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## Don't Let Google Freeze the Airwaves

*A scheme to keep precious spectrum underutilized.*

By THOMAS W. HAZLETT and VERNON L. SMITH

Google is now pushing a "free the airwaves" campaign, rallying to open TV band frequencies for new wireless services. This is a superb idea, one suggested by South Dakota Republican Sen. Larry Pressler in 1996, just before he was targeted by broadcasters and defeated for re-election.

But something has been lost in translation as Google cofounder Larry Page presses the Federal Communications Commission (FCC) to act before the Nov. 4 election. Google's proposal would actually freeze the airwaves allocated to television prior to World War II. Innovative services would be lost for yet another generation.

The TV band is pathetically under-utilized. The problem is historical, but is increasingly exacerbated by the emergence of valuable new wireless technologies that are blocked due to artificial spectrum scarcity.

With the transition to digital broadcasting, scheduled for completion next February, some 49 TV channels will continue to be set aside for over-the-air broadcasts. In aggregate, these frequencies would fetch in excess of \$100 billion at auction. But what wireless carriers pay is perhaps only one-tenth what the spectrum is worth to consumers, who realize vast benefits in lower prices, fatter bandwidth, and new applications. In short, the TV band could generate more than \$1 trillion in innovative wireless services.

Continuing to lock up the band in its current mode sacrifices that potential contribution. Note, first, that the median TV market features only eight stations. That means that 41 channels of the 49 set aside are pretty much wasted "white space."

Second, while regulators in the 1950s spread signals apart to mitigate interference, today's digital transmissions can be tightly packed. It is now easily possible to deliver 50 digital signals using just eight TV channels of bandwidth. That would unleash five-sixths of the TV band for an array of other wireless services. But FCC regulators, intimidated by politically powerful TV broadcasters and other interests, raise nary a peep about such options.

So Google and its allies, including tech bedfellows such as Microsoft, lobby regulators to approve a plan permitting new low-power radio devices, like cordless phones or wi-fi routers, to use TV band "white spaces." The new radios would automatically dodge TV signals, leaving broadcasts undisturbed. Since 2002 the FCC has attempted to go down this path, crafting spectrum sharing rules and testing radios. None have thus far passed. Mr. Page calls the tests "rigged."

That this gambit has wasted six years is the bad news. The even worse news is that were the FCC to "succeed," approving devices for unlicensed use of the band, it would squander any opportunity to reorganize the band and unleash its vast utility.

Government management of the white spaces is doomed to fail. That is vividly seen in the wrong question now asked by the FCC: What devices can share the TV band without disturbing current broadcasts? But there is no reason to freeze TV channels in place. The right question is: How can we reorganize TV broadcasts to maximize wireless benefits? Transmissions could be better coordinated. Such innovative moves, however, rely on having spectrum owners.

Market transactions reveal how efficiencies are unleashed. TV stations that tell the FCC that any dollop of static will cause catastrophe have eagerly negotiated with Qualcomm, owner of (analog) TV channel 55 (auctioned in 2003), which pays broadcasters to accept interference from its new mobile video service, MediaFlo. These deals have pushed TV stations out of old assignments to make room for a 21st century application -- precisely what should be happening all through the TV band.

But such efficiencies will be impossible if "Free the Airwaves" results in government controls (under the Google plan regulators must approve specific devices) in lieu of spectrum ownership. These rights would logically be auctioned, as were select frequencies pulled away from TV channels 52-69, which sold for \$19.6 billion in March 2008.

Google chose not to bid in that auction, exhibiting a crucial point. If Google believed that TV frequencies were productively used via the spectrum sharing approach they ask the FCC to impose, they could have purchased TV "white spaces" and imposed just such a plan. Revenues could have been extracted from the sales of devices, advertising, or other means. Yet, they rejected this play, outbid by rivals seeking to deploy alternative models.

Therein lies the beauty of competitive bidding: resources, including spectrum, go to their highest valued use. Other options, notably wide area wireless broadband networks, generate far more consumer interest. In FCC data now over a year old, some 35 million customers subscribe to wireless broadband offered by the four national wireless carriers. Google itself, partnering with Intel, Sprint, and others in Clearwire, has joined this fray. With more access to licensed and liberally regulated spectrum, they -- and entrants to come -- will have a fair chance of succeeding.

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Sen. Pressler's May 1996 proposal could powerfully energize this competitive rivalry. Allot all TV band frequencies to, say, seven national licenses, and auction them. (Competition could be ensured by a one-to-a-customer rule.) TV stations would be grandfathered, and continue to broadcast on current channels. But they would also be able to change channels or accept some interference with their broadcast signals. They would happily accept payments to make way for new wireless stuff. Band usage would be radically transformed.

This procedure greases the skids for efficiency, downloading politically arduous tasks to market specialists. Many wireless services, from PCS to Blackberry to MediaFlo, have been launched through such spectrum trades. Those deals only happen when owners can bargain. To free the airwaves, we must liberate them from the pre-World War II template in which they are now trapped.

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