Thoughts About
The Reallocation Imperative

Blair Levin
Aspen Institute
Fellow, Communications and Society Program

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My premise: the fundamental challenge for spectrum policy is how to enable market forces, such as technology and consumer preferences, as well as public interest considerations, to reallocate spectrum in a timely and efficient manner.

Today, I'd like to do two things. First, I'd provide the context for how we approached that challenge in the National Broadband Plan. Second, as a way of starting the post incentive auction debate, I'll answer a few of the questions in the recently released House Energy and Commerce Committee White Paper on "Modernizing U.S. Spectrum Policy" and throw a few questions back at them.

Before talking about how we handled spectrum in the Plan, I want to emphasize the most important sentence in the Plan: "This plan is in Beta and always will be." Nothing in the Plan was written in cement; we wanted serious implementation and course correction to drive the process, not adherence to the specifics of anything we wrote.

Nonetheless, the Plan did a pretty good job of responding to three big facts that we saw in the fall of 2009.

Fact #1. The era of spectrum allocation was over. There was no low hanging fruit; all spectrum was controlled by enterprises that either were using it intensely or had high walls of defense. All spectrum debates now inherently involved reallocation.

Fact #2. For the first time since spectrum auctions began, there was almost no spectrum in the cupboard to be auctioned. The last big auction was in 2008 and there were no plans for another big auction. Ever.

Fact #3. The rise of smart phones and anticipated rise of what turned out to be the fastest growing consumer electronic product ever, the tablet, meant demand for spectrum would likely grow dramatically.

So we focused on how to do reallocation.

As we looked at the problem, we saw four potential paths.

First, just assume whatever the government originally did was perfect.

Curiously, a number of conservatives urged us to think that way. They suggested, for example, that the number of television broadcast licenses allocated to a city in the 1950's represented the perfect amount. Having worked on Wall Street, I thought the notion of investing into an asset class precisely the way one did in the 1950's seemed unwise. Consider, for example, 87% of the companies in the Fortune 500 in 1955 are no longer on the list. So let's just say that while I like Ike, we didn't assume his decisions should bind us.

A second view, which reflected the state of the law in 2009, was just wait for a crises and then exercise a right equivalent to eminent domain: reallocate spectrum by majority commission vote.

This also seemed unwise. Better, in our view, to avoid a crisis, to avoid decades of litigation, and to enable something other than the pure wisdom of three commissioners to provide inputs as to the appropriate reallocation.

Third, just make it all private property—a deregulatory big bang--and let its holders do anything they want with it. This has some attractive elements but interestingly, no one who was investing major capital into providing mobile services favored such a rule. It turns out there are many market failure risks—last hold outs, achieving handset and equipment economies of scale, regional and national footprints to achieve service scale—that suggested such a regime would degrade, rather than improve long-term performance.

So we thought about other ways to reallocate and came up with the following sub-categories.

First, for specific license allocations with prescribed business models, regulatory reallocation through liberalization, though not total deregulation.

Second, for larger bands, market reallocation through allowing current holders to benefit from an increase in the spectrum assets they are currently using. This is the incentive auction.

Third, enabling technological reallocation through sharing. Under the sharing regime, the FCC tries to better define the rights so that more users can coexist in a band.

This is not well understood. It often is thought of as unlicensed v. licensed but it's really protection v. non-protection. If your technology allows you to use spectrum and tolerates interference well, you get "free" access to spectrum. But if you require

protection from interference, that carries a cost of denying that spectrum's use by others, so logically you need to pay for that cost. It's not a property right per se. If you can't give all who are willing to pay for protection the protection they want for the spectrum they require, then you truly have mutual exclusivity, and you run an auction.

This model is more flexible than the "unlicensed" model where no one can get protection, even a hospital using internal networks in a mission critical way. It's also more flexible than the "exclusive license" model, where chunks of spectrum were sitting around idle. In the sharing model, you can't protect something that isn't operating. So if it was bought at an auction, others would still have been able to use it for "unlicensed" use if the licensee had not deployed anything there.

