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September 19, 2018

ELECTRONICALLY FILED

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW – Lobby Level
Washington, DC 20554

*Re: Smart Communities and Special Districts Coalition – Ex Parte Submission:
Accelerating Wireless Broadband Deployment by Removing Barriers to
Infrastructure Investment, WT Docket No. 17-79;
Accelerating Wireline Broadband Deployment by Removing Barriers to
Infrastructure Investment, WC Docket No. 17-84*

Dear Secretary Dortch:

On behalf of the Smart Communities and Special Districts Coalition (“Smart Communities”),¹ we submit this letter and enclosures for inclusion in the above-captioned dockets in response to

¹ Smart Communities are localities, special districts, and local government associations that collectively represent over 31 million residents in 11 states and the District of Columbia.

Individual members: Ann Arbor, MI; Anne Arundel County, MD; Arcadia, CA; Atlanta, GA; Bellevue, WA; Bloomfield Township, MI; Boston, MA; Burlingame, CA; Dallas, TX; District of Columbia; Fairfax, CA; Gaithersburg, MD; Howard County, MD; Kirkland, WA; Los Angeles, CA; Marin Municipal Water District (CA); McAllen, TX; Meridian Township, MI; City of Monterey, CA; Montgomery County, MD, North County Fire Protection District (CA); Ontario, CA; Padre Dam Municipal Water District (CA); Portland, OR; Rye, NY; San Jacinto, CA; Santa Margarita Water District (CA); Scarsdale, NY; Shafter, CA; Sweetwater Authority (CA); Valley Center Municipal Water District (CA).

Organizations Representing Local Governments: Texas Coalition of Cities for Utility Issues (TCCFUI) is a coalition of more than 50 Texas municipalities dedicated to protecting and supporting the interests of the citizens and cities of Texas with regard to utility issues. The Coalition is comprised of large municipalities and rural villages. The Michigan Coalition to Protect Public Rights-of-Way (“PROTEC”) is an organization of more than 75 Michigan communities that focuses on protection of their governance and control over public rights-of-way. The Michigan Townships Association promotes the interests of 1,242 townships by

the Commission’s September 5, 2018, Draft Declaratory Ruling and 3rd Report and Order (“Draft Order”).² Because of the length of this submission, we have formatted our *ex parte* submission in a manner familiar to the Commission. Our hope in providing a table of contents is that it will facilitate review by the Commission and other interested readers, allowing a better understanding of the points we seek to make. This transmittal letter serves an Executive Summary.

Smart Communities is deeply troubled by the Draft Order and believes it will lead only to litigation, delays in deployment, and additional expenses for all parties. We say this based on our belief that the Draft Order imposes mandates with which local governments cannot comply, but just as importantly, cannot understand as the Draft Order requires substantial clarification.

The Draft Order is truly unprecedented. Not only is its departure from well-established legal precedent developed by the Commission and the courts evident, but it imposes requirements that are neither consistent with nor supported by state laws governing wireless deployment, despite the Commission’s suggestion to the contrary. The Draft Order will create substantial uncertainty in the market for local governments and wireless providers alike, which Smart Communities believes will result in delayed, not accelerated, broadband deployment.

Moreover, many of the Draft Order’s faults are self-inflicted. They can be traced to the Draft Order’s flawed legal analysis and reliance on an incomplete and distorted picture of the facts on the ground and engineering details of deployments, though both were detailed at great length in filings by Smart Communities and numerous other parties in at least three proceedings.³ In fact,

fostering strong, vibrant communities; advocating legislation to meet 21st century challenges; developing knowledgeable township officials and enthusiastic supporters of township government; and encouraging ethical practices of elected officials.

The Kitch Firm represents PROTEC, the Michigan Townships Association, and Bloomfield and Meridian Townships. Best Best & Krieger represents the others in the Smart Communities and Special Districts Coalition.

² Draft Declaratory Ruling and Third Report and Order, WC Docket No. 17-84, WT Docket No. 17-79, FCC-CIRC1809-02 (rel. Sep. 5, 2018) (“Draft Order”).

³ See, e.g. Comments of the Smart Communities Siting Coalition, *In the Matter of Streamlining Deployment of Small Cell Infrastructure*, WT Docket No. 16-421 (Mar. 4, 2017); Comments of the Smart Communities and Special Districts Coalition, *In the Matter of Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, WT Docket No. 17-79 (Jun. 15, 2017) (“Smart Communities Wireless Comments”); Comments of the Smart Communities and Special Districts Coalition, *In the Matter of Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, WC Docket No. 17-84 (Jun. 15, 2017) (“Smart Communities Wireline Comments”); Reply Comments of the Smart Communities and Special Districts Coalition, WT Docket No. 17-79, WC Docket No. 17-84 (Jul. 17, 2017) (“Smart Communities Reply Comments”); Smart Communities and Special Districts Coalition Petition for Reconsideration of the Third Report and Order and Declaratory Ruling, WT Docket No. 17-79, WC Docket No. 17-84 (Sept. 4, 2018) (“Moratoria Reconsideration Petition”). The

this filing is supported by an engineering analysis questioning the need for the size and numbers of small cell facilities authorized by the Draft Order and the unworkable time frames of the new shot clocks.

The lack of a common factual foundation in understanding of the marketplace and the challenges facing providers and local governments alike is extremely troubling, given that Smart Communities has included engineering and economic analyses in each of its filings.⁴ The Draft Order, however, relies on economic theories that are flawed, inconsistent with common day-to-day practices, the text and legislative history of the Telecommunications Act, and actual experience.

In this *ex parte* filing, we seek to avoid addressing issues we have already made in this and related proceedings, but incorporate those arguments by reference and restate each of our objections.

Further, we note that this Draft Order, if adopted, has significant implications for the Commission's NEPA and NHPA Order.⁵ First, it supports claims that "small cell" deployment is a federal undertaking. Second, the massive deployment envisioned by the Commission raises substantial questions as to whether the Commission is in a position to assert that deployment is safe, given that its radio frequency emissions rules were based on technologies and deployment patterns that the Commission declares obsolete in this Order.

Smart Communities also believes that the Commission needs to reexamine the permitted growth patterns under Section 6409 when applied to small cells in the rights of way.

In light of the above, and the numerous other issues raised in the attached document, Smart Communities and Special Districts calls on the Commission to reexamine the policies espoused in the Draft Order prior to adoption or, at a minimum, the effective date of the Draft Order must be delayed. Hastily moving forward with the Draft Order in its current form will cause deployment costs to increase while progress slows as a direct result of these flawed policies.

Smart Communities calls on the Commission to withdraw the Draft Order and work with local governments to develop best practices to accelerate the deployment of small cell facilities. If the Commission chooses to move forward with the Draft Order, we respectfully request it be modified in a manner that fully reflects the preservation of local government's regulatory

Draft Order cites to materials in all three dockets, and materials in those dockets, along with the Moratoria Reconsideration Petition, raise issues and present facts that demonstrate the Commission's proposed actions are not consistent with statutory and constitutional limits on its authority, and is in any case arbitrary and capricious.

⁴ *Id.*

⁵ *In the Matter of Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, WT Docket No. 17-79, *Second Report and Order*, FCC 18-30 (Mar. 30, 2018).

authority and property rights as acknowledged in the Telecommunications Act and the U.S. Constitution.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph Van Eaton". The signature is fluid and cursive, with a large initial "J" and "V".

/s/ Michael Watza

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Attachment

cc: Wireless Legal Advisors

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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

**EX PARTE SUBMISSION OF SMART COMMUNITIES AND SPECIAL
DISTRICTS COALITION ON DRAFT DECLARATORY RULING AND THIRD
REPORT AND ORDER**

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I. THE DRAFT ORDER REQUIRES SUBSTANTIAL CLARIFICATION.

A. The Commission Must Clarify How Shot Clocks Are to Apply to “All Authorizations.”

The Draft Order purports to clarify all Section 332 shot clocks by finding that “all authorizations necessary for the deployment of personal wireless services infrastructure” are subject to the shot clocks.⁶ However, this “clarification” creates greater uncertainty. For example, it is unclear as to whether the 60-day shot clock applicable to “all authorizations” necessary to deploy a small cell is a single 60-day period in which all authorizations must be processed, or instead imposes sequential 60 day shot clocks on each separate authorization, as each application for authorization is submitted.⁷

As detailed in the record, the construction of a wireless facility, like any other construction project, requires several distinct authorizations.⁸ The consent of the property owner must be obtained, zoning or land use approval must be granted, and historical and environmental review requirements must be satisfied, if applicable.⁹ The actual construction may require a building permit, an excavation permit, an electrical permit, and in some cases a traffic plan.¹⁰ Currently, these are not all sought by applicants concurrently, as the content and nature of the permits sought may depend in part on design and placement of the wireless facility that is approved, which logically favors sequential applications.¹¹ There is no reason, for example, for a

⁶ Draft Order at ¶ 128.

⁷ *Id.*

⁸ Letter from Gerard Lavery Lederer, WC Docket No. 17-84, WT Docket No. 17-79, at Attachment, 8-11 (Jul. 16, 2018) (“July 2018 Permitting Ex Parte”); *see also* Smart Communities Wireless Comments, Exhibit 1A, Supplemental Report of Andrew Afflerbach, at 9

⁹ *Id.*

¹⁰ *Id.*

¹¹ July 2018 Permitting Ex Parte, Attachment at 8-11. The Commission’s own experience demonstrates the point. In many cases, wireless providers did not undertake required historical

provider to incur the expense of performing detailed field engineering that may be required in connection with excavation permits for a facility whose location is not yet approved, because if the specific location changes even slightly, the construction plans may need revision to adjust to the new location.¹² And traffic plans are often not prepared until after construction permits are granted, because they are by necessity influenced by the date and time of anticipated construction, which cannot be known without finalized siting approval and building permits. While this may take more than 60 days in whole for a small cell, it is far more efficient economically as it minimizes the extent to which work must be repeated to account for other changes to the project.

If the Commission intends, as the Draft Order appears to indicate, that many, if not most, small cell authorizations must be granted or denied within 60 days of the submission of a wireless application or a local government will have presumptively prohibited deployment, the costs of applying for permits, and for reviewing those permits, will needlessly skyrocket. That is, because local governments will face harsh consequences from failure to meet the shot clocks,¹³ they will have to require that all materials, for all authorizations, be prepared in advance and submitted together with the initial application. This will drastically increase provider costs, and cause providers to incur duplicate costs if any portion of the project must be changed. If, for example, a proposed site's initial location does not pass zoning or land use review, the engineering work and traffic plan (which would ordinarily be developed only after land use approval) will have to be re-done; and if the traffic control plan is defective, the proposal as a

reviews until after an application for placement of wireless facilities had been approved. This meant that resources were not spent on impact studies until the company knew exactly what would be placed and where it would be placed.

¹² *Id.* at 8-9.

¹³ Draft Order at ¶ 112.

whole will have to be rejected, or at least be found incomplete, lest the local government run afoul of the shot clock. There will be little opportunity to work cooperatively and resolve problems with small cell applications within a 60-day period. Providers commonly avoid this clear inefficiency today,¹⁴ but under the Draft Order’s framework, this will be impossible. The Commission may suggest that the problem is solved by allowing the parties to agree to times for action, but unless it decides that the 60 days actually provides enough time to allow permits to be reviewed as a general matter – and it has no basis in the record for that conclusion – the basic premise of the rule (that the 60 day shot clock establishes a presumptively reasonable time period) is flawed.¹⁵

While we do not think a shot clock is required or appropriate for franchising or other types of permitting (many permits are issued pursuant to state laws or local rules that specify response times), it should at least be clear that any applicable shot clock must at least run separately for each authorization.

Similarly, requiring all permissions to be granted within 60 days also leads to decreased flexibility for providers in negotiating property access terms. For example, the Draft Order expressly includes “license or franchise agreements to access ROW” within the scope of Section 332.¹⁶ These agreements frequently involve multiple rounds of negotiation, insisted on by providers as much as localities, to arrive at an agreement. Terms such as insurance clauses,

¹⁴ July 2018 Permitting Ex Parte, Attachment at 9 (“Some operators defer detailed, construction type engineering – including historical reviews that may be required under state or federal law – until it is determined whether the facility can be placed at a particular site”).

¹⁵ The same is true with respect to the other shortened time frames the Commission proposes to adopt, and the problems are compounded by the new remedy, which the Commission appears to intend to have an effect similar to a “deemed grant.”

¹⁶ Draft Order at ¶ 128. We assume for purposes of this discussion that the Commission has authority to dictate the timing of action on applications for a franchise.

indemnification, and termination clauses are frequently modified throughout this process, but under a consolidated 60 day shot clock, localities will not have time to engage in those negotiations – they will have no choice but to insist on take-it-or-leave-it contract terms. If a provider refuses to accept those terms, a community will have no choice but to deny the other permits associated with the facility proposed for installation in the ROW, wasting even more provider effort and incurring further costs on all sides. And note that the terms would need to be resolved in the same time frame that the provider will be responding to questions regarding the placement and design of its facilities.

