NET NEUTRALITY AT 10+; NATIONAL BROADBAND PLAN AT 5; CIVIC INTERNET OF THINGS AT BIRTH:

LESSONS IN GOVERNMENT ACTION IN A CHANGING LANDSCAPE

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I. INTRODUCTION

Government actions fit into five categories: 1) responding to a crisis (e.g., 9/11, Hurricane Katrina); 2) delivering on campaign promises (e.g., Reagan and Bush tax cuts); 3) routine operations, generally responding to a private petition requesting bureaucratic or judicial actions; 4) long debated issues that reach a critical juncture and are, at least momentarily, resolved (e.g., the Voting Rights Act, the Affordable Care Act, the Federal Communications Commission’s February reclassification decision); and finally, 5) actions emanating from a small group charged with evaluating strengths, weaknesses, opportunities and threats related to a mission, and successfully building the path and political capital for achieving the mission.

The fourth is rare, and therefore historic. The fifth appears only slightly more than unicorns. Yet, this spring, we saw evidence of both, with the Commission’s reclassification decision coming more than a decade after the issue first gained prominence, and several events1 commemorating the fifth anniversary of the National Broadband Plan. Not surprisingly, most of the media attention was on the reclassification decision.2 The real world impact of the two

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2 There is poetry in all the press attention and political capital focused on the congressional hearings on the recent FCC reclassification decision at the time of the Plan’s fifth anniversary, as the Plan has been living in the shadows of Net Neutrality. Unfortunately, our hope to aggressively begin implementation on the Plan’s recommendations on issues such as the IP transition, E-Rate reform, and many others, was significantly delayed by the Commission’s struggle to revise its rules in light of the loss in Comcast v. FCC, 600 F.3d 642

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efforts, however, provides an interesting view on how policy battles can make change manifest in the world.

This is not to suggest that Net Neutrality and the National Broadband Plan were in conflict. Both reflect the government and public’s belief that the Internet is fundamentally important to the economy and society, and both wrestle with how to protect long-standing principles of equity, diversity, and innovation, when the economic and technological substructure shifts.¹

II. UNIQUE CHALLENGES TO BOTH MISSIONS

The two, however, demonstrate how different missions require different processes. In 2009, FCC Chairman Julius Genachowski set out a plan in his first speech for resolving the decade old debate, and spent the lion’s share of his Chairmanship seeking to do so. The D.C. Circuit’s rejection of his approach forced the current Chairman to similarly allocate huge amounts of time and capital to the issue, on which millions of individuals commented. In response, Congress devoted numerous hearings to the issue.⁵

The Plan, by contrast, did not generate this kind of publicity.⁶ It wasn’t that we avoided controversy; from incentive auctions, to set-top boxes, to our proposal for the D block, in every area, we created controversy.⁷ We also encouraged public input (to the point of a leading public interest advocate crying “uncle” and requesting we stop asking for input).⁸ However, the input was struc-

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¹ See Nate Anderson, National Broadband Plan Arrives Quoting Shakespeare, ARS TECHNICA (Mar. 16, 2010, 1:30 PM), http://arstechnica.com/tech-policy/2010/03/national-broadband-plan-arrives-quoting-shakespeare/. Reasonable minds can differ on which is more fun to read, but the Plan footnotes were definitely more amusing.
³ Surely, the five hearings Congress held in the weeks immediately after the Verizon decision deserve the Fidel Castro Award for Rhetoric, for spending the most time saying the same thing.
tured first, to gather data, then to build on that data setting out potential paths for action, and only then to develop proposals. Those proposals did not fit into a simple political narrative, and with so much in play, it was difficult for any party to throw all its political capital into one issue, which resulted in a different kind of debate.  

The Plan also did not generate congressional hearings, though it did catalyze the one piece of communications legislation passed in recent years that authorized incentive auctions and a national public safety network. One can see the strange bedfellows nature of the enterprise in the biggest stumbling block to the legislation, the House Republicans’ early support of the Plan’s recommendation to auction the D block, which the Senate and White House supported giving to Public Safety.

Perhaps most notable, however, was the nature of the problem being addressed. In 2009, net neutrality represented a long-brewing battle in which various players in the value chain had sought government action, or inaction, to set the guidelines for behavior for negotiations within that value chain. Government has often been called upon to engage in such determinations, with railroads, trucking, and with every communications platform. Those battles had been contentious, long running and usually involving the politics of picking sides.

