BROADBAND INDIA FORUM
"Think Tank for Digital Transformation"

BIF RESPONSE TO TRAI CP on Supplementary Consultation Paper on Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed

Preamble

We welcome the Authority's attempt to restart industry wide discussions on ways to promote broadband connectivity and enhance broadband speeds. An overwhelming body of economic literature is clear in its support for the proliferation of high-speed broadband services, and the spillover effects that accrue from incremental investments in communications networks. In a 2018 paper on the Indian case for the growth dividends of broadband, researchers found that "a 10% increase in Internet subscribers results in a 3.2 percent increase in rate of growth of state per capita GDP." The study also estimated that when growth dividends were evaluated for Internet usage "a 10 percent increase in India's total Internet traffic, delivers on average a 3.1 percent increase in GDP per capita, and a 10 percent increase in India's mobile Internet traffic, delivers on average a 1.6 percent increase in India's GDP.[1]" This would indicate an almost equal economic impact from the proliferation and wide scale adoption of fixed connectivity.

The special focus on fixed broadband in this supplementary paper is also a welcome addition to the discourse and will help establish suitable priorities for a technically and economically evolving Indian market. Fixed Broadband will play an increasingly important role in the transition to a truly Digital India where broadband is available to all citizens across the nation. The growth of mobile broadband has helped usher in a digital revolution, and fixed access is uniquely suited to complement mobile broadband as not just an alternative medium of connectivity, but also as an efficient backhaul for cellular access.

The growth of Fixed broadband connections in India has been rather poor, establishing the need to incentivize the proliferation & adoption of fixed broadband services. Addressing the challenges associated with improving the reach of networks is predicated on the resolution of roadblocks that affect both the availability as well as adoption of services. We provide below our responses to the questions and concerns raised by the Authority, with a focus on improving both the availability and adoption of services.

Q1: What should be the approach for incentivizing the proliferation of fixed-line broadband networks? Should it be indirect incentives in the form of exemption of license fee on revenues earned from fixed line broadband services, or direct incentives based on an indisputable metric?

BIF RESPONSE

We believe that a carefully crafted bouquet of demand and supply side mechanisms will be essential to enable and support the large-scale rollout and adoption of fixed broadband services across the nation. Incentivizing the proliferation of any network is best addressed by addressing both the availability and adoption of services. Supply side mechanisms such as fee exemptions, relaxations in costly administrative processes, state and federal policy reforms, and others would help service providers expand coverage to new local markets, while demand side incentives such as direct benefits to targeted consumer subgroups will enhance the adoption of fixed broadband services. A

[1] Kathuria, R., Kedia, M., Sekhani, R. & Krishna, U., 2018. *Growth Dividends of Digital Communications: The case for India,* New Delhi, India: Broadband India Forum & ICRIER.

combination of both demand and supply side mechanisms will be key to improving the reach and adoption of fixed broadband services.

A review of demand side measures to improve broadband adoption employed across the world reveals a rich diversity of approaches suited to local considerations and conditions. We present the findings of this analysis in the table below.

S. No.	Country	BB subsidy
1	USA-FCC	The Federal Communications Commission in Feb 2021 approved a plan to administer $3.2 billion in emergency relief to subsidize broadband for millions of poor Americans during the coronavirus pandemic. The program will offer up to $50 a month for broadband services to low-income households and up to $75 a month to households on Native American land. The FCC will also provide a one-time discount of up to $100 to poor households for the purchase of a computer or tablet[2].
2	[2]URUGUAY	In May 2011, Antel launched its "Servicio Universal Hogares" – or "Internet for All" - plan, aiming to bring Internet access to every home in Uruguay. For a one-time payment of US$30, all fixed line phone customers qualified for free ADSL service that offered a basic connection of 256 Kbps and targeted the low-income segment to which the price of broadband represented a barrier to connectivity[3].
3	[3]BRAZIL	In 2009, only one-third of households within the Brazilian state of São Paulo had access to a broadband connection. Of the remaining two-thirds, nearly 60% blamed that the high cost of Internet services. That year, the governments of São Paulo, Pará, and Distrito Federal partnered together to offer low-income citizens in these districts affordable broadband. The social inclusion program, dubbed Banda Larga Popular, provided Internet connections for US$ 17 per month (35 reals, or 29 reals in those states where ICMS taxes did not apply)[4].
4	[4]SINGAPORE	In April 2020, Singapore put into effect The Home Access 3.0 programme which would increase the minimum broadband speed from 300Mbps to 500Mbps at no additional cost to eligible households with a gross monthly income of less than $1,900. The new scheme was also extended to households with children attending school, where previously they were limited to subsidised broadband schemes that came bundled with a computer. Originally launched in 2014, the Home Access programme in Singapore has provided more than 14,000 low-income households with subsidised fibre broadband connectivity and the option to own devices.

[2] Reardon, M., 2021. *FCC approves $50-a-month emergency broadband subsidies.* [Online]
Available at: https://www.cnet.com/news/fcc-approves-50-a-month-emergency-broadband-subsidies/
[3] World Bank Group, n.d. *Achieving Affordability | Broadband Strategies Toolkit.* [Online]
Available at: https://ddtoolkits.worldbankgroup.org/broadband-strategies/driving-demand/achieving-affordability
[4] *Ibid*

		The scheme aims to benefit 10,000 more households over the next three years[5].
5	[5]JAPAN	In an effort to bridge the digital divide, the NRA is subsidizing the building of broadband networks in rural areas that lack a business case. The programme aims to eliminate the 'broadband zero area' (households with no broadband access at all). Costs of installing fibre optic lines are subsidized when a local government installs them in non-profitable areas, such as rural areas and remote islands, in order to promote ultra-high-speed broadband infrastructure[6].

The diversity of demand side mechanisms observed indicates that a one size fits all approach to the design of such schemes does not exist, and that incentives must be structured according to local conditions. We are of the firm opinion that if structured and configured for local conditions, such incentives would greatly enhance the adoption of fixed broadband services in India. The selection and administration of such incentives must take the average purchasing power and access to services under consideration. These should also ideally be awarded directly to end consumers in the form of a Direct Benefit Transfer (DBT), such as in the case of the distribution LPG/Cooking Gas subsidies.

In addition to demand side incentives, supply side mechanisms such as licence fee exemptions must also be considered. Throughout most developed markets, licence fees for rights to roll out telecom networks are limited to the administrative costs associated with regulating the sector. As a result, fees are low, relative to India, and clearly enhance the business case for telecoms providers to rollout modern networks in these markets. In addition to exemptions on fees, relaxations to administrative burdens that increase the costs associated with fixed line rollouts must also be considered. Suitable policies to dig-once, provide for the development and use of common ducts and street furniture, and non-discriminatory access to local communities would ensure that costs of rollout are low enough, so new projects are incentivized. A per connection incentive could also be provided to telecoms providers who roll out fixed networks to targeted regions.

Q2. If indirect incentives in the form of exemption of license fee on revenues earned from fixed-line broadband services are to be considered then should this license fee exemption be limited to broadband revenue alone or it should be on complete revenue earned from services delivered through fixed-line networks?

BIF RESPONSE

Exemptions in the form of license fee waivers for operators may prove difficult to administer without robust audit mechanisms and accounting separation. This would hold particularly true for operators offering converged Mobile and Fixed Broadband services using common core networks. We therefore urge that standardization of audit mechanisms and accounting separation rules precede the administration of such exemptions so as to ensure adequate separation of revenues from voice, fax,

[5] Yee, Y. W., 2020. *Parliament: Low-income households to get faster Internet access under enhanced Home Access scheme.* [Online]
Available at: https://www.straitstimes.com/singapore/parliament-low-income-households-to-get-faster-internet-access-under-enhanced-home-access
[6] ITU, 2020. *The State of Broadband: Tackling digital inequalities,* s.l.: ITU

EPABX and other traditional fixed access services from revenue generated by modern internet based services.

A license fee exemption, if granted, should apply to complete revenue earned from the access as well as from the services and apps which ride on fixed Broadband. Without the rich applications and services that enhance the connected experience, broadband holds little meaning for end users. The organic demand pull for broadband is strongly correlated with availability of the myriad apps and services that ride on the network. Numerous modern digital services are today made possible using reliable connectivity viz. education, work, tele-consulting and tele-medicine, information services, entertainment, and many others. An ICRIER-BIF study estimated the impact of Apps on the data traffic. As per the study, a 10% increase in total internet traffic leads to a 3.3% growth in India's GDP[7]. Another study by WIK Consulting and BIF reveals that the use of apps creates a consumer surplus of US$98 billion in India. This is equivalent to 4.3% of India's GDP[8].

We are therefore of the view that the licence fee exemption must apply to all services delivered over the network, with adequate separation for legacy services enabled by fixed connectivity. If a service is delivered over fixed broadband, it must be allowed to be accounted for in revenues earned from fixed broadband and must be eligible for exemption.

Q3. In case of converged wireless and fixed-line products or converged services delivered using the fixed-line networks, how to unambiguously arrive at the revenue on which license fee exemption could be claimed by the licensees?

BIF RESPONSE

The incentive package must be simple to administer, and therefore must include mechanisms to address exemptions for both kinds of networks. Given that converged networks would likely include revenues from additional sources, a fair and reasonable moderation of the incentive would suffice to address any concerns of arbitrage. At the same time, robust audit mechanisms and rules must be evolved to ensure the integrity of such schemes. A robust audit mechanism and appropriate accounting separation standards would ensure proper verification of the operator's revenue streams through possible ways of assessment, collection, proper allocation and accounting of revenue for streams identified for fee exemptions.

Q4. What should be the time period for license fee exemption? Whether this exemption may be gradually reduced or tapered off with each passing year?

BIF RESPONSE

Reforms are unlikely to have an immediate and lasting impact, unless they are sustained over a period that allows for stability in a rapidly evolving market. We therefore believe that to bring Indian networks up to global standards, the exemption should be maintained for at least 10 Years in Urban areas and for 15-20 years in Rural Areas with scope for subsequent review.

Q 5. Is there a likelihood of misuse by the licensees through misappropriation of revenues due to the proposed exemption of the License Fee on the revenues earned from fixed-line broadband

[7] Supra Note 1

[8] Arnold, R., Hildebrandt, C., Kroon, P. & Taş, S., 2017. *The Economic and Societal Value of Rich Interaction Applications in India,* New Delhi, India: Broadband India Forum & WIK

services? If yes, then how to prevent such misuse? From the revenue assurance perspective, what could be the other areas of concern?

Q 6. How the system to ascertain revenue from fixed-line broadband services needs to be designed to ensure proper verification of operator's revenue from this stream and secure an effective check on the assessment, collection, and proper allocation and accounting of revenue. Further, what measures are required to be put in place to ensure that revenue earned from the other services is not mixed up with revenues earned from fixed-line broadband services in order to claim higher amount of incentive/exemption.

BIF RESPONSE

To prevent misreporting of revenues, incentives awarded to operators by way of exemption of fees must be backed by robust audit systems and accounting separation standards.

As mentioned above in response to Q2, incentives in the form of exemptions on licence fees require that a robust system of audit & accounting separation be put in place for a proper accounting of revenues from fixed and mobile broadband As also mentioned in the response to Q2, we believe revenues from bundled services are an essential driver for broadband services and hence should be eligible for license fee exemption.

Q 7. Is there any indisputable metric possible to provide direct incentive for proliferation of fixed-line broadband networks? What would be that indisputable metric? How to ensure that such direct incentives will not be misused by the licensees?

BIF RESPONSE

The design of the incentive scheme must include verifiable metrics to prevent misuse. The deployment of a physical connection for fixed broadband access is a necessary though not sufficient metric based on which direct incentives may be provided. In addition to confirming the deployment of a physical connection, frequent audits to ensure broadband speeds meet minimum specified thresholds may also be used as an additional metric to ensure compliance with the incentive

Q8. What are key issues and challenges in getting access to public places and street furniture for installation of small cells? Kindly provide the State/ City wise details.

BIF RESPONSE

We present below some of the issues and challenges commonly associated with the deployment of small cells and the use of street furniture:

- Power: Street furniture must have a power source for the wireless equipment to function. Common examples of street furniture used for small-cell networks include utility poles, billboards, lamp posts, lit signage, mailboxes, park benches, traffic signals and other structures that have a nearby power source. Power requirements may also be specified to ensure only authorized equipment is deployed over shared street furniture.
- Scope: As networks migrate to 5G, small cells and associated infrastructure are expected to be deployed in large numbers. It would therefore be imperative for policymakers to ensure that a diversity of suitable street furniture is identified and catalogued as available for the deployment of small network infrastructure. This street furniture would also support other

small network element deployments such as those associated with the rollout of hyperlocal Wi-Fi networks under the PM-WANI scheme.

- Space: To make street furniture suitable for small-cell networks, it must be able to accommodate power, antenna, and associated cabling equipment. It may therefore be prudent to establish norms related to the size and number of small cells deployed on any single street furniture infrastructure.
- Small cells can be deployed in or on the existing structures like government buildings/railway stations/metro rail stations/ airports/ stadiums etc. as well as private buildings which are accessible to public like malls/ shopping complexes/multiplexes/theatres etc. These could also be deployed easily on utility poles, lamp posts, bus stops, information kiosks, and billboards etc.
- While rolling out 5G networks, street furniture would play a significant role in offering good quality services by expanding the network coverage and going closer to the consumers. The present system of granting access to public spaces/ structures for installing small cells varies by state and the local body/agency, and must be made uniform in its application with simple and efficient processes to award permits.
- Granting access to public places like government buildings/railway stations/metro rail stations/ airports/ stadiums etc. and street furniture, such as bus stop shelters, utility poles, lamp posts or traffic lights, owned by municipalities, at reasonable cost could remove a significant hurdle in the deployment of small cells.

Q9. How to permit use of public places and street furniture for the effective rollout of 5G networks? Kindly suggest a uniform, simple, and efficient process which can be used by States/ Local-Bodies for granting access to public places and street furniture for installing small cells. Kindly justify your comments.

BIF RESPONSE

Much like the EU has to contend with multiple member countries, India too has to deal with multiple states and UTs. It may therefore be prudent to consider the simplified solution suggested by the European Commission on small cell implementation.

In an effort to accelerate 5G small cell adoption across the European Union (EU), the European Commission (EC), after specifying the physical and technical characteristics of small cell equipment, has recommended that this type of antenna installation should be exempt from planning permission requirements.

We recommend the following guidelines for permitting access to public infrastructure /street furniture:

- Right of Way without payment of any charges to be granted for installation of small wireless equipment /small cells on existing street furniture viz. poles, towers, buildings and other structures.
- Charges, if any, are to be only levied in case of any defacement of such structures, and must not be limited to more than restoration charges
- Small cell sharing should be permitted along the lines of active infra sharing
- Follow the national ICNIRP Standards for emf radiation for small cell power classes when developing regulations related to compliance with radiofrequency exposure limits.

- Adopt simplified procedures for building/street furniture permits for small cells based on standardised size, installation requirements and radio characteristics.
- Exempt small cell installations from location registration requirements.
- Facilitate access to existing structures, electrical power and fibre/wireless backhaul.

Three documents are being attached herewith to provide reference to international best practices viz.

1) FCC Document on Policy for Small cells
2) An in-house document from BIF on International Best Practices on Small Cell Policies
3) GSMA Policy Recommendations for Small Cell deployment

Q10. Which all type of channels of communication should be standardized to establish uniform, transparent, and customer friendly mechanisms for publicizing provisioning of service and registration of demand by Licensees?

BIF RESPONSE

Telecommunications licensees in India are required to maintain a transparent and open to inspection waiting list for authorized telecom services. They are required to establish uniform, transparent, and customer friendly mechanisms for publicizing provisioning of service and registration of demand by Licensees. Such transparency can lead to better demand assessment and future network planning in non-feasible areas.

Online mechanisms would be the most apt way to publicise demand provisioning and registration of new demand in connected markets across India. This should be prominently displayed on the website of the service providers in an easy-to-read and easy-to-understand format. Individual customers should be able to track the status of their demand registration on the website. Besides, direct modes of communication vide WhatsApp, SMS, etc maybe used to inform customers of the status of individual registrations.

For rural and unconnected citizens, traditional media such as newspapers and radio, both mainline and vernacular, would be more suitable vehicles to disseminate incentive schemes and services related information.

Q11. Whether proliferation of fixed-line broadband services can be better promoted by providing Direct Benefit Transfer (DBT) to subscribers of fixed-line broadband services? If no, elucidate the reasons.

BIF RESPONSE

We believe that a combination of demand and supply side incentives will be essential to justify a publicly funded push to enhance the reach and scope of fixed broadband services, and that a direct benefit transfer to subscribers is among the more appropriate and effective demand side mechanisms for the Indian market.

Direct Benefit Transfers (DBT) to end consumers/subscribers are suitable for the Indian market – given its purchasing power and the prior success of such programs in other essential sectors. This we believe, will generate a demand pull for broadband services. The benefit should also be provided for a package

of fixed line broadband along with services as it is the applications and services which will help deliver socio-economic value to end consumers who need them most.

Q12. If answer to Q11 is affirmative, then: 34 i. Should DBT scheme be made applicable to all or a particular segment of fixed-line broadband subscribers? Kindly justify your comments. ii. If you recommend supporting a particular segment of fixed-line broadband subscribers, how to identify such segment of the subscribers? iii. How to administer this scheme? iv. What should be the amount of DBT for each connection? v. What should be the period of offer within which individuals need to register their demand with the service providers? vi. What should be the maximum duration of subsidy for each eligible fixed-line broadband connection?

BIF RESPONSE

i. Yes-DBT Scheme should be given to all consumers –both in the urban and the rural sectors.
ii. It should be given to all new fixed BB consumers in a fair, reasonable and non-discriminatory manner
iii. Under the PAHAL DBT scheme, LPG consumers can receive subsidies in their bank accounts using two methods. A) Option I (Primary): Wherever Aadhaar number is available it will remain the medium of cash transfer. Thus, an LPG consumer who has an Aadhaar Number has to link it to the bank account number and to the LPG consumer number. B) Option II (Secondary): For consumers without an Aadhaar ID, subsidies can be received directly in bank accounts. This option was introduced later in the modified scheme to ensure that the LPG subsidy is not denied to an LPG consumer on account of lack of Aadhaar number.
iv. DBT Amount to be transferred every month
v. Amount should be equivalent to the cost of fixed-line broadband connection and a reasonable monthly plan with some apps and services or DBT of some fixed amount
vi. Period of offer should be for a period of at least three months from date of offer.
vii. The scheme should be kept in operation for a period of ten years in urban areas and 15-20 years in rural areas

Q13. Any other related issue.

BIF RESPONSE: N/A

Improving wireless connectivity through small cell deployment

About the GSMA

The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with almost 300 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces industry-leading events such as Mobile World Congress, Mobile World Congress Shanghai, Mobile World Congress Americas and the Mobile 360 Series of conferences.

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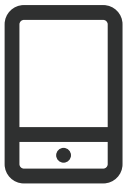
1 Introduction

Growing demand for mobile network connectivity associated with increased smartphone ownership, greater mobile usage indoors and higher data rates is driving the evolution of mobile networks. One approach to facilitating connectivity is the use of small cells. Small cells are low-powered radio access nodes or base stations (BS) operating in licensed or unlicensed spectrum that have a coverage range from a few meters up to a few hundred meters. Small cells are deployed to increase the mobile network capacity and coverage in localized areas. They can be used to provide in-building or outdoor wireless service.



50% of global connections are via smartphones.[1]

As shown in Figure 1, higher data rates are typically available closer to the base station antenna due to the higher quality connection.