Reviewing costs will increase; while piece-parting has some disadvantages, the effect of the “everything at once” approach proposed by the Commission is that all submissions must come in at once, and be reviewed at once, and then re-reviewed (at additional cost) if there is a denial. Rather than simplifying the process and reducing costs, it could easily double existing costs, with no actual savings in time (since each rejection will require a resubmission of the package of permits).¹⁷ These burdens are not alleviated by batching, either, as discussed further below and indicated in the record.¹⁸

While it is important to clarify how the shot clocks work, it is also important to recognize that shortening the shot clock for an expansively defined category of “small wireless facilities,” combined with compelled allowance for batch applications, makes the shot clocks unworkable, and arbitrary and capricious in several respects.

First, the rules inherently assume that there is no “gear up time” required to assemble the resources to review one hundred, as opposed to one application at the same time (since it

¹⁷ The Regulatory Flexibility analysis fails to take into account what we believe will be extraordinarily significant costs associated with complying with the new time frames and unlimited batching of applications. *See* Section II.H, *infra*.

¹⁸ *See* Section II.F, *infra*.

requires no prior notice of an intent to submit applications, or notice of an intent to submit batched applications).¹⁹ It assumes that existing staff or existing consultants are in place to handle the work, which the record shows is not the case, particularly for smaller communities where there may be one or two staff members managing planning and land use functions. It assumes that it is simple to engineer attachments to traffic signals and street lights – but there is no indication in the record that this is in fact the case.

Second, the Draft Order’s shortening of time creates significant practical and due process concerns. The manner in which the federal shot clock runs – which encourages and allows submission of incomplete applications that eat up time, as the clock never restarts no matter how long the lapse between resubmittals – does not work within the shortened time frame. It is in contrast to shot clocks in states like Minnesota, where the clock is longer and can be further extended to address elevated volumes of applications.²⁰ The Commission cannot purport to be setting time frames based on state laws, while ignoring key provisions that temper the impact of those time frames in the state law. The Draft Order’s new rules not only fail to take into account time lost in the “incompleteness” process;²¹ they fail to acknowledge the notice requirements for

¹⁹ Of course, providers are in a position to provide notice that would permit localities to prepare for applications. Where other major projects are planned in the public rights-of-way, that advance planning is the norm, not the exception. That sort of planning was used to schedule and stage deployment of the U-Verse and FiOS networks in many parts of the country, to allow for timely deployment without overwhelming local resources. There is no inherent reason why the same approach cannot be taken with small cell deployments. Indeed, some companies have done this already. *See* Letter from San Jose Mayor Sam Liccardo, WT Docket No. 17-79, WC Docket No. 17-84, at 2 (Sept. 18, 2018). The Commission desires broad network deployment, but develops timelines and practices that act as if each application were a simply one-off, rather than part of a major construction project.

²⁰ Minn. Stat. § 237.163 Subd. 3(a)(c).

²¹ For example, Montgomery County, Maryland finds that reviewing applications for completeness alone takes approximately 13 days of shot clock time, on average, and that more than 200 applications received since July 1 2017 have failed to include required information. Their records also show that, on average, applicants take approximately 38 days to submit that

public hearings, which may be key to a fair process; and times required for administrative appeals.

Further, the assumption that there is little to consider in a small cell application is belied by the definition the Commission adopts for “small wireless facility”: while it justifies its rules based on the assumption that many small cells are the size of a pizza box,²² a pizza box is about 1/2 cu. ft. in size, while the Commission proposes to expedite permitting of equipment cabinets 28 cu. ft. in size – a stack of 56 pizza boxes – on front lawns throughout the country. Considering that the Smart Communities’ prior filings show that the addition of facilities of this size diminish property values, it is strange for the Commission to assume that approval can be granted in the regulatory blink of an eye.²³

B. The Commission Must Clarify Its Holding On Aesthetic Standards.

The Draft Order lacks clarity regarding the expected contents of aesthetic standards.²⁴ It outlines a (questionable) test to evaluate the acceptability of aesthetic standards, but in light of the discussion of that standard, it creates more issues that it resolves.²⁵ For example, it notes that providers claim that they are forced to respond to standards that are “vague” but it is unclear as

additional required information. Providers take, in other words, more than half the total time allotted for local government review under small cell shot clocks, simply to submit the information required by the application in the first place. Montgomery County’s data reiterates that this is not an isolated problem, either. 28 applicants submitted at least one incomplete application since July 1, 2017, and of those 28 individuals, not one submitted complete applications more than 35% of the time. One applicant submitted 26 applications, 96% of which were incomplete, and took an average of 47 days to complete each application. The City of Austin, Texas has experienced similar difficulties with carriers who “do not consistently provide required data on permit applications.”

²² Draft Order at fn. 272.

²³ See also Section II.E, *infra*.

²⁴ Draft Order at ¶¶ 81-85.

²⁵ *Id.* at ¶¶ 81-83.

to whether this is meant to signal to localities that they must put aesthetic standards in a particular form.²⁶ It is common land use practice, for example, to use nonspecific aesthetic requirements – for instance, requiring a structure to conform to the general aesthetic of the neighborhood.²⁷ A design standard might require a paint color to “blend with the surrounding environment” or “to match the pole” rather than specifying a particular color. Standards like these allow sites to be evaluated based on their surroundings, and are purposely nonspecific to allow applicants and authorities to work together to conform each project to its unique location.²⁸ This means one simple code can govern aesthetics for different neighborhoods, with commercial districts being treated one way and historic or residential neighborhoods another. Those standards the Commission and industry commenters criticize as “vague” allow local governments to work with providers to develop designs that work for everyone.

If the Commission intends to allow this approach, it should be clear on that point. If it intends something else – if it intends that detailed specifications must be provided, for example -- it must at the very least say so, and square its approach with the statute, which envisions preservation of local zoning authority. That authority, as the Ninth Circuit and other courts have recognized, necessarily permits discretionary evaluation of wireless applications pursuant to the sorts of standards described above.²⁹ It must also take its decision to compel localities to “publish” in advance a new sort of aesthetic standards into account for purposes of both the timing of the effective date of any adopted order (as standards would need to be developed), and its cost. Requiring localities to develop new standards for small wireless facilities will cost

²⁶ *Id.* at ¶ 81.

²⁷ Smart Communities Wireless Comments at 34-35.

²⁸ *Id.* at 35.

²⁹ *See, e.g. Sprint Telephony PCS, L.P. v. County of San Diego*, 543 F.3d 571, 580 (9th Cir. 2008).

thousands of small localities thousands of dollars each.³⁰ It is not possible to develop new standards within the 30 days the Commission has allotted before these rules take effect.³¹ But in any case, merely describing (but providing no analysis and reaching no conclusions regarding) practices wireless providers have long found inconvenient,³² simply creates confusion.

C. The Commission Must Clarify How Its Shot Clock Mandates Interact with State Historic and Environmental Review Laws.

When the Commission acted to effectively eliminate federal environmental and historic review for small cells, it justified that action in part by noting that state and local policies protecting the environment and historical areas remain in effect.³³ The Draft Order provides no guidance as to how the strict new shot clocks interact with these laws, however, and if the Commission means for these reviews to be completed within 60 days of an application, it must at least explain the rationale for that conclusion. In many states – New York as an example – review involves a multi-step process in which the scope of required review is not known prior to the completion of initial stages. This process, intended to protect the public and the applicant, is often required by state law, but cannot be completed in only 60, or even 90 days.³⁴ Certainly, if

³⁰ BDAC model codes are of little utility, as the BDAC largely chose to ignore local concerns; as the Commission is well aware, the integrity of the process was subject to significant question. Indeed, the Commission’s reliance on the BDAC process for any part of its Order is an example of an agency stacking the deck to achieve a predetermined result; the process raises concerns, rather than supporting the conclusions of the agency. *See* Jacob Terrell, *FCC broadband committee bypasses local input, mayor says*, CountyNews (Feb. 5, 2018), <http://www.naco.org/articles/fcc-broadband-committee-bypasses-local-input-mayor-says>.

³¹ Draft Order at ¶¶ 147-148. *See* Section III *infra*.

³² Draft Order at ¶ 81, fn. 220-222.

³³ *In the Matter of Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, WT Docket No. 17-79, *Second Report and Order* at ¶ 77 (Mar. 30, 2018) (“NEPA/NHPA Order”).

³⁴ *See* NY State Dept of Environmental Conservation page detailing the 11 stages of the SEQR process, where the scope of an environmental impact statement is determined at step 4. The page

the Commission purports to preempt these laws and procedures, it should say so, and it must then reevaluate whether its own abandonment of responsibility for historical reviews can be justified. Of course, if the Commission intends to require localities and states to develop special rules for environmental and historical reviews for small cells, that cost should be taken into account in the Regulatory Flexibility Analysis and in the timing of the implementation of any adopted order.

D. The Commission Must Clarify the Draft Order’s Interaction with Section 6409(a).

The Draft Order fails to specify how these new procedures interact with the Section 6409(a) rules already in effect. While the Draft Order suggests the Commission believes no issues will arise,³⁵ evidence in the record demonstrates that issues from the Commission’s Section 6409(a) rules already occur.³⁶ If the Commission’s intent is that the small wireless facilities remain unobtrusive, it should, as Smart Communities proposed (and as the Commission ignored) limit how Section 6409(a) applies to facilities in the public rights-of-way.³⁷ The Commission’s small wireless facility definition compounds the problem: while it appears intended to cap the size of what may be placed on any structure, the phrasing could be read to

also notes that there is a comment period, a public notice requirement, a potential public hearing, among other requirements: <http://www.dec.ny.gov/permits/6189.html>.

³⁵ Draft Order at ¶ 104.

³⁶ July 2018 Permitting Ex Parte at Attachment, 16-17 (describing how Section 6409(a) leads to installation of facilities much larger than those contemplated by the Commission’s small cell definitions). As suggested above, Smart Communities do not believe that 28 cu. ft. is defensible when much smaller installations are clearly viable and commonplace, and the size permitted by the Commission permits quite intrusive facilities.
https://www.bing.com/images/search?view=detailV2&ccid=myT7eXTR&id=8BD29FC3CB1F837AD484692A896D8D0D965D7D5C&thid=OIP.myT7eXTRAEo00GRSjuzy6AAAA&mediaurl=https%3a%2f%2fcdn-images-1.medium.com%2fmax%2f800%2f1*G0R0s-yNlkYHx8XHh2VDIA.png&exph=1490&expw=472&q=pictures+of+ugly+small+cells&simid=608006465029407582&selectedIndex=1&ajaxhist=0

³⁷ See Smart Communities Wireless Comments at 27-28, 29-30; Smart Communities Wireless Comments, Exhibit 1, Declaration of Andrew Afflerbach at 14-15.

apply the 28 cu. ft. to each individual wireless facility located on the structure.³⁸ That is surely not the intent, and if it is, it is the Commission’s notion of what is “small” is even less defensible. This is particularly so as Section 6409(a) establishes cumulative height limits, but appears to permit multiple horizontal additions to an existing structure. Absent such an adjustment to either or both sets of rules, the combined effect of allowing deployment of an out-sized “small wireless facility” as defined in the proposed rules and the significant changes permitted by Section 6409(a) will render mere pretense Commission claims that these facilities are “small” and changes to them “insubstantial.”

E. The Commission Must Clarify Its Definition of “Infrastructure”.

The Draft Order proposes that one criterion for evaluating aesthetic standards is whether they are “no more burdensome than those applied to other types of infrastructure deployments.”³⁹ And the Draft Order suggests that same standard will be applied for evaluating minimum spacing requirements.⁴⁰ But the Draft Order does not define “infrastructure” for these purposes. By its plain meaning, the term could include all utilities which occupy the public rights-of-way, and even structures like bridges which are commonly referred to as infrastructure.⁴¹ Citations in the Draft Order even suggest such a broad definition is the Commission’s intent.⁴² But if this is true (and it is not clear that it is) then the Draft Order must explain how it reconciles that definition with 47 U.S.C. § 332(c)(7)(B)(i)(I), which specifies that local government regulation of the

³⁸ If the Commission’s intent is that the small wireless facilities remain unobtrusive, it should, as Smart Communities proposed (and as the Commission ignored) limit its application to facilities permitted in the public rights-of-way. Smart Communities Wireless Comments at 28.

³⁹ Draft Order at ¶ 83.

⁴⁰ *Id.* at ¶ 87.

⁴¹ Infrastructure, *noun*, “the system of public works of a country, state, or region” Merriam-Webster Dictionary.

