My task today is very difficult and very easy at the same time. It is difficult because my challenge is to make you think very differently about something that is important to you. I ask you to completely change the way you understand the public interest in the airwaves. To make the task even more challenging, the thing we are talking about, the airwaves, or spectrum, is not something we mere mortals understand very well. In fact, it is not even a thing. To virtually all of us, the act of speaking into a hand set or pointing a camera and sending a voice or a picture over thousands of miles or even a few feet is closer to magic than anything else. Actually, it is technology, which is pretty close to magic for mere mortals.

On the other hand, my task is easy because the new way I want you to think about the airwaves articulates an aspiration for the freedom of speech that is beyond anything you have dared to dream of for generations. You should find the change in thinking very attractive and easy to swallow, once you get over the shock. Moreover, it should be easy to motivate you at this moment because we have the constitutional right, the strategic need and the tactical opportunity to reclaim control of a substantial part of the broadcast airwaves from the holders of exclusive licenses and return it directly to people and citizens in our communities.

My job is made a little easier by the stated purpose of this session in the announcement. “The airwaves are considered the nation’s most valuable public asset at a market value of nearly $750 billion.” $750 billion sounds like a lot of money but in modern terms it actually isn’t, considering we’ll spend that on the Iraq war before we are done. More importantly, no matter how much its worth, it is not as valuable as freedom of speech. The airwaves are not an asset; speech is not a commodity; speech is priceless. You have to get those outdated, 20th century ideas out of your heads in the 21st century.
Dumb Technology and a Dumber Deal

I can understand how you got caught up in this mentality. One hundred years ago, when the spectrum was first used to broadcast a commercial radio signal, it wasn’t a thing. It wasn’t even there in any simple sense. The only time there was a there, there was when two people broadcast on the same frequency at the same time. Even then, the broadcaster wouldn’t even know that there was there, but the listener might, in the form of interference.

Anyone could broadcast and, relatively speaking, lots of people did. They just started radio stations. Given the technology of the day, the airwaves got “crowded.” After a quarter of a century, Congress enacted and the Supreme Court accepted the granting of licenses to broadcasters for their exclusive use of parts of the spectrum to promote electronic speech. The rationale was that if all citizens tried to broadcast, they would interfere with one another and no voices would be heard. Under the theory that some voices are better than none, a small number of corporations were given the opportunity to speak through the airwaves, with public interest obligations added in. Some claim this deal was never necessary, but it was done, and it had major consequences.

Above all, as non-license holders, we lost our First Amendment right to speak with a broadcast voice. The license was a second best solution to the First Amendment aspiration of the “widest possible dissemination of information from diverse and antagonistic sources.” Since more voices would be heard, but not our voices, public interest obligations were imposed on the license holders. At least there would be something for people to listen to, a fraction of it containing a “public purpose.” This was a very second best solution, with emphasis on second, not best. Listening to “public interest” programming, poorly defined, is not nearly as good as speaking our own minds.

The problem was not in the spectrum; it was in the technology. It was too primitive to allow more than one person at a time to speak in any given part of the spectrum and it needed to clear out large parts of the spectrum to avoid interference. Technology was too dumb.

An Ocean of Analogies to Aid the Digestion

Whenever we mere mortals discuss magic or technology, we reach for physical analogies. We talk about pipes and platforms, as if physical space analogies can ground our understanding of ethereal concepts. We always find flaws in the analogies, but we keep trying. So today we get the maiden voyage of Mark Cooper’s Spectrum as Ocean Analogy.¹
I recently had a sharp exchange with conservatives who want to privatize the
spectrum. The ocean came up as an analogy. In making overbroad claims about the
undisputable superiority of property for all things, they sought to soften their stand by
identifying the ocean as a commons, with no rules. Only in this type of space would it
make sense not to have property. By admitting some space where a commons is
superior, they hope to make their claims to the superiority of property appear to be
based on an empirical assessment rather than a religious belief. But they really have not
done the analysis when it comes to spectrum.

Asserting that the ocean works well as a commons (for transport, but not for
fishing) with no property or rules is right about the lack of property, but wrong about
the lack of rules. The truth is that there are rules of governance; the law of the sea.
Those rules speak directly to the issue that was crucial in the problem of radio
interference – avoiding collisions. Over fishing, the tragedy of the commons, is not a
case of no rules, but bad rules, which are not solved by propertization, but by better
commons rules. That is a topic for another day.

The law of the sea embodies rules of noninterference. Government takes some
responsibility for this function – lighthouses, buoys, etc. The spectrum is like the ocean,
only bigger and much more interesting, because unlike the ocean it actually can get
bigger in the sense that it can allow vast traffic with good rules of noninterference and
technology of transport.

Whatever the weaknesses of this analogy, it gets us away from one of the worst
aspects of physical world analogies – pipes and wires. There is no infrastructure in the
ocean. Nobody pours concrete or digs trenches to make the ocean passable.

