

July 22, 2015

Hon. Fred Upton  
Chairman  
Energy and Commerce Committee  
US House of Representatives  
2125 Rayburn House Office Building  
Washington, DC 20515



Hon. Greg Walden  
Chairman  
Communications and Technology Subcommittee  
Energy and Commerce Committee  
US House of Representatives  
2125 Rayburn House Office Building  
Washington, DC 20515

**Re: Promoting Broadband Infrastructure Investment**

Dear Chairman Upton and Chairman Walden,

We commend you and the Subcommittee on Communications and Technology for calling this hearing. For far too long, Congress and the FCC have been distracted by the divisive issue of how to regulate the Internet in the name of “net neutrality,” losing sight of what most Americans think of when they hear that term: better, faster, cheaper broadband — and more competition. All Americans will benefit from policies that make broadband deployment, and new entry into the broadband market, easier.

In general, broadband policy in the U.S. has been far too preoccupied with how to manage scarcity — from the “net neutrality” debate to how to configure spectrum auctions and license transfers — and far too little focused on how to increase the supply of bandwidth and the ubiquity of useful broadband at affordable prices. Here, we present several conceptual models for promoting deployment of broadband, both wireline and wireless, with subtle variations within each model. We then lay out a general roadmap that governments could use to promote broadband deployment, from mere coordination and cutting of red tape, to deployment of conduits and dark fiber, all the way up to municipal ownership and operation of networks.

We propose that, in general, government-owned broadband be the *last* resort, not the first thing governments try in order to stimulate broadband supply. Such an approach would

promote Internet Independence in the broadest sense: ensuring that consumers are not dependent on monopoly providers but also not making them more dependent on government.

There is no one-size-fits-all approach to broadband deployment, so different models will be better suited to different areas, but following this general roadmap should allow for governments at all levels to promote broadband deployment while minimizing risk and still allowing for individualized plans that reflect the needs and desires of the local citizenries.

## **I. Conceptual Models for Promoting Broadband Deployment**

The current debate over broadband deployment — to the extent that it even happens, given the preoccupation with “net neutrality” regulation on both sides of the aisle — centers on whether cities, states and the federal government should build and operate broadband networks. This false framing has helped to extend the political polarization into the broadband debate — and for no good reason.

The real question facing policymakers at all levels is simple: how to produce (a) the greatest investment and competition in broadband not only with (b) the smallest expenditure of taxpayer dollars, but also with (c) the least distortion of private markets and (d) the smallest risk of increased government control over the Internet?

Framed this way, it quickly becomes clear that there are, in fact, a range of things governments can do — and, perhaps even more importantly, *stop* doing — to promote broadband deployment. Government encouragement of broadband deployment and competition is not a binary, all-or-nothing choice, but rather a spectrum of options that vary widely along several key dimensions. The sheer number of such policies, and their nitty-gritty complexity, has, understandably, made it far simpler to focus the debate on the relatively simple abstraction of “muni broadband.”

Here, we attempt to provide, for the first time, a conceptual model of the range of options available to policymakers, organized roughly in order from least to most interventionist — in terms of the three categories mentioned above: taxpayer investment, market distortion, and risk of government control. This is by no means a complete enumeration of a pro-deployment policy agenda, but it is a start. (As noted below, we urge the Committee to immediately task the Government Accountability Office with conducting a study to explore the details of implementing these ideas, their relative costs and benefits, and additional similar ideas.)

### **1. Coordination & Cutting Red Tape.**

- a. **Permitting Process Reform.** Simply getting permission to build a broadband network or install towers or small cells can be prohibitive.
  - i. Dedicated personnel to expedite approvals

- ii. Clear deadlines for approvals process
  - iii. Streamlined permits — for example, some cities require permitting for fiber installations on a block-by-block basis
- b. **Dig Once Coordination:** A study by the GAO showed that “Dig Once” policies can reduce the of the cost of deploying fiber under highways in urban areas by 25–33%, and by roughly 16% in rural areas.<sup>1</sup> These cost reductions may not see massive, but in the context of multi-million dollar builds, the total numbers may be enormous. More importantly, whether to deploy a new network (or upgrade an existing network) is always a *microeconomic* question, to be decided on the margins: even relatively small cost reductions could be decisive as an ISP, or potential ISP attempts to obtain the capital necessary for deployment. Without spending any extra public dollars, governments can greatly expedite deployment by simply adopting these types of Dig Once policies.
- i. If a dig is already planned (at request of deploying ISP or as part of another project), solicit bids from any ISPs who want to come in and lay equipment while the ground is already dug up.
  - ii. If a dig is very minor, or if the existing supply of conduit/fiber is already deemed adequate, no such solicitation is necessary, as it would delay the dig project without any corresponding benefit to broadband deployment.
- c. **Allowing the IP Transition.** Many ISPs are currently forced to spend billions of dollars each year maintaining their legacy copper infrastructure. But for the FCC’s rules, such investments could be put towards deploying new fiber optics and other state-of-the-art technology, rather than serving the telephony needs of an ever-dwindling population still reliant on their home telephone connection.
- i. Congress and the FCC need to finally embrace the IP Transition, and allow ISPs to retire their legacy copper networks when there are adequate alternatives available — such as 4G LTE mobile wireless coverage or a managed VoIP service — so that they can get on with building out the network that will support future communications needs.
  - ii. As with the DTV Transition, it may even be wise for Congress to set a date when all legacy networks and the Public Switched Telephone Network can officially be shut down, and the United States can finally enter the Digital Age.