Mobile data traffic has grown over the past

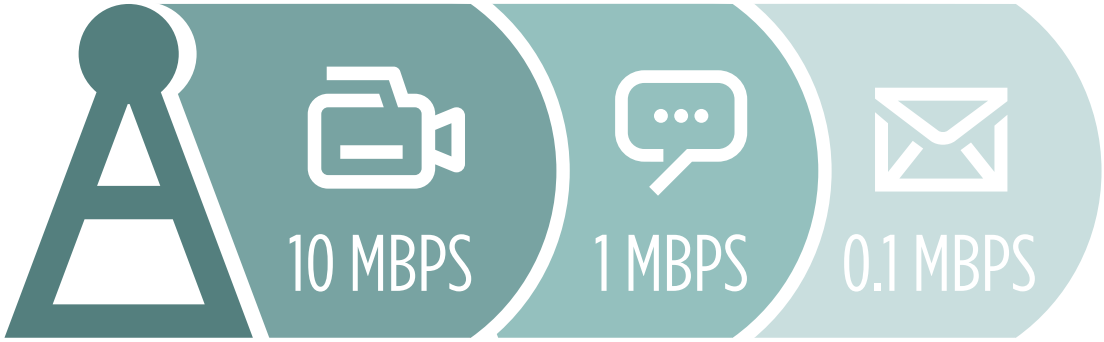
10 years **4,000X**

15 years **400millionX**[2]

1. GSMA Intelligence, Global cellular market trends and insight — Q2 2016
2. Cisco, Visual Networking Index (VNI) Global Mobile Data Traffic Forecast Update, 2016.

Figure 1

Higher data rates are generally possible closer to the network antenna



Today over 80% of mobile usage occurs inside buildings in developed markets and this is predicted to increase to greater than 90% in the next few years.[3]

Modern buildings are increasingly designed to meet stronger energy efficiency targets. However, some building materials used for energy efficiency purposes (for example, energy-efficient windows and aluminium-based polyurethane sheets) cause significant attenuation to radio signals, especially at higher frequencies. Measurements by the Tampere University of Technology, a Finnish university, found that radio signal penetration inside new buildings is on average twenty times weaker, and can be up to 100 times weaker, compared to buildings that are 10 years older. Potential solutions include using lower frequencies for mobile services, changes to building design and facilitating in-building small cell deployments[4].

In-building environments such as tall buildings and underground public transport infrastructure can only be effectively provided with coverage by small cell installations.

14 million small cells have been shipped to May 2016. There was a 78% growth in non-residential shipments from Q1/2015 to Q1/2016.[5]

3. Real Wireless Ltd, Options for Improving In-Building Mobile Coverage. Report for Ofcom, 18 April 2013.
4. Ministry of Transport and Communications, Mobile network reception problems in low energy buildings: working group report, publication 31/2013.
5. Small Cell Forum, Small cell deployments: Market status report, May 2016.

Their low visual impact also means that small cells can be an effective solution in outdoor areas near monuments and iconic buildings. However, the costs of deployment may be significantly higher due to the civil works needed to provide power and data back-haul connections to the small cell installation.

Example:
Indoor small cells have been installed in and around the Giza pyramids, Abu Simbel and other temples of Egypt to provide high quality cellular coverage and greater security.

Low power radio frequency (RF) transmitting equipment are addressed in different ways through existing national regulations and international standards. This paper proposes a harmonized approach in order to simplify the authorization regimes for equipment with low transmitted RF power, such as small cells.

Future mobile networks are expected to consist of a mix of macrocell sites to provide wide area coverage and small cells to improve localised coverage and increase capacity. These are termed heterogeneous networks or 'hetnets'. Figure 2 illustrates the concept of a hetnet.

Figure 2

Representation of a heterogeneous network - hetnet

Image: Real Wireless

The regulatory framework for mobile network antenna deployments needs to evolve to support the growth in small cells so that industry and governments can deliver on the digital connectivity expectations of citizens and pave the way to 5G.

The fact that small cells have a relatively small volume and are visually unobtrusive means that it is important that local planning laws allow for small cell deployments with minimal administrative hurdles or delays.

2 What is a small cell?

'Small cells' is an umbrella term for operator-controlled, low-powered radio communications equipment (base stations) that provide mobile and internet services within localised areas. Small cells typically have a range from ten metres to several hundred metres. Mobile network macrocells typically serve larger areas.

2.1 Small cell deployment scenarios

The term 'small cells' covers femtocells, picocells, microcells and metrocells that are used in residential (Home BS), enterprise (Local Area BS), urban and rural environments (Medium Range BS). Small cell deployments that are interconnected are also termed distributed antenna systems (DAS) or in-building systems (IBS) where they provide service within an existing structure.

Local Areas BS are typically deployed in indoor environments accessible to the general public such as stations, airports, commercial centres. Medium Range BS are typically deployed in outdoor environments. They are often embedded in street furniture such as lighting fixtures, advertisement panels, bus shelters or street signs as shown in Figure 3. They can also be deployed to extend the mobile network coverage and capacity on a localized area, such as isolated villages, industrial sites or emergency situations.

Figure 3

Typical installation of small cells in urban furniture

Credits for pictures of bus stop and advertisement panel with integrated Small Cells : ©JCDecaux

This paper focusses on stationary small cell installations, however, they have also been proposed for deployment in modes of transport such as aircraft, ships and trains.

In the following sections topics for administrative simplification that would support small cell deployments are identified. Practical implementation of simplified administrative procedures should also extend to electronic filing and shortened forms to be completed.

2.2 Small cell power classes

The technical forum for standardisation of mobile technologies defines small cells in terms of their transmitted power. Medium Range small cells typically transmit at power levels between around 0.25 and 6 watts per transmit connector (i.e. up to 12 W per access point). The equipment size is typically in the range of 5 to 15 litres. (see annex 1 for further technical details).

3 Small cell deployment permits

The existing process for obtaining permits for mobile network antenna sites is often based on the requirements of physically larger and higher powered macrocell sites. These administrative processes generally cover both the civil aspects of building permits and the compliance with radiofrequency exposure limits.

In determining what constitutes a small cell for permit requirements the US Federal Communications Commission (FCC)[6] in 2015 clarified that it includes the antenna, feeder, transmission equipment and associated power equipment, including backup power.

In Brazil three fronts were developed in deploying small cells. The first was the installation in indoor environments. The second was the integration of small cell radio equipment in public phones, and these devices were energized by line powering solutions. The third work front was hiring sharing companies with small cell integration solutions to various urban furniture of the city. All responsibility for this integration from the point of view of infrastructure is the responsibility of the company that proposes the integration solution, including the equipment mounting so that the installation will be as simple and agile as possible.

Small cell installations especially within buildings, should be exempt from requirements for registration of transmitter positions. These requirements sometimes exist for larger and higher powered radio transmitters.

6. Federal Communications Commission (FCC) 47 CFR Parts 1 and 17, Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, Federal Register, Vol. 80, No. 5, 8 January 2015.

3.1 Building permits

Small cell antennas for outdoor applications are hard to see by design or through visual integration with the installation site (facade or urban furniture). In order to cover an area many small cells of similar characteristics (radio parameters, size) will often be deployed at the same time. So it is good practice to provide for simplified approval for small cells to avoid administrative delays.

The FCC[7] has adopted rules exempting small cells from environmental assessments where they are mounted on existing telecommunications towers, buildings and other structures as well as inside buildings and meet certain limitations on size and visibility. The FCC also clarified that the existing shot-clock reasonable time frames for decision making (90 days for collocation and 150 days for new installation) also apply where small cells require permit applications, for example, where light poles are to be replaced to accommodate small cell installations.

Where it is determined that a building permit is required, an effective approach to building permits is to provide umbrella approval for deployment of small cell installation meeting certain specified area or volume, as well as radio characteristics (e.g., equivalent isotropic radiated power – EIRP) and installation requirements on nominated physical infrastructure (e.g., minimum installation height). All small cell installations meeting these requirements would be exempt from further permit requirements.

As a general principle small cell infrastructure installed within existing buildings should be exempt from specific notification or other permitting requirements. Any concerns about a specific installation are likely to be addressed by existing local building and safety regulations.

3.2 Permitting costs

In some countries there are permit fees or taxes for antenna installation applications. In order to encourage the deployment of small cells governments should consider a fee structure that reflects the small size and low power of such installations.

France: A 2015 report[8] estimated that about 10 medium range small cells would be deployed per macro base station site and, therefore, recommended that in France the tax regime for small cells subject to light notification administrative process be set at 10% of the tax for macro sites subject to detailed approval administrative process. This recommendation was then adopted in the French Law of Finance at the end of 2015.

7. ibid
8. French Industry Strategic Plans – Small Cells White Paper (see Further Resources)

Brazil: In the lead-up to the 2014 World Cup in Brazil and the summer Olympics in 2016, the authorities recognised a need to increase mobile network capacity. Small cell installations were recognised as a key part of the infrastructure needed within stadiums. In order to facilitate these deployments the authorities in 2013 adopted regulations that exempted certain classes of small cell equipment from telecommunications monitoring fees that are charged by Anatel to the operators on a per base station basis.

3.3 Electrical Power

Small cell antenna installations need access to reliable electrical power to operate. In general this will involve grid connections though renewable energy sources such as solar may be suitable for isolated installations operating in remote areas. Venezuela has proposed that small cells using renewable energy be tax exempt.

Authorities should support small cell deployments by facilitating siting on or near existing sources of electrical power, such as buildings, street and traffic lights, advertisement panels or bus shelters.

3.4 Data backhaul

Small cells need to be connected via data links back to the core mobile network in order to connect voice and data traffic. Due to the increased consumer demand for mobile data small cells require 100-200 Mbps of capacity per cell. If the traffic is aggregated by macrocells, these will require backhaul capacity of hundreds of Mbps, even 1 Gbps per site[9]. Backhaul connectivity can be provided by point-to-point microwave links where line of sight is available or Internet-grade broadband connections, in particular optic fibre connections. Installing fibre links is disruptive and expensive. This means that small cell deployments can proceed efficiently in areas that already have the data backhaul infrastructure.

Globally base station backhaul is about 40% wireless and 60% fibre.[10]

Authorities should support small cell deployments by facilitating access to existing data backhaul connections and should consider preferential access for small cell infrastructure.

9. http://www.aglmediagroup.com/backhaul-for-mobile-networks-has-a-place-for-wireless-links-2/
10. ibid

4 Compliance with radiofrequency limits

Many countries have followed the recommendation of the World Health Organization (WHO) and the International Telecommunications Union (ITU) and adopted the limits for radiofrequency exposures developed by the International Commission for Non-Ionizing Radiation Protection (ICNIRP). The main conclusion of the WHO and many independent expert reviews is that there are no established health risks where antennas comply with these limits. Further information is available in the GSMA brochure Small Cells and Health listed in the resources section.

A Belgium study[11] found that in a 3G network with average macrocell coverage using a small cell resulted in total exposures that were 20-40 times lower, mostly due to the significant reduction in the mobile phone output power.

Small cells typically allow mobile phones to work at very low powers, increasing their battery life and reducing interference as well as reducing exposure of the phone user.

4.1 Simplified installation requirements

The proposed harmonized approach does not preclude national authorities from adopting further simplified criteria, as they have already been implemented in some countries.

No building permits are required for small cell deployments in Egypt. The only regulatory approval required after installation is measurement of RF exposure. This occurs only once for the lifetime of the site whereas for a macrocell inspections are conducted at least every two years.

11. Assessment and comparison of total RF-EMF exposure in femtocell and macrocell base station scenarios, Aerts et al., Radiation Protection Dosimetry, 162(3):236-243, December 2014.

In general, where small cell antennas are mounted above human body height they will comply with the recommended exposure limits. The International Electrotechnical Commission (IEC) has developed detailed classes of small cell products and installations, which are also reflected in ITU recommendations. These can be found in Annex 2. Where small cell installations comply with the power and installation parameters shown in Annex 2 they should be deemed to comply with the exposure limits without further requirements.

France: A 2015 report[12] has proposed that existing regulations are amended to provide an exemption from administrative processes for small cells with an EIRP less than 2 W. In addition the report proposed that for small cells with an EIRP between 2 W and 25 W only a light notification process is required while detailed approval administrative process applies above 25 W EIRP. This approach is consistent with the table in Annex 2 and would allow up to four devices to be installed at an E100 class site.

Manufacturers of small cell equipment must ensure that they conform to relevant technical standards and to any essential requirements in terms of health and safety. It is the responsibility of the organisation deploying the small cells to ensure that once brought into operation, the small cell complies with any additional spectrum authorisation requirements or national exposure limits. Evidence of compliance with the exposure limits may be provided either by declaration of conformity or by a certificate issued by the authority or third party. The declaration of conformity approach is recommended.

Routine post installation measurements or site inspections are not required for small cell installations. Of course permitting authorities may consider inspections of a sample of sites or investigations on a case-by-case basis to confirm compliance. In order to build public confidence the costs for such auditing procedures should be borne by the authority and not the small cell operator.

4.2 Signage

If the small cell installation is in compliance when the radome is touched then there should be no requirement for signage. When determining whether a warning sign is needed consideration should be given to the likely access to the area near the small cell. For example, small cells installed on street lights are only likely to be accessed by authorised maintenance personnel who can be provided with awareness and safe working procedures training. Where a sign is implemented the size, position and visibility of the sign should be appropriate to the installation location and accessibility of the small cell.

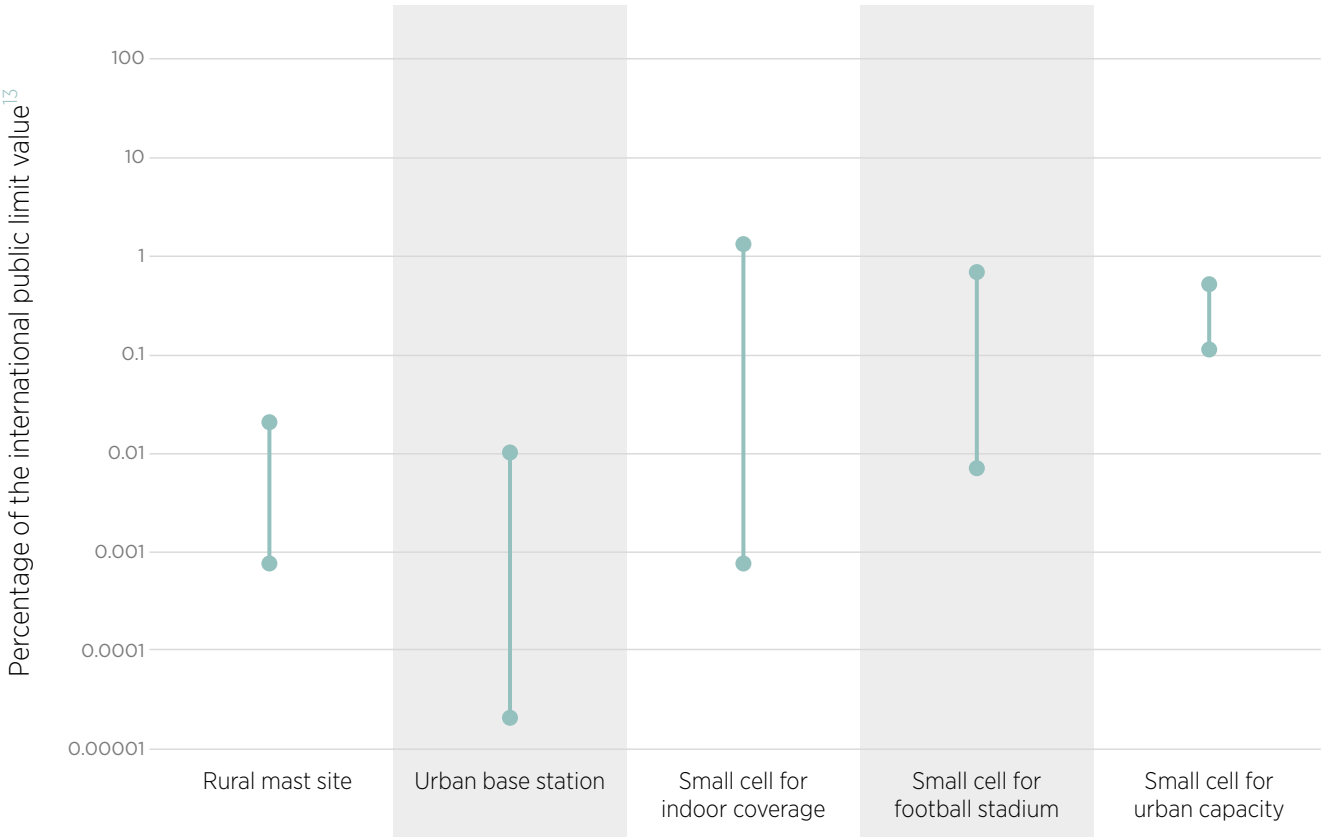
12. French Industry Strategic Plans – Small Cells White Paper (see Further Resources)

4.3 Typical signal levels

Though small cells operate at lower power they are often mounted closer to areas accessible by people. As a result the range of radiofrequency exposures measured from small cells are similar to those from other mobile network antenna installations. As can be seen in Figure 4 the range of measured levels from typical small cell installations is similar to that of macrocell installations. This is because even though the small cell operates at lower power, it is often mounted at lower heights so people can approach closer. For both macrocells and small cells the typical levels are a very small fraction of the international recommendations designed to protect human health.

Figure 4

Comparison of typical measured radio signal levels for differing types of 3G base station sites.[13]



In some countries small cell deployments have been suggested as a way to reduce the overall exposure from mobile networks antennas. However, technical studies demonstrate that the most efficient mobile network antenna infrastructure is a mix of macro and small cells according to coverage and capacity requirements. This illustrates the importance of allowing network operators flexibility with network design and not mandating technical solutions.

13. Adapted from data reported in Determination of the general public exposure around GSM and UMTS base stations, Bornkessel et al., Radiation Protection Dosimetry, 124(1):40-47, March 1, 2007.

A 2015 French report[14] has produced measurement results on operational small cell sites performed according to IEC 62232 protocols. In-situ exposure levels are well below ICNIRP exposure limits (0.1% or below relative to the power density limits).

Image: JCDecaux

It is important that authorities provide information based on WHO[15] recommendations to address stakeholder concerns.

Research indicates that small cell infrastructure can be successfully deployed in medical facilities without causing interference to sensitive equipment.

Indeed measurements show that mobile devices can operate at very low powers where there is an in-building system to improve coverage. It is important that the in-building coverage system should avoid coverage gaps due to building construction materials.

14. French Industry Strategic Plans – Small Cells White Paper (see Further Resources)
15. http://www.who.int/peh-emf/en/

5 Summary of Recommendations

Small cell deployment is an important option for mobile networks as they evolve to address the growing demand for mobile connectivity, improved capacity and coverage. In order to support efficient small cell deployments authorities should adopt the following policies:

1. Follow the internationally harmonised small cell power classes when developing regulations related to compliance with radiofrequency exposure limits.
2. Adopt simplified procedures for building permits for small cells (if required) based on standardised size, installation requirements and radio characteristics.
3. Accept declarations of compliance and do not require routine post-installation measurement.
4. Exempt small cell installations from location registration requirements.
5. Reduce permit costs for small cells relative to those for macrocells.
6. In respect of RF compliance provide information for consumers and local authorities based on WHO materials and recommendations.
7. Facilitate access to existing structures, electrical power and data backhaul.

Annex 1

Range of transmit powers for small cells

(extract from 3GPP 36.104)

3GPP BS class	3GPP PRAT* (Transmit power per carrier per connector)
Wide Area BS	(note)
Medium Range BS	< + 38 dBm (6.3 W)
Local Area BS	< + 24 dBm (250 mW)
Home BS	< + 20 dBm (100 mW, for one transmit antenna port) < + 17 dBm (50 mW, for two transmit antenna ports) < + 14 dBm (25 mW for four transmit antenna ports) < + 11 dBm (12.5 mW for eight transmit antenna ports)

Note: There is no upper limit for the rated output power of the Wide Area BS.