⁴² Draft Order at ¶ 81 fn. 220.

placement, construction, and modification of personal wireless services is only prohibited to the extent it discriminates among providers of *functionally equivalent* services. If the Order goes beyond that limit, it exceeds the bounds of Commission authority.⁴³

The Draft Order fails to explain why it is prohibitory⁴⁴ for wireless providers to be treated differently from electric utilities, gas utilities, and water and sewer systems (or telephone systems, for that matter). The economics and the required infrastructure are different – a point the Commission recognizes in its discussion of undergrounding. There is no explanation as to why a wireless provider is prevented from providing personal wireless services if it is subject to a set of rules (like painting equipment) that do not apply to transformers. At best, the conclusion is speculation – the opposite of what is required to show prohibition, as we discuss below.

Nor can the Commission claim that *because* a locality permits one type of “infrastructure,” it must allow others, as its aesthetic concerns are insubstantial. That is not the case. It may be that certain type of facilities must be placed at certain locations in order to effectuate a utility service. That does not mean that the public right-of-way must be cluttered with all manner of obtrusive facilities that could be placed elsewhere. Nor are the facilities obviously comparable. Transformers, for example, are typically smaller than the “small cells” as defined by the Commission, are placed at the top of the utility pole, out of the line of sight of pedestrians, and *generally not* at the same level as bedroom windows. Placement of wireless

⁴³ See Smart Communities Wireless Comments at 78-81

⁴⁴ 47 U.S.C. § 332(c)(7)(B)(i)(I). The Commission cannot read the “effective prohibition” standard to import a different discrimination standard into section 332(c)(7) *sub silentio*. Such a reading would render the provisions of subsection (I) superfluous, and thus violate basic canons of statutory construction. The Smart Communities Petition for Reconsideration of the Moratorium decision also explains why Section 253 cannot be used to limit local authority over the placement of wireless facilities – the Commission’s cannot, therefore, rely on Section 253 as a source for its “infrastructure” requirement. See Moratoria Reconsideration Petition at 4-5.

facilities may involve the addition of significant (and in some cases, free-standing) conduit beside a pole, required for no other service. There may be additional meters and cabinets at ground level there are not required for other infrastructure, and proposed wireless projects may involve placement of more cabinets (and hence more overall intrusion) than is associated with other infrastructure. Indeed, other utilities are generally not placing structures in the rights of way that provide services directly to the public, using facilities that could be placed on adjoining property and still function.⁴⁵ All other utilities are transitory – electric wires and water pipes simply carry a product to a customer’s location, they are not themselves the endpoint.⁴⁶ Wireline facilities that approach small cell size are limited in number, widely separated, and commonly either underground, or shielded.

If the Commission intends to apply a unique standard, limiting local authority, to the narrow class of wireless facilities, it must actually articulate that standard. It must explain in detail what that standard is, what its statutory basis is, which “infrastructure” it covers, and to whom it applies. And the Commission must consider the consequences of making all infrastructure subject to the same standards. For example, the compensation provisions imposed by the Commission here differ substantially from those applied to other utilities in the public rights-of-way – none of which are typically based on incremental cost. But the Draft Order treats wireless differently from other utilities for the purpose of rates and fees, without explanation.⁴⁷

⁴⁵ Smart Communities Wireless Comments at 54.

⁴⁶ *Id.*

⁴⁷ As explained below at Section II.B, *infra.*, the Commission should also clarify whether any elements remain of the “significant gap” and “least intrusive alternative” test adopted by the Courts.

II. THE DRAFT ORDER RESTS ON A FLAWED LEGAL AND FACTUAL FOUNDATION.

A. The Commission’s Analysis Improperly Mixes Section 253 and Section 332, and Preempts Based on the Effect of Local Regulations on Services Other Than Personal Wireless Services.

Relying on the conclusions it drew in its Moratorium Order, the Commission’s repeatedly applies Section 253, and not just Section 332(c)(7), to justify restrictions on local authority regarding placement of wireless facilities. That is plain error. As Smart Communities explained in detail in their Moratorium Reconsideration at 4-5, Section 253 does not apply where Section 332(c)(7) does. Those arguments have not been addressed by the Commission on Reconsideration, and are not addressed in the Draft Order.⁴⁸

To be sure, Smart Communities are not arguing that the meaning of the term “effective prohibition” must be different in Section 253 and Section 332. Rather, the scope of the preemptive authority is different: Section 332(c)(7) purports to preserve local land use and zoning authority except that local authority:

- (I) shall not unreasonably discriminate among providers of functionally equivalent services; and
- (II) shall not prohibit or have the effect of prohibiting the provision of personal wireless services⁴⁹

Assuming other elements of Section 332 (which establish certain standards local decision-making must satisfy) are not violated, Section 332(c)(7) cannot preempt either where discrimination does not involve “functionally equivalent services” or the prohibition does not reach “personal wireless services.” The Commission cannot, for example, justify preemption where the regulation of the placement of a wireless facility prohibits the provision of a service

⁴⁸ Because the Moratorium Order is under Reconsideration, the Commission cannot simply adopt its conclusions without at least addressing the issues that are before it, and that call those conclusions into substantial question.

⁴⁹ 47 U.S.C. § 332(c)(7)(B)(i)(I-II).

that is not a personal wireless service.⁵⁰ Yet that is precisely what it does. The Commission, among other things, suggests that local regulations that prevent “densification,” are preempted because they may prevent an operator from providing Internet services (either to people, or as part of the Internet of Things).⁵¹ However important those services may be – and localities intend to encourage their roll-out – those services are not personal wireless services. The unrebutted record in this proceeding is that reliable, available personal wireless service can be provided without the sort of widespread densification the Commission envisions.⁵² If states or localities wish to adopt land use policies to encourage deployment of facilities to support those service they may do so; but the Commission may not preempt state or local laws merely because they do not.

B. The “Prohibition Standard” Adopted By the Commission Does Not Actually Require A Prohibition or Effective Prohibition.

As was the case in the Moratorium Order, the Commission *applies* the “effective prohibition standard incorrectly, rejecting well-established court standards for a vague standard that has no true meaning.”⁵³

We begin with a notion that the Commission acknowledges, but quickly forgets: the plain language of Section 332 (and Section 253) requires a prohibition, or something that has the same effect as direct prohibition – an effective prohibition.⁵⁴ The standard that the Commission

⁵⁰ Smart Communities Wireless Comments at 78-81.

⁵¹ Draft Order at ¶ 36, fn. 78.

⁵² See Exhibit A, Declaration of Andrew Afflerbach, *infra.* at ¶ 20.

⁵³ See Moratoria Reconsideration Petition at 5-9 (discussing the “impairment” standard).

⁵⁴ *Sprint Telephony PCS, L.P. v. Cty. of San Diego*, 543 F.3d 571, 577–78 (9th Cir. 2008), citing *Level 3 Commc'ns, L.L.C. v. City of St. Louis*, 477 F.3d 528, 532–33 (8th Cir.2007). The Commission suggests these cases stand for the proposition that there must be a complete prohibition, but neither does. The “significant gap” test, by definition, means that a prohibition

purports to adopt, the *Huntington Beach* standard, requires the same.⁵⁵ The “impairment” standard – which finds a prohibition where a regulation unreasonably precludes fair competition – does not diminish the core requirement.

In *California Payphone*, the Commission specifically rejected effective prohibition claims objecting to an ordinance that forbid outdoor payphone installations except where permitted by contract with the City. The complainant argued that the restriction amounted to an effective prohibition *inter alia* because indoor private-property sites were uneconomic.⁵⁶ The Commission however, concluded that in the absence in the record of evidence supporting the assertion that indoor installations on private property were non-viable, there was no effective prohibition claim.⁵⁷ Two principles are clear: the provider was not entitled to place the facilities it desired where it desired to place them, if there was an alternative means of providing services. Second, the significance of the burden cannot be assumed, and the burden is not satisfied merely

may occur even where *some* service is being provided; and the quality or reliability of the services may also be considered in determining whether there is a gap. *See Sprint PCS Assets, L.L.C. v. City of Palos Verdes Estates*, 583 F.3d 716, 726 (9th Cir.2009). Indeed, the Commission’s discussion of coverage is something of a straw man; courts have not so narrowly construed the standard as to ignore reliability issues associated with “capacity” problems. What the cases stand for is that there must be an “actual” prohibition, not merely a speculative prohibition; and an action that merely prevents a service improvement is not the same as an action that prohibits or effectively prohibits.

⁵⁵ *In re California Payphone Association*, 12 FCC Rcd. 14191, 14209 (1997) (“*California Payphone*”) (holding that, to be preempted by § 253(a), a regulation “would have to actually prohibit or effectively prohibit” the provision of services).

⁵⁶ *Id.* at 14207-08.

⁵⁷ *Id.* at 14209 (“Even assuming, *arguendo*, that indoor payphones would generate less revenue than outdoor payphones in the Central Business District, that fact, standing alone, does not necessarily mean that indoor payphones are “impractical and uneconomic,” as argued by CPA. *For us to reach such a conclusion, the record would have to demonstrate that indoor payphones in the Central Business District would generate so little revenue as to effectively prohibit the ability of an entity to provide payphone service in the Central Business District.* The present record does not contain much relevant information, however, beyond unsupported assertions of the inferiority of indoor payphones vis-a-vis outdoor payphones.”) (emphasis added).

by showing that more profits could be made if the applicant had access to less expensive venues for placing facilities.

Texas PUC,⁵⁸ on which the Draft Order also relies, found a prohibition where some entrants were required to effectively enter the market only as non-facilities-based providers, and thus could not compete with facilities-based providers of services by building competing facilities. The case does not stand for the proposition that complainants were “prohibited” if they were permitted to install facilities as a general matter but were not permitted to install the facilities that they desired, in the locations where they desired to place them.

Consistent with those decisions, and the plain language of the law, courts have found that providers are not entitled to place facilities of the size they desire at the location that they may prefer, whether on or off the public rights-of-way. By contrast, the Commission appears to find a prohibition where a local restriction prevents an applicant from densifying or providing a new service, without regard to whether there is a prohibitory effect on *personal wireless services*. It does not appear to require a showing that absent the additional facilities, there is a personal wireless service that could not be offered, or could not be offered reliably. It does not appear to require any sort of showing as to alternatives. It focuses simply on what the applicant wants to do and asks whether the local requirements “impair” the ability to do it. That is a standard of inconvenience, not impairment, and certainly not prohibition, as defined by controlling authority. If that is what the Commission means, it should say so clearly: if it means that there is a prohibition unless service is available everywhere (that is, no dead spots or low capacity areas) are permitted, it should say so, and explain why that amounts to an “effective prohibition.”

⁵⁸ *Public Utility Comm’n of Texas, et al., Pet. for Decl. Ruling and/or Preemption of Certain Provisions of the Texas Pub. Util. Reg. Act of 1995, Memorandum Opinion and Order*, 13 FCC Rcd 3460 (1997).

Courts have concluded the Act “obviously” does not guarantee 100% coverage, and it follows, does not guarantee that it must be permitted to install whatever facilities it deems appropriate to provide any service, at whatever level it desires.⁵⁹

If the Commission intends something else, for example, that the “significant gap” test developed by the courts should include capacity and not just coverage issues, it should say so. It is also critical that the Commission be clear as to whether it is altering or eliminating the “least intrusive means” test.⁶⁰ As it stands, the plain language of its order is so vague as to be meaningless, and appears to make prohibition the handmaiden of the applicant’s business plan, contrary to the plain language of the law and the Commission’s precedent.⁶¹ A good example lies in the Commission’s discussion of undergrounding.⁶² The Commission at once appears to

⁵⁹ *360 Degrees Communs. Co. v. Board of Supervisors of Albermarle County*, 211 F.3d 79, 87 (4th Cir. 2000) (“The Act obviously cannot require that wireless services provide 100% coverage. In recognition of this reality, federal regulations contemplate the existence of dead spots.”)

⁶⁰ That test is important. The Commission, for example, finds that densification is important in order to provide services within buildings. But it does not actually follow that that service objective requires placement of facilities in streets (or that placement in streets would actually address the problem identified). Placement within buildings is a viable alternative, and indeed, industry projections suggest that there will be more in-building systems than outdoor systems. See Small Cell Forum, *Small Cells Market Status Report, February 2018*, at 5, Fig. 3-1 (Feb. 19, 2018) available at http://www.scf.io/en/documents/050_-_Small_cells_market_status_report_February_2018.php?utm_source=Email%20campaign&utm_medium=eshots&utm_campaign=member%20eshot (projecting that only approximately 28% of small cell installations will be outdoors in 2025). Just as in *Huntington Beach*, the fact that it may be more convenient to place facilities in the rights of way does not mean that it is a “prohibition” or “effective prohibition” to deny an application where there are alternatives to the provision of services.

