



Allocating TV White Spaces Channels for High-Speed Wireless Broadband

GN Docket No. 12-268; ET Docket No. 14-165; MB Docket No. 15-146

Chairman Ajit Pai

Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

The Honorable Brendan Carr

FCC Commissioner
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

The Honorable Mignon Clyburn

FCC Commissioner
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

The Honorable Michael O’Rielly

FCC Commissioner
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

The Honorable Jessica Rosenworcel

FCC Commissioner
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Dear Chairman Pai, Commissioner Carr, Commissioner Clyburn, Commissioner O’Rielly, and Commissioner Rosenworcel:

We, the undersigned, are leaders of Voices for Innovation, a community of more than 90,000 technology professionals and consumers committed to advancing innovation, growing our nation’s IT economy, and enhancing the fabric of our nation through technology.

We are writing today to strongly urge the Federal Communications Commission (FCC) to preserve three TV white spaces channels in every market in the nation that can be used to carry innovative broadband technology.

This emerging technology has the capability to bring affordable, reliable, high-speed internet to 34 million Americans who currently lack access. By taking this action, the FCC will spur private sector investment that will help connect all Americans to the internet, especially those living in rural and underserved communities.

We support this approach for the following reasons:

1. TV white spaces have great broadcast capabilities:
 - These frequencies are currently unused and have great range.
2. TV white spaces can deliver broadband affordably:
 - Transmissions can cover entire communities using the same amount of power and for less cost to the typical user.
3. TV white spaces can enable a variety of broadband scenarios:
 - This includes education, agricultural IoT, rural healthcare, and public-sector services.
4. This will work:
 - There are countless examples in the U.S. and across the world of using TV white spaces to deliver broadband internet access.

Adequate access to the internet is increasingly important to all aspects our of lives and the economy. Without internet access, too many Americans have limited opportunities to seek employment, grow businesses, address their healthcare needs, access education, and improve their skills. Connecting all Americans to the internet should be the 21st-century equivalent of the 20th century’s rural electrification initiative. As an appendix to this letter, we have included several of our own examples of how a lack of broadband access impairs our companies and/or our customers.



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We recognize and support the FCC's leadership on this issue. As we know, closing the digital divide across America is a top priority for the Commission. We are confident that the best way to make progress on this issue is to preserve three TV white spaces channels for wireless broadband.

Thank you for your consideration of our views. We look forward to seeing the FCC move forward to unleash broadband across America.

Sincerely,

Jon Rivers

*President
Marketing Monarchs
Tampa, FL*

Frank Valdivieso

*President & CEO
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Lacy Finley

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Arlin Sorensen

*CEO/Founder
HTS Ag/HTG Peer Groups
Harlan, Iowa*

Dux Raymond Sy

*Public Sector CTO
AvePoint
Arlington, VA*



Appendix

Examples Highlighting the Need for TV White Spaces Broadband

Rural Telemedicine

Stephen Cracknell, Founder and CIO
US Medical IT, Allen, TX

Our organization has implemented a number of telemedicine solutions in rural settings. Our first and most critical question when a client approaches us about implementing a rural based telemedicine solution is what their internet options look like because our solution requires sufficient bandwidth to support high definition application and video streaming.

In places where we have been able to implement our telemedicine solution, healthcare providers are truly able to make a difference in the lives of people living in rural communities. Patients can stay in their communities, close to family and support networks, to receive specialist care. This also minimizes the need for costly transfers—for instance, by air ambulance—to urban hospitals. Rural healthcare providers increasingly want to implement these life-changing technologies in their communities, and TV white spaces broadband would support options that are currently not available or prohibitively expensive. US Medical IT strongly supports the TV white spaces initiative.

Broadband for Rural Workforce and Business Development

Ryan Risley, Partner and Chief Technology Officer
Wipfli LLP, Reston, VA; Milwaukee, WI

Wipfli LLP employs nearly 2,000 people, and many are located in rural areas of Idaho, Montana, Minnesota, Texas, Virginia, and Wisconsin to name a few. Our goal is to employ and recruit from all areas of the country regardless of where someone lives. Often an employee's decision to live in a certain community is dependent on the availability of high-speed internet, which is essential for work and telecommuting. TV white spaces broadband would create more options for employees, allow us to extend our recruiting, and enable rural communities to attract and retain skilled workers who will contribute locally.