*Definition: Rated output power, PRAT, of the base station is the mean power level per carrier for BS operating in single carrier, multi-carrier, or carrier aggregation configurations that the manufacturer has declared to be available at the antenna connector during the transmitter ON period.

Annex 2

Simplified installation requirements for base stations

(from IEC 62232)

Class	EIRP[a] (W)	EIRP (dBm)	Product installation criteria
E0	n/a	n/a	The product complies with IEC 62479 or the product compliance boundary dimensions are zero. No specific requirement for product installation.
E2	≤2	≤33	The product is installed according to instructions from the manufacturer and/or entity putting into service. Compliance with the exposure limits is generally obtained at zero distance or within a few centimeters.
E10	≤10	≤40	The product is installed according to instructions from the manufacturer and/or entity putting into service and the lowest radiating part of the antenna(s) is at a minimum height of 2.2 meters above the general public walkway.
E100	≤ 100	≤50	The product is installed according to instructions from the manufacturer and/or entity putting into service and: (a) the lowest radiating part of the antenna(s) is at a minimum height of 2.5 meters above the general public walkway, (b) the minimum distance to areas accessible to the general public in the main lobe direction is Dm[b] and (c) there is no pre-existing RF sources with EIRP above 10 W installed within a distance of 5Dm meters in the main lobe direction (as determined by considering the half power beam width) and within Dm meters in other directions. If Dm is not available, a value of 2 meters can be used or 1 meter if all product transmit frequencies are equal to or above 1500 MHz.[c]
E+	>100	>50	The product installed according to instructions from the manufacturer and/or entity putting into service and: (a) the lowest radiating part of the antenna(s) is at a minimum height of Hm meters above the general public walkway, (b) the minimum distance to areas accessible to the general public in the main lobe direction is Dm[b] meters, (c) there is no preexisting RF source with EIRP above 100 W installed within a distance of 5Dm meters in the main lobe direction and within Dm meters in other directions. Hm is given by Equations (6.1), (6.2) or (6.3) of IEC 62232.[d]

a. EIRP (equivalent isotropic radiated power) transmitted by the installed antenna(s) including all active bands.

b. Dm is the compliance distance in the main lobe of the antenna (from Clause 6.1 of IEC 62232).

c. When such condition is not fulfilled the installation is still compliant if the sum of the EIRPs of the product and nearby sources is less than 100 W. If the total EIRP is above 100 W then the product is still compliant if it is installed at a minimum height of Hm meters above the general public walkway and at a minimum distance from areas accessible to the general public in the main lobe direction of Dm meters, where Hm and Dm are obtained using Equations (6.1), (6.2) or (6.3) of IEC62232 for the sum of the EIRPs including those of nearby sources.

d. When such condition is not fulfilled the installation is still exempted from evaluations if the product is installed at a minimum height of Hm meters above the general public walkway and at a minimum distance from areas accessible to the general public in the main lobe direction of Dm meters, where Hm and Dm are obtained using Equations (6.1), (6.2) or (6.3) of IEC 62232 for the sum of the EIRPs including those of nearby sources.

6 Further Resources

Small Cells and Health is a brochure produced by the Small Cell Forum (www.smallcellforum.org), the GSMA (www.gsma.com) and the Mobile & Wireless Forum (www.mwfai.org).

French Industry Strategic Plans – Small Cells White Paper, Actions de Souveraineté Télécoms - Promouvoir le deploiement des petites cellules: leur utilité dans les réseaux mobiles, l'amélioration de leur cadre règlementaire, leur facilité de deployment, October 2015 (http://www.lemag-numerique.com/2015/10/4-nouveaux-livres-blancs-sur-la-souverainete-telecoms-7966)

IEC TC106: http://www.iec.ch/tc106

ITU-T EMF: http://www.itu.int/en/ITU-T/emf/

WHO EMF: http://www.who.int/emf/

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Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
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

DECLARATORY RULING AND THIRD REPORT AND ORDER

Adopted: September 26, 2018 **Released: September 27, 2018**

By the Commission: Chairman Pai and Commissioners O'Rielly and Carr issuing separate statements; Commissioner Rosenworcel approving in part, dissenting in part and issuing a statement.

TABLE OF CONTENTS

I. INTRODUCTION

1. America is in the midst of a transition to the next generation of wireless services, known as 5G. These new services can unleash a new wave of entrepreneurship, innovation, and economic opportunity for communities across the country. The FCC is committed to doing our part to help ensure the United States wins the global race to 5G to the benefit of all Americans. Today's action is the next step in the FCC's ongoing efforts to remove regulatory barriers that would unlawfully inhibit the deployment of infrastructure necessary to support these new services. We proceed by drawing on the balanced and commonsense ideas generated by many of our state and local partners in their own small cell bills.

2. Supporting the deployment of 5G and other next-generation wireless services through smart infrastructure policy is critical. Indeed, upgrading to these new services will, in many ways, represent a more fundamental change than the transition to prior generations of wireless service. 5G can enable increased competition for a range of services—including broadband—support new healthcare and Internet of Things applications, speed the transition to life-saving connected car technologies, and create jobs. It is estimated that wireless providers will invest $275 billion[1] over the next decade in next-generation wireless infrastructure deployments, which should generate an expected three million new jobs and boost our nation's GDP by half a trillion dollars.[2] Moving quickly to enable this transition is important, as a new report forecasts that speeding 5G infrastructure deployment by even one year would unleash an additional $100 billion to the U.S. economy.[3] Removing barriers can also ensure that every community gets a fair shot at these deployments and the opportunities they enable.

3. The challenge for policymakers is that the deployment of these new networks will look different than the 3G and 4G deployments of the past. Over the last few years, providers have been increasingly looking to densify their networks with new small cell deployments that have antennas often no larger than a small backpack. From a regulatory perspective, these raise different issues than the construction of large, 200-foot towers that marked the 3G and 4G deployments of the past. Indeed, estimates predict that upwards of 80 percent of all new deployments will be small cells going forward.[4] To support advanced 4G or 5G offerings, providers must build out small cells at a faster pace and at a far greater density of deployment than before.

4. To date, regulatory obstacles have threatened the widespread deployment of these new services and, in turn, U.S. leadership in 5G. The FCC has lifted some of those barriers, including our decision in March 2018, which excluded small cells from some of the federal review procedures designed for those larger, 200-foot towers. But as the record here shows, the FCC must continue to act in partnership with our state and local leaders that are adopting forward leaning policies.

5. Many states and localities have acted to update and modernize their approaches to small cell deployments. They are working to promote deployment and balance the needs of their communities. At the same time, the record shows that problems remain. In fact, many state and local officials have

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[1] *See* Accenture Strategy, Accelerating Future Economic Value from the Wireless Industry at 2 (2018) (Accelerating Future Economic Value Report), https://www.ctia.org/news/accelerating-future-economic-value-from-the-wireless-industry, attached to Letter from Scott K. Bergmann, Senior Vice Pres., Reg. Affairs, CTIA to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 (filed July 19, 2018).

[2] *See* Accenture Strategy, Smart Cities: How 5G Can Help Municipalities Become Vibrant Smart Cities, (2017) http://www.ctia.org/docs/default-source/default-document-library/how-5g-can-help-municipalities-become-vibrantsmart-cities-accenture.pdf; attached to Letter from Scott Bergmann, Vice Pres. Reg. Affairs, CTIA to Marlene H. Dortch, Secretary, FCC, WT Docket No. 16-421, (filed Jan. 13, 2017).

[3] Accelerating Future Economic Value Report at 2.

[4] Letter from John T. Scott, Counsel for Mobilitie, LLC, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 2-3 (filed Sept. 12, 2018).

urged the FCC to continue our efforts in this proceeding and adopt additional reforms. Indeed, we have heard from a number of local officials that the excessive fees or other costs associated with deploying small scale wireless infrastructure in large or otherwise "must serve" cities are materially inhibiting the buildout of wireless services in their own communities.

6. We thus find that now is the appropriate time to move forward with an approach geared at the conduct that threatens to limit the deployment of 5G services. In reaching our decision today, we have benefited from the input provided by a range of stakeholders, including state and local elected officials.[5] FCC leadership spent substantial time over the course of this proceeding meeting directly with local elected officials in their jurisdictions. In light of those discussions and our consideration of the record here, we reach a decision today that does not preempt nearly any of the provisions passed in recent state-level small cell bills. We have reached a balanced, commonsense approach, rather than adopting a one-size-fits-all regime. This ensures that state and local elected officials will continue to play a key role in reviewing and promoting the deployment of wireless infrastructure in their communities.

7. Although many states and localities support our efforts, we acknowledge that there are others who advocated for different approaches.[6] We have carefully considered these views, but nevertheless find our actions here necessary and fully supported. By building on state and local ideas, today's action boosts the United States' standing in the race to 5G. According to a study submitted by Corning, our action would eliminate around $2 billion in unnecessary costs, which would stimulate around $2.4 billion of additional buildouts.[7] And that study shows that such new service would be

[5] *See, e.g.*, Letter from Brian D. Hill, Ohio State Representative, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79 at 1-2 (filed Aug. 31, 2018) ("While the FCC and the Ohio Legislature have worked to reduce the timeline for 5G deployment, the same cannot be said for all local and state governments. Regulations written in a different era continue to dictate the regulatory process for 5G infrastructure"); Letter from Maureen Davey, Commissioner, Stillwater County, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79 at 1-2 (filed Sept. 18, 2018) ("[T]he Commission's actions to lower regulatory barriers can enable more capital spending to flow to areas like ours. Reducing fees and shortening review times in urban areas, thereby lowering the cost of deployment in such areas, can promote speedier deployment across all of America."); Letter from Board of County Commissioners, Yellowstone County, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79 at 1-2 (filed Sept. 21, 2018) ("Reducing these regulatory barriers by setting guidelines on fees, siting requirements and review timeframes, will promote investment including rural areas like ours."); Letter from Board of Commissioners, Harney County, Oregon, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79 at 1-2 (filed Sept. 5, 2018) ("By taking action to speed and reduce the costs of deployment across the country, and create a more uniform regulatory framework, the Commission will lower the cost of deployment, enabling more investment in both urban and rural communities."); Letter from Niraj J. Antani, Ohio State Representative, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79 at 1-2 (filed Sept. 4, 2018) ("[T]o truly expedite the small cell deployment process, broader government action is needed on more than just the state level."); Letter from Michael C. Taylor, Mayor, City of Sterling Heights, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79 at 1-2 (filed Aug. 30, 2018) ("[T]here are significant, tangible benefits to having a nation-wide rule that promotes the deployment of next-generation wireless access without concern that excessive regulation or small cell siting fees slows down the process.").

[6] *See, e.g.*, Letter from Linda Morse, Mayor, City of Manhattan, KS to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 1-2 (filed Sept. 13, 2018) (City of Manhattan, KS Sept. 13, 2018 *Ex Parte* Letter); Letter from Ronny Berdugo, Legislative Representative, League of California Cities to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 1-2 (filed Sept. 18, 2018) (Ronny Berdugo Sept. 18, 2018 *Ex Parte* Letter); Letter from Damon Connolly, Marin County Board of Supervisors to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 1-2 (filed Sept. 17, 2018) (Damon Connolly Sept. 17, 2018 *Ex Parte* Letter).

[7] *See* Letter from Thomas J. Navin, Counsel to Corning, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 1, Attach. A at 2-3 (filed Sept. 5, 2018) (Corning Sept. 5, 2018 *Ex Parte* Letter).

deployed where it is needed most: 97 percent of new deployments would be in rural and suburban communities that otherwise would be on the wrong side of the digital divide.[8]

8. The FCC will keep pressing ahead to ensure that every community in the country gets a fair shot at the opportunity that next-generation wireless services can enable. As detailed in the sections that follow, we do so by taking the following steps.

9. In the Declaratory Ruling, we note that a number of appellate courts have articulated different and often conflicting views regarding the scope and nature of the limits Congress imposed on state and local governments through Sections 253 and 332. We thus address and reconcile this split in authorities by taking three main actions.

10. First, we express our agreement with the U.S. Courts of Appeals for the First, Second, and Tenth Circuits that the "materially inhibit" standard articulated in 1997 by the Clinton-era FCC's *California Payphone* decision is the appropriate standard for determining whether a state or local law operates as a prohibition or effective prohibition within the meaning of Sections 253 and 332.

11. Second, we note, as numerous courts and prior FCC cases have recognized, that state and local fees and other charges associated with the deployment of wireless infrastructure can unlawfully prohibit the provision of service. At the same time, courts have articulated various approaches to determining the types of fees that run afoul of Congress's limits in Sections 253 and 332. We thus clarify the particular standard that governs the fees and charges that violate Sections 253 and 332 when it comes to the Small Wireless Facilities at issue in this decision.[9] Namely, fees are only permitted to the extent that they are nondiscriminatory and represent a reasonable approximation of the locality's reasonable costs. In this section, we also identify specific fee levels for the deployment of Small Wireless Facilities that presumptively comply with this standard. We do so to help avoid unnecessary litigation over fees.

12. Third, we focus on a subset of other, non-fee provisions of local law that could also operate as prohibitions on service. We do so in particular by addressing state and local consideration of aesthetic concerns in the deployment of Small Wireless Facilities, recognizing that certain reasonable

[8] *Id.*

[9] "Small Wireless Facilities," as used herein and consistent with section 1.1312(e)(2), encompasses facilities that meet the following conditions:

(1) The facilities—

(i) are mounted on structures 50 feet or less in height including their antennas as defined in section 1.1320(d), or

(ii) are mounted on structures no more than 10 percent taller than other adjacent structures, or

(iii) do not extend existing structures on which they are located to a height of more than 50 feet or by more than 10 percent, whichever is greater;

(2) Each antenna associated with the deployment, excluding associated antenna equipment (as defined in the definition of antenna in section 1.1320(d)), is no more than three cubic feet in volume;

(3) All other wireless equipment associated with the structure, including the wireless equipment associated with the antenna and any pre-existing associated equipment on the structure, is no more than 28 cubic feet in volume;

(4) The facilities do not require antenna structure registration under part 17 of this chapter;

(5) The facilities are not located on Tribal lands, as defined under 36 CFR 800.16(x); and

(6) The facilities do not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in section 1.1307(b).

aesthetic considerations do not run afoul of Sections 253 and 332. This responds in particular to many concerns we heard from state and local governments about deployments in historic districts.

13. Next, we issue a Report and Order that addresses the "shot clocks" governing the review of wireless infrastructure deployments. We take three main steps in this regard. First, we create a new set of shot clocks tailored to support the deployment of Small Wireless Facilities. In particular, we read Sections 253 and 332 as allowing 60 days for reviewing the application for attachment of a Small Wireless Facility using an existing structure and 90 days for the review of an application for attachment of a small wireless facility using a new structure. Second, while we do not adopt a "deemed granted" remedy for violations of our new shot clocks, we clarify that failing to issue a decision up or down during this time period is not simply a "failure to act" within the meaning of applicable law. Rather, missing the deadline also constitutes a presumptive prohibition. We would thus expect any locality that misses the deadline to issue any necessary permits or authorizations without further delay. We also anticipate that a provider would have a strong case for quickly obtaining an injunction from a court that compels the issuance of all permits in these types of cases. Third, we clarify a number of issues that are relevant to all of the FCC's shot clocks, including the types of authorizations subject to these time periods.

II. BACKGROUND

A. Legal Background

14. In the Telecommunications Act of 1996 (the 1996 Act), Congress enacted sweeping new provisions intended to facilitate the deployment of telecommunications infrastructure. As U.S. Courts of Appeals have stated, "[t]he [1996] Act 'represents a dramatic shift in the nature of telecommunications regulation.'"[10] The Senate floor manager, Senator Larry Pressler, stated that "[t]his is the most comprehensive deregulation of the telecommunications industry in history."[11] Indeed, the purpose of the 1996 Act is to "provide for a pro-competitive, deregulatory national policy framework . . . by opening all telecommunications markets to competition."[12] The conference report on the 1996 Act similarly indicates that Congress "intended to remove all barriers to entry in the provision of telecommunications services."[13] The 1996 Act thus makes clear Congress's commitment to a competitive telecommunications marketplace unhindered by unnecessary regulations, explicitly directing the FCC to "promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies."[14]

15. Several provisions of the 1996 Act speak directly to Congress's determination that certain state and local regulations are unlawful. Section 253(a) provides that "[n]o State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service."[15] Courts have observed that Section 253 represents a "broad preemption of laws that inhibit competition."[16]

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[10] *Sprint Telephony PCS LP v. County of San Diego*, 543 F.3d 571, 575 (9th Cir. 2008) (en banc) (*County of San Diego*) (quoting *Cablevision of Boston, Inc. v. Pub. Improvement Comm'n*, 184 F.3d 88, 97 (1st Cir. 1999)).

[11] 141 Cong. Rec. S8197 (daily ed. June 12, 1995).

[12] H.R. Conf. Rep. No. 104–458, at 113 (1996), reprinted in 1996 U.S.C.C.A.N. (100 Stat. 5) 124.

[13] S. Rep. No. 104-230, at 126 (1996) (Conf. Rep.).

[14] Preamble, Telecommunications Act of 1996, P.L. 104-104, 100 Stat. 56 (1996); *see also AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 371 (1999) (noting that the 1996 Act "fundamentally restructures local telephone markets" to facilitate market entry); *Reno v. American Civil Liberties Union*, 521 U.S. 844, 857-58 (1997) ("The Telecommunications Act was an unusually important legislative enactment . . . designed to promote competition.").

[15] 47 U.S.C. § 253(a).

[16] *Puerto Rico Tel. Co. v. Telecomm. Reg. Bd. of Puerto Rico*, 189 F.3d 1, 11 n.7 (1st Cir. 1999).

16. The Commission has issued several rulings interpreting and providing guidance regarding the language Congress used in Section 253. For instance, in the 1997 *California Payphone* decision, the Commission, under the leadership of then Chairman William Kennard, stated that, in determining whether a state or local law has the effect of prohibiting the provision of telecommunications services, it "consider[s] whether the ordinance materially inhibits or limits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment."[17]

17. Similar to Section 253, Congress specified in Section 332(c)(7) that "[t]he regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof—(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 services."[18] Clause (B)(ii) of that section further provides that "[a] State or local government or instrumentality thereof shall act on any request for authorization to place, construct, or modify personal wireless service facilities within a reasonable period of time after the request is duly filed with such government or instrumentality, taking into account the nature and scope of such request."[19] Section 332(c)(7) generally preserves state and local authority over the "placement, construction, and modification of personal wireless service facilities" but with the important limitations described above.[20] Section 332(c)(7) also sets forth a judicial remedy, stating that "[a]ny person adversely affected by any final action or failure to act by a State or local government" that is inconsistent with the requirements of Section 332(c)(7) "may, within 30 days after such action or failure to act, commence an action in any court of competent jurisdiction."[21] The provision further directs the court to "decide such action on an expedited basis."[22]

18. The Commission has previously interpreted the language Congress used and the limits it imposed on state and local authority in Section 332. For instance, in interpreting Section 332(c)(7)(B)(i)(II), the Commission has found that "a State or local government that denies an application for personal wireless service facilities siting solely because 'one or more carriers serve a given geographic market' has engaged in unlawful regulation that 'prohibits or ha[s] the effect of prohibiting the provision of personal wireless services,' within the meaning of Section 332(c)(7)(B)(i)(II)."[23] In adopting this interpretation, the Commission explained that its "construction of the provision achieves a balance that is most consistent with the relevant goals of the Communications Act" and its understanding that "[i]n promoting the construction of nationwide wireless networks by multiple carriers, Congress sought

[17] *California Payphone Ass'n*, 12 FCC Rcd 14191, 14206, para. 31 (1997) (*California Payphone*).

