

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
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Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment)	WC Docket No. 17-84
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Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment)	WT Docket No. 17-79
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Comments of ITIF

The Information Technology and Innovation Foundation (ITIF) welcomes the opportunity to provide input on potential Commission actions to help expedite the deployment of next generation wireless and wireline infrastructure.¹ Efficient access to rights of way and municipal infrastructure to deploy wireless and wireline infrastructure will be essential to securing U.S. leadership in developing a robust Internet ecosystem around advanced wireless capabilities. In addition to robust fiber for both access and backhaul, streamlining and expediting the process requirements of new small-cell siting approvals will be required for the large-scale deployments necessitated by 5G technologies.

The time is ripe to re-evaluate federal levers to remove barriers to infrastructure investment, looking to particular points of friction in deploying new networks or identifying changes in technology—such as the transition from large macro towers to small cells—that call for commensurate changes in policy. ITIF strongly supports efforts to spur broadband deployment, and therefore urges the Commission to move forward with its proposals under consideration to the extent legally permissible to accelerate broadband deployment.²

¹ Founded in 2006, ITIF is a 501(c)(3) nonprofit, nonpartisan research and educational institute—a think tank—focusing on a host of critical issues at the intersection of technological innovation and public policy. Its mission is to formulate and promote policy solutions that accelerate innovation and boost productivity to spur growth, opportunity, and progress.

² *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, WC Docket No. 17-84 Notice of Proposed Rulemaking, Notice of Inquiry, and Request for Comment, (April 21, 2017), https://apps.fcc.gov/edocs_public/attachmatch/FCC-17-37A1.pdf; *Accelerating Wireless Broadband Deployment by*

Broadband deployments—whether in the form of new overbuilds where economically viable, extension of networks to unserved areas, or upgrades to existing networks providing enhanced wireless or wireline services—obviously benefit local communities. But there are large spillover effects from broadband that benefit those beyond where a particular network is deployed, giving rise to tension, and at times divergence, between local and national interests, particularly when localities look to providers to supplement the local tax base.

The Commission should not let fearmongering over health effects of radio-frequency (RF) emissions unnecessarily impede the deployment of 5G systems, but it should recognize that these RF fears, regardless of their illegitimacy, may impede new infrastructure deployment. The FCC should take steps to quell these concerns.

GOVERNMENT EFFORTS TO REMOVE BARRIERS TO DEPLOYMENT ARE WARRANTED

Legacy, inefficient processes that are not well suited to modern network deployment can delay or prevent the rollout of broadband services. This problem will become even more acute as the nation transitions to the next generation of wireless services, anticipated to require significantly more numerous, but smaller, cell sites. Government efforts to ensure that these costs are as low as possible are well-justified to encourage U.S. leadership in developing a 5G ecosystem. Furthermore, a locality's narrow interest in maximizing tax revenues or extracting concessions from providers may well diverge from the national interest in promoting U.S. competitiveness and innovation through advanced broadband platforms, further justifying targeted federal intervention.

Streamlining Access to Infrastructure Will Spur Advanced Broadband

5G, if implemented as hoped, will prove a significant boon to economic output and consumer welfare. Like 4G before it, next-generation wireless systems will play an important role as a platform enabling other innovations in adjacent markets, with significant spillover benefits. The wireless industry touches an increasing number of key verticals throughout economy, so U.S. wireless policy has a compounding effect in advancing productivity, growth, and jobs. There is first-mover advantage for countries that successfully facilitate an early deployment of this platform and integrate it with other parts of the economy.

But building the dynamic ecosystem of new applications, devices, and uses around advanced broadband access systems faces something of a chicken-and-egg problem—those new access systems must first be deployed before new use cases can be offered at scale, but there is little incentive to deploy costly infrastructure if there are limited use-cases to recoup that infrastructure investment. It is in the national interest for the government

Removing Barriers to Infrastructure Investment, WT Docket No. 17-79 Notice of Proposed Rulemaking and Notice of Inquiry, (April 21, 2017), https://apps.fcc.gov/edocs_public/attachmatch/FCC-17-38A1.pdf.

to use appropriate measures to bend the cost curve of deploying 5G in hopes of continuing the incredibly successful innovations built around LTE systems through the next cycle of access technology.