Of course, we also wanted some unlicensed, such as in the white spaces, as that invites another kind of technological reallocation.

In short, the animating idea of technological reallocation is to invite technological innovators to create access to spectrum by solving the core problem of interference, much as technology innovations enabled fracking to create access to energy sources previously thought unobtainable.

The PCAST report provided clarity and momentum to this category far beyond what we did in the Plan and deserves credit for moving the ball down the field.

These three categories cause the reallocation through different tactics: regulation, auctions, and technology. What they have in common is that all enable the markets to adjust, all invite technological innovation and all create the possible of new market entry.

So how have we done since the Plan was released?

As of the second anniversary of the Plan, I was fairly critical. Indeed at that point, I publicly argued we had moved backwards in terms of reallocating spectrum. Certainly, in light of the Lightsquared fiasco, it was hard to argue otherwise.

Since then, however, I think the Commission has done a pretty good job course correcting.

The actions on the liberalization front include:

- Liberalization of MSS spectrum (S-band/AWS-4);
- Improvement of WCS spectrum;
- Untying the Gordian knot that had tied up the use of several bands through the 700 MHz interoperability order.

In addition, this sub-bucket should include the government acting to reallocate spectrum it had allocated for itself. In this regard, we should acknowledge the President's Executive memo stating the 500 MHz goal, which caused NTIA to look for more spectrum and led to 1695-1710, 1755-1780, and 3.5 GHz being on the table.

On the incentive auction side, Congress passed legislation authorizing the auction, about which I'll say more in a bit. I'm glad Chairman Wheeler acknowledged what we all knew--that the 2014 date was illusory-and put the auction on a reasonable timetable. I'm sure there will be more comments on the auction later but I hope all acknowledge both the underlying integrity of the idea of letting markets drive reallocation and the challenge of executing on the idea, especially when we are the first country to ever try such a thing.

As to reallocation through sharing, the FCC has acted to provided more unlicensed, in the 5 GHz band, and the Commission has just released a very important Further Notice of Proposed Rulemaking forward to implement the PCAST recommendations. It would establish an entire new rule Part 96 to effectuate these recommendations in 150 megahertz, creating an "innovation band."

At this conference, I suspect we're going to disagree on a lot of details, but I hope all would acknowledge, that over the last few years we have made significant progress in addressing the reallocation imperative. We cannot, of course, know the future. Who knows what Charlie Ergen is going to do with Artemis networks or Cable will do with its Wi-Fi. But just as Wall Street suggests a diversified portfolio with one's assets, there is good common sense in having a diversified portfolio of licensed, unlicensed, and shared spectrum, and a robust set of tools to enable reallocations as markets change.

Still, we should never be satisfied, which is why I think the House Energy and Commerce Committee did the country a service in putting out a White Paper on spectrum policy as it considers comprehensive new legislation.

I'm going to address a couple questions it raises and provide some general thoughts on other considerations.

One critical question it asks is "what should be done to encourage efficient use of spectrum by government users?"

Some have suggested a version of the incentive auctions in which government agencies are allowed to keep part of the proceeds of spectrum that they return for auction.

I don't think it a bad idea—indeed I don't see any harm in trying—but it is unlikely to succeed. We looked at England's experience and it did not produce spectrum. England has since added other mechanisms. It is likely that individuals in those

government agencies knew that whatever promises were made about keeping funds, they were likely to be broken in a subsequent budget fight. I think its safe to assume that every agency here knows that which Congress giveth, Congress can taketh away.

When it comes to government spectrum, my experience has taught me that sticks work better than carrots. Since the Plan, I have become more fond of the idea of putting responsibility for all Government spectrum under the control of an entity, like GSA does for real estate, and then provide that entity the ability to place an "administrative price" for spectrum use for an agency—as the federal government does for real estate—and providing a mandate for shrinking the government spectrum footprint overtime.

Based on what I experienced in government, I think GSA, or OMB for that matter, does a better job forcing a certain kind of efficiency within an agency, than the agency can do for itself. If the knowledge and incentives lie only in the silo, the prime imperative will be to protect the silo. If authority resides in a broader group, the incentives, and the use of the knowledge changes, I hope Congress explores that.