[18] 47 U.S.C. § 332(c)(7)(B)(i).

[19] 47 U.S.C § 332(c)(7)(B)(ii).

[20] 47 U.S.C. § 332(c)(7)(A) (stating that, "[e]xcept as provided in this paragraph, nothing in this chapter shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of personal wireless services facilities"). The statute defines "personal wireless services" to include CMRS, unlicensed wireless services, and common carrier wireless exchange access services. 47 U.S.C. § 332(c)(7)(C). In 2012, Congress expressly modified this preservation of local authority by enacting Section 6409(a), which requires local governments to approve certain types of facilities siting applications "[n]otwithstanding section 704 of the Telecommunications Act of 1996 [codified in substantial part as Section 332(c)(7)] . . . or any other provision of law." Spectrum Act, 47 U.S.C. § 6409(a)(1).

[21] 47 U.S.C. § 332(c)(7)(B)(v).

[22] 47 U.S.C. § 332(c)(7)(B)(v).

[23] *Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7) to Ensure Timely Siting Review*, Declaratory Ruling, 24 FCC Rcd 13994, 14016, para. 56 (2009) (*2009 Declaratory Ruling*), *aff'd*, *City of Arlington v. FCC*, 668 F.3d 229 (5th Cir. 2012) (*City of Arlington*), *aff'd*, 569 U.S. 290 (2013).

ultimately to improve service quality and lower prices for consumers."[24] The Commission also noted that an alternative interpretation would "diminish the service provided to [a wireless provider's] customers."[25]

19. In the *2009 Declaratory Ruling*, the Commission acted to speed the deployment of then-new 4G services and concluded that, "[g]iven the evidence of unreasonable delays [in siting decisions] and the public interest in avoiding such delays," it should offer guidance regarding the meaning of the statutory phrases "reasonable period of time" and "failure to act" "in order to clarify when an adversely affected service provider may take a dilatory State or local government to court."[26] The Commission interpreted "reasonable period of time" under Section 332(c)(7)(B)(ii) to be 90 days for processing collocation applications and 150 days for processing applications other than collocations.[27] The Commission further determined that failure to meet the applicable time frame enables an applicant to pursue judicial relief within the next 30 days.[28] In litigation involving the 90-day and 150-day time frames, the locality may attempt to "rebut the presumption that the established timeframes are reasonable."[29] If the agency fails to make such a showing, it may face "issuance of an injunction granting the application."[30] In its *2014 Wireless Infrastructure Order*,[31] the Commission clarified that the time frames under Section 332(c)(7) are presumptively reasonable and begin to run when the application is submitted, not when it is found to be complete by a siting authority.[32]

20. In 2012, Congress adopted Section 6409 of the Middle Class Tax Relief and Job Creation Act (the Spectrum Act), which provides further evidence of Congressional intent to limit state and local laws that operate as barriers to infrastructure deployment. It states that, "[n]otwithstanding section 704 of the Telecommunications Act of 1996 [codified as 47 U.S.C. § 332(c)(7)] or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station."[33] Subsection (a)(2) defines the term "eligible facilities

[24] *2009 Declaratory Ruling*, 24 RCC Rcd at 14017-18, para. 61.

[25] *Id.*

[26] *Id.* at 14008, para. 37; *see also id.* at 14029 (Statement of Chairman Julius Genachowski) ("[T]he rules we adopt today . . . will have an important effect in speeding up wireless carriers' ability to build new 4G networks--which will in turn expand and improve the range of wireless choices available to American consumers.").

[27] *Id.* at 14012, para. 45.

[28] *Id.* at 14005, 14012, paras. 32, 45.

[29] *Id.* at 14008-10, 14013-14, paras. 37-42, 49-50.

[30] *Id.* at 14009, para. 38; *see also City of Rancho Palos Verdes v. Abrams*, 544 U.S. 113, 115 (2005) (proper remedies for Section 332(c)(7) violations include injunctions but not constitutional tort damages).

[31] Specifically, the Commission determined that once a siting application is considered complete for purposes of triggering the Section 332(c)(7) shot clocks, those shot clocks run regardless of any moratoria imposed by state or local governments, and the shot clocks apply to DAS and small-cell deployments so long as they are or will be used to provide "personal wireless services." *Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies*, Report & Order, 29 FCC Rcd 12865, 12966, 12973, paras. 243, 270, (2014) (*2014 Wireless Infrastructure Order*), *aff'd*, *Montgomery County v. FCC*, 811 F.3d 121 (4th Cir. 2015) (*Montgomery County*); *see also Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, Notice of Proposed Rulemaking and Notice of Inquiry, 32 FCC Rcd 3330, 3339, para. 22 (2017) (*Wireless Infrastructure NPRM/NOI*); *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, Third Report and Order and Declaratory Ruling, WC Docket No. 17-84 and WT Docket No. 17-79, FCC 18-111, paras. 140-68 (rel. Aug. 3, 2018) (*Moratoria Declaratory Ruling*).

[32] *2014 Wireless Infrastructure Order*, 29 FCC Rcd at 12970, para. 258. ("Accordingly, to the extent municipalities have interpreted the clock to begin running only after a determination of completeness, that interpretation is incorrect.").

[33] Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96 § 6409(a)(2), 126 Stat. 156 (2012).

request" as any request for modification of an existing wireless tower or base station that involves (a) collocation of new transmission equipment; (b) removal of transmission equipment; or (c) replacement of transmission equipment.[34] In implementing Section 6409 and in an effort to "advance[e] Congress's goal of facilitating rapid deployment,"[35] the Commission adopted rules to expedite the processing of eligible facilities requests, including documentation requirements and a 60-day period for states and localities to review such requests.[36] The Commission further determined that a "deemed granted" remedy was necessary for cases in which the reviewing authority fails to issue a decision within the 60-day period in order to "ensur[e] rapid deployment of commercial and public safety wireless broadband services."[37] The Fourth Circuit, affirming that remedy, explained that "[f]unctionally, what has occurred here is that the FCC—pursuant to properly delegated Congressional authority—has preempted state regulation of wireless towers."[38]

21. Consistent with these broad federal mandates, courts have recognized that the Commission has authority to interpret Sections 253 and 332 of the Act to further elucidate what types of state and local legal requirements run afoul of the statutory parameters Congress established.[39] For instance, the Fifth Circuit affirmed the *2009 Declaratory Ruling* in *City of Arlington*. The court concluded that the Commission possessed the "authority to establish the 90– and 150–day time frames" and that its decision was not arbitrary and capricious.[40] More generally, as the agency charged with administering the Communications Act, the Commission has the authority, responsibility, and expert judgement to issue interpretations of the statutory language and to adopt implementing regulations that clarify and specify the scope and effect of the Act. Such interpretations are particularly appropriate where the statutory language is ambiguous, or the subject matter is "technical, complex, and dynamic," as it is in the Communications Act, as recognized by the Supreme Court.[41] Here, the Commission has ample experience monitoring and regulating the telecommunications sector. It is well-positioned, in light of this experience and the record in this proceeding, to issue a clarifying interpretation of Sections 253 and 332(c)(7) that accounts both for the changing needs of a dynamic wireless sector that is increasingly reliant on Small Wireless Facilities and for state and local oversight that does not materially inhibit wireless deployment.

22. The congressional and FCC decisions described above point to consistent federal action, particularly when faced with changes in technology, to ensure that our country's approach to wireless infrastructure deployment promotes buildout of the facilities needed to provide Americans with next-generation services. Consistent with that long-standing approach, in the 2017 *Wireless Infrastructure NPRM/NOI*, the Commission sought comment on whether the FCC should again update its approach to infrastructure deployment to ensure that regulations are not operating as prohibitions in violation of

[34] *Id*.

[35] *2014 Wireless Infrastructure Order*, 29 FCC Rcd at 12872, para. 15.

[36] *Id*. at 12922, 12956-57, paras. 135, 214-15.

[37] *Id*. at 12961-62, paras. 226, 228.

[38] *Montgomery County*, 811 F.3d at 129.

[39] *See, e.g.*, *City of Arlington*, 668 F.3d at 253-54; *County of San Diego*, 543 F.3d at 578; *RT Commc'ns., Inc. v. FCC*, 201 F.3d 1264, 1268 (10th Cir. 2000).

[40] *City of Arlington*, 668 F.3d at 254, 260-61.

[41] *Nat'l Cable & Telecomm. Ass'n v. Gulf Power Co.*, 534 U.S. 327, 328 (2002); *FDA v. Brown & Williamson Tobacco Corp*., 529 U.S. 120 (2000) (recognizing "agency's greater familiarity with the ever-changing facts and circumstances surrounding the subjects regulated"); s*ee also, e.g.*, *Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 983-986 (2005) (Commission's interpretation of an ambiguous statutory provision overrides earlier court decisions interpreting the same provision).

Congress's decisions and federal policy.[42] In August 2018, the Commission concluded that state and local moratoria on telecommunications services and facilities deployment are barred by Section 253(a).[43]

B. The Need for Commission Action

23. In response to the opportunities presented by offering new wireless services, and the problems facing providers that seek to deploy networks to do so, we find it necessary and appropriate to exercise our authority to interpret the Act and clarify the preemptive scope that Congress intended. The introduction of advanced wireless services has already revolutionized the way Americans communicate and transformed the U.S. economy. Indeed, the FCC's most recent wireless competition report indicates that American demand for wireless services continues to grow exponentially. It has been reported that monthly data usage per smartphone subscriber rose to an average of 3.9 gigabytes per subscriber per month, an increase of approximately 39 percent from year-end 2015 to year-end 2016.[44] As more Americans use more wireless services, demand for new technologies, coverage and capacity will necessarily increase, making it critical that the deployment of wireless infrastructure, particularly Small Wireless Facilities, not be stymied by unreasonable state and local requirements.

24. 5G wireless services, in particular, will transform the U.S. economy through increased use of high-bandwidth and low-latency applications and through the growth of the Internet of Things.[45] While the existing wireless infrastructure in the U.S. was erected primarily using macro cells with relatively large antennas and towers, wireless networks increasingly have required the deployment of small cell systems to support increased usage and capacity. We expect this trend to increase with next-generation networks, as demand continues to grow, and providers deploy 5G service across the nation.[46] It is precisely "[b]ecause providers will need to deploy large numbers of wireless cell sites to meet the country's wireless broadband needs and implement next-generation technologies" that the Commission has acknowledged "an urgent need to remove any unnecessary barriers to such deployment, whether caused by Federal law, Commission processes, local and State reviews, or otherwise."[47] As explained below, the need to site so many more 5G-capable nodes leaves providers' deployment plans and the underlying economics of those plans vulnerable to increased per site delays and costs.

25. Some states and local governments have acted to facilitate the deployment of 5G and other next-gen infrastructure, looking to bring greater connectivity to their communities through forward-looking policies. Leaders in these states are working hard to meet the needs of their communities and balance often competing interests. At the same time, outlier conduct persists. The record here suggests

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[42] *See generally Wireless Infrastructure NPRM/NOI*, 32 FCC Rcd at 3332-39, paras. 4-22.

[43] *See generally Moratoria Declaratory Ruling*, FCC 18-111, paras. 140-68.

[44] *See Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services*, Twentieth Report, 32 FCC Rcd 8968, 8972, para. 20 (2017) (*Twentieth Wireless Competition Report*).

[45] *See Wireless Infrastructure NPRM/NOI*, 32 FCC Rcd at 3331, para. 1.

[46] *See, e.g.*, Letter from Brett Haan, Principal, Deloitte Consulting, U.S., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 2 (filed Sept. 17, 2018) ("Significant investment in new network infrastructure is needed to deploy 5G networks at-scale in the United States. 5G's speed and coverage capabilities rely on network densification, which requires the addition of towers and small cells to the network. . . . This requires carriers to add 3 to 10 times the number of existing sites to their networks. Most of this additional infrastructure will likely be built with small cells that use lampposts, utility phones, or other structures of similar size able to host smaller, less obtrusive radios required to build a densified network." (citation omitted)); *see also* Deloitte LLP, 5G: The Chance to Lead for a Decade (2018) (Deloitte 5G Paper), *available at* https://www2.deloitte.com/content/dam/Deloitte/us/Documents/technology-media-telecommunications/us-tmt-5gdeployment-imperative.pdf.

[47] *See Wireless Infrastructure NPRM/NOI*, 32 FCC Rcd at 3331, para. 2.

that the legal requirements in place in other state and local jurisdictions are materially impeding that deployment in various ways.[48] Crown Castle, for example, describes "excessive and unreasonable" "fees to access the [rights-of-way] that are completely unrelated to their maintenance or management." It also points to barriers to market entry "for independent network and telecommunications service providers," including municipalities that "restric[t] access to the [right-of-way] only to providers of commercial mobile services" or that impose "onerous zoning requirements on small cell installations when other similar [right of way] utility installations are erected with simple building permits."[49] Crown Castle is not alone in describing local regulations that slow deployment. AT&T states that localities in Maryland, California, and Massachusetts have imposed fees so high that it has had to pause or decrease deployments.[50] Likewise, AT&T states that a Texas city has refused to allow small cell placement on any structures in a right-of-way (ROW).[51] T-Mobile states that the Town of Hempstead, New York requires service providers who seek to collocate or upgrade equipment on existing towers that have been properly constructed pursuant to Class II standards to upgrade and certify these facilities under Class III standards that apply to civil and national defense and military facilities.[52] Verizon states that a Minnesota town has proposed barring construction of new poles in rights-of-way and that a Midwestern suburb where it has been trying to get approval for small cells since 2014 has no established procedures for small cell approvals.[53] Verizon states that localities in New York and Washington have required special use permits involving multiple layers of approval to locate small cells in some or all zoning districts.[54] While some localities dispute some of these characterizations, their submissions do not persuade us that there is no basis or need for the actions we take here.

26. Further, the record in this proceeding demonstrates that many local siting authorities are not complying with our existing Section 332 shot clock rules.[55] WIA states that its members routinely

[48] *See, e.g.*, Letter from Henry Hultquist, AT&T, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 1 (filed Aug. 10, 2018) ("Unfortunately, many municipalities are unable, unwilling, or do not make it a priority to act on applications within the shot clock period."); Letter from Keith Buell, Sprint, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 1-2 (filed Aug. 13, 2018) (Sprint Aug. 13, 2018 *Ex Parte* Letter); Letter from Katherine R. Saunders, Verizon, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 2 (filed June 21, 2018) ("[L]ocal permitting delays continue to stymie deployments."); Letter from Kenneth J. Simon, Crown Castle, to Marlene H. Dortch, FCC, WT Docket No. 17-79 (filed Aug. 10, 2018); Letter from Scott K. Bergmann, Senior Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 1 (filed Aug. 30, 2018) (CTIA Aug. 30, 2018 *Ex Parte* Letter).

[49] Crown Castle Comments at 7; *see also* Letter from Kenneth J. Simon, Senior Vice President and General Counsel, Crown Castle International Corp., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 1-2 (filed Sept. 19, 2018) ("In Hillsborough, California, Crown Castle submitted applications covering 16 nodes, and was assessed $60,000 in application fees. Not only did Hillsborough go on to deny these applications, following that denial it also then sent Crown Castle an invoice for an additional $351,773 (attached as Exhibit A), most of which appears to be related to outside counsel fees—all for equipment that was not approved and has not yet been constructed.").

[50] Letter from Henry Hultquist, Vice President, Federal Regulatory, AT&T, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 2 (filed Aug. 6, 2018) (AT&T Aug. 6, 2018 *Ex Parte* Letter).

[51] AT&T Comments at 6-7.

[52] T-Mobile Reply Comments at 7-9; *see also* CCA Reply Comments at 12; CTIA Reply Comments at 18; WIA Reply Comments at 22-23.

[53] *See* Verizon Comments at 7.

[54] *See* Verizon Comments at 35.

[55] *See, e.g.*, T-Mobile Comments at 8 (stating that "roughly 30% of all of its recently proposed sites (including small cells) involve cases where the locality failed to act in violation of the shot clocks."). According to WIA, one of its members "reports that 70% of its applications to deploy Small Wireless Facilities in the public ROWs during a two-year period exceeded the 90-day shot clock for installation of Small Wireless Facilities on an existing utility pole, and 47% exceeded the 150-day shot clock for the construction of new towers." WIA Comments at 7. A New Jersey (continued….)

face lengthy delays and specifically cite localities in New Jersey, New Hampshire, and Maine as being problematic.[56] Similarly, AT&T identified an instance in which it took a locality in California 800 days to process an application.[57] GCI provides an example in which it took an Alaska locality nine months to decide an application.[58] T-Mobile states that a community in Colorado and one in California have lengthy pre-application processes for all small cell installations that include notification to all nearby households, a public meeting, and the preparation of a report, none of which these jurisdictions view as triggering a shot clock.[59] Similarly, Lightower provides examples of long delays in processing siting applications.[60] Finally, Crown Castle describes a case in which a "town took approximately two years and nearly twenty meetings, with constantly shifting demands, before it would even 'deem complete' Crown Castle's application."[61]

27. Our Declaratory Ruling and Third Report and Order are intended to address these issues and outlier conduct. Our conclusions are also informed by findings, reports, and recommendations from the FCC Broadband Deployment Advisory Committee (BDAC), including the Model Code for Municipalities, the Removal of State and Local Regulatory Barriers Working Group report, and the Rates and Fees Ad Hoc Working Group report, which the Commission created in 2017 to identify barriers to deployment of broadband infrastructure, many of which are addressed here.[62] We also considered input

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locality took almost five years to deny a Sprint application. *See Sprint Spectrum L.P. v. Zoning Bd. of Adjustment of the Borough of Paramus, N.J.*, 21 F. Supp. 3d 381, 383, 387 (D.N.J. 2014), *aff'd*, 606 Fed. Appx. 669 (3d Cir. 2015). Another locality took almost three years to deny a Crown Castle application to install a DAS system. *See Crown Castle NG East, Inc. v. Town of Greenburgh*, 2013 WL 3357169, *6-8 (S.D.N.Y. 2013), *aff'd*, 552 Fed. Appx. 47 (2d Cir. 2014).

[56] WIA Comments at 8. WIA states that one of its "member reports that the wireless siting approval process exceeds 90 days in more than 33% of jurisdictions it surveyed and exceeds 150 days in 25% of surveyed jurisdictions." WIA Comments at 8. In some cases, WIA members have experienced delays ranging from one to three years in multiple jurisdictions—significantly longer than the 90- and 150-day time frames that the Commission established in 2009.

[57] *See* WIA Comments at 9 (citing and discussing AT&T's Comments in the 2016 Streamlining Public Notice, WT Docket No. 16-421).

[58] GCI Comments at 5-6.

[59] T-Mobile Comments at 21.

[60] Lightower submits that average processing timeframes have increased from 300 days in 2016 to approximately 570 days in 2017, much longer than the Commission's shot clocks. Lightower states that "forty-six separate jurisdictions in the last two years had taken longer than 150 days to consider applications, with twelve of those jurisdictions—representing 101 small wireless facilities—taking more than a year." Lightower Comments at 5-6. *See also* WIA Comments at 9 (citing and discussing Lightower's Comments in the 2016 Streamlining Public Notice, WT Docket No. 16-421).

[61] WIA Comments at 8 (citing and discussing Crown Castle's Comments in 2016 Streamlining Public Notice, WT Docket No. 16-421).