⁶¹ The Commission also relies heavily throughout the Draft Order on Petition of the State of Minnesota for a Declaratory Ruling regarding the Effect of Section 253 on an Agreement to Install Fiber Optic Wholesale Transport Capacity in State Freeway Rights of Way, Memorandum Opinion and Order, 14 FCC Rcd 21697. That case, however, is a non-decision, and did not determine whether the proposed agreement could, would, or would not violate Section 253. It did not address proprietary/governmental distinctions.

⁶² Draft Order at ¶ 86.

recognize that communities spend millions of dollars on undergrounding projects, and that allowing poles to go up in areas where poles have been take down has significant impacts on aesthetics (not to mention property values). Yet the Commission’s impairment standard, read literally and without in some ways cabining it with notions of “significance” and “intrusion,” would appear to compel localities to allow just that.

C. The Commission Has No Authority To Limit Rents to Incremental Costs.

The Commission purports to limit the rents that can be charged for use of the public rights-of-way and use of municipal property in the public rights-of-way to cost. It has no authority to do so (and indeed, is precluded from doing so by 47 U.S.C. Section 224).

1. The Commission Has No Basis for Finding Non-Cost-Based Rents Prohibitory.⁶³

It first finds that charging a fee in excess of costs is prohibitory. The Commission appears to recognize that it has no real basis for finding a general prohibition: there are thousands of wireless facilities and many thousands of miles of wireline facilities in the public rights-of-way, and operators, including wireless operators like Crown Castle, routinely propose and enter into contracts that provide for compensation based on gross revenues or per foot charges not based on cost. Yet deployment of facilities for protected services (telecommunications and personal wireless services) and for broadband services have continued apace.⁶⁴ Hence, the Commission relies on speculation: it suggests that if less were charged in New York, more facilities would be deployed in North Dakota.

⁶³ The same would apply to the Commission’s discussion of police power fees, but as we have explained before, those fees are cost-based in any case.

⁶⁴ Illustrating the meaninglessness of the its standard, the Commission admits that there is no serious problem with broadband deployment that justifies intervention under Section 706, but argues that deployment might proceed faster if not for local fees and regulations. That is, adequate deployment equals a prohibition in the Commission’s view. *See* Draft Order at fn. 263.

To this end, the Commission quotes AT&T for the proposition that “if, as S&P Global Market Intelligence estimates, small-cell deployments reach nearly 800,000 by 2026, a ROW fee of \$1000 per year ...would result in nearly \$800 million annually in forgone investment.”⁶⁵ Set aside the obvious fact that there is no reason to suppose this amount, if saved, would in turn be invested. And even set aside the flip side that it removes from property owners \$800,000,000 in revenues that could be used to purchase services on a market basis – thus returning money not just to those companies that choose to invest, but to those who offer services that meet market demands. As the RFA clearly shows, in its calculus of public benefits and losses, the Commission blatantly ignores the effect of the loss of revenue on the ability of those deprived of market rents to deploy facilities and purchase services, including public safety services.⁶⁶

There is also no reason to suppose that \$800,000,000 is too high a rent for what the Commission assumes will be ubiquitous use of the public rights-of-way.⁶⁷ The analysis ignores the revenues that can be generated from the equipment (which surely affects whether or not there is a prohibitory effect, even assuming cross-subsidies). If one takes the cable industry as an example, there are 51.9 million video subscribers;⁶⁸ cable has invested \$275 billion into infrastructure (the same amount the Commission projects for wireless), and almost \$100 billion

⁶⁵ *Id.* at ¶ 61.

⁶⁶ TechRepublic, *Verizon sees 5G as a game changer for public safety and transportation* (last viewed Sept. 19, 2018) available at <https://www.techrepublic.com/videos/verizons-see-5g-as-game-changer-for-public-safety-and-transportation/>.

⁶⁷ While the Commission sometimes discusses small cells were disconnected from other networks, in fact small cells and DAS systems utilize high capacity transport media, including fiber optic lines place in the right of way for back-and front-haul. In that sense, a small cell network may actually involve wireline and wireless components place throughout a community.

⁶⁸ NCTA, *Cable’s Customer Base* (last accessed Sept. 19, 2018), <https://www.ncta.com/chart/cables-customer-base>.

over the last decade,⁶⁹ and has done so while paying congressionally-endorsed franchise fees for use of the public rights-of-way equal to 5% of gross revenues, by their own estimates approximately \$3 billion per year.⁷⁰ Given that the first 5G deployments are projected to focus on delivery of video and Internet services,⁷¹ there is no reason to suppose that charging rents will be “prohibitory” in any meaningful sense.⁷² The examples of 5G contracts in the record, including contracts in San Jose and Los Angeles, actually suggest that negotiated contracts, with freely established rents for municipal property, will encourage broadband deployment, not prohibit it.

⁶⁹ NCTA, *Tracking Cable’s Investment in Infrastructure* (last accessed Sept. 19, 2018), <https://www.ncta.com/chart/tracking-cables-investment-in-infrastructure>.

⁷⁰ Letter from Rick Chessen, Chief Legal Officer, NCTA, WC Docket No. 17-84 (Jun. 11, 2018) (“collectively paying about \$3 billion annually in franchise fees”).

⁷¹ Verizon, *5G Ultra Wideband Wireless Home Network*, (last accessed Sept. 19, 2018) https://www.verizonwireless.com/5g/home/?cmp=KNC-C-HQ-NON-R-AC-NONE-NONE-2K0PX0-PX-BIN-71700000040911015&msclkid=bc486d392a2712df37a536a696616805&gclid=CPGA7_Shwt0CFZGWxQIdGiEJLw&gclsrc=ds.

⁷² The Commission’s reliance on planned investment also seems to assume that the investment would not otherwise occur. Actually, there is a reason to suppose existing planned investments are being diverted to wireless, so that the gain the Commission imagines is illusory. Diana Goovaerts, *Verizon plans fixed 5G launches in 2018*, Mobile World Live (Nov. 29, 2017), <https://www.mobileworldlive.com/featured-content/top-three/verizon-plans-fixed-5g-launches-in-up-to-5-markets-in-2018/>. In addition, while there are many reasons the Commission’s economic analysis is wrong-headed, it actually allows the first market entrant to capture the fair market value of the property at a below-market price and to resell it at any rate desired. Thus, if one provider obtains the right to locate on a particular pole, other companies who wish to use that pole will need to pay that provider for access. Nothing in the Draft Order requires that first provider, or anyone else other than local governments, to limit their fees to costs – that first provider will charge a rate determined by the market. The result, in effect, is shifting that value away from the public and into the hands of wireless infrastructure providers. The Commission may argue that since other companies could place facilities on buildings or on other nearby structures, therefore this is not problematic. But that simply reinforces that the basic assumptions underlying the prohibition analysis (specifically, that access to the public rights-of-way at below-market rates is essential; and that the area served is so small as to not permit significant locational movement, necessitating mandated, price-capped access to poles in the public rights-of-way) are incorrect.

2. *Non-Cost Based Fees Do Fall Within the Section 253(c) Safe Harbor.*

Having found, without basis, a prohibition, the Commission then turns to Section 253(c) to determine whether charges for access to municipal property are within the ambit of the “fair and reasonable” compensation savings clause. The Commission takes the very same definition it used to define what fees do and do not “prohibit and effectively prohibit” the provision of service, and finds that only cost-based fees are saved by the savings clause in Section 253(c). That turns Section 253(c) into a nullity. If fees are not prohibitory, there is no need for the savings clause; the clause can only apply to save fees that are in fact prohibitory. The Commission’s attempt to nullify the savings clause can obviously not be saved by its strained and incorrect application of the *noscitur a sociis* canon of statutory interpretation, as the Commission cannot use that canon to render the savings clause meaningless. As it happens, the qualifiers cannot be read, as the Commission suggests, to mean that “fair and reasonable” must be read in favor of the person seeking access to property; they actually imply the reverse, as additional qualifiers on an otherwise broad power to set rates, as long as those rates fall within the range of what is recognized as “fair and reasonable.” In the context of the Act, which relies on competition and free markets, it is hard to argue that freely agreed to contract rates are not fair and reasonable.⁷³

⁷³ Other Smart Communities pleadings, not addressed by the Commission, discuss this point in more detail. *See* Smart Communities Reply Comments at 55-63. But there is nothing in the Act that allows the Commission to order New York to reduce rates so North Dakota can be cross-subsidized – which is effectively what the Commission is doing. Requiring one state to cross-subsidize another not only creates 10th Amendment issues; it is questionable whether requiring such a cross-subsidy would in any respect be within the ambit of Commerce Clause powers.

3. *The Act's legislative history does not support the Commission's interpretation.*

The Draft Order misstates the legislative history of the Act, detailed in our filings and scholarly analysis of the Act.⁷⁴ The history shows that Congress had two separate concerns: right-of-way management, and compensation. The discussion by Sen. Feinstein, cited by the Commission, actually involved reading a letter from a City, that described right-of-way management concerns and, as part of right of way management, discussed the recovery of fees related to the exercise of the management authority. The Commission itself recognizes that the right to recover fees for management of the rights-of-way must be recoverable as part of the overall management function, and that reading the law to preclude recovery of those fees would raise significant 10th Amendment issues. But, compensation is a separate matter, and the legislative history demonstrates as much. As our filings show, both opponents and proponents read the section to give local governments and states the right to charge for use of their respective properties, and to charge, among other things, non-cost-based fees such as gross revenues-based fees.⁷⁵ Smart Communities believes read *in toto*, the legislative history does not support the limited reading that the Commission seeks to give to the term “fair and reasonable compensation.” Rather, read in the context of similar terms used in the Communications Act, and in light of the fact that the Act (as the Commission repeatedly reminds us) is meant to replace regulation with reliance on free market principles, “fair and reasonable” compensation would necessarily allow recovery of fees that reflect the fair value of the property utilized.⁷⁶

⁷⁴ Frederick E. Ellrod III and Nicholas P. Miller, *Property Rights, Federalism, and the Public Rights-of-Way*, 26 Seattle U.L. Rev. 475 (2003).

⁷⁵ Smart Communities Reply Comments at 57, 58, fn. 166 (citing legislative history describing Congress' desire to avoid a mandate that local governments make property available to whoever wants it without fair and reasonable compensation).

⁷⁶ *Id.*

The Draft Order also cites pending, unpassed Congressional legislation for support, while ignoring clear and recent statements of Congress' view as to the value of public property. The Draft Order cites the STREAMLINE Act, which has yet to have a Senate hearing or a House companion even introduced, as proof the Commission is acting in accordance with bipartisan congressional guidance.⁷⁷ The fact that there is a pending and unpassed bill provides no evidence that Congress as a body supports the Commission's direction. A better measure would be how Congress disposed of federal property in the context of telecommunications deployment. The recently enacted MOBILE NOW Act, signed into law as part of the Consolidated Appropriations Act of 2018, reveals a very different standard for an appropriate framework.⁷⁸ Congress provided 270 days' time to act, without any duty to rebut a presumption of violation if that time expires, and preserves for federal agencies the right to recover fair market value for property used by broadband providers. Under the Draft Order, the rules Congress set for federal agencies would be prohibitory. Unless one presumes Congress intended to prohibit deployments on federal land, the Draft Order's views directly contradicts the unanimous view expressed by Congress earlier this year.

4. *At the very least, the Commission needs to be clear that all costs may be recovered, and what it intends the fees it develops to cover.*

In the Draft Order, the Commission creates tremendous uncertainty as to what costs may be recovered, and at what level of granularity costs must be estimated.⁷⁹ The Commission could be read to suggest, for example, that costs must be measured on a geographic basis within a community. If there is such a dictate, the Commission needs to be clear about it. Further, the

⁷⁷ Draft Order at ¶ 27.

⁷⁸ See Consolidated Appropriations Act of 2018, Pub. L 115-141, Div. P, Title VI, Sec. 601 *et seq.*

⁷⁹ See, *e.g.* Draft Order at ¶ 73.

Commission should at least make it clear that localities can recover all the costs associated with creating the systems required to conduct the cost analyses the Commission requires, and further, the costs of managing those systems. The Commission cannot set a confiscatory cost “presumed” to comply with federal law, and then require the property owner to bear an unrecoverable cost of showing more compensation is in fact permitted.

The Commission should also be clear as to whether its fee is based on the node, or the node plus the use of the public rights-of-way for back haul and front haul. Consistent with its own analysis, while the node may be subject to one fee, the use of the public rights-of-way should be subject to fees similar to those charged other wireline providers.

D. The Draft Order’s Takings Analysis is Flawed, and It Otherwise Ignores Constitutional Defects In Its Order Eliminating Distinctions Between Proprietary and Regulatory Actions.