But I think the most promising avenue for government reallocation is the sharing regime as discussed before. I think enabling spectrum fracking holds significant promise, though like fracking for energy sources, there are risks of collateral damage that should be addressed before broad implementation.

Another question the Committee asks is should the Act permit the FCC to use expected auction revenue as part of the basis for the public interest finding?

Here, I would offer an emphatic, and ironic, no.

It is ironic because everyone who has ever been involved in auctions knows that Congress sees their value as a government fundraising device, and that congressional desire has an impact on FCC decisions. That's a political reality but it is not a legal reality.

It would be a mistake to make it so for two reasons. First, it's horrible policy. It could lead to the Commission deciding to maximize scarcity value in order to maximize revenues. The value to the economy of a competitive mobile market vastly outweighs any short-term gain to the government of a few extra billion. If that policy had been in place in 1994 for the PCS auctions, many of the gains we have seen would never have occurred.

Second, such a rule would be an invitation to litigation. While I respect the integrity of economists, I also admire the creativity of my fellow lawyers. The safest bet in the world is that every auction would be delayed as courts try to figure out whether the FCC appropriately weighed the revenue criteria.

By the way, I also find it ironic that this idea is promulgated by conservatives who also criticized municipalities for using rights of way policy to maximize revenues instead of to optimize broadband entry. I have spent the last three years being something of an itinerant evangelical on the subject of changing municipal policy if the change would enable an upgrade. We are making progress on this front. As AT&T CEO Randall Stevenson noted last fall ""Cities and municipalities are saying we'd like you to come in and invest and they are beginning to accommodate and tailor terms and conditions that make it feasible and attractive for us to invest." A proof point is the deal AT&T struck with a half dozen North Carolina communities earlier this month and both Google and AT&T's announcement that they are interested in pursuing negotiations with dozens of others.

I know that as a liberal in this room, I am way outnumbered, but this one is on you. Why are you all thinking about taking an idea you have criticized in municipal policy and incorporating it into federal spectrum policy?

Another question from the White Paper is should all FCC licenses be flexible use?

Its not quite clear what they mean by flexible use—surely they don't mean to enable interfering uses nor do I think they mean flexible use as we used it with cellular licenses—but as noted before, based on the discussions we had with companies and economists prior to recommendation about incentive auctions, I think the idea of a deregulatory big bang for licenses—while containing a kernel of wisdom—goes too far. As noted above, there are, for example, benefits of band coordination in terms of scale economics with devices and equipment that would be lost in a totally deregulated regime.

I am sure over the course of this conference we will have a greater discussion of the topic but let me start by offering into evidence the letter from 112 economists, and particularly its penultimate paragraph, discussing why markets benefit from the government setting up a market for spectrum. Let me also ask those advocating the elimination of restrictions on license holders whether they would also favor an elimination of special benefits conferred on license holders?

Again, I think the Committee did the right thing to ask questions and, just as the National Association of Broadcasters honored the National Broadband Plan by suggesting it wanted to have a National Broadcast Plan,[1] I'd like to honor the Committee by asking those who prepared the White Paper two questions.

First, what problem are you trying to solve?

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[1] Just to be clear, if Congress was considering authorizing and funding such a Plan, as it did for the National Broadband Plan, and I was asked to testify, I would testify in favor of doing so.

One of the funny things I have noticed in what we sometimes call FCC land is that the major advocates for new legislation also take the position that the United States is doing great in International communications comparisons. That is not hypocrisy; we could be doing great and still need a new bill. But it does beg the question, if we are doing so well, why change?

One of the mantras one always hears in D.C. is government shouldn't pick winners and losers.' This is also ironic as the city's major industry—lobbying—is premised on the need to affect the picking of winners and losers. My three kids will not incur any debt for any education they choose thanks to my years on Wall St. telling it who D.C. was picking.

