CASE STUDY

# NORTHERN CALIFORNIA RURAL DEPLOYMENT

digitalpath.net TARANA

DigitalPath, an ISP operating out of Chico, CA for 20+ years, is now quickly growing its subscriber base on a Tarana G1 next-generation fixed wireless access (ngFWA) network in two rural counties in northern California. The network deployment was funded in large part by a $415,438 grant from the California Advanced Services Fund (CASF).

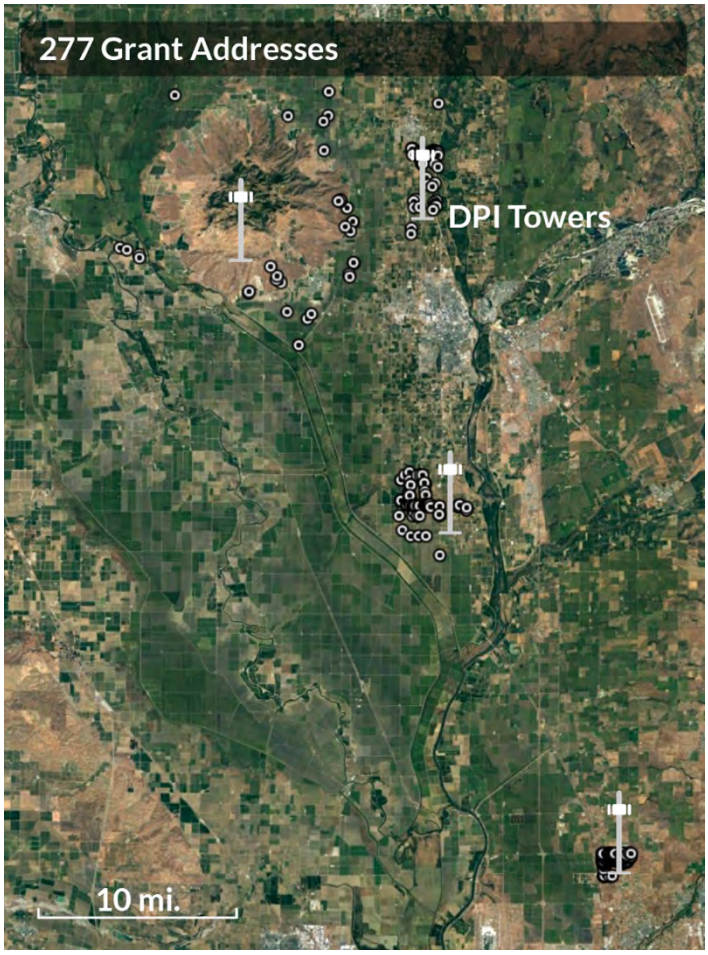
The CASF grant objective was to provide competitive broadband services to 277 unserved rural households in the counties. By deploying Tarana's G1 platform, DigitalPath was able to exceed the service requirements for these 277 households while also providing — with the same infrastructure — more affordable high-speed service availability to an additional 6,900 rural households within these grant-targeted and surrounding neighborhoods. DigitalPath's deployment of G1 base nodes was completed in six months, at a small fraction of the time and cost of installing a fiber-based network, and its subscriber count is growing steadily (see below and overleaf for details).

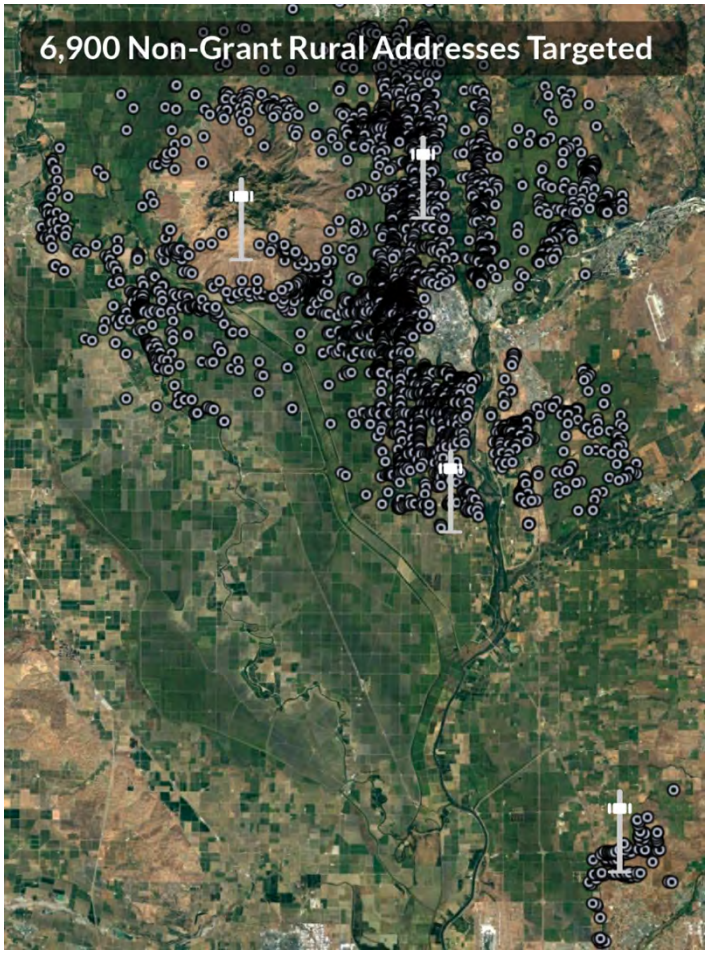
Tarana G1 Base Nodes (BNs) on Vertical Asset