With the Plan, however, we had an opportunity to start by forging a consensus around a vision: ubiquitous, affordable, and abundant bandwidth, with everyone having the tools to use the platform to improve their lives, and with government using the platform to improve how we deliver public goods and services. Further, we were able to create a consensus around four core strategies

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9 While some have complained about “techno-populists” dominating the debate on net neutrality, we did not suffer from that problem, nor do I personally believe it is a problem. The Plan’s staff welcomed input from all but also had no problem putting aside input that was only slogans, instead of data, analysis, or solutions.


12 In the telephone era, common carrier rules, and later antitrust law, constrained the distribution phone company from adopting unjust or unreasonable rules on use. In the broadcast era, the Commission adopted such rules as the financial syndication rules. In the cable era, the government intervened in ways ranging from compulsory copyright (favoring distribution) to must carry (favoring content).

13 Some have criticized the Plan for not addressing the Open Internet issue. We decided not to debate it in the Plan, for a long list of reasons, among which there was already a significant effort by existing staff on the issue, which was scheduled to be completed before the
for improving broadband in the United States: driving fiber deeper in the network; using spectrum more efficiently; increasing adoption; and using broadband to improve delivery of public goods and services. For each of these strategies, there has been progress, problems and paths still untraveled.

III. DRIVING DEEPER FIBER DEPLOYMENT

For driving fiber deployment deeper, we made a number of proposals primarily focused on improving the economics of deployment by sharing facilities and lowering costs inappropriately imposed by various government policies. We were the first to note that at higher speeds—speeds likely to be required for mass-market uses in the future—most Americans had only one choice of providers,¹⁴ a fact largely ignored by Commission leadership for several years but more recently cited by President Obama and Chairman Wheeler. Some of our proposals for reducing federal and state constraints on deployment have recently been embraced as well.¹⁵ We proposed a number of ways that government at all levels, should remove barriers to the deployment of such networks. For example, in Section 6.2, we proposed the federal government examine its own practices and how they could be reformed to improve the economics of deployment,¹⁶ something the White House is now doing with its Broadband Opportunity Council.¹⁷ Other proposals helped upgrade connectivity to critical anchor institutions.¹⁸

¹⁴ We first noted that fact in a four-hour public presentation to the Commission in September 2009. I worried about that slide more than any other in the 140 slide presentation, because I thought it might start a lot of baseless speculation about what policies we might propose. I shouldn’t have worried. Everyone instead focused on the slide projecting a $300 billion cost for delivering 100Mbps to all Americans. Dollars beat data for press attention every time.


¹⁸ For example, Section 11.3 of the Plan made a number of proposals to reform the E-Rate program, which have been largely adopted, and even, in my opinion, improved on by two FCC decisions in 2014. Recommendation 8.22 on anchor institutions, led to the development of a United Community Anchor Network (UCAN), which is on the cutting edge of providing abundant bandwidth. See National Broadband Plan: Broadband and Education,
As it turned out, far more important than the answers we gave, was the question we asked: how do we drive private sector investment to create ubiquitous, affordable, abundant bandwidth? We knew that the answers in the plan were missing a piece to change the difficult economics. Fortunately, our discussions with Google provided that piece. Google Fiber did two critical things our proposals could not. First, it gave cities incentives to reconsider their policies that discouraged deployment. Second, it disrupted the market by forcing incumbent providers to move from a strategy of harvesting to a “Game of Gigs.”

Many questions remain but we are seeing activity surrounding wireline upgrades that were unthinkable a few short years ago.


19 A number of commentators, including a study we commissioned, suggested unbundling as an alternative strategy for wireline competition. This makes sense in some situations, but we thought it was inappropriate for the United States where there were two wires reaching over 90% of the homes. Although this is a worthy debate, I would note, that if the United States adopted an unbundling strategy, we would not have Google Fiber, AT&T Gigapower, CenturyLink Gigabit efforts, Chattanooga’s network, or any of the fiber efforts we have seen in the last several years. To be fair to unbundling advocates, we don’t know whether the strategy of competition will ultimately lead to the market structure that will provide affordable, abundant bandwidth. But there is significant evidence that unbundling would have been counter-productive.