Our firm serves many types of clients, including manufacturers, agricultural businesses, and rural cooperative health organizations. They all benefit from internet access, which connects them with innovative services and enables them to remain competitive. The lack of internet access holds back some clients and prevents them from excelling to their fullest potential. For instance, rural healthcare providers often provide care and monitoring for patients without internet access. As a result, innovative internet-connected medical devices cannot be leveraged to improve healthcare outcomes. The availability of affordable, reliable TV white spaces broadband would improve rural healthcare, support our customers' business operations, and help enable our firm to grow and add to our workforce.



Appendix

Examples Highlighting the Need for TV White Spaces Broadband

The Urgent Need to Connect Rural America

Arlin Sorensen, CEO and Founder

Heartland Technology Group, Harlan, Iowa
HTS Ag, Harlan, Iowa

As a technology professional, business owner, farmer, and rural American, I know firsthand the consequences of limited high-speed internet access in rural communities. Simply put, lack of broadband hurts communities and businesses in rural parts of our nation. TV white spaces broadband will help close this digital divide.

I run an organization called the Heartland Technology Group, made up of more than 450 companies, and many of our small tech members operate in rural areas. They would like to help their customers leverage the most innovative cloud technologies, but many rural companies and their employees cannot connect to the internet with adequate speeds to make the cloud viable as a solution. In my own case, I cannot bring the best farm management technology to my own family's farming operations due to limited coverage. The digital transformation that has benefited so much of our nation must reach rural America. Connectivity provided by TV white spaces broadband will help rural economies and enable communities to thrive.

Improved Broadband Access Needed for Small Businesses

Nikkia T. Carter, CEO

Carter-McGowan Services, LLC, King George, VA

I live and operate a small technology business in King George, Virginia. In order to have reliable internet connectivity to operate my business, I pay for three types of service—all cellular and expensive. These services are also prone to interruption and degradation due to weather and trees. (My area and lots of areas in King George County are covered by lots of trees.) The only other internet options in my area are satellite and dial-up. Satellite internet is even more expensive for less data and more prone to weather disturbance.

Part of the county has access to wired connections, including Fios (Verizon) and cable internet, but neither provider has invested in running lines to many parts of King George, including my area. DSL is also not available. County leaders have tried to encourage broadband providers to extend service into additional parts of the county, but those attempts have largely been ineffective. The lack of affordable, reliable broadband drives up costs for businesses like mine—or prevents businesses from benefiting from internet connectivity. The availability of TV white spaces broadband would help address this challenge.



Appendix

Examples Highlighting the Need for TV White Spaces Broadband

Border Protection, Rural Law Enforcement, Rural Government

Lacy Finley, President and CEO

Tech Cumulus, Austin, Texas

As a technology provider whose customers include Texas law enforcement, I often hear about how lack of internet access poses challenges for rural policing and border protection. Texas of course is a large state, with many rural areas and hundreds of miles of border with Mexico. Many remote areas lack even cell connectivity, and geographic features such as arroyos can make service spotty when it is available. White spaces broadband would strengthen border protection and public safety by improving field officers' access to information as well as better enabling the operation of remote cameras and other security systems.

In addition, rural counties in Texas face many challenges because of the lack of affordable, reliable broadband. Without reliable broadband or a secondary source for backup, local governments are limited in their ability to access cloud services—and save costs. TV white spaces broadband would also help stem the brain drain from smaller Texas communities. Knowledgeable workers with broadband access would be able to settle or remain in small towns and rural areas, contributing to the local economy and tax base. This would help reinvigorate small communities and provide needed funds for infrastructure and essential services.

Improving Government Services

Dux Raymond Sy, Public Sector CTO

AvePoint, Arlington, VA

In April 2017, through our company's philanthropic program, AvePoint donated full use of our Citizen Services cloud-based software to the city of Richmond, Virginia. This solution enables Richmond residents to report non-emergency issues to the city and speeds response time. The solution incorporates numerous cloud-based technologies, including AI and geolocation, that help identify the problem—e.g., a pothole, graffiti, a broken streetlight—and route a notification to the appropriate government agency.

The effectiveness of this technology depends on reliable internet connectivity. Citizens need to be connected to make reports, and government employees and contractors out in the field need internet access to identify issues, report responses, and proceed efficiently to the next matter. TV white spaces broadband will be instrumental for leveraging the full potential of this technology. High-speed internet provided via TV white spaces spectrum will also be critical for bringing AvePoint Citizen Services and similar solutions to rural communities. Rural governments operate on tight budgets, and cloud-based technologies—made possible by TV white spaces broadband—will enable smaller municipalities to improve services and contain costs.