The Commission argues that the rate limitations it imposes do not constitute a taking, and that its action here is analogous to the implementation of pole attachment rate caps (the analogy is actually inapt).⁸⁰ And it argues further that under *Florida Power*, there is no taking unless the rates set are confiscatory.⁸¹ But the Commission conflates two separate takings questions. As detailed in Smart Communities’ comments,⁸² a government action constitutes a taking if it compels access to property,⁸³ for which compensation must be paid at fair market value.⁸⁴ And

⁸⁰ *Id.* at ¶ 70 fn. 198. Among other things, its pole attachment rules permit recovery of fully allocated costs plus costs directly caused by an attacher, plus an investment return. The Commission order appears at some points to limit recovery to those costs caused by a particular user, rather than a full allocation of costs, much less a return on the property.

⁸¹ *Id.*

⁸² Smart Communities Wireline Comments at 14-21; Smart Communities Reply Comments at 47-50.

⁸³ *F.C.C. v. Florida Power Corp.*, 480 U.S. 245, 251 (1987) (“*Florida Power*”) (citing *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 440 (1982)).

separately, an action may be a taking if it is otherwise valid economic regulation of an activity entered into by a regulated entity, where the rates set are confiscatory. But one cannot both compel someone to grant access to property, and force them to do so at regulated rates. *Florida Power* specifically noted that “nothing in the Pole Attachments Act as interpreted by the FCC [...] gives cable companies the right to occupy space on utility poles, or prohibits utility companies from refusing to enter into attachment agreements....”⁸⁵ Yet that is precisely what the Commission purports to do.

In this case, of course, the Commission has not been given authority to regulate rates, or to require localities to provide access to proprietary property like traffic signals or lights poles. To the extent that the Act addresses access to property in the public rights-of-way that may be useful for placement of telecommunications facilities, the authority to regulate public property is specifically withheld.⁸⁶ The direction by the Commission in this case, which provides localities 60 days to provide access and sets the rate for access is a classic taking,⁸⁷ and assuming the Commission could direct the taking (it cannot consistent with limits on its own authority) it cannot do so at less than fair market value. In examining a circumstance where “an otherwise valid regulation so frustrates property rights that compensation must be paid” the Supreme Court was unequivocal: “a permanent physical occupation authorized by government is a taking without regard to the public interests that it may serve.”⁸⁸ The Commission is actually going a

⁸⁴ *United States v. 50 Acres of Land*, 469 U.S. 24, 31 (1984).

⁸⁵ *Florida Power*, 480 U.S. at 251.

⁸⁶ 47 U.S.C. § 224. Indeed, the contrast between the regulatory powers granted under Section 224, and the preemptive authority under Section 253, is significant.

⁸⁷ *City of St. Louis v. Western Union Telegraph Co.*, 148 U.S. 92 (1893), *op. on rehrg.*, 149 U.S. 465.

⁸⁸ *Loretto*, 458 U.S. at 425-26.

step further, and requiring states and localities to assume the duties of a common carrier with respect to all vertical structures in the public rights-of-way, something it has no statutory or constitutional right to do.⁸⁹ Reading such an authority from the “effective prohibition language” of Section 332 (or Section 253) transforms preemptive acts into prescriptive acts, and reads the law to compel localities and states to grant benefits to users. That is not a plausible reading of the Act, as we explained in the Moratorium Petition for Reconsideration.

Nor does the Commission have a sound basis for eliminating the distinction between proprietary and regulatory functions, and treating one as if it was the same as the other. That it must do so is clear: constitutionally, preemption reaches regulatory actions (essentially validating the interests preserved by the Supremacy Clause); direct regulation of states is prohibited except to the extent that they are being subjected to the same regulations as other, private entities. The Commission is granted no authority to regulate *qua regulation*; it must therefore justify the rates and fees it sets as preemption, by claiming that every compensation provision with respect to municipal property, and presumably all conditions on access are no different than other laws and regulations. The two cases relied on by the Commission to do so – *Building & Construction Trades Council v. Associated Builders & Contractors*, 507 U.S. 218 (1993) and *American Trucking Ass’n v. City of Los Angeles*, 569 U.S. 641 (2013) – do not actually support the conclusions in the Draft Order. Those cases stand for the proposition that the form of an arrangement does not automatically resolve whether it is proprietary or regulatory; they do not eliminate the importance of the distinction, and in fact reaffirm it. The fact that violation of what was nominally a contract was punishable by criminal sanctions was determinative in *American Trucking*. In this case, however, the Commission is simply deciding

⁸⁹ *Frost Trucking Co. v. Railroad Comm’n*, 271 U.S. 583, 593-94 (1926).

that the very fact that something owned by a locality is in the public rights-of-way, means it is open to the public, that facilities can be attached to it, and that it may be used at rates that do not exceed levels dictated by the Commission. By that reasoning, police cars and city trucks may be treated as a cheap form of transport for wireless providers who would prefer not to buy their own; and must be leased out on request for gas plus a mileage benefit. As far as the record shows, structures like street lights and traffic poles are managed like private property, and the access to them, and the price for them, and use the funding to pursue their own goals. The Commission cannot compel response to a request for access in 60 days; require grant of access; or set the fee for doing so.⁹⁰

Furthermore, the Draft Order fails to recognize and address the fact that numerous state constitutions *require* recovery of fair market value for private use of public property.⁹¹ The Draft Order fails to offer localities any guidance as to how to resolve these conflicts, nor does it proffer any statutory basis for superseding state constitutions.

⁹⁰ At fn. 241, the Commission attempts to distinguish its prior contrary rulings. The argument boils down to “that was different,” even though the subject was the same, the affected properties the same, and the actual scope of the ruling broader than the Commission admits – it did, for example, directly address properties in the rights of way. It is not an adequate explanation. As now elucidated by the Commission, Section 332 applies to require a locality to provide access to a pole, but Section 6409 cannot be applied to proposed modifications to the same pole.

⁹¹ Smart Communities Wireline Comments at 15. *See also* Mich. Const. art. VII § 21 (prohibiting localities from using tax revenues for non-public purposes (such as subsidizing a wireless provider, even indirectly) and even public utilities must obtain consents and accede to appropriate conditions as a condition of public right-of-way use. (Mich. Const. art. VII § 29) *See also* Tex. Const. art. III, §52; *Comments Sought on Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies*, Comments of Arlington, Texas, WT Docket No. 16-421 (filed Mar. 7, 2017); *Comments Sought on Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies*, Comments of Texas Municipal League, WT Docket No. 16-421 (filed Mar. 8, 2017) (Texas Constitution prohibits a municipality from granting any public funds or thing of value to an individual, association or corporation.).

Part of the Commission’s error appears to lie in a misreading of Section 253, illustrated in Draft Order para. 91. It reads the section as applying primarily to state and local property, and conditions governing access to that property. As the cases cited by both the Commission and other commenters suggest, Section 253(a) was actually intended first and foremost to preempt laws that governed private actors, and that essentially created telephone monopolies. Hence, for purposes of assessing whether a law is prohibitory or not, it makes no difference whether the law governs private or public property. If, for example, Section 253 authorizes preemption of property rights of municipalities, it also authorizes preemption of private property rights that “impair” the ability of a wireless provider to compete. What is important is that the Commission identify what law it is preempting,⁹² and show why that preemption is actually required. That it never does; it never even shows that access to the street lights and traffics signals is in any way necessary to the provision of telecommunications or personal wireless services.

E. The Draft Order Fails to Recognize the Complexities of Wireless Siting Review In Setting Presumptively Reasonable Timeframes and Fees.

Despite ample evidence in the underlying record, the Draft Order conducts no meaningful examination of the complexities and requirements of local permitting. The Draft Order ignores evidence from local governments that batched applications are no less burdensome than individual ones,⁹³ while accepting without examination the assertions of industry commenters

⁹² In paragraph 92 of the Draft Order, the Commission appears to suggest that intrusion on municipal property rights is insignificant because municipalities hold public rights-of-way “in trust.” Actually, many hold much critical public rights-of-way in fee, including in far-flung communities like Tucson, Arizona and Newark, NJ. But it does not matter. Under a trustee theory, consistent with many state constitutional requirements, the trustee must obtain fair value for use of property by private entities.

⁹³ *See, e.g.* July 2018 Permitting Ex Parte at Attachment pp. 7, 10, fn. 24 (detailing the City of Portland, Oregon’s experience that batched applications were presented “not based on substantial similarity, but based on geographic location, and rarely demonstrated any consistency between applications. As a result each required a separate, individual review process, which consumed

that batching makes reviewing easier.⁹⁴ The Draft Order disregards the interrelated and sequential nature of permitting, described in greater detail above, but instead asserts that imposition of more shot clocks brings “likely significant benefit[s] of regulatory certainty and the resulting streamlined deployment process.”⁹⁵ But no evidence is cited for these alleged benefits – they are simply declared to exist.⁹⁶ And the Draft Order disregards any consideration of public participation in its imposition of new shot clocks. Local laws, including but not limited to environmental and historic review ordinances, frequently provide for public input, either in the form of comments or hearings, on all construction proposals. These facts suggests that costs associated with permitting are far higher than the Commission imagines, and requires more time than the Commission allows.⁹⁷

The Draft Order furthermore presumes efficiencies that do not exist, and inadequately substantiates those same claims. It asserts, for instance, that “localities have gained significant experience processing wireless siting applications” and that “siting agencies have become more efficient in processing siting applications.”⁹⁸ But the only support for the experience gained are industry filings – no local agencies support that point.⁹⁹ The only support for claims that shot clocks are routinely met or exceeded are one Alaskan state agency noting that it meets or exceeds the shot clocks, and an industry filing listing state small cell bill *imposing* shorter shot clocks, but

even more time than reviewing individual applications.”); *see also* Smart Communities Wireless Comments at 52-55; Smart Communities Reply Comments at 30; *see also* Exhibit A, Declaration of Andrew Afflerbach at ¶¶ 24-25.

⁹⁴ Draft Order at ¶ 110.

⁹⁵ *Id.* at ¶ 106.

⁹⁶ *Id.*

⁹⁷ *See, e.g.* Smart Communities Reply Comments at 70-72.

⁹⁸ Draft Order at ¶ 102.

⁹⁹ *Id.* at fn. 277.

offering no evidence of burden or viability.¹⁰⁰ And the claims of new efficiencies are based solely on Chicago noting that it has “worked to achieve efficient processing times,” New Orleans expressing openness to new timeframes for discrete classes but making no mention of efficiency, or of what those timeframes or classes should be, and a nongovernmental business advocacy group from Colorado which again fails to mention any alleged efficiencies.¹⁰¹ And even if these wholly unsubstantiated claims *were* true, they would, as demonstrated in the record, be based in large part on local experience reviewing facilities *significantly smaller* than the definition the Commission now applies.¹⁰² The Draft Order amounts to a ruling that since cities have experience reviewing single-family housing permits, they should have no problem reviewing high-rise apartment buildings on the same timeframe, without bothering to substantiate that any relevant experience or efficiency even exists in the first place.

F. The Commission’s “New Remedy” Is Not Sound.

The Commission’s new remedy¹⁰³ is subject to many of the same concerns raised with respect to deemed granted remedies.¹⁰⁴ As importantly, it conflates the requirement that a locality act within a reasonable time with a prohibition. If the failure to act within a reasonable time were a prohibition, there would have been no need for Congress to address the time for

¹⁰⁰ *Id.* at fn. 278.

¹⁰¹ *Id.* at fn. 279.

¹⁰² See Exhibit A, Declaration of Andrew Afflerbach, *infra.* at ¶ 20.

¹⁰³ Draft Order at ¶ 114 et. seq.

¹⁰⁴ See Smart Communities Wireless Comments at 37-43; Smart Communities Reply Comments at 19-22.

action. Not only did Congress identify this as a separate requirement, it devised a specific remedy for a failure to act. The Commission's conflation of the two is impermissible.¹⁰⁵

G. The Order Is Not Constitutionally Defensible.

While the issues have been raised in pleadings by Smart Communities and others, it bears emphasizing that the Commission's disposition of this matter raises significant constitutional questions.¹⁰⁶

As noted above, the Order is specifically prescriptive, requiring localities to provide access to public property like a common carrier, and at rates that may not even be fully compensatory. That is a violation of the Tenth Amendment and the Fifth Amendment; to the extent that the Commission effectively purports to tax New York localities in order to subsidize deployment in North Dakota, (by requiring New York to make its property available at cost, rather than fair value), the Commission exceeds its authority under the Commerce Clause, as well as overstepping the bounds of its authority under the Act.

H. The Order Fails to Comply With the Regulatory Flexibility Act.

As required by the Regulatory Flexibility Act ("RFA"),¹⁰⁷ the Draft Order includes a Final Regulatory Flexibility Analysis ("FRFA").¹⁰⁸ However, the FRFA fails to comply with statutory requirements because it presents a lopsided, industry-focused analysis that wholly

¹⁰⁵ The claim that the remedy is not more burdensome because states have adopted laws on small cells is of course, contradicted by the order itself: as the Commission's order notes, most states have not adopted small cell laws; those that have adopted laws that are not the same as the rules adopted by the Commission, and the Commission is requiring compliance with both. That "double regulation" is burdensome, and should be accounted for in the FRFA.