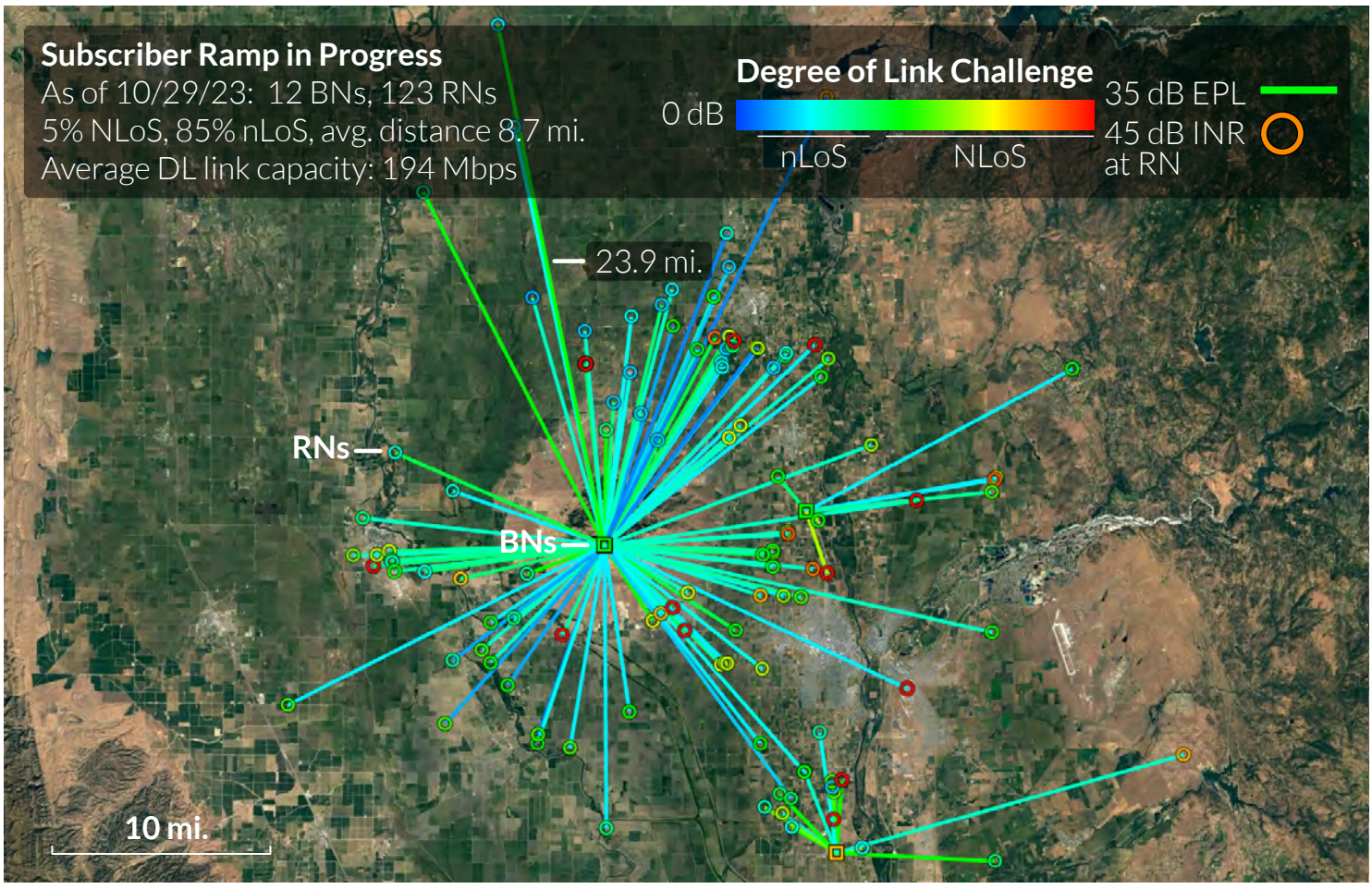
G1 Remote Node (RN) on subscriber's home

**Key DigitalPath Network Stats**

| | | |
|---|---|---|
| Infrastructure deployment | | 12 BNs on 4 towers, in 5 GHz |
| Average BN sector height on towers | | 150 ft. |
| Average RN subscriber unit height at homes | | 23 ft. |
| BN sector max range | | 18 mi. |
| Coverage area (at 18 mi. range) | | 3,054 sq. mi. |
| Households (HH) passed | grant addresses<br>rural total<br>est. total with towns in range | 277<br>7,177<br>88,600 |
| Typical speeds (Mbps) | in grant area<br>average for all HH | 489 DL / 100 UL<br>297 DL / 68 UL |
| Take rate for ≥100 Mbps plans | grant addresses<br>all HH | 66%<br>57% |
| ARPU | grant addresses<br>all HH | $83.32<br>$90.32 |
| Project costs to date | total<br>without subscriber RNs | $560.7k<br>$473.8k |
| Cost per HH passed | rural only<br>rural + towns in range | $66<br>$5.34 |
| $/HH passed for 45 CASF fiber projects (2019+'20 sample) | | $17,972 (on average) |


277 Grant Addresses
DPI Towers
10 mi.


6,900 Non-Grant Rural Addresses Targeted


Subscriber Ramp in Progress
As of 10/29/23: 12 BNs, 123 RNs
5% NLoS, 85% nLoS, avg. distance 8.7 mi.
Average DL link capacity: 194 Mbps
Degree of Link Challenge
0 dB
nLoS
NLoS
35 dB EPL
45 dB INR at RN
23.9 mi.
RNs
BNs
10 mi.