Broadband Externalities Create Tensions Between Local and National Interests

Local broadband deployments clearly benefit residents, as they get access to faster and better networks. But broadband also benefits the nation as a whole, through what economists call externalities. Broadband exhibits strong network effects or network externalities, whereby the service is increasingly valuable to each individual user as more people join the service. The classic example is telephone service which becomes more valuable to a user if more people are connected. Indeed, telephone network externalities have long been recognized and have been a major rationale behind universal service policies. But broadband externalities are even more significant, in part because broadband enables new services to emerge and gain scale economies that will benefit broadband users.

A second externality can be called a “prosumer” externality, because broadband enables consumers to become more efficient, thus in turn driving higher rates of productivity and economic growth. Advanced broadband—allowing for greater reliance on services like telemedicine, distance learning, and e-government, for example—can significantly improve the flourishing of our society overall.

A third externality to consider is national competitiveness. Advanced broadband can help maintain U.S. IT industry competitiveness, which is important for maintaining high standards of living and national competitiveness. Having leading-edge technology buyers (both businesses and individuals) can help IT companies gain competitive advantage and boost related jobs domestically. All this is to say robust broadband is important to the U.S. national economy, which should be relatively uncontroversial.

More troubling is the potential for negative externalities from local government action. The major concern here is the possibility and often incentive for localities to shift costs to non-residents. This can occur in the form of costs charged to broadband providers for deploying broadband, including fees related to permits, pole attachments, and other infrastructure siting. Not only would these fees help pay for other city services when local budgets are tight, but such fees can also be used in negotiations for a city to shape broadband deployments in ways that market forces would not otherwise do, at least in the short term.

From the local government and elected officials’ perspective, the optimal price a community would charge would be the highest possible price where the provider would still deploy the infrastructure. For high-income communities with moderate to high geographic population density, the monopsony power of the government jurisdiction is especially high for they know that providers will want to serve those customers. But most other communities still have at least some monopsony power over deployment.

This is particularly worrisome as it is almost impossible for regional or national broadband carriers to raise prices in a particular community that imposes higher fees, because most have national or regional pricing plans. In this case, the high fees in any one community result in marginally higher prices throughout the entire company's regional footprint. These higher prices are borne by the consumers in the entire regional (or national) footprint of the company, including low-income consumers. At the margin, the higher prices will inevitably reduce adoption and use. Fees above costs, or requirements to make other concessions and donations essentially allow a locality to shift revenue collection to broadband users outside its jurisdiction, which operators ultimately must recoup through higher prices, or, more likely, limited investment.

This situation is like a classic prisoners' dilemma, where it is rational for each community to try to extract the most concessions from providers. If only one community extracts concessions and fees, they get all the benefit, with the costs (i.e., higher prices and less deployment and adoption) borne by the rest of the nation. But if all communities do this, then they collectively suffer from a less robust broadband system. The FCC should recognize that national and local interests do not wholly align when it comes to broadband deployment. It is worth helping local officials better understand the benefits of advanced broadband infrastructure and how their policies (e.g., zoning, permitting, fees, build out requirements, etc.) can affect not only their own broadband modernization but the nation's. The Commission should encourage industry to work cooperatively with localities to most effectively overcome particular local concerns. But this divergence in interests also suggests some role for the national government.

This tension between national and local interests is of course not the sole explanation for impediments to broadband deployment. There are delays and challenges arising from outmoded processes, for example, that are also not in a locality's interest that should be addressed as well.