¹⁰⁶ See Smart Communities Wireline Comments at 14-21; Smart Communities Reply Comments at 47-50.

¹⁰⁷ See 5 U.S.C. § 604.

¹⁰⁸ See Draft Order at Appendix C.

ignores the concerns raised by small government comments. The RFA requires more than just paying “lip service” to small governments through conclusory rejections of their economic concerns.¹⁰⁹

The FRFA, drawing largely on U.S. census data, determines that there are “at least 49,316 local government jurisdictions [that] fall in the category of ‘small governmental jurisdictions’” under the RFA.¹¹⁰ Yet, despite such a significant contingent of stakeholders, the FRFA contains no reasonable, good faith attempt to analyze the financial and compliance burdens that the Draft Order will impose on small governments.¹¹¹ For example, small governments argued that “additional shot clock classifications would make the siting process needlessly complex without any proven benefits.”¹¹² The FRFA contains no analysis addressing these properly-raised concerns: it does not consider in any type of quantitative terms the cost to small governments to implement the necessary procedures and hire additional workers to comply with the two new shot clocks. It does not even allege that the Commission attempted to analyze this question quantitatively. Instead, the Commission simply concludes that “any additional administrative burden from increasing the number of . . . shot clocks from two to four is outweighed by the likely significant benefit of regulatory certainty and the resulting streamlined deployment process.”¹¹³ As suggested above, this does not create regulatory certainty, and it “streamlines” at a very high costs. For example, the City of Monterey, California, which has a population of approximately 30,000, estimates that it must hire at least one additional full-time

¹⁰⁹ See *Zero Zone, Inc. v. U.S. Dep’t of Energy*, 832 F.3d 654, 683 (7th Cir. 2016) (requiring the agency to undertake a “reasonable, good-faith effort” to comply with the RFA).

¹¹⁰ Draft Order at Appendix C, ¶ 12.

¹¹¹ See *id.* at ¶¶ 42-46.

¹¹² *Id.* at ¶ 43.

¹¹³ *Id.* at ¶ 43.

employee dedicated solely to the review of wireless facility applications to be able to comply with the Draft Order’s new regime. That means Monterey will have to pay approximately \$100,000 per year in salary and benefits in additional costs solely attributable to the Draft Order. Even if that amount were wholly recoverable (and timing issues make it unclear whether it will be), if a similar cost were incurred by even one-quarter of the small communities in the country, the annual additional costs would be on the order of \$1.2 billion. Other communities can expect similar impacts.

There could be additional, significant impacts depending on the clarifications made in the final order. For example, if the Commission intends to require localities to adopt aesthetic standards different from the general standards contained in zoning and land use ordinances, it must take into account the cost of that development, which would be solely and uniquely attributable to the Draft Order and Commission rules. Properly read, Section 332(c)(7) allowed localities to integrate consideration of wireless applications into normal zoning and land use processes. With its latest federal intrusion, the Draft Order requires departure from those processes, with attendant costs in the thousands of dollars per community.

The absence of a serious consideration of these costs is evident. The Commission fails to describe the “steps [it] has taken to minimize the significant economic impact on small entities,” especially small governments.¹¹⁴ Indeed, the Commission’s explanation of the steps it took to minimize the significant economic impact on small entities contains no reference to small governments whatsoever, focusing instead on the benefits to industry stakeholders that also count as “small entities” under the RFA.¹¹⁵

¹¹⁴ 5 U.S.C. § 604(a)(6).

¹¹⁵ See Draft Order at Appendix C, ¶¶ 44-46.

III. THE COMMISSION SHOULD GRANT NATOA’S REQUEST FOR DELAYING IMPLEMENTATION.

Smart Communities supports the National Association of Telecommunications Officers and Advisors’ (“NATOA”) request for a delay of the Draft Order’s effective date, assuming it is approved, until the resolution of any reconsideration petitions and appeals,¹¹⁶ or, in the alternative, for a 6-month transition period to allow time for localities to implement new regulations consistent with the Draft Order.

First, Smart Communities incorporates by reference all of the arguments made above and in the underlying record regarding the flaws of the Draft Order. These arguments show, individually and collectively, that the Draft Order, if approved and implemented, stands on seriously unstable legal grounds at best. Among other things, the standard adopted for prohibition is not consistent with the Commission’s own precedent, much less standards adopted by Courts of Appeal based on the plain language of the Draft Order.

Further, the Draft Order appears to require every jurisdiction to perform an evaluation of existing local rules and standards and possibly make revisions (how substantial may depend on the Commission’s clarifications), or risk litigation. Given the substantiality of the questions raised by states and local governments, the effect will be more uncertainty in the process, not less. Moreover, the Commission does not provide localities time to actually do an evaluation and, if necessary, develop new or revised standards, or to revisit existing (and in many cases contractually-agreed) fee and rent structures. It may be impossible for localities to recover costs or implement the regulatory program proposed, causing an inability to comply. Thus, the Draft Order’s stated goal of “avoid[ing] unnecessary litigation” would be completely nullified without

¹¹⁶ We would go one step further and propose that the Commission include a transition period once those petitions and appeals are finally resolved to allow local governments to bring their codes and processes into compliance.

a time to allow for a full review of the adopted Order, or alternatively to allow local governments to evaluate existing codes and processes and implement any necessary modifications.¹¹⁷

This is particularly true with respect to the portions of the Commission's Draft Order compelling access to proprietary property at what appear to be incremental costs. The Draft Order effectively turn localities into common carriers; requires localities to take prescriptive action; and requires incurrence of costs *in advance* to develop model contracts and structural analyses to avoid missing the Commission's 60-day deadline – without any guarantee that a request for use will ever be received. Moreover, it does so in the face of a provision that specifically precludes municipal property from Commission control.¹¹⁸ While a court may be able to stay a specific request for access when received, the immediate impact of preparing to comply with the Draft Order will be significant and felt long before the first application is filed.¹¹⁹ This concern is particularly potent and tangible when considered in tandem with the caps on potential cost-recovery revenue streams that the Draft Order imposes. For example, in Mount Vernon, New York, a city of approximately 68,000 people, a deal with a wireless carrier was initially agreed to at \$1,500 per site, but the carrier reneged since issuance of the Draft Order and now will only agree to \$270 per site. Similar accounts come from Boston. Many local governments already lack the budget to take the steps and hire the labor necessary to comply with the Draft Order, and, as this example shows, the Draft Order makes that significantly more difficult by prohibiting means to offset increased costs associated with compliance. Without a

¹¹⁷ *Id.* at ¶ 32.

¹¹⁸ *See* 47 U.S.C. § 224.

¹¹⁹ Nor is it clear how the rules should apply to existing applications. This is unlike the Commission's original shot clock order which explicitly addressed this situation. *See Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7) to Ensure Timely Siting Review, Declaratory Ruling*, 24 FCC Rcd. 13994, 14014 (2009), *aff'd*, *City of Arlington v. F.C.C.*, 668 F.3d 229 (5th Cir. 2012), *aff'd*, 133 S. Ct. 1863, 569 U.S. 290 (2013).

delayed effective date or extended transition period, local governments will simply be unable to comply with the Draft Order's brand new regime.¹²⁰

Granting NATOA's request will not materially harm other stakeholders. All relevant stakeholders have been operating under the current industry standards for years, and deployment is occurring apace in many communities, as the Commission itself recognizes and carriers celebrate.¹²¹ A delay or transition period would simply maintain the *status quo* until the Draft Order's legal viability is litigated (or at least until local governments have the opportunity to implement new regulations pursuant to the Draft Order).

Finally, the Commission's stated goal to "streamline" the deployment of wireless facilities supports a delayed effective date or extended transition period.¹²² Without first ensuring the Draft Order's legal validity prior to its effectiveness, carriers and local governments will be tied up in *post hoc* litigation of the issues raised by the Draft Order. The same can be said if local governments do not have an opportunity to evaluate their own regulations and make adjustments if needed in line with the Draft Order. Streamlining deployment thus requires a delay or transition period to allow time for an efficient and proper implementation of this new, complex regime. At an absolute minimum, local governments will need time to evaluate existing processes and establish new systems, as well as hire and train new employees. Given these serious concerns, and the Commission's stated goal of "streamlining" the deployment of wireless

¹²⁰ This problem is exacerbated because the Draft Order could come into effect midway through the fiscal year of many local governments (which run on a July 1-June 30 budget cycle) when it is especially difficult to make major budget adjustments.

¹²¹ See, e.g. Letter from Gerard Lavery Lederer, WT Docket No. 17-79, WC Docket No. 17-84, GN Docket No. 17-83 (Jul. 18, 2018) (detailing Sprint blog post celebrating deployment of "more outdoor small cells in [Sprint's] 2017 fiscal fourth quarter than ... in the previous two years combined" and plans to "continue to invest, expanding and extending our use of large traditional cell towers, as well as state-of-the-art small cells.")

¹²² *Id.* at ¶ 28.

facilities, all stakeholders stand to benefit from addressing these fundamental questions holistically *before* implementation, rather than in costly, piecemeal, *post hoc* litigation.

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DECLARATION OF ANDREW AFFLERBACH, PH.D., P.E.

1. I have been the Chief Executive Officer and Chief Technology Officer of Columbia Telecommunications Corporation (d/b/a CTC Technology & Energy), a communications engineering consultancy, since 2000, and was Senior Scientist at CTC from 1996 until 2000. I specialize in the planning, design, and implementation of communications infrastructure and networks. My expertise includes fiber and wireless technologies and state-of-the-art networking applications. I have closely observed the development of wireless technology since the advent of the commercial internet in the 1990s.
2. As CTO, I am responsible for all engineering work and technical analysis performed by CTC. I have planned and overseen the implementation of a wide variety of wired and wireless government and public safety networks. I have advised cities, counties, and states about emerging technologies, including successive generations of wireless networks across a range of licensed and unlicensed spectrum bands. I have developed broadband technology strategy for cities including San Francisco, Boston, Seattle, Atlanta, Washington, D.C., and New York; for states including Connecticut, Delaware, Kansas, Kentucky, and New Mexico; and for the government of New Zealand's national broadband project.
3. I have designed wireless networks for large cities, counties, and regions. I lead the CTC team advising the State of Texas Department of Transportation and many local governments on wireless facilities standards and processes. I also lead the CTC technical teams conducting FirstNet planning for the District of Columbia and the State of Delaware.
4. I have prepared extensive technical analyses for submission to the U.S. Federal Communications Commission and U.S. policymakers on broadband expansion to underserved schools, libraries, and other anchor facilities; on due diligence for the IP

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transition of the U.S. telecommunications infrastructure; and on the relative strengths and weaknesses of various wired and wireless technologies.

5. Under my direction, CTC engineers and analysts work to develop and implement best practices in public-private collaboration to stimulate and accelerate broadband deployment, both wired and wireless. I am co-author of a 2014 guidebook on that topic titled “Gigabit Communities: Technical Strategies for Facilitating Public or Private Broadband Construction in Your Community.” Among other areas, my company specializes in projects that involve outreach to wireless and wireline service providers to understand their goals and requirements; we then use those insights to help our state and local government clients to develop strategy that will support private investment while fulfilling public broadband policy goals. Our wireless siting support for state and local governments is focused on encouraging private deployment while protecting public safety, public property, and the needs of local communities.
6. Under my direction, the technical team at CTC has advised hundreds of public and non-profit clients, primarily in the United States. My technical staff has been engaged on projects encompassing the evaluation or planning of hundreds of miles of fiber optics and thousands of wireless nodes in rural, suburban, and urban areas across the country. CTC’s wireless engineers and analysts have processed almost 7,000 antenna and tower siting applications for our clients nationwide, including applications for about 6,500 macro sites and about 400 “small cells” and Distributed Antenna System (DAS) network nodes. In these engagements, we seek an approach that protects the interests of local governments and residents, while encouraging wireless facility deployment where reasonable and needed.

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7. The Smart Communities Siting Coalition filed my analysis, “Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies,” in the FCC’s Mobilite docket (WT docket 16-421). CTC engineers have also delivered expert witness testimony on small cell siting issues on behalf of numerous cities in New York State and California.
8. I am a licensed Professional Engineer in the Commonwealth of Virginia and the states of Delaware, Maryland, and Illinois. I received a Ph.D. in Astronomy in 1996 from the University of Wisconsin–Madison and an undergraduate degree in Physics from Swarthmore College in 1991. My full CV is included in Attachment A.

