center, John R. Oishei Foundation, Crown Castle, Kaleida Health, Community Tech NY



# YONKERS, NEW YORK

**“It’s amazing to see us ... implement a plan to introduce digital equity to hundreds of households through an extraordinary array of partners.”**

– **Christopher Fisher**, Board Chair, Westchester County Association



Communities should always take a holistic approach to partnerships for connectivity. Using the roof of city hall allowed this tower to deliver robust, far-reaching, and cost-effective services.

Located in Yonkers, NY, and strategically placed at the intersection of tech adoption and grassroots implementation, the “Y-Zone” used Project OVERCOME to connect homes to a new CBRS network with broadband routers, allowing formerly underserved users to adopt a reliable and no-cost Internet service.

Many of the households connected also obtained a Chromebook and digital skills training as part of the Access Plus tier. Kecia, one of the connected residents, shared that “the Y-Zone is an awesome program” since she was able to take computer classes and get a free router. Moreover, many parents in the program commended the Y-Zone effort for giving their children the necessary access to the Internet to complete homework assignments.



Interested subscribers in Yonkers had the option of signing up to upgrade their subscription to receive digital training and a device, in addition to a year of free Internet.

# YONKERS, NEW YORK



The Project OVERCOME team in Yonkers worked hard to understand the depth and complexity of challenges impacting student-aged residents by recruiting youth in the design and execution of the solution.

Students were not the only ones that benefited from the new network and digital literacy classes. Senior residents also learned new skills and enjoyed taking a class with peers. One of these participants, Augustina, proudly confirmed she still had the “cajita” (little box) set up, referring to the router she received. As an Access Plus participant, in addition to the router, Augustina earned a Chromebook by completing 15 hours of digital training. Overall, Augustina’s most important takeaway from the workshop was the ability to use the Internet to better communicate with doctors, friends, and family. This sentiment was shared widely, as evidenced by a feedback survey where 63% of subscribers indicated that the computer and their new skills would improve their quality of life by giving them “the ability to learn new things.”



## GRANTEE AND PARTNERS

The Westchester County Association, Inc.,  
City of Yonkers, STEM Alliance,  
Yonkers Partners in Education (YPIE),  
Crown Castle, Fordham University, Westhab



## WHAT'S NEXT

Alongside the Project OVERCOME deployments, US Ignite conducted a social impact survey to study the impact of the deployments in the community members' use, trust, and adoption of the Internet. The main insight acquired from the survey analysis was that Project OVERCOME had a significant effect on Internet use for employment and healthcare purposes in the households that obtained assistance in navigating the Internet in addition to a reliable connection. The source of the support also mattered. Help provided by household members and friends was not effective, but support provided by device manufacturers, Internet Service Providers, and local organizations, like schools and libraries proved impactful. As illustrated in the stories from the communities, the survey findings emphasize the importance of providing access along with support and training for underserved and unserved populations to make a meaningful impact.

The learnings from the Project OVERCOME investment will also inform and shape the communities' future work connecting the unconnected. As the government turns more significant attention to effective strategies for closing the digital divide, the Project OVERCOME communities are well prepared to maximize federal investment and deliver on the promise of broadband for all.

Project OVERCOME offered a unique opportunity for peer learning in broadband deployments. To carry that momentum forward; US Ignite extended invitations to all communities to join its flagship US Ignite Communities program. As part of the program, these communities can now contribute to one of the first and most effective smart community networks in the United States.