



**Internet Society Submission to the ITU Council
Working Group on International Internet-related
Public Policy Issues (CWG-Internet)**

Online open consultation on “The role of the Internet and international Internet-related public policy in mitigating the impact of COVID-19 and possible future pandemics”

September 7, 2021

Introduction

The Internet Society (ISOC), a Sector Member of the International Telecommunication Union (ITU), is pleased to submit this contribution to the ITU Council Working Group on International Internet-related Public Policy Issues (CWG-Internet) Online open consultation on “the role of the Internet and international Internet-related public policy in mitigating the impact of COVID-19 and possible future pandemics.”

The Internet Society supports and promotes the development of the Internet as a global technical infrastructure, a resource to enrich people’s lives, and a force for good in society. ISOC and its community believe that global communications create opportunities for growth, creative expression and innovation that should be available to all. Our work aligns with our goals for the Internet to be open, globally-connected, secure, and trustworthy. We seek collaboration with all who share these goals.

To this end, we are committed to collaborating with partner organizations in every region of the world, each within its area of responsibility, in order to increase access to the Internet to spur economic and social development. We would like to commend the ITU for holding this open stakeholder consultation to facilitate the exchange of views and sharing of experiences in building Internet connectivity, communities, and capacity.

At the beginning of 2020¹, when the World Health Organization declared COVID-19 a pandemic, it accelerated the shift to digital technologies including the Internet for work, learning, e-government services, telehealth, and many asked if the Internet was resilient enough to withstand Covid-19. After several months of observations, we confirmed that it is, thanks to the strength, resilience and success of the open, easily scalable and distributed architecture that underpins it.

As we head into the second half of 2021, businesses have reopened in many countries, allowing employees to return to their workplaces. Many students returned to school, whether in person or online. Yet, the lack of available and affordable Internet access remains a significant issue. Throughout the pandemic, we are familiar with stories of the challenges that students confront with access to online learning; for example, students sitting outside schools and libraries in search of reliable Wi-Fi to attend classes. Reliable and affordable Internet access is now a critical component of students’ education.

As expected, the Internet has remained resilient. This happened, because there is no single “Internet” to catastrophically fail, thanks to its foundational “network of networks” architecture. Therefore, we need to make sure that all the many interconnected participants keep playing their role to maintain the foundational characteristics of an open, globally connected, secure and trustworthy Internet².

¹ <https://www.internetsociety.org/blog/2020/09/what-does-normal-look-like-now-covids-impact-on-the-internet/>

² <https://www.internetsociety.org/blog/2020/05/the-internet-is-resilient-enough-to-withstand-coronavirus-but-theres-a-catch/>

Open and Multistakeholder processes.

The COVID-19 pandemic has underscored just how much we depend on the Internet and its decentralized management and distributed governance model.³ Because the Internet is a network of networks, its resilience is largely due to the open dialogue, swift action and cooperation of its interconnected participants.⁴ And we are just at the beginning of the journey, with only 51% of the world's population currently able to access the Internet. To get the remaining, unconnected half online, we need collaborative bottom-up coordinated action.⁵

Safeguarding an open, trustworthy, secure and globally connected Internet is essentially a multi-stakeholder endeavor. The multistakeholder approach will keep diverse actors at the table and mobilize them to create the Internet that meets local needs. Discussions on the future of the Internet should count on inputs from all stakeholder groups

Recommendations:

As a network of voluntarily connected networks, the Internet changed the course of history because people agreed to work and innovate together. This is what the Internet Society calls the **Internet Way of Networking**.⁶ **Countries should commit to the Internet Way of Networking** as a way of protecting the Internet's foundation and of keeping it open to everyone.

Community Networks⁷

Rural, remote, and underserved areas face many barriers to broadband access. Often, commercial Internet Service Providers (ISPs) do not see a viable business model for deploying affordable broadband to these areas due to factors including low population density, low average income per household, and difficult terrain that often leads to low or no return on investment.

To fill these gaps in connectivity, communities have deployed self-sustaining networks that act as complementary Internet access solutions. Community Networks (CNs) use a variety of different technologies, but generally the wireless equipment used to start a network is affordable and less expensive than the equipment used by commercial ISPs. This makes CNs an innovative way to meet current Internet connectivity challenges. The logistics and administration of CNs are less expensive because of their scale and local nature. These factors make CNs sustainable from an economic perspective. CNs are often environmentally sustainable as they frequently make use of renewable energy such as solar power.