21 Some, such as Holman Jenkins of the Wall Street Journal, have characterized the change in municipal policy as “deregulation.” See Holman Jenkins Jr., The Gigabit Distraction, WALL ST. J. (Feb. 20, 2015, 6:46 PM), http://www.wsj.com/articles/holman-jenkins-the-gigabit-distraction-1424475961. That’s not really true, as the lengthy agreements between Google and the cities where they are operating demonstrate. Google, and similar efforts like my organization Gig.U, have focused cities on how certain municipal policies add unnecessary costs to broadband deployment and, with the prospect of a world-leading broadband network as a carrot, to encourage reform. We have made the case that the economic benefits of a next-generation network far outweigh the short-term benefits of the rent collected by limiting access to essential rights of way. As a result, many, including AT&T CEO Randall Stevenson, have discerned a sea change in municipal reactions to efforts to upgrade networks. As he noted “[c]ities and municipalities are beginning to hold up their hands and say we would like you to come in and invest. And they’re actually beginning to accommodate and tailor terms and conditions that makes it feasible and attractive for us to invest.” That is an important policy change, but it is not deregulation. See Nancy Scola, Faster Broadband Begets Faster Broadband, Report Says, WASH. POST (Sept. 2, 2014), http://www.washingtonpost.com/blogs/the-switch/wp/2014/09/02/faster-broadband-begets-faster-broadband-report-says/.


23 For example, in January of 2013, cable executives were claiming that gigabit networks were only about bragging rights and were too expensive to deploy. Now cable is busy bragging about how it will deploy them. See Shalini Ramachandran, Speedier Internet Ri-
IV. INCREASING SPECTRUM EFFICIENCY

Our spectrum proposals involved three big ideas: moving spectrum from low value uses to higher value uses; using market forces, where possible, to drive that movement; and a multi-prong strategy of licensed, unlicensed and shared spectrum.

That analysis has lead to a number of actions, including: the President’s Executive Memo stating the 500 MHz goal which caused NTIA to look for more spectrum and led to 1695-1710, 1755-80, and 3.5 GHz being on the table; the only communications legislation passed in a recent Congress creating the Incentive Auction, as well as directing an auction of certain bands identified in the NBP; liberalization of MSS spectrum (S-band/AWS-4); improvement of WCS spectrum; using 5 GHz for unlicensed uses; the possibility of action for a national TV White Spaces footprint in post-incentive auction guard bands; and the development of a new spectrum shared use regime, first in the 3.5 and potentially useful in other bands.

As an economic matter, the AWS-3 auction alone, offering bands not harvested for auction when we sounded the alarm about the looming spectrum crunch, has arguably produced the greatest return on investment (ROI) ($41 billion) of any government effort since ARPA laid the foundation for the Internet. But the real value is in the consumer surplus created by the use of the spectrum, which economists have estimated is ten-fold the amount spent in the auction. That ROI is likely to be increased by the Plan’s endorsement of an


24 The President’s Council of Advisors on Science and Technology deserves the lion’s share of credit for developing the sharing regime, going beyond what we initially noted in the Plan.

25 There are a number of people who deserve praise for moving this agenda forward, including then Wireless Bureau Chief Ruth Milkman and her deputy John Leibovitz, who both did the lion’s share of the work in writing and then implementing the Spectrum Chapter. Others who deserve praise include Larry Strickland and his team at NTIA, Commissioner Clyburn, who as Interim Chair, did a great job untwining the Gordian knot on a couple big issues, such as the 700 MHz Interoperability Order. Jason Furman, of the NEC and now as the head of the Council of Economic Advisers, and Tom Power, of NTIA and OSTP, also played important roles, in advocating within the Administration and publicly for the right policies but also for the way below the surface, of fighting the battles to get government agencies to change how they used their own spectrum. See In the Matter of Promoting Interoperability in the 700 MHz Commercial Spectrum, Requests for Waiver and Extension of Lower 700 MHz Band Interim Construction Benchmark Deadlines, Report and Order of Proposed Modification, WT Docket No. 12-69, WT Docket No. 12-332 28 FCC Red 15122 (Oct. 25, 2013).
incentive auction—an auction one broadcaster denounced as the equivalent of the Bataan Death March, but now embraced by many.

This is not to suggest that all is resolved in spectrum policy. More than five years after Lightsquared proposed using a large swatch of spectrum, the only investment into the spectrum has been in the form of lawyers’ and lobbyists’ fees; the public has not seen any benefit of new use of the spectrum. Many sides have legitimate arguments, but the economic costs of delaying the use of that, and other, spectrum allocation represents an unfortunate tax on spectrum users in the United States, which today constitutes nearly every enterprise and individual.

Looking at the fiber and spectrum pieces together, we can be more optimistic than the facts justified several years ago, but we are not out of the woods. We need a robust deployment agenda to improve the economics and spur the deployment that is necessary to provide the abundant, affordable bandwidth that will assure that bandwidth does not constrain economic growth or social progress. It could include, for example, inquiries into providing improved access to programming, poles, multiple dwelling units, spectrum, interfaces, and even customers. For example, as Chairman Wheeler noted, minimal switching costs were essential for long-distance competition. In broadband, however, incumbents successfully make it hard for customers to switch. One can argue about particular policies, but no one should doubt current barriers to

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28 Henry A. Jessell, Fox, 3 Other Groups Join Pro-Auction Ranks, TVNEWS CHECK (Feb. 8, 2015, 12:14 PM), http://www.tvnewscheck.com/article/82840/fox-3-other-groups-join-proauction-ranks. Causing me to feel like Jabba the Hutt, who said “soon, you will learn to appreciate me.”

