

Wireless Auctions: The Most Efficient Spectrum Allocation Tool

Since the early 1990s the Federal Communications Commission (FCC) has auctioned rights to use radio spectrum with tremendous success. Policymakers have long held that spectrum rights should be assigned to parties that put it to the best use for society as a whole—auctions are the best mechanism to achieve that goal. As FCC Chairwoman Rosenworcel has put it, “spectrum auctions have been an indispensable tool for meeting these national goals and harnessing the promise of beneficial, new technologies. Commission auctions... have fueled competition, provided consumers with a vast array of new wireless technologies and services, and ensured that scarce spectrum resources are put to their highest and best use.”



\$233B+

raised from spectrum auctions for the U.S. Treasury, including priorities like FirstNet



42x

improvement in wireless providers' spectrum efficiency over 4G decade

The FCC started auctioning spectrum in 1994 during the Clinton Administration after mixed success with various allocations methods, such as comparative hearings and lotteries. Bipartisan leaders in Congress drove this breakthrough development. Since then, winning bidders have paid over \$233 billion to the Treasury. Wireless auctions are now widely considered “a textbook example of economic policy success,” so much so that spectrum auction designers were awarded the Nobel Prize. Due to its success, the U.S. auction model has been emulated by regulators around the world: over 100 countries have used auctions to allocate wireless spectrum.

Benefit 1: Identifying the Best and Most Efficient Use of Spectrum

Auctions allocate spectrum to those who have the capacity and the commitment to ensure it's put to optimal use. Over the past decade alone, spectrum auctions have raised \$155 billion in revenues. Since 2012, wireless operators have invested over \$309 billion in infrastructure, deploying tens of thousands of cell sites. This efficient use of spectrum allowed operators to cut the cost of mobile data by 98 percent while delivering nearly 50 times the volume at ever higher speeds. U.S. wireless operators are extremely efficient stewards of licensed spectrum, having increased spectrum efficiency by an estimated 42x over the 4G decade.

Benefit 2: Provides Certainty for Operators

Licensed spectrum obtained at auction is the backbone of the successful, world-leading wireless industry today. Clear, long-term rights to spectrum give operators the certainty they need to invest (to the tune of \$39 billion in 2022), which in turn enables them to develop and build next-generation networks and provide reliable and secure service.



Economists Paul Milgrom and Robert Wilson won the Nobel Memorial Prize in Economic Sciences for their work designing the auction structure the FCC adopted for auctioning spectrum.

Benefit 3: Open to All Parties

Auctions allow anyone to participate and have attracted a range of different companies over the years. There are consistently dozens of winners at auctions, and those winners change from auction to auction. We saw 62 different companies win licenses in the last FCC auction (2.5 GHz). Key regional players like USCellular, Cellcom, and Carolina West Wireless regularly take home spectrum to their communities. DISH Network, Comcast, Charter, and others have launched new wireless businesses thanks to successful auction bids. The FCC also has tools to ensure auction outcomes can promote competition and other policy goals, such as bidding credits that help small businesses and rural carriers.

Benefit 4: Raises Money for Government Initiatives

Over the years, spectrum auctions have raised over \$233 billion. Demand for licensed spectrum is growing rapidly: About half of all spectrum revenue is from auctions of 5G spectrum in the last four years alone. This money is generally deposited directly to the Treasury, but it can also be used to help pay for important government initiatives, such as updating government systems, implementing next-generation 911 services, and helping subsidize wireless deployment in rural areas. Auction proceeds have already funded FirstNet, the nationwide public safety network.