Back in 1904, the technology of broadcasting, the technology of navigating the
ocean of speech, was so primitive that in order to send a signal from New York to
London (actually Manhattan to Queens), we had to clear a huge swath of ocean. Not
only did the actual direct route have to be cleared, but also huge guard bands on either
side had to be cleared as well, because any wake by any other boat would interfere with
our transit and put us off course.

As our technology advanced and we got better and better at steering, we can
shrink the size of the lanes we need, accommodating more lanes and cramming more
boats into them at once. Smart technology supports more traffic. Notice that the vast
majority of investment in technological progress needed to manage the traffic is
embodied in the boats. Maybe a public good like GPS is helpful, but very little
infrastructure is needed. There is no private investment needed in infrastructure out
there, no wires to be pulled, and no concrete to be poured. There isn’t even ocean traffic
control to tell us which boats go where. The rule is “drive safely and protect yourself.”
A Technological Revolution and the Chance for a New Deal

In one sense that is what the smart radios do in the spectrum, but they are actually much more than nifty boats. The radical change in technology goes deeper than the ability to move more boats. Stacking huge cargo containers on big boats and transporting them is only one way to move goods. If we had deep-sea platforms, we could in fact catapult boxes from one platform to the next individually and they all could arrive at the other side. The more platforms we build, the more things we can move.

Zipping boxes from here to there gets easier with more platforms and shorter distances between platforms. The more alternatives, the more robust the transportation system is, as long as we have some good rules of the road, i.e. noninterference to avoid collisions. With really good rules no one should have an exclusive right to transport their products.

Being mere mortals, seeking physical analogies for ethereal phenomena has gotten us in trouble, as it usually does. We have this pretty silly image in our heads of millions of platforms in the sea between New York and London with the air filled with packages flying back and forth, just missing each other. We have to laugh at ourselves. But this is deadly serious business. What I have described to you is a sort of WiFi or mesh network that proves to be a highly efficient system.

When I came in, I saw several people with laptops lit up. How many were looking for a hot spot? Imagine that packets of information are whizzing around our heads as we speak! What looks so silly in our mind’s eye in physical space is actually happening in the ether. The carrying capacity gets bigger and bigger as we add platforms (computers acting as smart receivers and transmitters). In fact, in an environment of a shared commons, really smart platforms can embed Good Samaritan rules (help your fellow travelers) that foster cooperation and information exchange that greatly enhance the capacity of the ocean to support movement. Decentralizing investment also has the “Internet effect” of giving a much wider range of people an incentive to invent. We democratize invention as well as speech.3

The boundless sea is truly boundless, when it is the ocean of air that surrounds us. Is it limitless? Maybe not, but for the foreseeable future, we will not run into practical limits if we behave well.

The lesson is simple; the ether is bigger than the ocean. You must get the old 20th century idea that the airwaves are scarce out of your heads. Don’t let anyone ever tell you it is limited.

More importantly, don’t let anyone ever tell you that we need to turn it into property to make it work. It is not infrastructure. The broadcasters never invested in the airwaves, they just used them. In order to speak or listen all I need to do is to invest in a transmitter or a receiver and drive on the right side of the road and have someone
do the opposite on the same frequency at the same time. I am not dependent on anyone else’s investment to use the airwaves (I may talk, with no one listening). All I need is a few simple rules of the road, laws of the sea, to make sure we don’t interfere with each other.

No one can ever tell me again I have to have a license to speak. That was an old, 20th century idea. In the 21st century, freedom of speech will be liberated from the tyranny of broadcast licenses.

Policy Implications in the New Era

The implications of viewing spectrum as an ever-expanding ocean of unlicensed speech are enormous.

This is why I do not want to auction the airwaves. Think about the lanes in the sea. Why should I pay NBC cruise lines to use that lane, as long as I don’t interfere with their use? They did not invest to build or maintain the lane. They simply were given the opportunity to sail there. Once I auction it, then they can claim they have some sort of proprietary right over it. We can say that this is not what we meant when we auctioned the licenses, but in America, once you pay for something, you own it.

Here is what happens when you give media corporations a limited right to use public resources – highways and by-ways or airwaves – to distribute speech. First, they turn it into a permanent claim. By hook or by crook, they never lose their license or their franchise. Second, these artificial economic entities claim the same free speech rights that living breathing, voting citizens and people have. They aggressively and pervasively assert their rights at the expense of the people. They invoke their rights to frustrate, undermine and ignore any public interest obligations that might have been imposed on them in exchange for the use of public resources. They moan and groan about every minute of airtime or megahertz of spectrum that they are not allowed to use to maximize profits. They fight tooth and nail against any public space for people to speak in ‘their’ spectrum.