³ <https://www.internetsociety.org/resources/doc/2020/internet-impact-assessment-toolkit/critical-properties-of-the-internet/>

⁴ <https://www.internetsociety.org/blog/2020/12/dont-institutionalize-the-internet/>

⁵ <https://en.unesco.org/news/new-report-global-broadband-access-underscores-urgent-need-reach-half-world-still-unconnected>

⁶ <https://www.internetsociety.org/issues/internet-way-of-networking/>

⁷ <https://www.internetsociety.org/issues/community-networks/>

The social and economic development catalyzed by CNs has been pointed out in the Association for Progressive Communications' (APC's) 2019 Study Group Contribution ([SG1RGQ/254-E](#)) and elsewhere. Building on this understanding of CNs, we submit this contribution to elaborate steps that policymakers and regulators can take to help CNs prosper.

There are three main barriers that CNs face in attempting to provide sustainable, affordable connectivity to rural, remote, and underserved areas. These barriers are:

- access to funding mechanisms,
- access to appropriate licensing/authorization frameworks, and
- access to necessary electromagnetic spectrum and infrastructure.

This contribution outlines approaches governments and regulators can take to foster the viability and growth of these networks.

Recommendations:

In this area, we would like to put forward policy recommendations that policymakers can take to lift the barriers highlighted above. Those recommendations can help create/foster an enabling environment for CNs to flourish and expand the Internet infrastructure with the underlying principle of permissionless innovation, openness, and diversity⁸:

- **Access to government funding mechanisms:** Create public policies that promote digital inclusion and access, and allocate public budget towards these policies, for example Universal Service Funds (USFs). Ideally, policies around those areas as well as the management of USFs should be undertaken through a multi-stakeholder process and be guided by laws that organize their disbursement and make their use more efficient.
- **Access to appropriate licensing/authorization frameworks:** Easing regulatory requirements is key to make it simpler for community networks to be able to comply with existing laws and regulations. In some countries, existing regulatory landscapes do not work well in the community networks context. Governments should consider creating enabling regulations and policies to specifically address not-for-profit operators and small-scale operators. This could include creating license exemption provisions or light licensing schemes (including free of charge) for local communities with easy-to-understand application procedures and low- or no-cost application and renewal fees. They should also consider streamlining onerous regulatory requirements, such as annual reporting and other unduly burdensome obligations designed to address market dominance by larger commercial providers. Finally, administrations should provide clear guidance on the specific policies and regulatory requirements (and exemptions) for community networks. This information is often not easily accessible or not widely known, especially for communities without Internet access.

⁸ <https://www.internetsociety.org/resources/doc/2019/innovations-in-spectrum-management/>

- **Access to necessary electromagnetic spectrum.** Adopt new spectrum management tools to better utilize spectrum⁹. Such approaches can include:
 - (1) License-exempt Spectrum: spectrum that is not tied to a regulatory license. Users may utilize this spectrum with minimal regulatory requirements, and without the need to pay the high costs of obtaining a spectrum license. We recommend expanding more spectrum as license-exempt.
 - (2) Sharing Licensed Spectrum/Dynamic Spectrum Access: Shared spectrum would allow community networks in rural unserved or underserved areas to use already-licensed spectrum on a secondary basis, with the possibility to use the frequencies adjacent to the bands allocated. An example of this is using the “unused” spectrum in the television bands—known as television white spaces (TVWS)—to provide Internet access. Another example is the Citizens Band Radio Service (CBRS) in the United States, where spectrum currently occupied by incumbent users is shared on a secondary and tertiary basis, by licensed users and lightly-licensed users. Shared spectrum is also possible in the IMT bands.
 - (3) Innovative Licensing: Innovative approaches to spectrum management can present opportunities for community networks to gain access to spectrum. One example of innovative licensing is a “social purpose” license, which is an exclusive service license granted in rural unserved or underserved areas to non-traditional network operators, such as community network operators. With “social purpose” licenses, regulators set aside specific licenses for non-traditional operators, which removes the competitive nature of licensing, and prioritizes spectrum use for non-commercial purposes. These licenses allow regulators and policy makers to make gradual changes in the way they facilitate development of communications in formerly unserved and underserved communities.

