

Testimony of Coleman Bazelon before  
The United States Senate Committee on Commerce, Science and Transportation  
Subcommittee on Communications, Media, and Broadband  
“Future of Spectrum”  
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I would like to thank Committee Chairwoman Cantwell, Chairman Luján, Ranking Member Thune, and the members of the Committee for this opportunity to testify.

Radio spectrum is a scarce natural resource, owned by all of us and, one way or another, used by all of us. In fact, it is only through using radio spectrum that we create value from it. Smart phones using licensed spectrum, WiFi and Bluetooth using unlicensed spectrum, and the many public missions carried out on governmental assignments create incredible value from this scarce public resource. All of these valuable uses compete for access to the fixed pool of radio spectrum managed by the FCC and NTIA.

Those agencies goals in managing spectrum is all about making sure we get the most out of using it. Their challenge is that all spectrum has incumbent users. That is, someone loses when spectrum is reallocated. Over time the easier relocations have been done, so going forward freeing up large swaths of spectrum will become harder, more expensive and require more creativity. In fact, the days of mega auctions of unencumbered bands are numbered, with decreasingly few opportunities on the horizon. New tools, such as incentive auctions and innovative sharing regimes, will be increasingly important in meeting future spectrum needs.

When should spectrum be moved to a new use? As I have previously testified to Congress, the Principal of Spectrum Reallocation says that a band of spectrum should be made available for new uses when the value in the new uses exceeds the cost of making the spectrum available. But this guidance – and the costs and benefits it focuses on – are not intended to evaluate just economic or market values. Unlicensed uses of spectrum create value to society but in a way that does not create bidders with a market demand for spectrum, whereas mobile broadband network operators regularly bid billions of dollars for spectrum licenses. And since governmental uses are difficult to value, the goal for them is to make sure they use spectrum efficiently. Consequently, a broad set of considerations should inform our spectrum policy.

Budget rules can influence spectrum policy and we are reminded of this intersection every time spectrum auction authority is renewed. Spectrum auctions have been an important tool in

getting spectrum from lower valued uses to higher valued uses. These auctions only took place because legislation authorized them. And the CBO score – the budgetary value of reallocating spectrum and auctioning it – is a focus of most spectrum legislation. I have had some experience scoring auctions. This is how I started my professional career in the mid 1990s at CBO. The CBO score is not an estimate of how much the spectrum is worth or how much bidders will bid. Nor is it a measure of how much a spectrum reallocation will benefit society. Rather, it is an estimate of the net effects of the proposed auction on the federal budget. The key with budget scoring is that the legislation is credited with the budgetary impact that the legislation causes – that is, what it *changes* from current law. Although budget scoring rules can create an incentive for legislation to facilitate reallocations that might not otherwise happen, budget rules will never be the guide for good spectrum policy. Budget rules alone will never substitute for thoughtful and deliberative spectrum management.

So, if the easier reallocations have already been done and the demands for using spectrum continues to grow, what will spectrum management in the next decade look like? The goal – continuing to facilitate spectrum migrating from lower value to higher value uses – will not change, but the tools to achieve this will. The traditional clear & auction approach will become less attractive. Inevitably, with the cost of clearing additional bands to reallocate and auction growing (as the easier ones have already happened), the net budgetary incentive to legislate these reallocations is expected to become smaller over time. Making existing bands available for new uses without having to clear all existing uses first – that is finding ways to share bands – may avoid the largest of the clearing costs. If new approaches to sharing can preserve a significant portion of the value to new users, then the net benefit of such approaches could remain relatively high. Some of these approaches may lead to auctions, with a budgetary incentive preserved, while others may not. But so long as new, creative solutions continue to facilitate the more efficient use of spectrum, we will all benefit.

This future of more creative ways to maximize the value we derive from the fixed spectrum resource is one of degree. That is, the choice for policy makers is not whether or not to continue to strive to use spectrum more efficiently – market and social pressures require we do so – but rather the degree to which it will happen. Preferably, the Legislature and Executive will support a cooperative FCC and NTIA to do the long term planning needed to more efficiently exploit the benefits of radio spectrum for society. In this future of more efficient use of spectrum, costs of spectrum-based services are lower and consumption of those services is higher. In a less supportive and cooperative environment, the future will still see growth in wireless based services, but not as much, and with higher costs.