A. The Third Report and Order’s separate volume limits for antennas and equipment is a reasonable approach

9. In the next few paragraphs, I attempt to define and distinguish the “small cell” installations that we ordinarily see (using that term loosely to include technologies like DAS and C-RAN), and that permit provision of service on multiple bands, by multiple providers, from larger installations which are not typical but would be considered “small wireless facilities” under the proposed definition. I do not mean to imply that the smaller installations should be permitted everywhere, or should not be subject to aesthetic review, but rather I am attempting to define what would be a reasonable distinction between facilities that are typically deployed presumably because they are sufficient to accommodate carrier requirements, and those that by their nature are atypical and more difficult to justify. To the extent that the Commission wishes to treat different-sized facilities differently, this provides a better basis than the proposed definition.
10. The elements of a small cell on which I focus are those at a fixed site – the node -the antenna(s), radio head, radios, fiber termination, power meter, and, in some cases, backup

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power supplies or equipment for fiber or wireless backhaul. Small cells typically are placed on an existing (or, when required, an upgraded) utility pole or street lighting structure in the public right-of-way.

11. The antennas on utility poles are placed below the power space (near telephone/CATV lines) or above the power lines. Antennas typically are cylindrical, range from 2 feet to 5 feet in height, and have an omni-directional radiation pattern. The antennas are often enclosed by shrouds to minimize visual impact, and typically can be sized so that the equipment is in a shroud whose diameter is about the same as the diameter of the pole at the point of attachment. The cabling and electronic equipment (e.g., radios, diplexers, commercial power supplies) are either attached vertically along the pole or placed in a nearby standalone cabinet or vault. In a limited number of deployments, the equipment and cabling is integrated inside the support structure, within the base of the pole, or in a separate, adjacent, surface-mounted cabinet.

B. The Third Report and Order’s overall definition of “small wireless facilities” allows unnecessarily large equipment, both in terms of the net volume of antennas and the volume of equipment allowed, as well as in terms the number of facilities required to provide personal wireless services

12. The Report and Order proposes limiting the size of a small cell antenna to 3 cubic feet. The 3 cubic-foot limit on antenna size is reasonable. However, the Report and Order does not limit the number of antennas allowed at a given site in aggregate—opening the door for excessively large installations. In my experience, where more than one antenna is installed, limiting the net volume of 5 cubic feet would be reasonable. This limit would allow carriers to mount antennas for three sectors and backhaul, while still having a spare antenna available.

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13. Twenty-eight cubic feet of equipment is not necessary for a small cell. The majority of small cell applications we have reviewed on behalf of our public-sector clients are for sitings with equipment that is significantly smaller than 28 cubic feet in volume, even in environments where small cells and DAS nodes are placed to support multiple carriers.
14. For example, the single-carrier small cell pictured in Figure 1 has a pole-top-mounted antenna that is 2' tall with a diameter of 14.6 inches, meaning it has a total volume of about 2.3 cubic feet. The two remote radios are each 16.5" x 13.4" x 13.7", for a total equipment volume of only about 3.4 cubic feet—or slightly over 10 percent of the proposed volume limit.

Figure 1: Example Single-Carrier Small Cell on Utility Pole – 2.3 Cubic Foot Antenna and 3.4 Cubic Feet of Equipment



15. Even in the largest small cell sitings I have observed—DAS installations to support multiple wireless carriers—total equipment volume is still smaller than 28 cubic feet. Figure 2 is a

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photo of an example of one of the largest small cell sitings CTC has reviewed—a Crown Castle DAS node constructed in Montgomery County, Maryland. The small cell antenna is 48" high and 8.16 inches in diameter (for a total volume of about 4.9 cubic feet, to support multiple carriers), and has a 48" x 21.5" x 14" cabinet (radio head) and 10" x 7" x 5" radio, for a total equipment volume of about 9.8 cubic feet—about one-third the proposed allowable volume of equipment for a small cell.

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Figure 2: Photo of Small Cell Siting with 9.8 Cubic Feet of Equipment



16. In my experience, while there may be a potential business justification for some industry participants to seek to place larger devices—for example, to serve a large number of carriers -- the industry has generally been able to address its needs with small cell equipment of up to 12 cubic feet and, in most cases, significantly less. Anything larger than 12 cubic feet is

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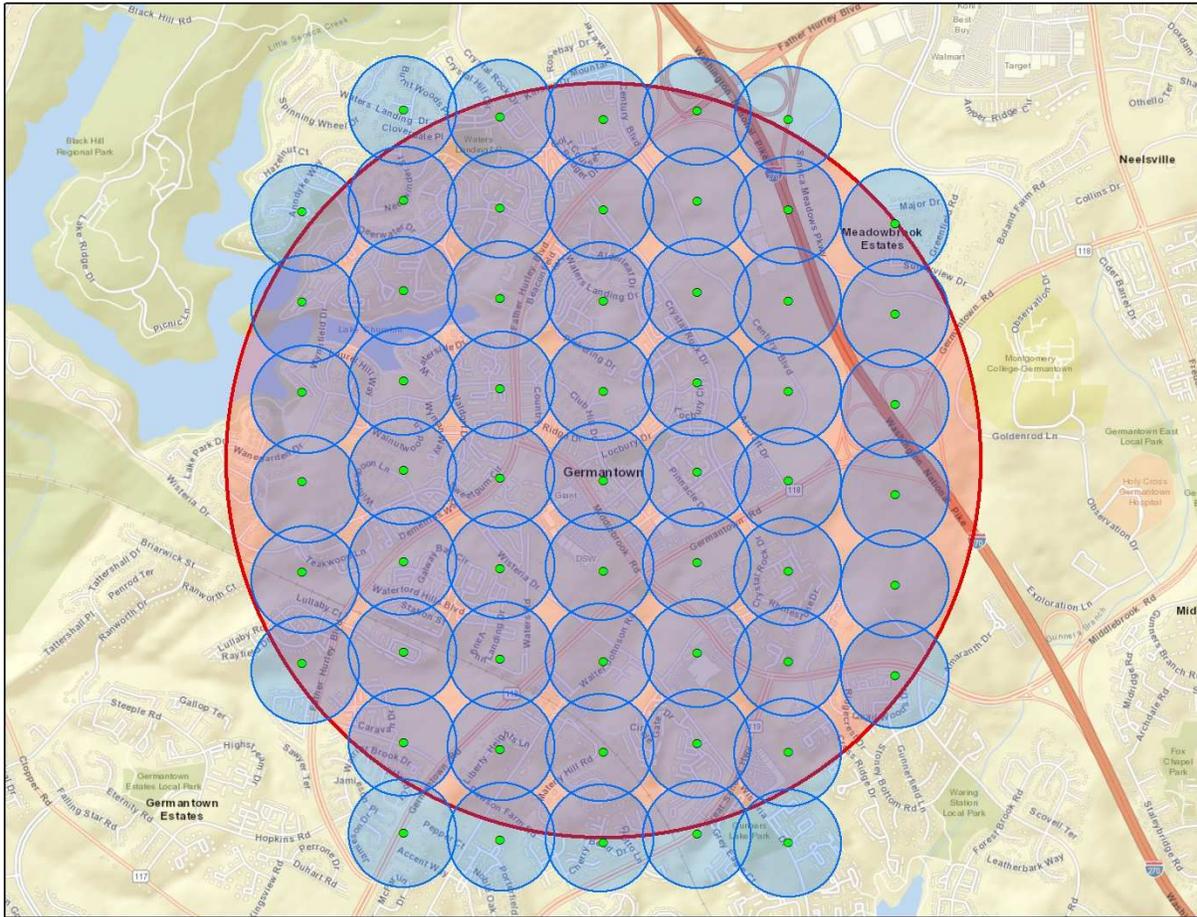
beyond a standard installation and should not be treated as a small wireless facility that warrants an abridged review process.

17. The number of facilities required to provide voice services is much less than the number required to provide non-common carrier data services. In my experience, small cell equipment is being placed primarily to accommodate the growing demand for capacity from users of data-intensive applications on smartphones and other cellular devices. I base this statement on the fact that small cells have been placed only over the past 10 years and mostly over the past one or two years, and that almost all of these have been placed in areas where adequate cellular service already exists (e.g., there are plenty of “bars”).¹²³
18. In other words, the small cells generally are not being placed to provide coverage where none exists (or where it is not reliable – for example where capacity limits result in dropped calls, failures to connect or inadequate throughput to support personal wireless services), but as part of a densification process where the applicant is adding additional capacity, mostly or entirely for high-bandwidth data services, including video and Internet access services. When a small cell is placed, the capacity formerly shared by hundreds or thousands of users over a few-square-mile area only needs to be shared by a few dozen users within a much smaller small-cell area. Figure 3 superposes small cell service areas on a macro cell area, in this case showing a 45-fold increase in capacity.

¹²³ The exceptions include service for indoor locations, locations in tight terrain where service is necessary but unavailable from macro cell sites (such as in the canyons surrounding US-6 in Clear Creek County, Colorado) or places where aesthetics or the environment preclude placement of a macro cell (such as along rural parts of the Pacific Coastal Highway), and places where small cells may be needed to off-load traffic from macro cell sites that are capacity-constrained.

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Figure 3: Comparison of Typical Macro Cell and Small Cell Service Areas



19. In a sector served with approximately 100 MHz of spectrum (typical of what is used by a wireless provider in a metropolitan area where small cells are deployed), the available aggregate downlink capacity may be in the range of approximately 1 Gbps. Apportioning this level of capacity among a few dozen users within the range of the small cell provides a mean capacity in excess of 10 Mbps and a burst speed well above that level, in line with what is expected in a well-performing 4G network.

20. However, it is significant to note that an average voice call uses less than 10 kbps, so even if all of the few dozen users within range of the small cell were simultaneously on voice calls, only about 1 Mbps or 0.1 percent of the total capacity of the service area would be required.

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Therefore, voice service is incidental to small cell deployment. While we recognize that there may be other personal wireless services in addition to voice, those are also not the drivers for deployment. If wireless networks only carried voice services, or services that the Commission has classified as personal wireless services, the sort of densification envisioned by the proposed Order would not be necessary.

C. The shortened shot clocks for small cells in public rights-of-way are unreasonable, do not improve efficiency, and compromise governments' ability to protect the safety of the public and other considerations

21. The shortened shot clocks could have significant adverse consequences with regard to adequate application review. Even the most well-staffed government office could find itself inundated with applications at times. In my experience, applications are not filed by applicants with staged or consistent timing; rather, we frequently see many applications filed all at once with either unpredictable timing or immediately before a planned government hearing. Given those patterns, even well-staffed government offices can struggle to process and adequately review large numbers of applications in short periods of time. The shortened shot clocks could thus deny a diligent state or local government its ability to adequately review small cell applications for such critical matters as the safety of the public, structural integrity, traffic safety, and impact on pedestrians with disabilities.
22. The FCC's proposed shortened shot clocks creates new kinds of inefficiencies because in many cases the time allotted is insufficient for evaluating placement on traffic signals and street lights. Given the critical mission of traffic signals and street lights, and given that other entities may use those mounting assets for monitoring and communications purposes, application review can involve significant engineering and safety issues. The FCC's proposed rule thus creates an environment in which a responsible state or local government,

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faced with insufficient time to conduct adequate review, may need to assume on the side of caution and reasonably require an applicant to replace a structure that is not clearly safe to use. That cost of replacement could be avoided given sufficient time to conduct adequate engineering review.

23. The proposed shortened shot clocks add further challenges and burdens because state and local reviewers of applications frequently receive from applicants (or their contractors) incomplete or error-riddled applications, requiring opportunity to ask applicants for correct or responsive data and to complete applications. In 20 years of experience reviewing applications for wireless facilities placement in a dozen states, my team has found that a substantial percentage of applications filed by carriers and their contractors have substantial omissions or errors. These incomplete or erroneous data are consequential and can compromise governments' ability to verify that the planned installation is appropriately designed, structurally sound, and not compromising of the safety of the public. In our experience, the delays that result from these erroneous or incomplete applications are generally blamed on the government recipient, when, in fact, the delay is caused by filing of unacceptable applications. The shot clocks should be structured to incent carriers and their contractors to file complete, accurate applications and for government offices to have adequate opportunity to require carriers and their contractors to amend and complete non-compliant applications.

24. Viewed simplistically, combining "similar" small cell applications (i.e., applications proposing the installation of the same type of antenna, or installation on the same type of support structure) into a single "batched" application would appear to create processing efficiencies for state and local governments. Given that each application has identical fields,

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the FCC logic goes, a reviewer would only need to review a given field once for a batch of sites, rather than repeating the same review for multiple applications.

25. That is not correct. A batch application does not create efficiencies and can serve to significantly complicate reasonable review. The simplistic logic ignores the reality that each siting requires individual review to ensure that the safety of the public and the integrity of the mounting asset is maintained. While a batch of applications may seem to the FCC to be largely similar, in fact each application represents an individualized request to install equipment on a specific mounting asset, in a specific and individualized location with unique locational and structural characteristics. For example, a batch of a dozen applications to install small cell antennas on light poles or traffic poles can require a dozen site visits as part of the review process, because each of those traffic and light poles has a unique set of characteristics (including its location relative to nearby buildings, its structural condition, its power source, local traffic patterns, proximity to institutions that serve people with disabilities who will be pedestrians in the area, and so on).

