



The Daily Dish

A Spectrum of 5G Issues

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Eakinomics: A Spectrum of 5G Issues

Smartphones are everywhere, and it seems like it's about time that one can project holographic images of Mad Max at annoying rush-hour drivers. Or something like that. But to genuinely achieve the benefits of next-generation wireless (5G), the Federal Communications Commission (FCC) must decide how to reallocate the use of spectrum. Among the most intriguing proposals is one by the C-Band Alliance (CBA) to repurpose 180 megahertz (MHz) of spectrum between 3.7 gigahertz (GHz) and 4.2 GHz through an auction.

A [new piece](#) by AAF's Will Rinehart has all the details, but the so-called C-Band has several attractive features. First, the lower frequency bands are best suited to broad coverage and can penetrate buildings. With most of the low-band space (below 1 GHz) spoken for, people are very interested in the C-Band. Second, the C-Band spans 500 MHz, making it one of the largest contiguous bands in spectrum. It is also the spectrum that other countries are likely to use for their 5G wireless services. Finally, satellite providers currently use the C-Band to distribute video programming. Technological advances have been such that they no longer need the full spectrum allocated.

In short, the CBA [estimates](#) that of the total 500 MHz band, around 200 MHz could be repurposed for new uses. If one allows for a 20 MHz guard band, a total of 180 MHz would be made available. The details of [how](#) to make that spectrum available are where it gets interesting. The usual approach would be for the FCC to auction the spectrum — in this case a two-sided auction in which 5G providers would bid for spectrum and the FCC would use the money from the bids to make offers on the C-Band spectrum to current users. This process would take a long time, inevitably would result in Congress degrading the quality of the auction by forcing set-asides for favored interests, and would allow one or a small number of C-Band spectrum video transmitters to “hold out” for unreasonably large compensation.

In its proposal, the CBA indicates that it has solved the holdout problem — all the C-Band holders agree on the proposal — and thus, that it can do this auction itself as a simple one-sided affair with new users bidding for spectrum from the current license holders. Does this approach make sense?

It might. Efficiency does matter because while the C-Band spectrum is valuable, its efficacy depends on underlying costs required to put this new spectrum to use. The CBA proposal is a lot like previous FCC auctions, but has strong incentives to create a competitive and efficient process. The CBA would have no reason to delay, and time matters: A two-year delay is like forgoing \$18 billion in consumer surplus benefits.

So, assuming that the taxpayer recoups a portion of the spectrum sale proceeds and the FCC ensures an open and transparent auction process, the CBA proposal makes sense as a timely and efficient way to repurpose the spectrum.