[62] BDAC Report of the Removal of State and Local Regulatory Barriers Working Group, https://www.fcc.gov/sites/default/files/bdac-regulatorybarriers-01232018.pdf (approved by the BDAC on January 23, 2018) (BDAC Regulatory Barriers Report); Draft Final Report of the Ad Hoc Committee on Rates and Fees to the BDAC, https://www.fcc.gov/sites/default/files/bdac-07-2627-2018-rates-fees-wg-report-07242018.pdf (July 26, 2018) (Draft BDAC Rates and Fees Report); BDAC Model Municipal Code (Harmonized), https://www.fcc.gov/sites/default/files/bdac-07-2627-2018-harmonization-wg-model-code-muni.pdf (approved July 26, 2018) (BDAC Model Municipal Code). The Draft Final Report of the Ad Hoc Committee on Rates and Fees to the BDAC was presented to the BDAC on July 26, 2018 but has not been voted by the BDAC as of the adoption of this Declaratory Ruling. Certain members of the Removal of State and Local Barriers Working Group also submitted a minority report disagreeing with certain findings in the BDAC Regulatory Barriers Report. *See* Minority Report Submitted by McAllen, TX, San Jose, CA, and New York, NY, GN Docket No. 17-83 (Jan 23, (continued….)

from numerous state and local officials about their concerns, and how they have approached wireless deployment, much of which we took into account here. Our action is also consistent with congressional efforts to hasten deployment, including bi-partisan legislation pending in Congress like the STREAMLINE Small Cell Deployment Act and SPEED Act. The STREAMLINE Small Cell Deployment Act proposes to streamline wireless infrastructure deployments by requiring siting agencies to act on deployment requests within specified time frames and by limiting the imposition of onerous conditions and fees.[63] The SPEED Act would similarly streamline federal permitting processes.[64] In the same vein, the Model Code for Municipalities adopts streamlined infrastructure siting requirements while other BDAC reports and recommendations emphasize the negative impact of high fees on infrastructure deployments.[65]

28. As do members of both parties of Congress and experts on the BDAC, we recognize the urgent need to streamline regulatory requirements to accelerate the deployment of wireless infrastructure for current needs and for the next generation of wireless service in 5G.[66] State government officials also have urged us to act to expedite the deployment of 5G technology, in particular, by streamlining overly burdensome regulatory processes to ensure that 5G technology will expand beyond just urban centers. These officials have expressed their belief that reducing high regulatory costs and delays in urban areas would leave more money and encourage development in rural areas.[67] "[G]etting [5G] infrastructure out in a timely manner can be a challenge that involves considerable time and financial resources. The solution is to streamline relevant policies—allowing more modern rules for modern infrastructure."[68]

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2018); Letter from Kevin Pagan, City Attorney of McAllen to Marlene Dortch, Secretary, FCC (filed September 14, 2018).

[63] *See, e.g.*, STREAMLINE Small Cell Deployment Act, S.3157, 115th Congress (2017-2018).

[64] *See, e.g.*, Streamlining Permitting to Enable Efficient Deployment of Broadband Infrastructure Act of 2017 (SPEED Act), S. 1988, 115th Cong. (2017).

[65] *See* BDAC Model Municipal Code; Draft BDAC Rates and Fees Report; BDAC Regulatory Barriers Report.

[66] *See, e.g.*, Letter from Patricia Paoletta, Counsel to Deloitte Consulting LLP, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 1 (filed Sept. 20, 2018) ("Deloitte noted that, as with many technology standard evolutions, the value of being a first-mover in 5G will be significant. Being first to LTE afforded the United States macroeconomic benefits, as it became a test bed for innovative mobile, social, and streaming applications. Being first to 5G can have even greater and more sustained benefits to our national economy given the network effects associated with adding billions of devices to the 5G network, enabling machine-to-machine interactions that generates data for further utilization by vertical industries").

[67] Letter from Montana State Senator Duane Ankney to Marlene H. Dortch, Secretary, FCC, WT Docket 17-79, at 1 (filed July 31, 2018) (Duane Ankney July 31, 2018 *Ex Parte* Letter); Letter from Fred A. Lamphere, Butte County Sheriff, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79 at 1 (filed Sept. 11, 2018) (Fred A. Lamphere Sept. 11, 2018 *Ex Parte* Letter); Letter from Todd Nash, Susan Roberts, Paul Catstilleja, Wallowa County Board of Commissioners, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 2 (filed Aug. 20, 2018); Letter from Lonnie Gilbert, First Responder, National Black Growers Council Member, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79 at 1 (filed Sept. 12, 2018); Letter from Jason R. Saine, North Caroline House of Representatives, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79, at 1(filed Sept. 14, 2018) (Jason R. Saine Sept. 14, 2018 *Ex Parte* Letter) (minimal regulatory standard across the United States is critical to ensure that the United States wins the race to the 5G economy).

[68] Letter from LaWana Mayfield, City Council Member, Charlotte, NC, to Marlene H. Dortch, Secretary, FCC, WT Docket 17-79, at 1 (filed July 31, 2018) (LaWana Mayfield July 31, 2018 *Ex Parte* Letter); *see also* Letter from South Carolina State Representative Terry Alexander to Marlene H. Dortch, Secretary, FCC, WT Docket 17-79, at 1 (filed August 7, 2018) ("[P]olicymakers at all levels of government must streamline complex siting stipulations that will otherwise slow down 5G buildout for small cells in particular."); Letter from Sal Pace, Pueblo County Commissioner, District 3, CO, to Marlene H. Dortch, Secretary, FCC, WT Docket 17-79, at 1 (filed July 30, 2018) (Sal Pace July 30, 2018 *Ex Parte* Letter) ("[T]he FCC should ensure that localities are fully compensated for their costs . . . Such fees should be reasonable and non-discriminatory, and should ensure that localities are made whole.
(continued….)

State officials have acknowledged that current regulations are "outdated" and "could hinder the timely arrival of 5G throughout the country," and urged the FCC "to push for more reforms that will streamline infrastructure rules from coast to coast."[69] Although many states and localities support our efforts, we acknowledge that there are others who advocated for different approaches, arguing, among other points, that the FCC lacks authority to take certain actions.[70] We have carefully considered these views, but nevertheless find our actions here necessary and fully supported.

29. Accordingly, in this Declaratory Ruling and Third Report and Order, we act to reduce regulatory barriers to the deployment of wireless infrastructure and to ensure that our nation remains the leader in advanced wireless services and wireless technology.

III. DECLARATORY RULING

30. In this Declaratory Ruling, we note that a number of appellate courts have articulated different and often conflicting views regarding the scope and nature of the limits Congress imposed on state and local governments through Sections 253 and 332. In light of these diverging views, Congress's vision for a consistent, national policy framework, and the need to ensure that our approach continues to make sense in light of the relatively new trend towards the large-scale deployment of Small Wireless Facilities, we take this opportunity to clarify and update the FCC's reading of the limits Congress imposed. We do so in three main respects.

31. First, in Part III.A, we express our agreement with the views already stated by the First, Second, and Tenth Circuits that the "materially inhibit" standard articulated in 1997 by the Clinton-era FCC's *California Payphone* decision is the appropriate standard for determining whether a state or local law operates as a prohibition or effective prohibition within the meaning of Sections 253 and 332.

32. Second, in Part III.B, we note, as numerous courts have recognized, that state and local fees and other charges associated with the deployment of wireless infrastructure can effectively prohibit the provision of service. At the same time, courts have articulated various approaches to determining the types of fees that run afoul of Congress's limits in Sections 253 and 332. We thus clarify the particular standard that governs the fees and charges that violate Sections 253 and 332 when it comes to the Small Wireless Facilities at issue in this decision. Namely, fees are only permitted to the extent that they represent a reasonable approximation of the local government's objectively reasonable costs, and are non-discriminatory.[71] In this section, we also identify specific fee levels for the deployment of Small Wireless

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Lastly, the FCC should set reasonable and enforceable deadlines for localities to act on wireless permit applications. . . . The distinction between siting large macro-towers and small cells should be reflected in any rulemaking.")

[69] Letter from Dr. Carolyn A. Prince, Chairwoman, Marlboro County Council, SC, to Marlene H. Dortch, Secretary, FCC, WT Docket 17-79, at 1 (filed July 31, 2018) (Dr. Carolyn Prince July 31, 2018 *Ex Parte* Letter)

[70] *See, e.g.*, City of Manhattan, KS Sept. 13, 2018 *Ex Parte* Letter at 1-2; Ronny Berdugo Sept. 18, 2018 *Ex Parte* Letter at 1-2; Damon Connolly Sept. 17, 2018 *Ex Parte* Letter at 1-2.

[71] Fees charged by states or localities in connection with Small Wireless Facilities would be "compensation" for purposes of Section 253(c). This Declaratory Ruling interprets Section 253 and 332(c)(7) in the context of three categories of fees, one of which applies to all deployments of Small Wireless Facilities while the other two are specific to Small Wireless Facilities deployments inside the ROW. (1) "Event" or "one-time" fees are charges that providers pay on a non-recurring basis in connection with a one-time event, or series of events occurring within a finite period. The one-time fees addressed in this Declaratory Ruling are not specific to the ROW. For example, a provider may be required to pay fees during the application process to cover the costs related to processing an application building or construction permits, street closures, or a permitting fee, whether or not the deployment is in the ROW. (2) Recurring charges for a Small Wireless Facility's use of or attachment to property inside the ROW owned or controlled by a state or local government, such as a light pole or traffic light, is the second category of fees addressed here, and is typically paid on a per structure/per year basis. (3) Finally, ROW access fees are recurring charges that are assessed, in some instances, to compensate a state or locality for a Small Wireless Facility's access to the ROW, which includes the area on, below, or above a public roadway, highway, street, sidewalk, alley, utility
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Facilities that presumptively comply with this standard. We do so to help avoid unnecessary litigation, while recognizing that it is the standard itself, not the particular, presumptive fee levels we articulate, that ultimately will govern whether a particular fee is allowed under Sections 253 and 332. So fees above those levels would be permissible under Sections 253 and 332 to the extent a locality's actual, reasonable costs (as measured by the standard above) are higher.

33. Finally, in Part III.C, we focus on a subset of other, non-fee provisions of state and local law that could also operate as prohibitions on service. We do so in particular by addressing state and local consideration of aesthetic concerns in the deployment of Small Wireless Facilities. We note that the Small Wireless Facilities that are the subject of this Declaratory Ruling remain subject to the Commission's rules governing Radio Frequency (RF) emissions exposure.[72]

A. Overview of the Section 253 and Section 332(c)(7) Framework Relevant to Small Wireless Facilities Deployment

34. In Sections 253(a) and 332(c)(7)(B) of the Act, Congress determined that state or local requirements that prohibit or have the effect of prohibiting the provision of service are unlawful and thus preempted.[73] Section 253(a) addresses "any interstate or intrastate telecommunications service," while Section 332(c)(7)(B)(i)(II) addresses "personal wireless services."[74] Although the provisions contain

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easement, or similar property (including when such property is government-owned). A ROW access fee may be charged even if the Small Wireless Facility is not using government owned property within the ROW. AT&T Comments at 18 (describing three categories of fees); Letter from Tamara Preiss, Vice President, Federal Regulatory and Legal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, Attach. at 11 (filed Aug. 10, 2018) (Verizon Aug. 10, 2018 *Ex Parte* Letter) (characterizing fees as recurring or non-recurring); *see also* Draft BDAC Rates and Fees Report at p. 15-16. Unless otherwise specified, a reference to "fee" or "fees" herein refers to any one of, or any combination of, these three categories of charges.

[72] *See* 47 CFR §§ 1.1307, 1.1310. We disagree with commenters who oppose the Declaratory Ruling on the basis of concerns regarding RF emissions. *See, e.g.*, Comments from Judy Aizuss, Comments from Jeffrey Arndt, Comments from Jeanice Barcelo, Comments from Kristin Beatty, Comments from James M. Benster, Comments from Terrie Burns, Comments from EMF Safety Network, Comments from Kate Reese Hurd, Comments from Marilynne Martin, Comments from Lisa Mayock, Comments from Kristen Moriarty Termunde, Comments from Sage Associates, Comments from Elizabeth Shapiro, Comments from Paul Silver, Comments from Natalie Ventrice. The Commission has authority to adopt and enforce RF exposure limits, and nothing in this Declaratory Ruling changes the applicability of the Commission's existing RF emissions exposure rules. *See, e.g.*, Section 704(b) of the Telecommunications Act of 1996, Pub. L. No. 104-104 (directing Commission to "prescribe and make effective rules regarding the environmental effects of radio frequency emissions" upon completing action in then-pending rulemaking proceeding that included proposals for, *inter alia*, maximum exposure limits); 47 U.S.C. § 332(c)(7)(B)(iv) (recognizing legitimacy of FCC's existing regulations on environmental effects of RF emissions of personal wireless service facilities, by proscribing state and local regulation of such facilities on the basis of such effects, to the extent such facilities comply with Commission regulations concerning such RF emissions); 47 U.S.C. § 151 (creating the FCC "[f]or the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States, . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service, . . . for the purpose of [*inter alia*] promoting safety of life and property through the use of wire and radio communications"). *See also* H.R. Rep. No. 204(I), 104th Cong., 1st Sess. 94 (1995), *reprinted in* 1996 U.S.C.C.A.N. 10, 61 (1996) (in legislative history of Section 704 of 1996 Telecommunications Act, identifying "adequate safeguards of the public health and safety" as part of a framework of uniform, nationwide RF regulations); ; *Reassessment of FCC Radiofrequency Exposure Limits and Policies*, First Report and Order, Further Notice of Proposed Rulemaking and Notice of Inquiry, 28 FCC Rcd 3498, 3530-31, para. 103, n.176 (2013).

[73] 47 U.S.C. §§ 253(a), 332(c)(7)(B)(i)(II).

[74] *Id.* The actions in this proceeding update the FCC's approach to Sections 253 and 332 by addressing effective prohibitions that apply to the deployment of services covered by those provisions. Our interpretations in this
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identical "effect of prohibiting" language, the Commission and different courts over the years have each employed inconsistent approaches to deciding what it means for a state or local legal requirement to have the "effect of prohibiting" services under these two sections of the Act. This has caused confusion among both providers and local governments about what legal requirements are permitted under Sections 253 and 332(c)(7). For example, despite Commission decisions to the contrary construing such language under Section 253, some courts have held that a denial of a wireless siting application will "prohibit or have the effect of prohibiting" the provision of a personal wireless service under Section 332(c)(7)(B)(i)(II) only if the provider can establish that it has a significant gap in service coverage in the area and a lack of feasible alternative locations for siting facilities.[75] Other courts have held that evidence of an already-occurring or complete inability to offer a telecommunications service is required to demonstrate an effective prohibition under Section 253(a).[76] Conversely, still other courts like the First, Second, and Tenth Circuits have endorsed prior Commission interpretations of what constitutes an effective prohibition under Section 253(a) and recognized that, under that analytical framework, a legal requirement can constitute an effective prohibition of services even if it is not an insurmountable barrier.[77]

35. In this Declaratory Ruling, we first reaffirm, as our definitive interpretation of the effective prohibition standard, the test we set forth in *California Payphone*, namely, that a state or local legal requirement constitutes an effective prohibition if it "materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment."[78]

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proceeding do not provide any basis for increasing the regulation of services deployed consistent with Section 621 of the Cable Communications Policy Act of 1984.

[75] Courts vary widely regarding the type of showing needed to satisfy the second part of that standard. The First, Fourth, and Seventh Circuits have imposed a "heavy burden" of proof on applicants to establish a lack of alternative feasible sites, requiring them to show "not just that *this* application has been rejected but that further reasonable efforts to find another solution are so likely to be fruitless that it is a waste of time even to try." *Green Mountain Realty Corp. v. Leonard*, 750 F.3d 30, 40 (1st Cir. 2014); *accord New Cingular Wireless PCS, LLC v. Fairfax County*, 674 F.3d 270, 277 (4th Cir. 2012); *T-Mobile Northeast LLC v. Fairfax County*, 672 F.3d 259, 266-68 (4th Cir. 2012) (*en banc*); *Helcher v. Dearborn County*, 595 F.3d 710, 723 (7th Cir. 2010) (*Helcher*). The Second, Third, and Ninth Circuits have held that an applicant must show only that its proposed facilities are the "least intrusive means" for filling a coverage gap in light of the aesthetic or other values that the local authority seeks to serve. *Sprint Spectrum, LP v. Willoth*, 176 F.3d 630, 643 (2d Cir. 1999) (*Willoth*); *APT Pittsburgh Ltd. P'ship v. Penn Township*, 196 F.3d 469, 480 (3d Cir. 1999) (*APT*); *American Tower Corp. v. City of San Diego*, 763 F.3d 1035, 1056-57 (9th Cir. 2014); *T-Mobile USA, Inc. v. City of Anacortes*, 572 F.3d 987, 995-99 (9th Cir. 2009) (*City of Anacortes*).

[76] *See, e.g., County of San Diego*, 543 F.3d at 579-80; *Level 3 Commc'ns, LLC v. City of St. Louis*, 477 F.3d 528, 533-34 (8th Cir. 2007) (*City of St. Louis*).

[77] *See Puerto Rico Tel. Co. v. Municipality of Guayanilla*, 450 F.3d 9, 18 (1st Cir. 2006) (*Municipality of Guayanilla*); *TCG New York, Inc. v. City of White Plains*, 305 F.3d 67, 76 (2d Cir. 2002) (*City of White Plains*); *RT Communications v. FCC*, 201 F.3d 1264, 1268 (10th Cir. 2000) ("[Section] 253(a) forbids any statute which prohibits or has 'the effect of prohibiting' entry. Nowhere does the statute require that a bar to entry be insurmountable before the FCC must preempt it.") (*RT Communications*) (*affirming Silver Star Tel. Co. Petition for Preemption and Declaratory Ruling*, 12 FCC Rcd 15639 (1997)).

[78] *California Payphone*, 12 FCC Rcd at 14206, para. 31. A number of circuit courts have cited *California Payphone* as the leading authority regarding the standard to be applied under Section 253(a). *See, e.g., County of San Diego*, 543 F.3d at 578; *City of St. Louis*, 477 F.3d at 533; *Municipality of Guayanilla*, 450 F.3d at 18; *Qwest Corp. v. City of Santa Fe*, 380 F.3d 1258, 1270 (10th Cir. 2004) (*City of Santa Fe*); *City of White Plains*, 305 F.3d at 76. Crown Castle argues that the Eighth and Ninth Circuit cited the FCC's *California Payphone* decision,but read the standard in an overly narrow fashion. *See, e.g.*, Letter from Kenneth J. Simon, Senior Vice Pres. and Gen. Counsel, Crown Castle, *et al.*, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 12 (filed June 7, 2018) (Crown Castle June 7, 2018 *Ex Parte* Letter); *see also* Smart Communities Comments at 60-61 (describing circuit split). Some commenters cite selected dictionary definitions or otherwise argue for a narrow definition of "prohibit." *See, e.g.*, Smart Communities Reply at 53. But because they do not go on to dispute the validity of the *California Payphone*
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We then explain how this "material inhibition" standard applies in the context of state and local fees and aesthetic requirements. In doing so, we confirm the First, Second, and Tenth Circuits' understanding that under this analytical framework, a legal requirement can "materially inhibit" the provision of services even if it is not an insurmountable barrier.[79] We also resolve the conflicting court interpretations of the 'effective prohibition' language so that continuing confusion on the meaning of Sections 253 and 332(c)(7) does not materially inhibit the critical deployments of Small Wireless Facilities and our nation's drive to deploy 5G.[80]

36. As an initial matter, we note that our Declaratory Ruling applies with equal measure to the effective prohibition standard that appears in both Sections 253(a) and 332(c)(7).[81] This ruling is consistent with the basic canon of statutory interpretation that identical words appearing in neighboring provisions of the same statute generally should be interpreted to have the same meaning.[82] Moreover,

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standard that has been employed not only by the Commission but also many courts, those arguments do not persuade us to depart from the *California Payphone* standard here.

