

## SecondNets -- DRAFT 2.5

### Redundant Disaster Readiness Communications for Second Responders

Public libraries and other second responders installing wide area wireless networks using public spectrum Wi-Fi and TV WhiteSpace(TVWS) units, each with back-up power, creating a redundant communications capability to strengthen community resilience against disasters. Deploying newly available low-cost, DIY regional scale networks increases emergency preparedness as immediate on-the-ground backup communications resource for disaster relief. Networks can serve as additional complementary community assets to traditional and proposed first responder communications in times of dire need.

Direct facility to facility wireless links connecting libraries, schools, health clinics and other community anchor institutions(CAI's) could prove invaluable when traditional networks are either down or overloaded. Such systems have the potential to operate autonomously as ad hoc IP networks able to support basic IP applications like mail, VOIP, text etc. across local communities. Or where a facility still with a connection could share outside access with peers.

These community area wireless intranets are envisioned to serve dual purpose by otherwise being in daily use to expand availability of public library broadband at more locations in their communities. Setting up new TVWS-enabled remote library WiFi hotspots at underserved libraries, library kiosks, parks, civic centers, playgrounds, shelters, etc., can dramatically increase accessibility for the 10's of millions of U.S. patrons who rely on library ICT's.

Research shows that CAI's as second responders, and especially libraries, are well-suited and located to provide access to critical ICT resources to anyone in times of intense, immediate need: "While a number of the important roles played by libraries, such as providing shelter and distributing food, were also played by other government agencies and relief organizations, the provision of access to computers and the Internet was a wholly unique and immeasurably important role for public libraries." Yet "library involvement with emergency response operations was rarely formalized." -[Libraries in Disaster Preparedness and Community Services](#)

With prices steadily dropping, the average cost for a simple wide area Wi-Fi/TVWS turnkey network of base station with 5-10 remotes is estimated at under \$10K per system. 10,000 such systems or one per community in the US would cost <\$100 million. An extraordinary bargain for thousands of new and complementary community safety networks at <1% of the estimated \$10 billion price tag for the [proposed FirstNet national wireless network](#) for first responders.

Regional scale Wi-Fi/TVWS library networks, serving their communities every day, would be already in place for quick repositioning as pop-up hotspots in damaged areas where the greatest impact can come from a response within hours instead of days or even weeks.

"The reality is that after a catastrophic event, the public communications infrastructure WILL be down for 2 – 10 days on average, and the community will need temporary connectivity until the public utilities are restored. TVWS is well suited for Disaster Relief and Community Recovery since it can be rapidly re-deployed to shelters, ad-hoc recovery centers, and other community facilities. This is a wonderful use of this available spectrum!" -[Information Technology Disaster Resource Center](#)

See how TVWS trial systems were [redeployed in response to Philippines typhoon, Yolanda](#).