26. Based on our experience, the shortened shot clocks are far too short, and the costs the FCC has estimated for review are unreasonably low, by several factors.

DATED: Kensington, Maryland
September 17, 2018



Andrew Afflerbach, Ph.D., P.E.

EXHIBIT A

Attachment A: CV

Andrew Afflerbach, Ph.D., P.E.

CEO and Chief Technology Officer | CTC Technology & Energy

Dr. Andrew Afflerbach specializes in planning, designing, and estimating the capital and operating costs of broadband communications networks. His expertise includes state-of-the-art fiber and wireless technologies, as well as the unique requirements of public safety networks.

Andrew has designed robust and resilient networks for dozens of clients, including state and local governments and public safety users. He has delivered strategic technical guidance on wired and wireless communications issues to hundreds of clients nationwide over more than 20 years. He also served as a senior adviser to Crown Fibre Holdings, the public entity directing New Zealand's national fiber-to-the-home project.

In addition to designing networks, Andrew testifies as an expert witness on wireless communications issues. And he contributes to the national discussion on critical communications policy issues through the preparation of technical analyses for submission to the Federal Communications Commission (FCC) and policymakers. He has prepared white papers on:

- Estimating the cost to expand fiber to underserved schools and libraries nationwide
- Conducting due diligence for the IP transition of the country's telecommunications infrastructure
- Developing technical frameworks for wireless network neutrality
- Streamlining deployment of small cell infrastructure by improving wireless facilities siting policies
- Limiting interference from LTE-U networks in unlicensed spectrum.

As CTC's Chief Technology Officer, Andrew oversees all technical analysis and engineering work performed by the firm. He is a licensed Professional Engineer in multiple states.

Fiber Network Planning and Engineering

Andrew has architected and designed middle- and last-mile fiber broadband networks for the District of Columbia (Washington, D.C.); the city of San Francisco; the Delaware Department of Transportation; the Maryland Transportation Authority; and many large counties.

He oversaw the development of system-level broadband designs and construction cost estimates for the cities of Atlanta, Boston, Boulder, Palo Alto, Madison, and Seattle; the states of Connecticut and Kentucky; and many municipal electric providers and rural communities. He is overseeing the detailed design of the city-built fiber-to-the-premises (FTTP) networks in Westminster, Maryland; Alford, Massachusetts; and Holly Springs and Wake Forest, North Carolina.

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In Boston, Andrew led the CTC team that developed a detailed RFP, evaluated responses, and participated in negotiations to acquire an Indefeasible Right of Use (IRU) agreement with a fiber vendor to connect schools, libraries, public housing, and public safety throughout the City. This approach was designed to allow the City to oversee and control access and content among these facilities.

Wireless Network Planning and Engineering

Applying the current state of the art—and considering the attributes of anticipated future technological advancements such as “5G”— Andrew has developed candidate wireless network designs to meet the requirements of clients including the cities of Atlanta, San Francisco, and Seattle. In a major American city, Andrew led the team that evaluated wireless broadband solutions, including a wireless spectrum roadmap, to complement potential wired solutions.

In rural, mountainous Garrett County, Maryland, Andrew designed and oversaw the deployment of an innovative wireless broadband network that used TV white space spectrum to reach previously unserved residents. To enhance public internet connectivity, Andrew provides technical oversight on CTC’s Wi-Fi-related projects, including the design and deployment of Wi-Fi networks in several parks in Montgomery County, Maryland.

Andrew also advises local and state government agencies on issues related to wireless attachments in the public rights-of-way; he leads the CTC team that supports the Texas Department of Transportation (TxDOT) and many large counties on wireless attachment policies and procedures.

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Public Safety Networking

Andrew leads the CTC team providing strategic and tactical guidance on FirstNet (including agency adoption and other critical decision-making) for the State of Delaware and Onondaga County, New York. In the District of Columbia, he and his team evaluated the financial, technical, and operational impact of building the District's own public safety broadband network, including the design of an LTE system that provided public-safety-level coverage and capacity citywide. This due diligence allowed the District to make an informed decision regarding opting in or out of the National Public Safety Broadband Network.

Andrew currently is working with the State of Delaware to evaluate LTE coverage gaps throughout the state to assist agencies in their choice of public safety broadband networks. On the state's behalf, he and his team are also conducting outreach to AT&T and other carriers to evaluate their public safety offerings. He is performing similar work as part of CTC's engagement with El Paso County, Colorado.

Earlier, Andrew led the CTC team that identified communications gaps and evaluated potential technical solutions for the Baltimore Urban Area Security Initiative (UASI), a regional emergency preparedness planning effort funded by the U.S. Department of Homeland Security (DHS).

He previously served as lead engineer and technical architect for planning and development of NCRnet, a regional fiber optic and microwave network that links public safety and emergency support users throughout the 19 jurisdictions of the National Capital Region (Washington, D.C. and surrounding jurisdictions), under a DHS grant. He wrote the initial feasibility studies that led to this project for regional network interconnection.

Smart Grid

Andrew and the CTC team provided expert testimony and advisory services to the Public Service Commission of Maryland regarding Advanced Metering Infrastructure (AMI). CTC provided objective guidance to the staff as it evaluated AMI applications submitted by three of the state's investor-owned utilities (IOUs). This contract represented the first time the PSC staff had asked a consultant to advise them on technology—a reflection of the lack of standards in the Smart Grid arena.

Broadband Communications Policy Advisory Services

Andrew advises public sector clients and a range of policy think tanks, U.S. federal agencies, and non-profits regarding the engineering issues underlying key communications issues. For example, he:

- Provided expert testimony to the FCC in the matter of the preparation of the **national broadband plan** as a representative of the National Association of Counties (NACo) and the National Association of Telecommunications Officers & Advisors (NATOA).
- Served as expert advisor regarding broadband deployment to the U.S. Conference of Mayors, NACo, National League of Cities, Public Knowledge, New America Foundation Open Technology Institute, and NATOA in those organizations' filings before the FCC in

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the matter of determination of the deployment of a **national, interoperable wireless network in the 700 MHz spectrum**.

- In connection with the FCC's ongoing **Open Internet proceeding**, advised the New America Foundation regarding the technical pathways by which "any device" and "any application" regimes could be achieved in the wireless broadband arena as they have been in the wireline area.
- Provided expert technical advice on the **700 MHz broadband and AWS-3 proceedings** at the FCC for the Public Interest Spectrum Coalition (including Free Press, the New America Foundation, Consumers Union, and the Media Access Project).
- Served as technical advisor to the **U.S. Naval Exchange** in its evaluation of vendors' broadband communications services on U.S. Navy bases worldwide.
- Advised the **U.S. Internal Revenue Service** regarding the history of broadband and cable deployment and related technical issues in that agency's evaluation of appropriate regulations for those industries.
- Advised the Stanford Law School Center for Internet and Society on the technical issues for their briefs in the **Brand X Supreme Court appeal** regarding cable broadband.

Broadband Communications Instruction

Andrew has served as an instructor for the U.S. Federal Highway Association/National Highway Institute, the George Washington University Continuing Education Program, the University of Maryland Instructional TV Program, ITS America, Law Seminars International, and the COMNET Exposition. He developed curricula for the United States Department of Transportation.

He taught and helped develop an online graduate-level course for the University of Maryland. He developed and taught communications courses and curricula for ITS America, COMNET, and the University of Maryland. His analysis of cable open access is used in the curriculum of the International Training Program on Utility Regulation and Strategy at the University of Florida.

Andrew has also prepared client tutorials and presented papers on emerging telecommunications technologies to the National Fire Protection Association (NFPA), NATOA, the National League of Cities (NLC), the International City/County Management Association (ICMA), and the American Association of Community Colleges (AACC). He taught college-level astrophysics at the University of Wisconsin.

EMPLOYMENT HISTORY

1995–Present	CEO/Chief Technology Officer, CTC Previous positions: Director of Engineering, Principal Engineer, Senior Scientist
1990–1996	Astronomer/Instructor/Researcher University of Wisconsin–Madison, NASA, and Swarthmore College

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EDUCATION

Ph.D., Astronomy, University of Wisconsin–Madison, 1996

Master of Science, Astronomy, University of Wisconsin–Madison, 1993

Bachelor of Arts, Physics, Swarthmore College, 1991

PROFESSIONAL CERTIFICATIONS/LICENSES

Professional Engineer, Commonwealth of Virginia and states of Delaware, Maryland, and Illinois

HONORS/ORGANIZATIONS

- Association of Public-Safety Communications Officials (APCO)
- Board of Visitors, University of Wisconsin Department of Astronomy
- National Association of Telecommunications Officers and Advisors (NATOA) Technology and Public Safety Committees
- Armed Forces Communications and Electronics Association (AFCEA)
- Society of Cable and Telecommunications Engineers (SCTE)
- Institute of Electrical and Electronic Engineers (IEEE)
- Charleston Defense Contractors Association (CDCA)
- NASA Graduate Fellow, 1993–1996. Research fellowship in astrophysics
- Elected Member, Sigma Xi Scientific Research Honor Society
- Eugene M. Lang Scholar, 1987–1991, Swarthmore College

SELECTED PUBLICATIONS, PRESENTATIONS, and COURSES

- “A Model for Understanding the Cost to Connect Anchor Institutions with Fiber Optics” (co-author), prepared for the Schools, Health & Libraries Broadband Coalition, Feb. 2018
- “How Localities Can Prepare for—and Capitalize on—the Coming Wave of Public Safety Network Construction,” Feb. 2018
- “Network Resiliency and Security Playbook” (co-author), prepared for the National Institute of Hometown Security, Nov. 2017
- “Mobile Broadband Service Is Not an Adequate Substitute for Wirelines” (co-author; addressing the limitations of 5G), prepared for the Communications Workers of America, Oct. 2017
- “Technical Guide to Dig Once Policies,” April 2017
- “Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies,” prepared for the Smart Communities Siting Coalition, filed with the FCC, March 2017
- “How Localities Can Improve Wireless Service for the Public While Addressing Citizen Concerns,” Nov. 2016
- “LTE-U Interference in Unlicensed Spectrum: The Impact on Local Communities and Recommended Solutions,” prepared for WifiForward, Feb. 2016
- “Mobile Broadband Networks Can Manage Congestion While Abiding by Open Internet Principles,” prepared for the New America Foundation’s Open Technology Institute – Wireless Future Project, filed with the FCC, Nov. 2014

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- “The State of the Art and Evolution of Cable Television and Broadband Technology,” prepared for Public Knowledge, filed with the FCC, Nov. 2014
- “A Model for Understanding the Cost to Connect Schools and Libraries with Fiber Optics,” prepared for the Schools, Health & Libraries Broadband Coalition, filed with the FCC, Oct. 2014
- “The Art of the Possible: An Overview of Public Broadband Options,” prepared jointly with the New America Foundation’s Open Technology Institute, May 2014
- “Understanding Broadband Performance Factors,” with Tom Asp, *Broadband Communities* magazine, March/April 2014
- “Engineering Analysis of Technical Issues Raised in the FCC’s Proceeding on Wireless Facilities Siting,” filed with the FCC (<http://apps.fcc.gov/ecfs/document/view?id=7521070994>), Feb. 2014
- “A Brief Assessment of Engineering Issues Related to Trial Testing for IP Transition,” prepared for Public Knowledge and sent to the FCC as part of its proceedings on Advancing Technology Transitions While Protecting Network Values, Jan. 2014
- “Gigabit Communities: Technical Strategies for Facilitating Public or Private Broadband Construction in Your Community,” prepared as a guide for local government leaders and planners (sponsored by Google), Jan. 2014
- “Critical Partners in Data Driven Science: Homeland Security and Public Safety,” submitted to the *Workshop on Advanced Regional & State Networks (ARNs): Envisioning the Future as Critical Partners in Data-Driven Science*, Internet2 workshop chaired by Mark Johnson, CTO of MCNC, Washington, D.C., April 2013
- “Connected Communities: How a City Can Plan and Implement Public Safety & Public Wireless,” submitted to the International Wireless Communications Exposition, Las Vegas, March 2013
- “Cost Estimate for Building Fiber Optics to Key Anchor Institutions,” prepared for submittal to the FCC by NATOA and SHLB, Sept. 2009
- “Efficiencies Available Through Simultaneous Construction and Co-location of Communications Conduit and Fiber,” prepared for submittal to the FCC by the National Association of Telecommunications Officers and Advisors and the City and County of San Francisco, 2009, referenced in the National Broadband Plan
- “How the National Capital Region Built a 21st Century Regional Communications Network” and “Why City and County Communications are at Risk,” invited presentation at the FCC’s National Broadband Plan workshop, Aug. 25, 2009