[79] *See, e.g., City of White Plains*, 305 F.3d at 76; *Municipality of Guayanilla*, 450 F.3d at 18; *see also, e.g.*, Crown Castle June 7, 2018 *Ex Parte* Letter at 12. Because the clarifications in this order should reduce uncertainty regarding the application of these provisions for state and local governments as well as stakeholders, we are not persuaded by some commenters' arguments that an expedited complaint process is required. *See, e.g.*, AT&T Comments at 28; CTIA Reply at 21. We do not address, at this time, recently-filed petitions for reconsideration of our August 2018 *Moratoria Declaratory Ruling*. *See, e.g.*, Smart Communities Petition for Reconsideration, WC Docket No. 17-84 & WT Docket No. 17-79 (filed Sept. 4, 2018); New York City Petition for Reconsideration, WC Docket No. 17-84 & WT Docket No. 17-79 (filed Sept. 4, 2018). Nor do we address requests for clarification and/or action on other issues raised in the record beyond those expressly discussed in this order. These other issues include arguments regarding other statutory interpretations that we do not address here. *See, e.g.*, CTIA Reply at 23 (raising broader questions about the precise interplay of Section 253 and Section 332(c)(7)); Crown Castle June 7, 2018 *Ex Parte* Letter at 16-17 (raising broader questions about the scope of "legal requirements" under Section 253(a)). Consequently, this order should not be read as impliedly taking a position on those issues.

[80] *See, e.g.*, Crown Castle June 7, 2018 *Ex Parte* Letter at 11-12 (arguing that "[d]espite the Commission's efforts to define the boundaries of federal preemption under Section 253, courts have issued a number of conflicting decisions that have only served to confuse the preemption analysis sunder section 253" and that "the Commission should clarify that the *California Payphone* standard as interpreted by the First and Second Circuits is the appropriate standard going forward"); *see also* BDAC Regulatory Barriers Report at p. 9 ("The Commission should provide clarity on what actually constitutes an "excessive" fee for right-of-way access and use. The FCC should provide guidance on what constitutes a fee that is excessive and/or duplicative, and that therefore is not "fair and reasonable." The Commission should specifically clarify that "fair and reasonable" compensation for right-of way access and use implies some relation to the burden of new equipment placed in the ROW or on the local asset, or some other objective standard."). Because our decision provides clarity by addressing conflicting court decisions and reaffirming that the "materially inhibits" standard articulated in the Commission's *California Payphone* decision is the appropriate standard for determining whether a state or local law operates as an effective prohibition within the meaning of Sections 253 and 332, we reject arguments that our action will increase conflicts and lead to more litigation. *See e.g*., Letter from Michael Dylan Brennan, Mayor, City of University Heights, Ohio, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 2 (filed Sept. 19, 2018) (stating that "…this framing and definition of effective prohibition opens local governments to the likelihood of more, not less, conflict and litigation over requirements for aesthetics, spacing, and undergrounding").

[81] *See infra* Part III.A, B.

[82] *See County of San Diego*, 543 F.3d at 579 ("We see nothing suggesting that Congress intended a different meaning of the text 'prohibit or have the effect of prohibiting' in the two statutory provisions, enacted at the same time, in the same statute. * * * * * As we now hold, the legal standard is the same under either [Section 253 or 332(c)(7)]."); *see also, e.g., Puerto Rico v. Franklin Cal. Tax-Free Trust*, 136 S. Ct. 1938, 1946 (citing *Sullivan v. Stroop*, 496 U.S. 478, 484 (1990) (reading same term used in different parts of the same Act to have the same meaning); *Northcross v. Board of Ed. of Memphis City Schools*, 412 U.S. 427, 428 (1973) (per curiam)
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both of these provisions apply to wireless telecommunications services[83] as well as to commingled services and facilities.[84]

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("[S]imilarity of language . . . is . . . a strong indication that the two statutes should be interpreted *pari passu*"); Verizon Comments at 9-10; AT&T Reply at 3-4; Crown Castle June 7, 2018 *Ex Parte* Letter at 15.

[83] Common carrier wireless services meet the definition of "telecommunications services," and thus are within the scope of Section 253(a) of the Act. *See, e.g.*, *Moratoria Declaratory Ruling*, FCC 18-111, para 142 n.523; *see also, e.g.*, League of Minnesota Cities Comments at 11; Verizon Reply at 9-10. While some commenters cite certain distinguishing factual characteristics between wireline and wireless services, the record does not reveal why those distinctions would be material to whether wireless telecommunications services are covered by Section 253 in the first instance. *See, e.g.*, City of San Antonio *et al*. Comments, Exh. A at 13; Virginia Joint Commenters Comments at 5, Exh. A at 45-46. To the contrary, Section 253(e) expressly preserves "application of section 332(c)(3) of this title to commercial mobile service providers" notwithstanding Section 253—a provision that would be meaningless if wireless telecommunications services already fell outside the scope of Section 253. 47 U.S.C. § 253(e). For this same reason, we also reject claims that the existence of certain protections for personal wireless services in Section 332(c)(7), or the phrase "nothing in this chapter" in Section 332(c)(7)(A), demonstrate that states' or localities' regulations affecting wireless telecommunications services must fall outside the scope of Section 253. *See, e.g.*, Virginia Joint Commenters Comments, Exh. A at iii, 45-46; Smart Communities Comments at 56. Even if, as some parties argue, the phrase "nothing in this chapter" could be construed as preserving state or local decisions on the placement, construction, or modification of personal wireless service facilities from preemption by other sections of the Communications Act, Section 332(c)(7)(A) goes on to make clear that such state or local decisions are *not* immune from preemption if they violate any of the standards set forth in Section 332(c)(7)(B)--including Section 332(c)(7)(B)(i)(II)'s ban of requirements that "prohibit or have the effect of prohibiting" the provision of service, which is identical to the preemption provision in Section 253(a). Thus, states and localities may charge fees and dispose of applications relating to the matters subject to Section 332(c)(7) in any manner they deem appropriate, so long as that conduct does not amount to a prohibition or effective prohibition, as interpreted in this Declaratory Ruling or otherwise run afoul of federal or state law; but because Sections 332(c)(7)(B)(i)(II) and 253(a) use identical "effective prohibition" language, the standard for what is saved and what is preempted is the same under both provisions.

[84] *See infra* para. 40 (discussing use of small cells to close coverage gaps, including voice gaps); *see also, e.g.*, *Moratoria Declaratory Ruling*, FCC 18-111, para 145 n.531; *Restoring Internet Freedom*, Declaratory Ruling, Report and Order, and Order, 33 FCC Rcd 311, 425, para. 190 (2018); Letter from Andre J. Lachance, Associate General Counsel, Verizon to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 3 (filed Sept. 19, 2018) (confirming that "telecommunications services can be provided over small cells and Verizon has deployed Small Wireless Facilities in its network that provide telecommunications services."); Letter from David M. Crawford, Senior Corporate Counsel, Fed. Reg. Affairs, T-Mobile, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 1 (filed Sept. 19, 2018) (stating that "small wireless facilities are a critical component of T-Mobile's network deployment plans to support both the 5G evolution of wireless services, as well as more traditional services such as mobile broadband and even voice calls. T-Mobile, for example, uses small wireless facilities to densify our network to provide better coverage and greater capacity, and to provide traditional services such as voice calls in areas where our macro site coverage is insufficient to meet demand."); Letter from Henry G. Hultquist, Vice President, Federal Regulatory, AT&T, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 1 (filed Sept. 20, 2018) ("AT&T has operated and continues to operate commercial mobile radio services as well as information services from small wireless facilities..."); *see also, e.g.*, *Coastal Communications Service v. City of New York*, 658 F. Supp. 2d 425, 441-42 (E.D.N.Y. 2009) (finding that a restriction on advertising on newly-installed payphones was subject to Section 253(a) where the advertising was a material factor in the provider's ability to provide the payphone service itself). The fact that facilities are sometimes deployed by third parties not themselves providing covered services also does not place such deployment beyond the purview of Section 253(a) or Section 332(c)(7)(B)(i) insofar as the facilities are used by wireless service providers on a wholesale basis to provide covered services (among other things). *See, e.g.*, T-Mobile Comments at 26. Given our conclusion that neither commingling of services nor the identity of the entity engaged in the deployment activity changes the applicability of Section 253(a) or Section 332(c)(7)(B)(i)(II) where the facilities are being used for the provisioning of services within the scope of the relevant statutory provisions, we reject claims to the contrary. *See, e.g.*, Colorado Communications and Utility Alliance *et al*. Comments at 15-16; City of San Antonio *et al*. Comments, Exh. A at 12; *id*., Exh. C at 13-15.
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37. As explained in *California Payphone* and reaffirmed here, a state or local legal requirement will have the effect of prohibiting wireless telecommunications services if it materially inhibits the provision of such services. We clarify that an effective prohibition occurs where a state or local legal requirement materially inhibits a provider's ability to engage in any of a variety of activities related to its provision of a covered service.[85] This test is met not only when filling a coverage gap but also when densifying a wireless network, introducing new services or otherwise improving service capabilities.[86] Under the *California Payphone* standard, a state or local legal requirement could materially inhibit service in numerous ways—not only by rendering a service provider unable to provide an existing service in a new geographic area or by restricting the entry of a new provider in providing service in a particular area, but also by materially inhibiting the introduction of new services or the improvement of existing services. Thus, an effective prohibition includes materially inhibiting additional services or improving existing services.[87]

38. Our reading of Section 253(a) and Section 332(c)(7)(B)(i)(II) reflects and supports a marketplace in which services can be offered in a multitude of ways with varied capabilities and performance characteristics consistent with the policy goals in the 1996 Act and the Communications Act. To limit Sections 253(a) and 332(c)(7)(B)(i)(II) to protecting only against coverage gaps or the like would be to ignore Congress's contemporaneously-expressed goals of "promot[ing] competition[,] . . . secur[ing] . . . higher quality services for American telecommunications consumers and encourage[ing] the rapid

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Because local jurisdictions do not have the authority to regulate these interstate services, there is no basis for local jurisdictions to conduct proceedings on the types of personal wireless services offered over particular wireless service facilities or the licensee's service area, which are matters within the Commission's licensing authority. Furthermore, local jurisdictions do not have the authority to require that providers offer certain types or levels of service, or to dictate the design of a provider's network. See 47 U.S.C. § 332(c)(3)(A); *see also Bastien v. AT&T Wireless Servs., Inc.*, 205 F.3d 983, 989 (7th Cir. 2000).

[85] By "covered service" we mean a telecommunications service or a personal wireless service for purposes of Section 253 and Section 332(c)(7), respectively.

[86] *See, e.g.*, Crown Castle Comments at 54-55; Free State Foundation Comments at 12; T-Mobile Comments at 43-45; CTIA Reply at 14; WIA Reply at 26; Crown Castle June 7, 2018 *Ex Parte* Letter at 13-14; Letter from Kara Romagnino Graves, Director, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 8-9 (filed June 27, 2018) (CTIA June 27, 2018 *Ex Parte* Letter). As T-Mobile explains, for example, a provider might need to improve "signal strength or system capacity to allow it to provide reliable service to consumers in residential and commercial buildings." T-Mobile Comments at 43; *see also, e.g., Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies*, WT Docket Nos. 13-238, *et al.*, Notice of Proposed Rulemaking, 28 FCC Rcd 14238, 14253, para. 38 (2013) (observing that "DAS and small cell facilities[ ] are critical to satisfying demand for ubiquitous mobile voice and broadband services"). The growing prevalence of smart phones has only accelerated the demand for wireless providers to take steps to improve their service offerings. *See, e.g.*, *Twentieth Wireless Competition Report*, 32 FCC Rcd at 9011-13, paras. 62-65.

[87] Our conclusion finds further support in our broad understanding of the statutory term "service," which, as we explained in our recent *Moratoria Declaratory Ruling*, means "any covered service a provider wishes to provide, incorporating the abilities and performance characteristics it wishes to employ, including to provide existing services more robustly, or at a higher level of quality—such as through filling a coverage gap, densification, or otherwise improving service capabilities." *Moratoria Declaratory Ruling*, FCC 18-111, para. 162 n.594; *see also Public Utility Comm'n of Texas Petition for Declaratory Ruling and/or Preemption of Certain Provisions of the Texas Public Utility Regulatory Act of 1995*, Memorandum Opinion and Order, 13 FCC Rcd 3460, 3496, para. 74 (1997) (*Texas PUC Order)* (interpreting the scope of 'telecommunications services' covered by Section 253(a) and clarifying that it would be an unlawful prohibition for a state or locality to specify "the means or facilities" through which a service provider must offer service); Crown Castle June 7, 2018 *Ex Parte* Letter at 10-11 (discussing this precedent). We find this interpretation of "service" warranted not only under Section 253(a), but Section 332(c)(7)(B)(i)(II)'s reference to "services" as well.

deployment of new telecommunications technologies."[88] In addition, as the Commission recently explained, the implementation of the Act "must factor in the fundamental objectives of the Act, including the deployment of a 'rapid, efficient . . . wire and radio communication service with adequate facilities at reasonable charges' and 'the development and rapid deployment of new technologies, products and services for the benefit of the public . . . without administrative or judicial delays[, and] efficient and intensive use of the electromagnetic spectrum.'"[89] These provisions demonstrate that our interpretation of Section 253 and Section 332(c)(7)(B)(i)(II) is in accordance with the broader goals of the various statutes that the Commission is entrusted to administer.

39. *California Payphone* further concluded that providers must be allowed to compete in a "fair and balanced regulatory environment."[90] As reflected in decisions such as the Commission's *Texas PUC Order*, a state or local legal requirement can function as an effective prohibition either because of the resulting "financial burden" in an absolute sense, or, independently, because of a resulting competitive disparity.[91] We clarify that "[a] regulatory structure that gives an advantage to particular services or facilities has a prohibitory effect, even if there are no express barriers to entry in the state or local code; the greater the discriminatory effect, the more certain it is that entities providing service using the disfavored facilities will experience prohibition."[92] This conclusion is consistent with both Commission and judicial precedent recognizing the prohibitory effect that results from a competitor being treated materially differently than similarly-situated providers.[93] We provide our authoritative interpretation below of the circumstances in which a "financial burden," as described in the *Texas PUC Order*, constitutes an effective prohibition in the context of certain state and local fees.

40. As we explained above, we reject alternative readings of the effective prohibition language that have been adopted by some courts and used to defend local requirements that have the effect of prohibiting densification of networks. Decisions that have applied solely a "coverage gap"-based approach under Section 332(c)(7)(B)(i)(II) reflect both an unduly narrow reading of the statute and

[88] Preamble to the Telecommunications Act of 1996, Pub. Law. No. 104-104, § 202, 110 Stat. 56 (1996). Consequently, we reject arguments suggesting that the provision of some level of wireless service in the past necessarily demonstrates that there is no effective prohibition of service under the state or local legal requirements that applied during those periods or that an effective prohibition only is present if a provider can provide no covered service whatsoever. *See, e.g.*, City and County of San Francisco Comments at 25-26; Virginia Joint Commenters Comments, Exh. A at 31-33. Nor, in light of these goals, do we find it reasonable to interpret the protections of these provisions as doing nothing more than guarding against a monopoly as some suggest. *See, e.g.*, Smart Communities Comments, WC Docket No. 17-84, at 8-9 (filed June 15, 2017) cited in Smart Communities Comments at 57 n.141.

[89] *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, Second Report and Order, FCC 18-30, para. 62 (rel. Mar. 30, 2018) (*Wireless Infrastructure Second R&O*) (quoting 47 U.S.C. §§ 151, 309(j)(3)(A), (D)).

[90] *California Payphone*, 12 FCC Rcd at 14206, para. 31.

[91] *Texas PUC Order*, 13 FCC Rcd at 3466, 3498-500, paras. 13, 78-81; *see also, e.g.*, Crown Castle June 7, 2018 *Ex Parte* at 10-11, 13.

[92] Crown Castle June 7, 2018 *Ex Parte* Letter at 13.

[93] *See, e.g.*, *Texas PUC Order*, 13 FCC Rcd at 3466, 3498-500, paras. 13, 78-81; *Federal-State Joint Board on Universal Service; Western Wireless Corporation Petition for Preemption of an Order of the South Dakota Public Utilities*, Declaratory Ruling, 15 FCC Rcd 15168, 15173, paras. 12-13 (2000) (*Western Wireless Order*); *Pittencrieff Communications, Inc. Petition for Declaratory Ruling Regarding Preemption of the Texas Public Utility Regulatory Act of 1995*, Memorandum Opinion and Order, 13 FCC Rcd 1735, 1751-52, para. 32 (1997) (*Pittencrieff*), *aff'd*, *Cellular Telecomm. Indus. Ass'n v. FCC*, 168 F.3d 1332 (5th Cir. 1999); *City of White Plains*, 305 F.3d at 80.

an outdated view of the marketplace.[94] Those cases, including some that formed the foundation for "coverage gap"-based analytical approaches, appear to view wireless service as if it were a single, monolithic offering provided only via traditional wireless towers.[95] By contrast, the current wireless

[94] Smart Communities seeks clarification of whether this Declaratory Ruling is meant to say that the "coverage gap" standard followed by a number of courts should include consideration of capacity as well as coverage issues. Letter from Gerard Lavery Lederer, Counsel, Smart Communities and Special Districts Coalition, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, Att. at 17 (Sept. 19, 2018) (Smart Communities Sept. 19 *Ex Parte* Letter). We are not holding that prior "coverage gap" analyses are consistent with the standards we articulate here as long as they also take into account "capacity gaps"; rather, we are articulating here the effective prohibition standard that should apply while, at the same time, noting one way in which prior approaches erred by requiring coverage gaps. Accordingly, we reject both the version of the "coverage gap" test followed by the First, Fourth, and Seventh Circuits (requiring applicants to show "not just that *this* application has been rejected but that further reasonable efforts to find another solution are so likely to be fruitless that it is a waste of time even to try") and the version endorsed by the Second, Third, and Ninth Circuits (requiring applicants to show that the proposed facilities are the "least intrusive means" for filling a coverage gap) *See supra* n. 75. We also note that some courts have expressed concern about alternative readings of the statute that would lead to extreme outcomes—either always requiring a grant under some interpretations, or never preventing a denial under other interpretations. *See, e.g.*, *Willoth*, 176 F.3d at 639-41; *APT*, 196 F.3d at 478-79; *Town of Amherst v. Omnipoint Communications Enterprises, Inc.*, 173 F.3d 9, 14 (1st Cir. 1999); *AT&T Wireless PCS v. City Council of Virginia Beach*, 155 F.3d 423, 428 (4th Cir. 1998) (*City Council of Virginia Beach*); *see also, e.g.*, Greenling Comments at 2; City and County of San Francisco Reply at 16. Our interpretation avoids those concerns while better reflecting the text and policy goals of the Communications Act and 1996 Act than coverage gap-based approaches ultimately adopted by those courts. Our approach ensures meaningful constraints on state and local conduct that otherwise would prohibit or have the effect of prohibiting the provision of personal wireless services. At the same time, our standard does not preclude all state and local denials of requests for the placement, construction, or modification of personal wireless service facilities, as explained below. *See infra* III.B, C.