2. **Leveraging Existing Government Assets.**

- a. **Better Access to Information.** Government has unique access to hyperlocal information about each block in the city and what will be required to deploy a network. Since broadband deployment costs vary widely depending on

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<sup>1</sup> Google Testimony at 4.

conditions, lacking easy access to this information can significantly increase the uncertainty in business planning, and thus the ability to raise capital.

- i. Develop structured Geographic Information System databases of relevant deployment information (e.g., utility pole owners, approved local contractors, availability of land for local HQ, etc.).
- b. **Government-Owned Land/Buildings.** The Federal government remains by far the largest land-owner in America, and municipalities own land that is particularly critical for broadband deployment.
  - i. Earmark available government-owned land for future tower sitings, local HQs, and other network elements.
  - ii. Enable and expedite collocations of wireless facilities on government-owned buildings.
  - iii. Ensure that all government buildings are wired for high-speed broadband Internet access to increase online civic engagement and reduce duplicative paperwork.
- c. **Pole Attachments.** Telecommunications carriers and cable companies have long had access to privately owned poles at “just and reasonable” rates governed by the FCC — because such poles are built on government-owned land (the underlying government asset) and it is generally not possible to build competing sets of poles (nor, generally, would it be cost-effective to do so, giving poles characteristics of a natural monopoly).
  - i. The FCC’s reclassification of all broadband providers recently extended these rights to new ISPs like Google Fiber without their having to qualify as telcos or cable companies. This is perhaps the one good thing about Title II reclassification — although it hardly justifies the overall costs of reclassification. Given the significant risk that reclassification may fail in court, Congress should do now what it should have done before reclassification: Amend 47 U.S.C. § 224 to equalize pole attachment rights for all providers.
  - ii. Reclassification does not address the larger problem: current Federal pole attachment law applies only to privately owned poles, not those owned by local governments. Congress has every right, as a matter of federalism, to extend the pole attachment pricing rules to government-owned poles.
- d. **Spectrum:** In general, radio spectrum is the federal government’s greatest underutilized asset.
  - i. Buildout of FirstNet will be a major step forward for governments’ utilization of spectrum, but there is more that can be done to serve the communications needs of citizens.

- ii. Using the television white spaces, spare capacity in the D Block, and/or future freed spectrum, governments can provide Wi-Fi in city centers and other public areas, typically by contracting out such service to a wireless provider who will actually be in charge of operating the networks.
  - e. **Existing Dark Fiber.** Municipally owned fiber optic cable has been around for decades, and in some places cities have invested early and deployed fiber that remains unused, or dark, in the ground.
    - i. Where government has laid dark fiber, solicit bids from ISPs willing to install the remaining network elements and offer service using the existing government assets.
- 3. **Building Smart Infrastructure.** If governments want to take an active role in stimulating investment, they should start with complements, not substitutes, for private broadband networks.
  - a. **Upgrading Poles.** Where poles are owned by municipalities, those municipal utilities could ensure, as part of regular maintenance, that they are ready for additional attachments or expand the space available for new providers.<sup>2</sup>
  - b. **Dig Once Conduits.** Instead of merely coordinating the installation of conduits among private providers whenever streets are dug up, municipalities can take a more proactive role to ensure that conduits are installed throughout a city.
    - i. **Private:** Government requires private providers deploying fiber in public rights of way to install standardized conduits available for lease to other companies (*i.e.*, their current and future competitors in the broadband market) at regulated rates — just as it happens today with pole attachments on government land.
    - ii. **Public:** Government does not wait for a private provider to ask to install a conduit, and instead deploys a conduit on its own — ideally alongside other infrastructure projects, as San Francisco is currently doing with its replacement of sewer mains — that it then offers to lease access to for other ISPs to deploy fiber in, thereby recovering the costs of the conduit over time.
  - c. **Dark Fiber:** If, after adequate conduit is deployed, no private ISPs are willing to deploy fiber, government purchases and deploys fiber inside the conduits, which it then offers to lease to private ISPs for use in providing service, thereby recovering the costs of the fiber over time.
- 4. **Government-Owned Networks.** In some areas, even coordinating digs and deploying conduit and dark fiber is not enough to convince ISPs to deploy, so the government

