

# SPECTRUM

## Spectrum 101

Spectrum, a finite resource, is like lanes on a highway. Due to the significant increase in mobile devices and how much Americans depend on them, wireless needs more "lanes" to meet current and projected demand. Since many TV broadcast and government license holders have unused/underutilized spectrum, the U.S. wireless industry wants to purchase this spectrum for billions at auction from the federal government. Once licenses have been auctioned, CTIA's members will invest billions to deliver innovative, cutting-edge wireless broadband services.

[http://www.ctia.org/advocacy/policy\\_topics/topic.cfm/TID/65](http://www.ctia.org/advocacy/policy_topics/topic.cfm/TID/65)



**TV BROADCASTERS** Given 300 MHz, use <150 MHz in large cities

TV Broadcasters Dictate When They Want to Provide Service & How



**GOVERNMENT** Bi-partisan & bicameral support to repurpose < 3 GHz for wireless



**WIRELESS** More Users + More Demand Must = More Spectrum



Wireless Consumers Determine When, Where & How They Want Info

## WIRELESS DATA IN DEMAND

Americans used more than 340 billion MB of wireless data in the first half of 2011.<sup>1</sup> That was a 111 percent increase from the first half of 2010. How much data is that? Well...

- If 1 MB = 1 mile, you could take 714,000 roundtrips to the moon.
- If 1 MB = 1 minute, then the 535 members of Congress could talk non-stop, on their cellphones, for 1,211 years. They would have been talking since Charlemagne was crowned in 800 AD.

According to Cisco Visual Networking Index, the monthly mobile data traffic in 2015 in the U.S. will be about 982 billion MB, and the annual traffic will be nearly 12,000 billion MB.<sup>2</sup> That's almost 20 times more than today's data usage.

## WIDESPREAD POLITICAL SUPPORT

Unlike many issues in Washington, D.C., allowing the U.S. wireless industry to purchase more spectrum at auction has bipartisan backing.

The president, members of Congress and the FCC Chairman and many FCC Commissioners recognize the significant benefits more spectrum would provide for the U.S. economy and our citizens.

The FCC's National Broadband Plan calls for making 500 MHz of spectrum available for wireless use over the next ten years, with 300 MHz ready within five years. Unused and underused TV broadcasting spectrum is a sensible place to start.

## DIGGING OUT OF DEBT

A voluntary auction for TV broadcasting spectrum could bring in at least \$36 billion in revenue, with \$3 billion going to pay broadcasters for selling their spectrum and to cover any necessary technical adjustments. The rest of that money, \$33 billion, would go to the U.S. Treasury.<sup>3</sup>

## ECONOMIC BANG FOR THE BUCK

More spectrum will have an enormously positive impact on the U.S. economy. It means sustainable growth for new investment and jobs.

- Every \$1 invested in wireless broadband creates an additional \$7–10 in U.S. GDP.<sup>4</sup>
- From June 2010–June 2011, the annual capital investment by CTIA's provider members increased by 28 percent to \$27.5 billion.<sup>5</sup>
- Since 2001, wireless companies have reported a cumulative total investment of \$223 billion. This does not include the billions our carrier members paid to the U.S. government for spectrum.<sup>6</sup>
- While 4G is already available for millions of Americans, continued 4G roll out could generate infrastructure investments of up to \$53 billion, provide as much as \$151 billion in GDP and create as many as 771,000 jobs by 2016.<sup>7</sup>

<sup>1</sup> CTIA's Wireless Industry Indices: Semi-Annual Data Survey Results, A Comprehensive Report from CTIA Analyzing the U.S. Wireless Industry, Mid-Year 2011 Results, to be released November 2011.

<sup>2</sup> Cisco Visual Networking Index: Global Mobile Data Traffic Forecast, 2011-2015.

<sup>3</sup> CTIA and CEA's Broadcast Spectrum Incentive Auctions White Paper, February 15, 2011. Available at [http://www.cesweb.org/shared\\_files/edm/Press/Spectrum\\_Whitepaper\\_FINAL.pdf](http://www.cesweb.org/shared_files/edm/Press/Spectrum_Whitepaper_FINAL.pdf).

<sup>4</sup> Larry Summers, "Technology Opportunities, Job Creation, and Economic Growth," Remarks at the New America Foundation, June 28, 2010. Available at <http://www.whitehouse.gov/administration/eop/nec/speeches/technological-opportunities-job-creation-economic-growth>.

<sup>5</sup> CTIA's Wireless Industry Indices: Semi-Annual Data Survey Results, A Comprehensive Report from CTIA Analyzing the U.S. Wireless Industry, Mid-Year 2011 Results, to be released November 2011.

<sup>6</sup> IBID.

<sup>7</sup> Deloitte Study, "The Impact of 4G Technology on Commercial Interactions, Economic Growth and U.S. Competitiveness". Available at <http://www.deloitte.com/us/impactof4g>.