I subscribe to a different point of view, one offered me by a great investor. He told me, "DC flatters itself to think it can pick; there are too many factors to guarantee one result or the other. But policy is like gravity; it does affect where capital flows."

So my question is where does DC want money to flow in telecommunications where it is not flowing now? Do we think the market is under investing in wireless networks? Wired networks? Devices?

In '96 Congress was clear that it wanted local phone companies, long distance companies, and cable companies to invest in adjacent market competition to bring more competition to the voice market. And it wanted wireless to have a chance to compete more rigorously in that market.

While, as Scalia wrote, the Act was sometimes a "model of ambiguity" its broad intent was clear and was specific with clear mandates such as requiring a level planning filed for terminating access charges and number portability.

We could argue about the local/long distance entry but certainly cable and wireless invested and competed as sought two decades ago.

As of today, I don't see the clarity of intent in the legislative effort. I understand the desire to modernize and simplify the law and I don't disagree with it. But the legislative process tends to freeze investment in the market as capital flows to lobbyists, not product innovation. So unless there is a compelling market reason to undertake the process, mere artistry in crafting legislation is not a sufficient justification, in my book.

The bottom line is, if advocates of new legislation believe there is an underinvestment problem, they should be clear about it.

Second question: is Congress going to set out general principles or micro-manage the expert agency?

In the original authorization to auction spectrum, Congress gave the FCC general authority. The provision simply authorizes the FCC to establish "a system of competitive bidding." Auctions have not been perfect but I can't think of any error that would have been prevented by further Congressional directions in 1993. Indeed, what I regard as the biggest mistake, the C Block, in 1995 for which I personally have accountability, the FCC acted in direct response to the Congressional mandate for to avoid "excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women." One can argue about whether the problem was inherent in the mandate or the implementation, but it's hard to argue that the FCC was not responding to Congressional directions.

Moreover, if Congress has problems with an FCC auction, it can act to stop it. It chose not to in 1995—indeed that vote was terribly controversial at the time--but a Republican Congress choose to stop a Republican majority FCC from proceeding with an auction in 2002.

Because of the complexity of the auctions, I favor general principles. In fact, I pleaded with then Chairman Genachowski to tell the Congress that incentive auction authority he wanted was one sentence—authorize sharing revenues with license holders who voluntarily relinquish their leasehold to facilitate an auction. Every other sentence, in my view, would either require the FCC to do what it would have done anyway, constrain the FCC unwisely, or increase litigation risk. The Chairman told me, in so many words, that he wished to be a weather vane rather than the weather—that he wanted to reflect, not affect, the policy debate.

The Chairmanship is hard and one is constrained by political reality. Still, the Chairman, by not being willing to stand up for general authority, created a reverse Overton Window in which he shrunk the acceptable political debate. That was a moment to help move the debate to a clearer understanding of the trade-offs of general versus detailed authority.

And there are trade-offs. It's not a simple, binary, one or the other. Again, I am glad that Congress specifically mandated number portability, for example. Still, we should understand the implications of one approach over the other and I begin by favoring general authority. Just as conservatives often speak of the need for "regulatory humility" I would urge Congress to consider general authority as reflecting "legislative humility."

Let me close by discussing the real reason I am here. I hope I have been helpful in enlightening and enlivening the spectrum debate. But I am really here to pay honor to my friend Tom Hazlett, with whom I have disagreed on a wide number of issues over the last two decades.

Tom is not a weather vane. I like that in a person, particularly in DC.

In the times when I had an influence on policy, I have had the burden and the blessing of hearing his voice in the back of my head, always asking myself, not what would Tom do, but rather, how will Tom make fun of this one? If I find myself laughing too hard, I know we have to look to a different policy.

His fearlessness, his passion, his creativity have contributed immensely to the debates, particularly in spectrum.

I know we are not really losing him. Thanks to upgraded broadband networks I am sure the time it will take for him to send me an email commenting on anything stupid that I say will be measured in seconds, not days.

Still, we will miss having him close by.

So please join me in honoring all that Tom has done in his time here in Washington D.C. and wishing him the best for his time in South Carolina.

Thank you.