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<sup>2</sup> Google Testimony at 4, available at <http://docs.house.gov/meetings/IF/IF16/20150722/103745/HHRG-114-IF16-Wstate-SlingerM-20150722.pdf>.

must go a step further, purchase the remaining network elements, and even run the network as a public utility if that's what it takes to deliver adequate broadband service.

a. **Illustrative Examples:**

- i. **Muni broadband:** Chattanooga, Tennessee's EPB
- ii. **Muni Wi-Fi:** Wi-Fi in Baltimore public areas
- iii. **Middle Mile:** KentuckyWired project; Westminster, MD and Charlottesville, VA partnership with Ting

b. **Potential Variations:**

- i. **Pure wholesaler:** Resellers provide *all* service.
  1. This is similar to the dark fiber model of building smart infrastructure, except that government also installs the remaining network elements, and leases access to the network to resellers who will provide all service to end-users, with government recovering the cost of building the network over time through such lease agreements.
- ii. **Open Access Model:** Resellers *can* provide service.
  1. Rather than relying upon resellers to provide all service to end-users, the government forms a public utility or local cooperative to operate the network and provide service to end-users at regulated rates; however, upon request, the government must open up the network for leased access by resellers.

## II. Dangers of Government Ownership

Some insist broadband networks should be owned and operated as government utilities, similar to water and electric services. But while these may (generally) be natural monopolies, it is far from clear that the same is true of broadband. The natural monopoly in the Internet exists not at the network layer, but one layer deeper: the conduits and poles that carry broadband networks.

Furthermore, there is good historical reason to think that ownership and the utility model would not be a good fit for broadband. In particular, the three main concerns with government ownership of broadband networks can be traced to the effects of upgrade cycles, the lack of natural monopoly, and the risk of increased government control and surveillance.

Broadband speeds have been growing at a tremendous rate since the commercial Internet was first popularized in the late 1990s, but they have barely been able to keep up with demand. And as users increasingly utilize high-bandwidth applications like IPTV and 4K video streaming, ISPs will need to keep upgrading their infrastructure to keep pace. By nature of being deeply involved in the business on a day-to-day basis, private companies are in a superior position to

keep up with state-of-the-art technologies and implement the technical upgrades necessary to meet future broadband demand. While government bureaucracy and the utility model might be adequate to meet broadband needs in the near-to-medium term, in the long run they will likely be unable to keep up, and such municipal networks may fall behind or even go under.

Indeed, it is not a given that any one broadband network is going to be profitable and sustainable. Some of them inevitably fail, due to mismanagement, dwindling populations/subscribers, or other unpredictable factors. Thus, it is better to not put all of one's eggs in a single basket, and instead allow multiple ISPs to serve a single market, since — unlike utility poles and public rights-of-way — broadband is not a natural monopoly. Consumers can access the Internet from their homes over a coaxial/fiber cable, a copper/fiber connection, and/or wireless alternatives. Although each of these solutions will have slightly different characteristics and performance levels, some may be particularly well suited to certain segments of the market while others will be better suited to other segments, and there is good reason to think that most markets will be able to support at least two or three broadband competitors. Such facilities-based competition and distributed risk are incompatible with the public utility model of government ownership, and, for at least most markets, are far superior.

Relying upon government ownership of networks risks not only letting consumers fall behind in upgrade cycles, but also crowding out private investment that otherwise would have gone towards deploying a second or third broadband network, thereby reducing the aggregate broadband investment in a particular market and leaving consumers worse off. Furthermore, placing government in the role of owning and operating broadband networks allows for even easier and more ubiquitous surveillance, without any private party intermediary able to resist or cry foul. This is not to say that government ownership and operation of broadband networks is never the right choice, but it is to say that there are great risks attendant with such government involvement, and governments would do well to keep these risks in mind when considering whether to rely on public or private capital in boosting broadband deployment.