If technology has eliminated scarcity and the right to speak can be restored to the people, does the justification for public interest obligations go away? Yes and no. Back to the boats! In exchange for having that exclusive lane in the sea, we required them to carry certain types of cargo labeled as public interest freight, for example. We never could tell them what to put in the crates, they just had to be labeled as public interest and we fought a never ending battle about how to qualify and quantify what it should be and how much they had to carry.

To the extent that there are some types of boats that still need a special lane, the public interest obligations should remain. This does not mean they should not share the spectrum, it may just mean that they get the right of way. The boxes we are flinging about might have to dive under the water, or over their bow, or wait until they pass. Special treatment carries special obligations.
Moreover, we must deal with the legacy of licensing. Over the past 75 years, because of their exclusive opportunity to speak, they have been able to build huge aircraft carriers with immense firepower to influence public opinion. We are starting from scratch in unlicensed space (or at least way behind), so we need a period to build up my firepower too, so that we can have a balanced and vigorous debate. Just as the Supreme Court recently found in the University of Michigan affirmative action case that there is a legacy of past discrimination that creates special obligations, so too the legacy of licensing in electronic speech in the spectrum has a past to be considered.

But let me be clear. These obligations on exclusive broadcasters from the 20th century were an inferior form of First Amendment protection. They are listeners’ rights, not speakers’ rights. Enhanced speech should always take precedence over enhanced listening.

Thus, we are in transition – technologically, politically. In the 40 years after the radio was first used as a mass medium, it became the dominant means of mass communications. In the 40 years after the TV was introduced as a mass medium, it became the dominant means of mass communications. In the 40 years after the Internet is introduced as a mass medium, do you think it will become the dominant means of mass communications? I do. That’s about 20 years from now. That is how long we have to make the transition. We have the constitutional right, the strategic need and the tactical opportunity to make the transition work for media reform and justice.

The Here and Now will Affect the Now and Then

I am confident that licensing will eventually become an impermissible infringement on the people’s First Amendment right to speak, but when and how that plays out can go a long way toward defining how people-friendly the ocean of spectrum is.

As a matter of strategy, it is clear that the current mass media are so deeply entrenched and powerful, and corrupted by the pursuit of commercial success, that there is no serious possibility of internal reform. Limits on media ownership set some upper limit on the size of the aircraft carriers. Public interest obligations help diversify the onboard arsenal and balance the message a bit, but the struggle for media reform and justice must take a more innovative path. The alternative means of distribution are coming into existence. A noncommercial space in which no individual or corporation has rights that trump any others is possible. This can create a genuinely democratic space that provides not only an alternative source of information, but a much more effective check on the commercial mass media. Using unlicensed spectrum for community wireless also holds the promise of genuinely affordable access to broadband, something the commercial sector has not produced and will not.

Tactically, the moment is now – perhaps an opportunity, perhaps a risk – but it is now. Because the transition to digital broadcasting has been mismanaged so badly -
virtually no progress in ten years in migrating consumers to digital TV sets - pressures have mounted. Public safety wants the spectrum. Other commercial interests need more to build broadband wireless networks. Broadcasters have never figured out how to monetize the digital spectrum and they have discovered that they cannot do so without access to cable systems. It is a mess, but the pressure to liberate the spectrum the broadcasters hold is huge.

The moment is also critical because the airwaves that will soon be available allow very powerful communications. The signals pass through walls of water (and concrete), travel greater distances without being attenuated, and will dramatically enhance the ability of unlicensed uses to grow.

All this builds pressure, but the most important development of the past ten years is not the failure of the broadcaster, but the remarkable success of WiFi. Here, in an unlicensed space it has been proven that the airwaves are a commons, best exploited by allowing individual to invest to use the space without being fettered by property rights. This is critical to convince the judiciary that the expansion of voices, which is the aspiration of the First Amendment, is viable. That is why the propertizers are so desperate to sell the spectrum off as fast as they can to establish de facto property rights as a defense against the demonstrated superiority of the spectrum commons.

But, even if it could be shown that greater efficiency might be achieved in the property model, we should reject it because speech is a political right, not an economic commodity. All we have to prove is that more voices will be able to speak (not listen) and we will win the First Amendment argument. Economic viability of unlicensed uses would trump maximum efficiency, if it had to, by delivering a much greater diversity of voices. That is the crux of why the moment is now to fully embrace the idea that spectrum is speech in the 21st century. The longer we delay in fighting for our rights, the longer it will take to get them back.

(Footnotes)
1 Becky Lentz of the Ford Foundation urged me to paint a mental picture and kindly reacted to the analogy. The speech was vastly improved as a result.
2 The Digital Broadband Migration: Rewriting the Telecom Act, Silicon Flatirons, Boulder Colorado, February 13-14, 2005
3 David Reed suggested these observations on the nature of behavior.