THE FCC SHOULD STREAMLINE SMALL-CELL AND ADVANCED-BROADBAND DEPLOYMENT

The Commission's proposed streamlining of state and local approval for tower sites and the proposed pole attachment reforms will allow small-cell deployments of 5G technology without the onerous requirements intended for macro cell-site placement. This accelerated deployment will enable providers to build out their networks much more rapidly and deliver next generation services without the constraints of policies designed for older tower buildouts. Improving small cell-siting permitting is a large opportunity.

Access to utility poles within the existing rights of way are likely to be one of the most effective methods to deliver service to a wide geographic area, as the frequencies used in 5G require a much greater density than previous systems. Currently, as the Commission notes, the established timeline for pole attachment approval is five months. Even where this timeline is adhered to, it can be too lengthy. In small-cell deployments, it is often the permitting and approval process that takes far longer than the actual deployment itself. What's more, some localities or utility operators may seek significantly above-cost fees for access to potential cell sites.

The FCC should encourage simplified document processing for small-cell deployments, and work to achieve generic permitting for installation as well as access during operation. Localities must also move toward generic or blanket installation permissions instead of permitting each individual site. Streamlined paperwork can speed deployment as well as reduce administrative burden on localities. Cities should also look to empower a single administrator to coordinate all approvals where possible. The FCC should seek to update those rules where in its control, as well as alter its “shot clock” mechanism to spur small-cell deployment consistent with Supreme Court precedent.

Another opportunity to lower the costs of deploying broadband is through reform of the “make-ready” process during pole attachment. The make-ready process must take place before attaching new equipment to a pole, and involves an assessment of the impact of new equipment on existing pole attachments, and possibly rearrangement. Google Fiber and other entities point to so-called “one-touch make ready,” whereby a single contractor would perform all of this necessary work rather than multiple technicians for each entity on the pole, as a key potential tool in lowering the costs of deploying fiber.³ Others claim this “one-touch” process violates state and federal laws, impedes on their contracts with attachment technicians, and often causes costly disruptions to their own service.⁴ It is not immediately clear who is imposing on who in this situation—those seeking new attachments or incumbent pole users. Before significantly changing its policies or disrupting various state rules, the FCC should seek information on how disruptive one touch is in practice, and consider whether those disruptions are outweighed by the purported benefits of the policy. One possible way forward is a type of escrow or bond paid by those relying on one-touch make ready to deploy infrastructure. The escrow could be released in event of disruption to incumbent services.

In addition to the pole attachment reforms the Commission is considering, application timelines for new tower sites should also be shortened. As long as localities are allowed a reasonable period to act on applications, a “deemed granted” remedy is an appropriate result. Deemed granted policies should ideally be paired with administrative streamlining of applications, as it is unreasonable to expect municipal staff to be able to handle an enormous spike in application rates. Approval bodies should be allowed some discretion with application timelines to ensure reasonable compliance with local zoning and engineering reviews, as long as those seeking to deploy have some certainty around what to expect.

³ See, e.g. Comments of Next Century Cities, *In the Matter of Accelerating Wireline Broadband Deployment by Removing Barrier to Infrastructure Investment*, WC Docket No. 17-84, June, 2017.

⁴ For example, Sean Buckley, “AT&T Sues Nashville Over the Google Fiber-Led ‘One Touch Make Ready’ Ordinance,” *FierceTelecom* (September 2016), <http://www.fiercetelecom.com/telecom/at-t-sues-nashville-over-google-fiber-led-one-touch-make-ready-ordinance>.

The Commission should encourage local efforts, such as permit streamlining and adjustments to zoning codes that are wholly within a localities jurisdiction. The Commission should consider ways in which it could incent localities to maximize their efforts to accelerate broadband deployment in coordination with other parts of the federal government. For instance, adoption of something like a model code could be required before acceptance of infrastructure funds. The FCC, and its Broadband Deployment Advisory Committee, should help find creative ways to encourage local efforts.

The FCC Should Act on Process Reforms

Copper retirement notifications, service discontinuance approval, and the National Historic Preservation Act (NHPA)/National Environmental Policy Act (NEPA) can all be appropriately modified to allow more efficient deployment of new network infrastructure. The current regulatory requirements created by these procedures are inappropriate for the new 5G infrastructure model, and revisions to procedure can create a much shorter timeline under these regimes.