Case Studies

The success cases of so many CNs across the world, in the face of multifaceted obstacles detailed above, demonstrate the resilience and adaptability of the CN-driven approach to connectivity. It also demonstrates how some regulators have been able to make the best of the possibilities it presents for connecting the unconnected and have already created enabling environments for CNs¹⁰. We recommend considering complementary access solutions as a valuable and innovative way to connect rural remote, unserved and underserved areas around the world.

Internet Exchange Points ¹¹

An Internet Exchange Point (IXP) is essential technical infrastructure where networks come together to connect and exchange Internet traffic. Building a successful IXP is not just a technical engineering job – time and effort needs to be invested in community building, as

⁹ <https://www.internetsociety.org/policybriefs/spectrum/>

¹⁰ <https://www.internetsociety.org/issues/community-networks/success-stories/>

¹¹ <https://www.internetsociety.org/issues/ixps/>

well as developing trust, common understanding and mutual agreements among members of the local community.

IXPs are vital to bringing a faster and more affordable Internet to people. They make the Internet:

- **Cheaper:** Because IXPs ensure that traffic between local senders and local recipients uses relatively cheap local connections, rather than expensive international links, the cost savings for Internet service providers can be significant – 20% or more in some countries.
- **Better and more resilient:** The switching capabilities of IXPs allow Internet traffic to be redirected when there are connectivity problems on the network. So, for example, if there is a breakdown in international connectivity, an IXP can keep local traffic flowing within the country. This contributes to a more resilient Internet.
- **Faster:** By providing more direct network connections, IXPs improve the quality of access for local users. Access speeds for local content improves as much as tenfold with an IXP in place because traffic is routed more directly.
- **More opportunities:** IXPs attract a range of local and international operators because they provide them with a more cost-effective way to access potential local Internet users. This spurs innovation and creates business opportunities – it encourages local people to produce more relevant local content and applications.

Recommendations:

To effectively address crises such as COVID-19, policy and decision makers should:

- Work with industry to develop an IXP if there is none, or to increase deployment of an existing IXP to new sites.
- Develop conditions to attract investment in new data centers, and to upgrade existing data centers as needed.
- Ensuring reliable power is available to sustain Data Centers.

Policy-makers can create an enabling environment for interconnection via policy and regulatory frameworks by considering:

- Transparent policy and regulatory processes to encourage regional and international entities to participate in the local interconnection environments.
- Encourage competitive access to wired and wireless connections.
- Minimize any potential barriers for IXP establishment that are inherent to taxation, customs duties, authorization, or licensing.
- Promote local investment opportunities and development of local content, via tax holidays, reduced duties on the equipment needed to build IXPs and operator networks.

- Foster relationships with IXPs and technical communities to learn more about local interconnection environments and sustainability models.
- Learn from others: Work with existing IXPs and expert organizations to collaborate, train and develop opportunities.
- Develop and enhance cross-border interconnection policies to build resilience between countries and regions.

Conclusion

This contribution has put forward policy recommendations that regulators and policymakers can employ to address some of the main barriers for infrastructure development. Not only during crisis, such as COVID-19, but as part of comprehensive connectivity development plans. We highlighted the essential aspects of maintaining multistakeholder processes to maintain the Internet Way of Networking, keeping an open, globally connected, secure and trustworthy Internet for all. When it comes to infrastructure development, we recommend policymakers to address the main barriers that prevent complementary access solutions such as community networks, to thrive. We included three areas: (1) access to government funding mechanisms (e.g., USF), (2) access to appropriate licensing/authorization frameworks, and (3) access to necessary electromagnetic spectrum. The recommendations are not comprehensive and there are other barriers and challenges to the success of community networks not discussed in this contribution. Finally, we recommend policy and decision makers to enable interconnection, through IXP developments, to provide cheaper, better, and faster internet. On both fronts (CNs and IXPs), the use of regulatory sandboxes can provide a safe space for project incubation and policy design in a way that sparks innovation, infrastructure resilience and business opportunities across the board.