[95] *See, e.g.*, *Willoth*, 176 F.3d at 641-44; *360 Degrees Commc'ns Co. v.Board of Supervisors of Albemarle County*, 211 F.3d 79, 86-88 & n.1 (4th Cir. 2000) (*Albemarle County*); *see also, e.g.*, ExteNet Comments at 29; T-Mobile Comments at 42; Verizon Comments at 18; WIA Comments at 38-40. Even some cases that implicitly recognize the limitations of a gap-based test fail to account for those limitations in practice when applying Section 332(c)(7)(B)(i)(II). *See, e.g.*, *Second Generation Properties v. Town of Pelham*, 313 F.3d 620, 633 n.14 (4th Cir. 2002) (discussing scenarios where a carrier has coverage but insufficient capacity to adequately handle the volume of calls or where new technology emerges and a carrier would like to use it in areas that already have coverage using prior-generation technology). Courts that have sought to identify limited set of characteristics of personal wireless services covered by the Act essentially allow actual or effective prohibition of many personal wireless services that providers wish to offer with additional or more advanced characteristics. *See, e.g.*, *Willoth*, 176 F.3d at 641-43 (drawing upon certain statutory definitions); *Cellular Tel. Co. v. Zoning Bd. of Adjustment of the Borough of Ho-Ho-Kus*, 197 F.3d 64, 70 (3d Cir. 1999) (*Borough of Ho-Ho-Kus*) (concluding that it should be up to state or local authorities to assess and weigh the benefits of differing service qualities); *Albemarle County*, 211 F.3d at 87 (citing 47 CFR §§ 22.99, 22.911(b) as noting the possibility of some 'dead spots'); *cf. USCOC of Greater Iowa, Inc. v. Zoning Bd. of Adjustment of the City of Des Moines*, 465 F.3d 817 (8th Cir. 2006) (describing as a "dubious proposition" the argument that a denial of a request to construct a tower resulting in "less than optimal" service quality could be an effective prohibition). An outcome that allows the actual or effective prohibition of some covered services is contrary to the Act. Section 253(a) applies to any state or local legal requirement that prohibits or has the effect of prohibiting any entity from providing "any" interstate or intrastate telecommunications service, 47 U.S.C. § 253(a). Similarly, Section 332(c)(7)(B)(i)(II) categorically precludes state or local regulation of the placement, construction, or modification of personal wireless service facilities that prohibits or has the effect of prohibiting the provision of personal wireless "services." 47 U.S.C. § 332(c)(7)(B)(i)(II). We find the most natural interpretation of these sections is that any service that meets the definition of "telecommunications service" or "personal wireless service" is encompassed by the language of each provision, rather than only some subset of such services or service generally. The notion that such state or local regulation permissibly could prohibit some personal wireless services, so long as others are available, is at odds with that interpretation. In addition, as we explain above, a contrary approach would fail to advance important statutory goals as well as the interpretation we adopt. Further, the approach reflected in these court decisions could involve state or local authorities "inquir[ing] into and regulat[ing] the services offered—an inquiry for which they are ill-qualified to pursue and which could only delay

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marketplace is characterized by a wide variety of offerings with differing service characteristics and deployment strategies.[96] As Crown Castle explains, coverage gap-based approaches are "simply incompatible with a world where the vast majority of new wireless builds are going to be designed to add network capacity and take advantage of new technologies, rather than plug gaps in network coverage."[97] Moreover, a critical feature of these new wireless builds is to accommodate increased in-building use of wireless services, necessitating deployment of small cells in order to ensure quality service to wireless callers within such buildings.[98]

41. Likewise, we reject the suggestion of some courts like the Eighth and Ninth Circuits that evidence of an existing or complete inability to offer a telecommunications service is required under 253(a).[99] Such an approach is contrary to the material inhibition standard of *California Payphone* and the correct recognition by courts "that a prohibition does not have to be complete or 'insurmountable'" to

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infrastructure deployment." Crown Castle June 7, 2018 *Ex Parte* Letter at 14. Instead, our effective prohibition analysis focuses on the service the provider wishes to provide, incorporating the capabilities and performance characteristics it wishes to employ, including facilities deployment to provide existing services more robustly, or at a better level of quality, all to offer a more robust and competitive wireless service for the benefit of the public.

[96] *See generally, e.g.*, *Twentieth Wireless Competition Report*, 32 FCC Rcd at 8968; *see also, e.g.*, T-Mobile Comments at 42-43; AT&T Reply at 4-5; CTIA Reply at 13-14; WIA Reply at 23-24; Crown Castle June 7, 2018 *Ex Parte* Letter at 15. We do not suggest that viewing wireless service as if it were a single, monolithic offering provided only via traditional wireless towers would have reflected an accurate understanding of the marketplace in the past, even if it might have been somewhat more understandable that courts held such a simplified view at that time. Rather, the current marketplace conditions highlight even more starkly the shortcomings of coverage gap-based approaches, which do not account for other characteristics and deployment strategies. *See, e.g.*, *Twentieth Wireless Competition Report*, 32 FCC Rcd at 8974-75, para. 12 (observing that "[p]roviders of mobile wireless services typically offer an array of mobile voice and data services," including "interconnected mobile voice services"); *id*. at 8997-97, paras. 42-43 (discussing various types of wireless infrastructure deployment to, among other things, "improve spectrum efficiency for 4G and future 5G services," "to fill local coverage gaps, to densify networks and to increase local capacity").

[97] Crown Castle June 7, 2018 *Ex Parte* Letter at 15; *see also id*. at 13 ("Densification of networks will be key for augmenting the capacity of existing networks and laying the groundwork for the deployment of 5G."); *id*. at 15-16 ("When trying to maximize spectrum re-use and boost capacity, moving facilities by just a few hundred feet can mean the difference between excellent service and poor service. The FCC's rules, therefore, must account for the effect siting decisions would have on every level of service, including increasing capacity and adding new spectrum bands. Practices and decisions that prevent carriers from doing either materially prohibit the provision of telecommunications service and thus should be considered impermissible under Section 332."). Contrary approaches appear to occur in part when courts' policy balancing places more importance on broadly preserving state and local authority than is justified. *See, e.g.*, *APT*, 196 F.3d at 479; *Albemarle County*, 211 F.3d at 86; *City Council of Virginia Beach*, 155 F.3d at 429; *National Tower, LLC v. Plainville Zoning Bd. of Appeals*, 297 F.3d 14 (1st Cir. 2002); *see also, e.g.*, League of Arizona Cities *et al.* Joint Comments at 45; Smart Communities Reply at 33. As explained above, our interpretation that "telecommunications services" in Section 253(a) and "personal wireless services" in Section 332(c)(7)(B)(i)(II) are focused on the covered services that providers seek to provide —including the relevant service characteristics they seek to incorporate—not only is consistent with the text of those provisions but better reflects the broader policy goals of the Communications Act and the 1996 Act.

[98] *See* WIA Comments at 39; T-Mobile Comments at 43-44.

[99] *See, e.g.*, *County of San Diego*, 543 F.3d at 577, 579-80; *City of St. Louis*, 477 F.3d at 533-34; *see also, e.g.*, Virginia Joint Commenters Comments, Exh. A at 39-41. Although the Ninth Circuit in *County of San Diego* found that "the unambiguous text of §253(a)" precluded a prior Ninth Circuit approach that found an effective prohibition based on broad governmental discretion and the "mere possibility of prohibition," that holding is not implicated by our interpretations here. *County of San Diego*, 543 F.3d at 578; *cf. City of St. Louis*, 477 F.3d at 532. Consequently, those decisions do not preclude the Commission's interpretations here, *see, e.g.*, Verizon Reply at 7, and we reject claims to the contrary. *See, e.g.*, Smart Communities Comments at 60.

constitute an effective prohibition.[100] Commission precedent beginning with *California Payphone* itself makes clear that an insurmountable barrier is not required to find an effective prohibition under Section 253(a).[101] The "effectively prohibit" language must have some meaning independent of the "prohibit" language, and we find that the interpretation of the First, Second, and Tenth Circuits reflects that principle, while being more consistent with the *California Payphone* standard than the approach of the Eighth and Ninth Circuits.[102] The reasonableness of our interpretation that 'effective prohibition' does not require a showing of an insurmountable barrier to entry is demonstrated not only by a number of circuit courts' acceptance of that view, but in the Supreme Court's own characterization of Section 253(a) as "prohibit[ing] state and local regulation that *impedes* the provision of 'telecommunications service.'"[103]

[100] *City of White Plains*, 305 F.3d at 76 (citing *RT Commc'ns*, 201 F.3d at 1268); *see also, e.g., Municipality of Guayanilla*, 450 F.3d at 18 (quoting *City of White Plains*, 305 F.3d at 76 and citing *City of Santa Fe*, 380 F.3d at 1269); Crown Castle June 7, 2018 *Ex Parte* Letter at 12; Verizon Aug. 10, 2018 *Ex Parte* Letter, Attach at 5. Indeed, the Eighth Circuit's *City of St. Louis* decision acknowledges that under Section 253 "[t]he plaintiff need not show a complete or insurmountable prohibition," even while other aspects of that decision suggest that an insurmountable barrier effectively would be required. *City of St. Louis*, 477 F.3d at 533 (citing *City of White Plains*, 305 F.3d at 76).

[101] In *California Payphone*, the Commission concluded that the ordinance at issue "does not 'prohibit' the ability of any payphone service provider to provide payphone service in the Central Business District within the meaning of section 253(a)," but went on to evaluate the possibility of an effective prohibition by considering "whether the Ordinance materially inhibits or limits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment." *California Payphone*, 12 FCC Rcd at 14205, 14206, paras. 28, 31. In the *Texas PUC Order*, the Commission found that state law build-out requirements would require "substantial financial investment" and a "comparatively high cost per loop sold" in particular areas, interfering with the "statewide entry" plans that new entrants "may reasonable contemplate" in violation of Section 253(a) notwithstanding claims that the specific new entrants at issue had "'vast resources and access to capital' sufficient to meet those added costs. *Texas PUC Order*, 13 FCC Rcd at 3498, para. 78. The Commission also has expressed "great concern" about an exclusive rights-of-way access agreement that "appear[ed] to have the potential to adversely affect the provision of telecommunications services by facilities-based providers, in violation of the provision of section 253(a)." *Minnesota Order*, 14 FCC Rcd at 21700, para. 3. As another example, in the *Western Wireless Order*, the Commission stated that a "universal service fund mechanism that provides funding only to ILECs" would likely violate Section 253(a) not because it was insurmountable but because it would "effectively lower the price of ILEC-provided service relative to competitor-provided service" and thus "give customers a strong incentive to choose service from ILECs rather than competitors." *Western Wireless Order*, 15 FCC Rcd at 16231, para. 8.

[102] We discuss specific applications of the *California Payphone* standard in the context of certain fees and non-fee regulations in the sections below; we leave others to be addressed case-by-case as they arise or otherwise are taken up by the Commission or courts in the future.

[103] *Verizon Communications, Inc. v. FCC*, 535 U.S. 467, 491 (2002) (emphasis added); *see also, e.g.*, Level 3 Communications, Petition for a Writ of Certiorari, *Level 3 Communications, LLC v. City of St. Louis*, No. 08-626, at 13 (filed Nov. 7, 2008) ("[T]he term '[p]rohibit' commonly has a less absolute meaning than that adopted below, and properly refers to actions that 'hold back,' 'hinder,' or 'obstruct.'" (quoting Random House Webster's Unabridged Dictionary 1546 (2d ed. 1998)). We thus are not compelled to interpret 'effective prohibition' to set the high bar suggested by some commenters based on other dictionary definitions. Smart Communities Petition for Reconsideration, WC Docket No. 17-84, WT Docket No. 17-79 at 7 (filed Sept. 4, 2018). Because we are unpersuaded that the statutory terminology requires us to interpret an effective prohibition as satisfied only by an insurmountable barrier to entry, we likewise reject commenters' attempts to argue that "effective prohibition" must be understood to set a higher bar by comparison to the "impairment" language in Section 251 of the Act and associated regulatory interpretations of network unbundling requirements taken from that context. *Id* at 6. In addition, commenters do not demonstrate why the statutory framework and regulatory context of network unbundling under Section 251—and the specific concerns about access by non-facilities-based providers to competitive networks underlying the court precedent they cite—is sufficiently analogous to that of Section 253 and Section 332(c)(7)(B)(i)(II) that statements from that context should inform our interpretation here. *See, e.g., AT&T Corp. v. Iowa Utilities Bd.*, 525 U.S. at 392. In responding to these discrete arguments raised in a petition for

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42. The Eighth and Ninth Circuits' suggestion that a provider must show an insurmountable barrier to entry in the jurisdiction imposing the relevant regulation is at odds with relevant statutory purposes and goals, as well. Section 253(a) is designed to protect "any entity" seeking to provide telecommunications services from state and local barriers to entry, and Sections 253(b) and (c) emphasize the importance of "competitively neutral" and "nondiscriminatory" treatment of providers.[104] Yet focusing on whether the carrier seeking relief faces an insurmountable barrier to entry would lead to disparities in statutory protections among providers based merely on considerations such as their access to capital and the breadth or narrowness of their entry strategies.[105] In addition, the Commission has observed in connection with Section 253: "Each local government may believe it is simply protecting the interests of its constituents. The telecommunications interests of constituents, however, are not only local. They are statewide, national and international as well. We believe that Congress' recognition of this fact was the genesis of its grant of preemption authority to this Commission."[106] As illustrated by our consideration of effective prohibitions flowing from state and local fees, there also can be cases where a narrow focus on whether an insurmountable barrier can be shown within the jurisdiction imposing a particular legal requirement would neglect the serious effects that flow through in other jurisdictions as a result, including harms to regional or national deployment efforts.[107]

B. State and Local Fees

43. Federal courts have long recognized that the fees charged by local governments for the deployment of communications infrastructure can run afoul of the limits Congress imposed in the effective prohibition standard embodied in Sections 253 and 332.[108] In *Municipality of Guayanilla*, for example, the First Circuit addressed whether a city could lawfully charge a 5 percent gross revenue fee. The court found that the "5% gross revenue fee would constitute a substantial increase in costs" for the provider, and that the ordinance consequently "will negatively affect [the provider's] profitability."[109] The fee, together with other requirements, thus "place a significant burden" on the provider.[110] In light of this analysis, the First Circuit agreed that the fee "'materially inhibits or limits the ability'" of the provider "'to compete in a fair and balanced legal and regulatory environment.'"[111] The court thus held that the fee does not survive scrutiny under Section 253. In doing so, the First Circuit also noted that the inquiry is not limited to the impact that a fee would have on deployment in the jurisdiction that imposes the fee.

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reconsideration of the *Moratoria Declaratory Ruling* that bear on actions we take in this order we do not thereby resolve any of the petition's arguments with respect to that order. The requests for relief raised in the petition remain pending in full.

[104] 47 U.S.C. § 253(a), (b), (c).

[105] *See, e.g., Texas PUC Order*, 13 FCC Rcd at 3498, para. 78 (rejecting claims that there should be a higher bar to find an effective prohibition for providers with significant financial resources and recognizing that the effects of the relevant state requirements on a given provider could differ depending on the planned geographic scope of entry).

[106] *TCI Cablevision of Oakland County, Inc. Petition for Declaratory Ruling, Preemption and Other Relief Pursuant to 47 U.S.C. §§ 541, 544(e), and 253*, Memorandum Opinion and Order, 12 FCC Rcd 21396, 21442, para. 106 (1997) (*TCI Cablevision Order*).

[107] *See infra* Part III.B.

[108] The Commission also has recognized the potential for fees to result in an effective prohibition. *See, e.g., Pittencrieff*, 13 FCC Rcd at 1751-52, para. 37 (observing that "even a neutral [universal service] contribution requirement might under some circumstances effectively prohibit an entity from offering a service").

[109] *Municipality of Guayanilla*, 450 F.3d at 18-19.

[110] *Id*. at 19.

[111] *Id*. (quoting *City of White Plains*, 305 F.3d at 76).

Rather, the court noted the aggregate effect of fees when totaled across all relevant jurisdictions.[112] At the same time, the First Circuit did not decide whether the fair and reasonable compensation allowed under Section 253 must be limited to cost recovery or, at the very least, related to the actual use of the ROW.[113]

44. In *City of White Plains*, the Second Circuit likewise faced a 5 percent gross revenue fee, which it found to be "[t]he most significant provision" in a franchise agreement implementing an ordinance that the court concluded effectively prohibited service in violation of Section 253.[114] While the court noted that "compensation is . . . sometimes used as a synonym for cost,"[115] it ultimately did not resolve whether fair and reasonable compensation "is limited to cost recovery, or whether it also extends to a reasonable rent," relying instead on the fact that "White Plains has not attempted to charge Verizon the fee that it seeks to charge TCG," thus failing Section 253's "competitively neutral and nondiscriminatory" standard.[116] But the court did observe that "Section 253(c) requires compensation to be reasonable essentially to prevent monopolist pricing by towns."[117]

45. In another example, the Tenth Circuit in *City of Santa Fe* addressed a $6,000 per foot fee set for Qwest's use of the ROW.[118] The court held "that the rental provisions are prohibitive because they create[d] a massive increase in cost" for Qwest.[119] The court recognized that Section 253 allows the recovery of cost-based fees, though it ultimately did not decide whether to "measure 'fair and reasonable' by the City's costs or by a 'totality of circumstances test'" applied in other courts because it determined that the fees at issue were not cost-based and "fail[ed] even the totality of the circumstances test."[120] Consequently, the fee was preempted under Section 253.

46. At the same time, the courts have adopted different approaches to analyzing whether fees run afoul of Section 253, at times failing even to articulate a particular test.[121] Among other things, courts have expressed different views on whether Section 253 limits states' and localities' fees to recovery of

[112] *Municipality of Guayanilla*, 450 F.3d at 17 (looking at the aggregate cost of fees charged across jurisdictions given the interconnected nature of the service).

[113] *Id*. at 22 ("We need not decide whether fees imposed on telecommunications providers by state and local governments must be limited to cost recovery. We agree with the district court's reasoning that fees should be, at the very least, related to the actual use of rights of way and that 'the costs [of maintaining those rights of way] are an essential part of the equation.'").

[114] *City of White Plains*, 305 F.3d at 77.

[115] *Id.* In this context, the court stated that the term "compensation" is "flexible" and capable of different meanings depending on the context in which it is used. *Id.*

[116] *City of White Plains*, 305 F.3d at 79. In particular, the court concluded that "fees that exempt one competitor are inherently not 'competitively neutral,' regardless of how that competitor uses its resulting market advantage," *id.* at 80, and thus "[a]llowing White Plains to strengthen the competitive position of the incumbent service provider would run directly contrary to the pro-competitive goals of the [1996 Act]," *id.* at 79.

[117] *Id*.

[118] *City of Santa Fe*, 380 F.3d at 1270-71.

[119] *Id*. at 1271.

[120] *Id*. at 1272 (observing that "[t]he City acknowledges . . . that the rent required by the Ordinance is not limited to recovery of costs").

[121] *Compare, e.g., Municipality of Guayanilla*, 450 F.3d at 18-19 (finding that fees were significant and had the effect of prohibiting service); *City of Santa Fe*, 380 F.3d at 1271 (similar); *with, e.g., Qwest v. Elephant Butte Irrigation Dist.*, 616 F. Supp. 2d 1110, 1123-24 (D.N.M. 2008) (rejecting Qwest's reliance on preceding finding of effective prohibition from quadrupled costs where the fee at issue was a penny per foot); *Qwest v. City of Portland*, 2006 WL 2679543, *15 (D. Or. 2006) (asserting with no explanation that "a registration fee of $35 and a refundable deposit of $2,000 towards processing expenses . . . could not possibly have the effect of prohibiting Qwest from providing telecommunications services").

their costs or allows fees set in excess of that level.[122] We articulate below the Commission's interpretation of Section 253(a) and the standards we adopt for evaluating when a fee for Small Wireless Facility deployment is preempted, regardless how the fee is challenged. We also clarify that the Commission interprets Section 332(c)(7)(B)(i)(II) to have the same substantive meaning as Section 253(a).

