

NextWeb, Inc

Comments for FCC Wireless Broadband Forum

May 19, 2004



NextWeb, Inc.

Nation's Largest Fixed Wireless Internet Service Provider for Business

- Founding member of:
 - Wireless Broadband Operators Coalition (WBOC)
 - SkyWeb Alliance
 - Broadband Access Network Coordination (BANC)
- Service operation since 2000 (incorporated 1999)
- *2,000* small/medium/large enterprise customers
- Licensed *and* unlicensed spectrum in use for 1 – 10 miles subscriber distance
- Extensive coverage in California
 - *50,000* small/medium enterprises
 - *3,000* square miles: urban, suburban and rural
- Successfully competing with ILEC/CLEC fiber, T1, and DSL

Key Issues in Fixed Wireless Broadband

- ◆ Fixed wireless broadband operators compete by providing symmetrical high speed Internet access at a cost point below an ILEC/CLEC T1 or DSL
- ◆ Fixed wireless operators have failed because of the high cost of licensed spectrum (auctions) and the high cost of licensed equipment (small market)
- ◆ Regional / local fixed wireless operators are succeeding against wireline competition in **urban** and rural markets using unlicensed PMP spectrum
- ◆ WLAN technology and hot-spots, etc. cannot provide **area coverage** or **reliability** to compete except on the individual subscriber / location level