29 The Lightsquared episode makes me regret that the Plan did not discuss receiver standards, something that did not arise in our proceedings but that the government will ultimately have to address, one way or another.

30 We should recognize with clear eyes that whatever the legal fate of the reclassification, the principles will not build abundant networks, get all on or drive the use of the platform to improve delivery of public goods and services. As Milo Medin, of Google noted, we need better incentives to build out abundant networks. L. Gordon Crovitz, GOVERNMENT’S INTERNET MONOPOLY, WALL ST. J. (Apr. 26, 2015, 6:38 PM), http://www.wsj.com/articles/governments-internet-monopoly-1430085602; see also Blair Levin, NO BROADBAND CHAMPAGNE YET, RE/CODE (Feb. 10, 2015, 7:00 AM), http://recode.net/2015/02/10/no-broadband-champagne-yet/.

access, which discourage market entry and upgrades. Another point sadly ignored but critical going forward is the way that deployment of bandwidth abundant networks would help address some of the concerns underlying both sides in the reclassification debate.32

V. PROMOTING NATIONAL BROADBAND ADOPTION

With the third strategy, getting everyone on, we proposed a number of actions, but again, the conversations we had were more important than the answers we gave, particularly with the cable industry. One outgrowth was the Comcast Internet Essentials program, the largest national adoption program.33 But while there are some successes, I think, as noted on the first anniversary of the Plan, adoption was my greatest shortfall.34 We understood adoption was critical but needed more creativity in addressing it. I do not want to take anything away from private efforts, but I fear that some in government believed this is a problem that acts of charity can address.35 It isn’t. Fortunately, it is now back on the government’s agenda, with Commissioner Clyburn setting out a framework for Lifeline reform.36

While a critical step, it is not the only necessary one. Like other strategies, policymakers need to consider a number of changes in the landscape when considering solutions. Too often the debate about the “digital divide” focuses

35 Chairman Genachowski focused his efforts on creating a new non-profit to address the issue. If he had done so as a private individual, it would have been admirable, but doing so as Chairman of the FCC was problematic on many levels, ranging from creating a false sense that private charitable efforts will be sufficient to the optics of obtaining funding from the owner of a company benefitting from the program designed to assist low-income individuals. Mike Freeman, Carlos Slim, FCC chief tout pilot project to erase digital divide, UT SAN DIEGO, http://www.utsandiego.com/news/2012/may/31/carlos-slim-fcc-chief-tout-pilot-project-erase-dig/ (last updated May 31, 2012, 5:05 PM).
on issues that were relevant a decade ago when getting basic broadband networks everywhere was far more important. The more current analysis suggests that improving all users’ digital skills is crucial to encouraging full use of information and communications technologies. That is a very different problem than access to devices or services. Therefore, an ongoing focus on access alone might obscure attention to digital skills, whose solution requires fresh approaches.  

VI. UNLEASHING THE CIVIC INTERNET OF THINGS

The fourth strategy involves using the platform to improve the delivery of public goods and services. While there have been a number of unheralded advances, the more important point is we have just begun to see the opportunities to improve health care, education, public safety, job training, energy use, among other public services, through the use of data and networks. This strategy is just starting to bear fruit and no doubt will merge with what we might think of as the “Civic Internet of Things” (with similar technology but a different purpose and market structure than the Industrial Internet of Things). That is, as we deploy affordable, abundant networks with everyone on, the big upside is in using that platform to improve how our communities deliver goods and services.

I hope the next President puts together a team to develop a plan for America to lead with the Internet of Things. Developing a national strategy for the Internet of Things is not a novel thought. Indeed, Republican House member Leonard Lance has already introduced a House Resolution calling for a national strategy and consensus to accelerate the deployment and use of the Internet of Things in the United States. While the direction of the Resolution is good, it would be better to more specifically call for a plan, preferably in an executive agency.

