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The Promise and Problems of Strategic Plans

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Observations on Planning

Our assigned topic is “the promise and problems of strategic plans.” I fear that everything I have to offer on this topic has been said by others before and that they said it better as well. So, I will begin by quoting one of those others.

Plans are worthless but planning is everything. That’s a famous aphorism; it is usually attributed to President Eisenhower—but when he used it in a speech he called it a statement he heard long ago in the Army. Eisenhower explained that when an emergency arises, your preexisting plans are usually useless; he went on to say,

But if you haven't been planning you can't start to work, *intelligently at least.*

That is the reason it is so important to plan, to keep yourselves steeped in the character of the problem that you may one day be called upon to solve—or to help to solve.¹

I believe that staying “steeped in the character of the problem” is the greatest benefit of strategic planning at the FCC.

For an institution such as the FCC—where the statutory mission remains unchanged for years or decades but the specific priorities change as technology, markets, and the membership of the Commission changes—commitment to a five-year or ten-year strategic plan is an unrealizable ideal. Much the same is true of NTIA.

There are a wide variety of theories of regulation—ranging from cartoonish versions of regulatory capture in which FCC decisions are made by the CEOs of AT&T and Verizon playing

¹ Remarks at the National Defense Executive Reserve Conference, November 14, 1957.

rock, paper, scissors—to complex theories from political scientists in which regulatory issues fall into multiple categories and institutional response varies by category. I suspect that most in this room are in the latter camp—probably we would all agree that the decision-making process for network neutrality issues differs from that for updating cable television technical rules.

But, there are some universals to the FCC process. One such universal is the organization of day-to-day policy development around the rule-making process. The rule-making process has the virtue of great specificity, but it not always well suited for considering broad policy issues—say, the extent to which receivers should be regulated.

Strategic planning, as exemplified by development of the broadband plan or the Spectrum Policy Task Force, provides a mechanism for analyzing issues such as the appropriate regulation of receivers in a general context—one not constrained by the specifics of a band plan or the needs of a single industry or the requirements of a specific technology. The visible outputs of strategic planning are, of course, the plans themselves. But, an at least equally important output is the increased knowledge and understanding of the issues by the FCC and the larger community.

I think it is also important to note that some current policies, generally regarded as delivering enormous value to consumers, arose from internal planning and analysis at the FCC. Perhaps stimulated by the FCC's experience with Citizens Band radio, the FCC staff in the late 1970s and early 1980s had discussed the design of an unlicensed service with many of the technical and regulatory features underpinning today's multi-billion-dollar unlicensed industry.² This important innovation did not come from academia or industry—rather it occurred when it did because FCC staff had the time and opportunity to think about future policy problems.

In a similar fashion, it was the FCC staff, not industry, academia, or public interest lobbyists, that pushed for technical flexibility in the rules for several services including videotext and second-

² A 1979 memo describing a general-purpose unlicensed service written by Carlos Roberts, then head of the FCC's Office of Plans and Policies, is available at http://www.jacksons.net/Carlos_Roberts_Memo_Unlicensed_1979.pdf. Mike Marcus's history of the rulemaking that led to the modern unlicensed rules is available at <http://www.marcus-spectrum.com/resources/WiFi-rev.pdf>.

generation cellular.³ Innovations facilitated by that policy have delivered billions of dollars of benefits to American consumers and many billions more to consumers around the world.⁴

The Psalmist, at least in some translations, had the last word on planning: The plans of the diligent lead surely to abundance, but everyone who is hasty comes only to poverty.⁵

Idle Crystal Gazing

In addition to our thoughts regarding planning, Pierre also asked us to prognosticate regarding future regulatory issues. I'll provide my views, but I warn you that they are little more than empty speculation.

One:

Opportunistic spectrum use—sometimes referred to as *cognitive radio*—is overhyped and overpromised. Nevertheless, it will be used successfully—although the use and benefits will be quite modest.⁶

³ More recently, such as in the digital TV rulemaking process, some industry and academic parties have supported technical flexibility.

⁴ Ironically, the FCC tried hard to provide such flexibility in the rules for digital broadcasting but the broadcasting industry rejected such flexibility. Today, of course, the broadcasters would kill to get the flexibility that they rejected years ago.

⁵ *World English Bible*, Proverbs 21:5.

⁶ Many past and current spectrum uses can reasonably be characterized as cognitive opportunistic use—in the early 1900s wireless telegraphy operators employed carrier-sense protocols and used dedicated calling channels to set up communications on a pool of dynamically allocated channels. Relatedly, a Coast Guard publication describes current practice in VHF maritime radio as, “Channel 16 is used for "hailing" (calling another vessel) only. Once you have contacted a vessel you should move your conversation to a "working channel". That is, one designated as "non-commercial" such as channel 68.”

(<http://www.uscg.mil/D1/prevention/NavInfo/navinfo/documents/C-Communications.PDF>)

Given that various forms of cognitive radio have been around for more than a century, I'm not exactly going out on a limb predicting that it will continue to be used. .

Two:

The 100 MHz of unlicensed spectrum at 5 GHz made available by legislation earlier this year will generate between ten and one hundred times more consumer benefits than will unlicensed use of the TV white space.⁷

Three:

Marty Cooper is right (as he has often been)—spectrum efficiency will continue to increase.⁸ We know of the promise of multi-user MIMO, interference cancellation, and multi-user detection. These technologies promise huge gains in spectrum efficiency, and we do not know what remains to be invented. These technologies are easier to deploy in individual systems such as a cellular network than in uncoordinated sharing. But, even in uncoordinated systems, they can provide substantial benefits (look up 802.11ac).

Four:

We will continue to expand the range of frequencies that can be exploited (look up 802.11ad). The vision of the low UHF as “beach-front property” will come to be seen as a quaint anachronism—one promoted in the early 21st century mostly by lawyers not engineers.

⁷ If, ten years from now, it is clear that the 5 GHz spectrum delivered 10,000 times more benefit than the TV white space, please do not call me up and tell me that my prediction was wrong. I just softened the real prediction so that it would not seem shrill.

⁸ See <http://bits.blogs.nytimes.com/2012/05/31/qa-marty-cooper-spectrum-sharing/>.

Five:

The problem of the rising noise floor in the exploitable radio spectrum will continue to grow. Regulatory responses will be haphazard and ineffective. The negative impacts on consumers will be significant—but few will notice or complain.