ITIF supports the Commission's proposed changes to expedite the retirement of copper and network change notifications. Specifically, the Commission should repeal the § 251(c)(5) requirements on incumbent local exchange carrier (LEC) copper retirement notices of less than six months, and retain the prohibition on competitive LECs objecting to and delaying an incumbent LEC's planned copper retirement. These changes should allow a much more efficient process of removing outdated infrastructure and spur deployment of new technology at a higher rate.

ITIF also supports the Commission's efforts to streamline the service discontinuance process. Allowing faster approval of exit applications will speed the transition away from legacy services and towards next generation IP-based networks. Streamlining the public comment period, the auto-grant period, and expanding the list of services eligible for grandfathering will all serve to enable more a more efficient discontinuance process.

Finally, ITIF also supports the FCC's attempts to limit abuses of NHPA and NEPA, as well as tribal review. This type of infrastructure is far smaller and less intrusive than larger macro cells, and in any event will have far less impact on the environment than something like an industrial factory. To the extent legally possible, the FCC should minimize the potential for environmental or historic review to disrupt broadband deployment.

THE FCC SHOULD REJECT, BUT HELP ALLAY, UNFOUNDED RF FEARS

The Commission's docket examining these issues, like so many wireless policy fora, has been overrun by a vocal minority who would stand in the way of broadband deployment for fear of potential harm from electromagnetic radiation. This harm is wildly overstated, and holding back growth of next-generation wireless services by giving undue air to these claims would be an injustice to the public interest.

RF radiation is non-ionizing, and the only biological impact from non-ionizing radiation—tissue warming from absorbing energy—has been thoroughly studied and is well-understood. Exposure to high-power RF radiation can heat tissue (like a microwave oven), but there is no known way it can cause cancer or any of the effects described by some in the record. Furthermore, the Commission, in cooperation with other federal agencies and non-government organization such as the American National Standards Institute, has done extensive work to standardize safe emissions levels and protective measures for interacting with high-power transmitters. There is no evidence in the record to date that these policies on human exposure to RF fields, set forth in the Office of Engineering and Technology Bulletin 65, are insufficient to guide 5G small cell deployment.⁵

However, local opposition to cell towers in immediate proximity to a home is a real impediment to local deployment. While the FCC is not well positioned to educate entire localities on this topic, the Commission is well overdue for the completion of its existing Reassessment of FCC Radiofrequency Exposure Limits and Policies, and should seek to complete this assessment.⁶ Furthermore, the FCC should help localities overcome constituent concerns by providing educational materials and fact sheets. Whether RF radiation fears are legitimate or unfounded—and the science appears to support the latter—they are nevertheless true barriers to deployment.

In a similar vein, aesthetic concerns can often be overstated, and can potentially be allayed through voluntary practices. Industry could potentially look to self-regulatory bodies to seek third-party accountability and improve any aesthetic concerns from small-cell deployments, but these concerns should not slow the government in its efforts to help accelerate broadband infrastructure deployment.

⁵ See Federal Communications Commission, “OET Bulletin No. 65: Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields” (August 1997) and supplements, *available at* <https://www.fcc.gov/general/oet-bulletins-line>.

⁶ Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies ET Docket No. 13-84 First Report and Order, Further Notice of Proposed Rulemaking, and Notice of Inquiry, (March 27, 2013), https://apps.fcc.gov/edocs_public/attachmatch/FCC-13-39A1_Rcd.pdf.

CONCLUSION

Chairman Pai is right in his vocal support for using the FCC’s “existing authority ... to remove state and local barriers to deployment, such as unfair and unreasonable fees.”⁷ The Commission should use the tools lawfully available to it to accelerate the rate of broadband deployment to the greatest extent possible.

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⁷ Summary of FCC Commissioner Ajit Pai’s Digital Empowerment Agenda,
http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0913/DOC-341210A2.pdf.