If that happens, there are also two other lessons I learned with the Plan that I think relevant to such efforts. First, the Plan’s leadership has to resist the efforts of media focused political leadership to only articulate aspirations instead of a plan to actually achieve those aspirations. We spent an extraordinary

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38 Again, it is a sign of progress that the federal government is asking for ideas on how to improve adoption. See Broadband Opportunity Council Request for Comment, 80 Fed. Reg. 23785-23787 (Apr. 29, 2015).
39 It will have to deal in much greater detail on issues such as privacy and security than the Plan did. We lacked the time, the expertise and the mandate to do so.
41 It would be better done in an executive agency than an independent agency, as the mantle of presidential ownership is critical to implementation, a lesson I learned too late for the Plan.
amount of time with the political leadership of the Commission editing Chapter 2 of the Plan, in which we stated the goals, even though that Chapter was the least important part of the Plan as a matter of actual policy.\footnote{42} I concede that the articulation of goals is an important part of any plan and that the political leadership was correct that it would be the most quoted part of the plan. I hoped, however, that the political leadership would start with the aspirations but quickly pivot to the articulation of actual implementation. Hope, however, is not a strategy.

Of course, as Churchill noted, eventually Americans do the right thing,\footnote{43} but part of the challenge of developing a Plan—and part of what I did not do as well as I wish I had—was to articulate goals without giving political leadership the easy out of staying in the safe place of only articulating aspirations.\footnote{44}

Second, there is a danger of the plan developing a path for quick wins that actually make the politics of long-term progress more problematic. In my view, the Commission did this on several issues, including on Universal Service Reform, in the years immediately following the Plan.\footnote{45} Plan leadership should understand that while they are there to map a path to solving a problem, in the current D.C. environment, problem solving is not core to the mission of many. In the political world, the coin of the realm is your narrative, selling a consistent story to your base and trying to convince a few others of its efficacy.

\footnote{42} We provided a subtle hint of the problem by writing that to “achieve these goals, it is not enough to simply state where we want to be.” For some, this was too subtle.

\footnote{43} Bio Staff, Happy Winston Churchill Day! Quotes from the British Bulldog, Bio. (Apr. 9, 2015), http://www.biography.com/news/winston-churchill-quotes (“You can always count on Americans to do the right thing . . . after they’ve tried everything else.”). Chairman Wheeler, to his credit, has already made a number of decisions on broadband that had been discussed but never acted upon by the previous Chair.

\footnote{44} Chairman Genachowski’s favorite sentence, which he often repeated, was, “Broadband is the infrastructure challenge of our generation.” It is a statement of pure aspiration without a hint of policy, analysis, or implementation. Genachowski is also wrong as a matter of both money (repairing aging traditional infrastructure is an order of magnitude more expensive) and morals (for example, getting clean water to the 783 million people who do not have access to it or adequate sanitation to 2.5 billion who do not have that, might be seen by some as the greater challenge). Blair Levin, Why it’s time for the U.S. to get serious about its broadband problem, GigaOM (Jan. 17, 2014, 3:50 PM), https://gigaom.com/2014/01/17/why-its-time-for-the-u-s-to-get-serious-about-its-broadband-problem/.

\footnote{45} As an example, consider how then Commissioner Robert McDowell said that current trends in contribution factor were “unacceptable” and “unsustainable” but praised a Commission action that ignored contribution reform but focused on the far easier issue of intercarrier compensation as “a model of entitlement reform.” The Commission is currently redoing that model of reform. For an analysis of the problems with his view, see Blair Levin, Remarks to Wisconsin Broadband Summit: Global Leadership in the Broadband Economy and 10th Amendment Values (Apr. 4, 2013), available at http://www.gigaom.com/blog/blair-levins-remarks-to-wisconsin-broadband-summit.
In that world, if your narrative changes you lose your job, regardless of the facts, where as in the non-political world, there are people who own problems.

In many ways, the plan was an effort to own a problem in a world occupied by story-tellers. To the extent it succeeded, it did by focusing on the problem but staying sensitive to the narrative. Working within that understanding, however, is more art than science.

None of this should suggest the Plan was perfect. We always saw it as a work in progress, starting the implementation section with the single most important sentence in the 400 pages: “This plan is in Beta and always will be.”

But as that debate continues into the 2016 election, we should understand how government both can, and has to be able to, address both big, divisive issues, and find opportunities for progress through quieter, more systemic, discussions.

46 See Chapter 17: Implementation and Benchmarks: The National Broadband Plan Connecting America, BROADBAND.GOV, http://www.broadband.gov/plan/17-implementation-and-benchmarks/ (last visited May 15, 2015). We viewed that sentence as the appropriate technology articulation of the wisdom provided several years earlier by Mike Tyson (“Everyone has a plan until they get punched in the face”) and several millennia earlier by the Talmud (“Man plans. God laughs”).