### **III. Climbing the Ladder: Governments Should Give Markets a Chance**

Government-owned networks should be a last resort, not the place the broadband deployment debate starts. Again, we urge a three-pronged approach to achieve maximum results for consumers with a minimum of taxpayer investment (and risk) — one that channels market forces to the greatest extent possible, rather than replacing them:

1. Minimizing regulatory and other bureaucratic barriers to deployment;
2. Catalyzing private investment; and
3. Promoting facilities-based competition between private providers, and relying on government-owned broadband networks only where the first two approaches fail to stimulate adequate broadband deployment and competition.

Specifically, we urge the Committee to consider revising the Community Broadband Act (a bill that has had bipartisan support in past Congresses) such that, before actually building a government-owned network, a municipality must (a) meet some minimum standard in cutting red tape, (b) make its own assets available to private providers, and (c) solicit bids not merely on the “opportunity to bid to provide the capability,”<sup>3</sup> but on the opportunity to lease Dig Once conduits once installed by the municipality.

The last requirement is critical — yet should be unobjectionable. If a city is going to build a broadband network, it will essentially have to install conduits anyway (or at least, dig up streets). Why not at least see if private providers might be willing to finish the job? Why should taxpayers have to pay for the installation of a single network when at least one private provider might be willing to cover the costs of building the rest of the network? Even if only a single provider responds to the initial request, having conduits installed, rather than building a government-owned network, leaves the door open to other private providers to cheaply take advantage of the conduit in the future (since fiber can be easily threaded through such conduits without the need for any additional digging). If no private provider responds, the city could simply build its own network as planned — with little delay or additional cost. At most, the difference would be (a) gauging the potential for private investment and (b) ensuring that, if the city does install its own network, it future-proofs the network by installing its fiber in conduits that private providers can use in the future and that will be cheaper and easier for the municipality to maintain and upgrade.

Such municipal networks would, ideally, also be on a purely wholesale basis: the government would not be in the retail business, but would allow private resellers to provide the service directly to consumers. Short of that, the network should at least be available to such resellers. This is precisely where such an open access requirement would be appropriate: where taxpayer dollars are used to build the network.

#### **IV. Specific Suggestions (GAO Study, Follow Up Hearings)**

The broadband deployment discussion must begin by acknowledging the painful reality that the National Broadband Plan was a failure — not in its vision or substance, but in the lack of operationalization by the FCC and other Federal agencies, Congress. To paraphrase Mark Twain’s famous quip about the weather: “Everybody complains about broadband deployment, but nobody (at least in government) does anything about it.”

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<sup>3</sup> Community Broadband Act, S. 240, 114th Cong. § 6(a)(5), (2015).



This, in turn, reflects a lack of institutional commitment to promoting broadband deployment. However, this hearing is a perfect opportunity to reopen these issues and kickstart a new conversation about broadband deployment. These are complicated issues that will take time to sort out, but Congress can and should take immediate steps to help resolve them. In particular, we ask that Congress commission a GAO study to examine the models proposed herein and the particular variations within each. For example, when considering government deployment of conduits and fiber, there are several key questions that should be considered, including:

- Who initiates the dig process: a broadband company (or other would-be-digger, like a utility) or a government entity?
- How does coordination work among entities that currently want to install fiber or other infrastructure (e.g., gas or water pipes)?
- Is there a standardized conduit installed for fiber-optic cable?
- How would future users gain access to such conduit?
- Who owns, or should own, such conduit?
- How is the installation of the conduit funded?
- Are there standardized models for internal wiring and connecting buildings to the curb?
- Do these models need to be updated to account for changes in technologies and/or for multiple providers serving a single building?
- Should internal wiring models apply only to newly constructed buildings, or can existing buildings be easily retrofitted?
- And how do such choices affect the overall costs of deploying a network and operating it over time?

Besides these specific questions, we propose the following general tasking language:

- 1) How can government at all levels maximize private investment in broadband, and competition among private broadband networks, with the smallest investment of taxpayer dollars (or public debt), while minimizing both distortion of private markets and the potential for greater government control?
- 2) How much progress has the FCC made in implementing the National Broadband Plan?
- 3) What kind of institutional structure could help to ensure that governments at all levels make reforms to their policies?

In addition, we urge the Committee to hold additional hearings on these questions going forward as more data become available. Some of the issues at hand would be best resolved by recommending best practices, rather than codifying them in legislation. Others require legislation, either at the state or national levels, to be effective. But in either case, no less important than getting the initial recommendations right is follow-through.

Once again, we commend the Chairmen, the Committee, and the Subcommittee for holding this hearing and actively investigating these pressing issues. We look forward to working more in this area as deliberations move forward and Congress begins to consider some of the key areas within broadband deployment, such as how to free up more government spectrum for wireless broadband, and how to update the Communications Act to embrace the IP Transition and the Digital Age.

Sincerely,

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