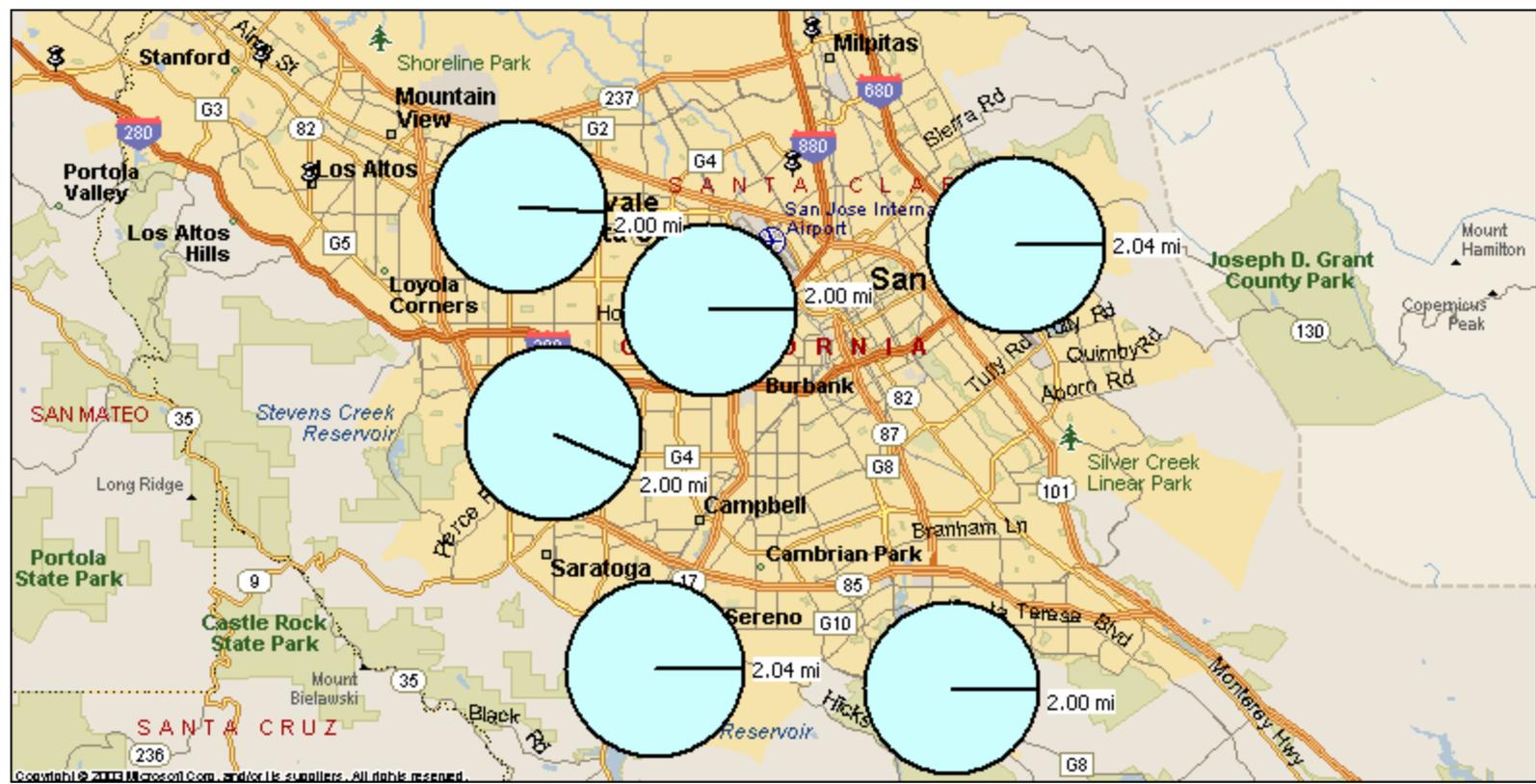
Spectrum for Fixed Wireless Broadband

- ◆ Cost-effective licensed and more unlicensed spectrum is sorely needed because interference-free technology is not yet available for reliable 1-10 mile service delivery
- ◆ Fixed Wireless Broadband service providers urgently need:
 - ◆ PMP licensed spectrum available on a per-use basis
 - ◆ PMP unlicensed spectrum allocated specifically for FWB

FCC to Support Growth in Urban Markets Also

- ◆ FCC efforts are to be applauded
 - ◆ Recognized need for additional unlicensed spectrum for broadband
 - ◆ Identifying and proposing spectrum in frequencies allowing cost-effective manufacturing for competitive wireless service delivery
- ◆ However, *don't restrict* definition of underserved to Rural areas alone
- ◆ *Note:* with many underserved suburban / urban markets, 2-3 million small businesses cannot get ANY broadband, according to market research firm Parks & Associates

Example: Underserved "Suburban" Market in Santa Clara County, CA



Circles represent good broadband (DSL) coverage – 15,000 businesses are *outside* of these circles.

Third Pipe to Businesses and Consumers

- ◆ President Bush and Chairman Powell want “universal access” to broadband service
- ◆ 1996 Telecom Reform Act mandates advanced telecom services for all
- ◆ Until now, DSL and Cable were the only method for high speed download
 - ◆ Usually one or the other, except in higher income areas
 - ◆ High speed broadband UPLOAD also needed
- ◆ Broadband Wireless is the true “third pipe” – already viable and working, today

Licensed Spectrum: PMP with Pay-as-you-Go Basis

- ◆ Licensed spectrum is critical for high growth FWB
 - ◆ Base station backhaul
 - ◆ High bandwidth corporate customers
 - ◆ Areas of interference

- ◆ Need FCC to take market-based, flexible approach with licensed spectrum, similar to unlicensed
 - ◆ License point-to-multipoint service on per-use basis
 - ◆ Ensure efficient use of spectrum
 - ◆ Make more spectrum available specifically for point-to-multipoint fixed operation
 - ◆ Avoid high cost auction burden resulting in non-use of spectrum (e.g. LMDS)

Unlicensed Spectrum: Specifically for Outdoor FWB PMP

- ◆ We applaud the FCC for encouraging new services through support of unlicensed spectrum
 - ◆ More entrepreneurship; results in...
 - ◆ More new services available to businesses and consumers
- ◆ However, outdoor FWB now shares with:
 - ◆ “Mobile” applications (Wi-Fi, 3G)
 - ◆ WLAN 802.11 equipment, such as hot-spots
- ◆ Outdoor FWB needs dedicated spectrum and higher power to deliver
 - ◆ Business-quality Internet access (1 Mbps+ up/down)
 - ◆ Long range 1 – 10 miles
 - ◆ Non-line-of-sight (NLOS)
 - ◆ Avoid interference for high quality of service (QoS),

Conclusions

- ◆ Only outdoor long-range fixed wireless broadband can provide the first true “third pipe” alternative to business and consumers
- ◆ Spectrum policy must support successful wireless alternatives to wireline telco monopolies
- ◆ FCC should further encourage and promote growth in FWB through:
 - ◆ per-use PMP licensed spectrum; and
 - ◆ additional unlicensed spectrum with flexible rules
- ◆ Avoid restrictions on unlicensed policy-making to rural areas and WLAN equipment applications
- ◆ The magic triangle, for fixed-wireless service operator success, is access to:
 - ◆ Equipment, Capital and **Spectrum**