47. *Record Evidence on Costs Associated with Small Wireless Facilities*. Keeping pace with the demands on current 4G networks and upgrading our country's wireless infrastructure to 5G require the deployment of many more Small Wireless Facilities.[123] For example, Verizon anticipates that network densification and the upgrade to 5G will require 10 to 100 times more antenna locations than currently exist. AT&T estimates that providers will deploy hundreds of thousands of wireless facilities in the next few years alone—equal to or more than the number providers have deployed in total over the last few decades.[124] Sprint, in turn, has announced plans to build at least 40,000 new small sites over the next few years.[125] A report from Accenture estimates that, overall, during the next three or four years, 300,000 small cells will need to be deployed—a total that it notes is "roughly double the number of macro cells built over the last 30 years."[126]

48. The many-fold increase in Small Wireless Facilities will magnify per-facility fees charged to providers. Per-facility fees that once may have been tolerable when providers built macro towers several miles apart now act as effective prohibitions when multiplied by each of the many Small Wireless Facilities to be deployed. Thus, a per-facility fee may affect a prohibition on 5G service or the densification needed to continue 4G service even if that same per-facility fee did not effectively prohibit previous generations of wireless service.

49. Cognizant of the changing technology and its interaction with regulations created for a previous generation of service, the *2017 Wireline Infrastructure NPRM/NOI* sought comment on whether government-imposed fees could act as a prohibition within the meaning of Section 253, and if so, what fees would qualify for 253(c)'s savings clause.[127] The *2017 Wireless Infrastructure NPRM/NOI* similarly sought comment on the scope of Sections 253 and 332(c)(7) and on any new or updated guidance the

[122] For example and as noted above, in *Municipality of Guayanilla* the First Circuit reserved judgment on whether the fair and reasonable compensation allowed under Section 253 must be limited to cost recovery or if it was sufficient if the compensation was related to the actual use of rights of way. *Municipality of Guayanilla*, 450 F.3d at 22. Other courts have found reasonable compensation to require cost-based fees. *XO Missouri v. City of Maryland Heights*, 256 F. Supp. 2d 987, 993-95 (E.D. Mo. 2003) (*City of Maryland Heights*); *Bell Atlantic–Maryland, Inc. v. Prince George's County*, 49 F. Supp. 2d 805, 818 (D. Md. 1999) (*Prince George's County*) vacated on other grounds, 212 F.3d 863 (4th Cir. 2000). Still other courts have applied a test that weighs a number of considerations when evaluating whether compensation is fair and reasonable. *TCG Detroit v. City of Dearborn*, 206 F.3d 618, 625 (6th Cir. 2000) (*City of Dearborn*) (considering "the amount of use contemplated . . . the amount that other providers would be willing to pay . . . and the fact that TCG had agreed in earlier negotiations to a fee almost identical to what it now was challenging as unfair").

[123] *See* CTIA June 27, 2018 *Ex Parte* Letter at 6 ("[s]mall cell technology is needed to support 4G densification and 5G connectivity."); *see also* Accelerating Wireless Deployment by Removing Barriers to Infrastructure Investment, Report and Order, 32 FCC Rcd 9760, 9765, para. 12 (2017) (*2017 Pole Replacement Order*) (recognizing that Small Wireless Facilities will be increasingly necessary to support the rollout of next-generation services).

[124] *See* Verizon Comments at 3; AT&T Comments at 1.

[125] *See* Letter from Keith C. Buell, Senior Counsel, Sprint, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 2 (filed Feb. 21, 2018).

[126] Accelerating Future Economic Value Report at 6; *see also* Deloitte 5G Paper.

[127] *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, Notice of Proposed Rulemaking and Notice of Inquiry, 32 FCC Rcd 3266, 3296-97, paras. 100 -101 and 3298-99, paras. 104-105 (2017).

Commission should provide, potentially through a Declaratory Ruling.[128] In particular, the Commission sought comment on whether it should provide further guidance on how to interpret and apply the phrase "prohibit or have the effect of prohibiting."[129]

50. We conclude that ROW access fees, and fees for the use of government property in the ROW,[130] such as light poles, traffic lights, utility poles, and other similar property suitable for hosting Small Wireless Facilities, as well as application or review fees and similar fees imposed by a state or local government as part of their regulation of the deployment of Small Wireless Facilities inside and outside the ROW, violate Sections 253 or 332(c)(7) unless these conditions are met: (1) the fees are a reasonable approximation of the state or local government's costs,[131] (2) only objectively reasonable costs are factored into those fees, and (3) the fees are no higher than the fees charged to similarly-situated competitors in similar situations.[132]

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[128] *Wireless Infrastructure NPRM/NOI*, 32 FCC Rcd at 3360, para. 87. In addition, in 2016, the Wireless Telecommunications Bureau released a public notice seeking comment on ways to expedite the deployment of next generation wireless infrastructure, including providing guidance on application processing fees and charges for use of rights of way. *See Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies*, Public Notice, 31 FCC Rcd 13360 (WTB 2016).

[129] *Wireless Infrastructure NPRM/NOI*, 32 FCC Rcd at 3362, para. 90.

[130] We do not find these fees to be taxes within the meaning of Section 601(c)(2) of the 1996 Act. *See, e.g.*, Smart Communities Reply at 36 (quoting the savings clause for "State or local law pertaining to taxation" in Section 601(c)(2) of the 1996 Act). It is ambiguous whether a fee charged for access to ROWs should be viewed as a tax for purposes of Section 601(c)(2) of the 1996 Act. *See, e.g.*, *City of Dallas v. FCC*, 118 F.3d 393, 397-98 (5th Cir. 1997) (distinguishing "the price paid to rent use of public right-of-ways" from a "tax" and citing similar precedent). Given that Congress clearly contemplated in Section 253(c) that states' and localities' fees for access to ROWs could be subject to preemption where they violate Section 253—or else the savings clause in that regard would be superfluous—we find the better view is that such fees do not represent a tax encompassed by Section 601(c)(2) of the 1996 Act. We do not address whether particular fees could be considered taxes under other statutes not administered by the FCC, but we reject the suggestion that tests courts use to determine what constitute "taxes" in the context of such other statutes should apply to the Commission's interpretation of Section 601(c)(2) here in light of the statutory context for Section 601(c)(2) in the 1996 Act and the Communications Act discussed above. *See, e.g.*, *Qwest Corp. v. City of Surprise*, 434 F.3d 1176, 1183-84 & n.3 (9th Cir. 2006) (holding that particular fees at issue there were taxes for purposes of the Tax Injunction Act and stating in dicta that had the Tax Injunction Act not applied it would agree with the conclusion of the district court that it was covered by Section 601(c)(2) of the 1996 Act); *MCI Communications Services, Inc. v. City of Eugene*, 359 F. Appx. 692, 696 (9th Cir. 2009) (asserting without analysis that the same test would apply to determine if a fee constitutes a tax under both the Tax Injunction Act and Section 601(c)(2) of the 1996 Act).

[131] By costs, we mean those costs specifically related to and caused by the deployment. These include, for instance, the costs of processing applications or permits, maintaining the ROW, and maintaining a structure within the ROW. *See Puerto Rico Tel. Co. v. Municipality of Guayanilla*, 354 F. Supp. 2d 107, 114 (D.P.R. 2005) (*Guayanilla District Ct. Opinion*), *aff'd*, 450 F.3d 9 (1st Cir. 2006) ("fees charged by a municipality need to be related to the degree of actual use of the public rights-of way" to constitute fair and reasonable compensation under Section 253(c)).

[132] We explain above what we mean by "fees." *See supra* note 71. Contrary to some claims, we are not asserting a "general ratemaking authority." Virginia Joint Commenters Comments at 6. Our interpretations in this order bear on whether and when fees associated with Small Wireless Facility deployment have the effect of prohibiting wireless telecommunications service and thus are subject to preemption under Section 253(a), informed by the savings clause in Section 253(c). While that can implicate issues surrounding how those fees were established, it does so only to the extent needed to vindicate Congress's intent in Section 253. We do not interpret Section 253(a) or (c) to authorize the regulation or establishment of state and local fees as an exercise in itself. We likewise are not persuaded by undeveloped assertions that the Commission's interpretation of Section 253 in the context of fees would somehow violate constitutional separation of powers principles. *See, e.g.*, Virginia Joint Commenters Comments, Exh. A at 52.

51. We base our interpretation on several considerations, including the text and structure of the Act as informed by legislative history, the economics of capital expenditures in the context of Small Wireless Facilities (including the manner in which capital budgets are fixed *ex ante*), and the extensive record evidence that shows the actual effects that state and local fees have in deterring wireless providers from adding to, improving, or densifying their networks and consequently the service offered over them (including, but not limited to, introducing next-generation 5G wireless service). We address each of these considerations in turn.

52. *Text and Structure.* We start our analysis with a consideration of the text and structure of Section 253. That section contains several related provisions that operate in tandem to define the roles that Congress intended the federal government, states, and localities to play in regulating the provision of telecommunications services. Section 253(a) sets forth Congress's intent to preempt state or local legal requirements that "prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service."[133] Section 253(b), in turn, makes clear Congress's intent that state "requirements necessary to preserve and advance universal service, protect the public safety and welfare, ensure the continued quality of telecommunications services, and safeguard the rights of consumers" are not preempted.[134] Of particular importance in the fee context, Section 253(c) reflects a considered policy judgment that "[n]othing in this section" shall prevent states and localities from recovering certain carefully delineated fees. Specifically, Section 253(c) makes clear that fees are not preempted that are "fair and reasonable" and imposed on a "competitively neutral and nondiscriminatory basis," for "use of public rights-of-way on a "nondiscriminatory basis," so long as they are "publicly disclosed" by the government.[135] Section 253(d), in turn, provides one non-exclusive mechanism by which a party can obtain a determination from the Commission of whether a specific state or local requirement is preempted under Section 253(a)—namely, by filing a petition with the Commission.[136]

53. In reviewing this statutory scheme, the Commission previously has construed Section 253(a) as "broadly limit[ing] the ability of state[s] to regulate," while the remaining subsections set forth "defined areas in which states may regulate."[137] We reaffirm this conclusion, consistent with the view of most courts to have considered the issue—namely, that Sections 253(b) and (c) make clear that certain state or local laws, regulations, and legal requirements are not preempted under the expansive scope of Section 253(a).[138] Our interpretation of Section 253(a) is informed by this statutory context,[139] and the observation of courts that when a preemption provision precedes a narrowly-tailored savings clause, it is

[133] 47 U.S.C. § 253(a).

[134] 47 U.S.C. § 253(b).

[135] 47 U.S.C. § 253(c).

[136] 47 U.S.C. § 253(d).

[137] *Texas PUC Order*, 13 FCC Rcd at 3481, para. 44.

[138] *See, e.g., Connect America Fund; Sandwich Isles Communications, Inc.*, Memorandum Opinion and Order, 32 FCC Rcd 5878, 5881, 5885-87, paras. 8, 19-25 (2017) *(Sandwich Isles Section 253 Order)*; *Texas PUC Order*, 13 FCC Rcd at 3480-81, paras. 41-44; *Global Network Commc'ns, Inc. v. City of New York*, 562 F.3d 145, 150-51 (2d Cir. 2009); *Southwestern Bell Tel. Co. v. City of Houston*, 529 F.3d 257, 262 (5th Cir. 2008); *City of St. Louis*, 477 F.3d at 531-32 (8th Cir. 2007); *Municipality of Guayanilla*, 450 F.3d at 15-16; *City of Santa Fe*, 380 F.3d at 1269; *BellSouth Telecomm's, Inc. v. Town of Palm Beach*, 252 F.3d 1169, 1187-89 (11th Cir. 2001). Some courts appear to have viewed Section 253(c) as an independent basis for preemption. *See, e.g., City of Dearborn*, 206 F.3d at 624 (after concluding that a franchise fee did not violate Section 253(a), going on to evaluate whether it was "fair and reasonable" under Section 253(c)). We find more persuasive the Commission and other court precedent to the contrary, which we find better adheres to the statutory language.

[139] *See, e.g., Utility Air Regulatory Group v. EPA*, 134 S. Ct. 2427, 2442 (2014).

reasonable to infer that Congress intended a broad preemptive scope.[140] We need not decide today whether Section 253(a) preempts all fees not expressly saved by Section 253(c) with respect to all types of deployments. Rather, we conclude, based on the record before us, that with respect to Small Wireless Facilities, even fees that might seem small in isolation have material and prohibitive effects on deployment,[141] particularly when considered in the aggregate given the nature and volume of anticipated Small Wireless Facility deployment.[142] Against this backdrop, and in light of significant evidence, set forth herein, that Congress intended Section 253 to preempt legal requirements that effectively prohibit service, including wireless infrastructure deployment, we view the substantive standards for fees that Congress sought to insulate from preemption in Section 253(c) as an appropriate ceiling for state and local fees that apply to the deployment of Small Wireless Facilities in public ROWs.[143]

54. In addition, notwithstanding that Section 253(c) only expressly governs ROW fees, we find it appropriate to look to its substantive standards as a ceiling for other state and local fees addressed by this *Declaratory Ruling*.[144] For one, our evaluation of the material effects of fees on the deployment of Small Wireless Facilities does not differ whether the fees are for ROW access, use of government property within the ROW, or one-time application and review fees or the like—any of which drain limited capital resources that otherwise could be used for deployment—and we see no reason why the Act would tolerate a greater prohibitory effect in the case of application or review fees than for ROW fees.[145] In addition, elements of the substantive standards for ROW fees in Section 253(c) appear at least analogous to elements of the *California Payphone* standard for evaluating an effective prohibition under Section 253(a). In pertinent part, both incorporate principles focused on the legal requirements to which a provider may be fairly subject,[146] and seek to guard against competitive disparities.[147] Without resolving the precise interplay of those concepts in Section 253(c) and the *California Payphone* standard, their

[140] *See, e.g., Pilot Life Ins. Co. v. Dedeaux*, 481 U.S. 41, 44-45 (1987); *City of New York v. Permanent Mission of India to United Nations*, 618 F.3d 172, 189-90 (2d Cir. 2010); *Frank v. Delta Airlines, Inc*., 314 F.3d 195, 199 (5th Cir. 2002); *cf. United States v. Kay*, 359 F.3d 738 (5th Cir. 2004) (justifying a broad reading of a statute given that Congress "narrowly defin[ed] exceptions and affirmative defenses against a backdrop of broad applicability").

[141] *See infra* paras. 62-63.

[142] *See, e.g., Wireless Infrastructure Second R&O*, FCC 18-30, at para. 64.

[143] *See, e.g.*, Verizon Aug. 10, 2018 *Ex Parte* Letter, Attach. at 9-10. We therefore reject the view of those courts that have concluded that Section 253(a) necessarily requires some additional showing beyond the fact that a particular fee is not cost-based. *See, e.g., Qwest v. City of Berkeley*, 433 F.3d 1253, 1257 (9th Cir. 2006) ("we decline to read" prior Ninth Circuit precedent "to mean that all non-cost based fees are automatically preempted, but rather that courts must consider the substance of the particular regulation at issue"). At the same time, our interpretation does not take the broader view of the preemptive scope of Section 253 adopted by the Sixth Circuit, which interpreted Section 253(c) as an independent prohibition on conduct that is not itself prohibited by Section 253(a). *City of Dearborn*, 206 F.3d at 624.

[144] *See supra* note 71.

[145] *Cf. Cheney R. Co. v. ICC*, 902 F.2d 66, 69 (D.C. Cir. 1990) (observing that the *expressio unius* canon is a "feeble helper in an administrative setting, where Congress is presumed to have left to reasonable agency discretion questions that it has not directly resolved," and concluding there that "Congress's mandate in one context with its silence in another suggests not a prohibition but simply a decision not to mandate any solution in the second context, i.e., to leave the question to agency discretion").

[146] For ROW compensation to be saved under Section 253(c) it must be "fair and reasonable," while the *California Payphone* standard looks to whether a legal requirement "materially limits or inhibits" the ability to compete in a "fair" legal environment for a covered service. *California Payphone*, 12 FCC Rcd at 14206, para. 31.

[147] For ROW compensation to be saved under Section 253(c) it also must be "competitively neutral and nondiscriminatory," while the *California Payphone* standard also looks to whether a legal requirement "materially limits or inhibits" the ability to compete in a "balanced" legal environment for a covered service. *California Payphone*, 12 FCC Rcd at 14206, para. 31.

similarities support our use of the substantive standards of Section 253(c) to inform our evaluation of fees at issue here that are not directly governed by that provision.

55. From the foregoing analysis, we can derive the three principles that we articulate in this Declaratory Ruling about the types of fees that are preempted. As explained in more detail below, we also interpret Section 253(c)'s "fair and reasonable compensation" provision to refer to fees that represent a reasonable approximation of actual and direct costs incurred by the government, where the costs being passed on are themselves objectively reasonable.[148] Although there is precedent that "fair and reasonable" compensation could mean not only cost-based charges but also market-based charges in certain instances,[149] the statutory context persuades us to adopt a cost-based interpretation here. In particular, while the general purpose of Section 253(c) is to preserve certain state and local conduct from preemption, it includes qualifications and limitations to cabin state and local action under that savings clause in ways that ensure appropriate protections for service providers. The reasonableness of interpreting the qualifications and limitations in the Section 253(c) savings clause as designed to protect the interests of service providers is emphasized by the statutory language. The "competitively neutral and nondiscriminatory" and public disclosure qualifications in Section 253(c) appear most naturally understood as protecting the interest of service providers from fees that otherwise would have been saved from preemption under Section 253(c) absent those qualifiers. Under the *noscitur a sociis* canon of statutory interpretation, that context persuades us that the "fair and reasonable" qualifier in Section 253(c) similarly should be understood as focused on protecting the interest of providers.[150] As discussed in greater detail below, while it might well be fair for providers to bear basic, reasonable costs of entry,[151] the record does not reveal why it would be fair or reasonable from the standpoint of protecting providers to require them to bear costs beyond that level, particularly in the context of the deployment of Small Wireless Facilities. In addition, the text of Section 253(c) provides that ROW access fees must be imposed on a "competitively neutral and nondiscriminatory basis." This means, for example, that fees charged to one provider cannot be materially higher than those charged to a competitor for similar uses.[152]

56. Other considerations support our approach, as well. By its terms, Section 253(a) preempts state or local legal requirements that "prohibit" or have the "effect of prohibiting" the provision of services, and we agree with court precedent that "[m]erely allowing the [local government] to recoup its processing costs . . . cannot in and of itself prohibit the provision of services."[153] The Commission has long understood that Section 253(a) is focused on state or local barriers to entry for the provision of service,[154] and we conclude that states and localities do not impose an unreasonable barrier to entry when

[148] *See infra* paras. 69-77; *see also, e.g.*, *City of Maryland Heights*, 256 F. Supp. 2d at 993-95; *Bell Atlantic–Maryland*, 49 F. Supp. 2d at 818.

[149] *See, e.g.*, *NetCoalition v. SEC*, 615 F.3d 525 (D.C. Cir. 2010) (statute did not unambiguously require the SEC to interpret "fair and reasonable" to mean cost-based, and the SEC's reliance on market-based rates as "fair and reasonable" where there was competition was a reasonable interpretation).

[150] *See, e.g.*, *Life Technologies Corp. v. Promega Corp.*, 137 S. Ct. 734 (2017) ("A word is given more precise content by the neighboring words with which it is associated." (internal alteration and quotation marks omitted)).

[151] *See infra* para. 56.

[152] *See, e.g.*, *City of White Plains*, 305 F.3d at 80.

[153] *City of Santa Fe*, 380 F.3d at 1269; *see also* Verizon Comments at 17.

[154] *See, e.g.*, *Sandwich Isles Section 253 Order*, 32 FCC Rcd at 5878, 5882-83, paras. 1, 13; *Western Wireless Order*, 15 FCC Rcd at 16231, para. 8; *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, 21707, para. 18 (*Minnesota Order*); *Hyperion Order*, 14 FCC Rcd at 11070, para. 13; *Texas PUC Order*, 13 FCC Rcd at 3480, para. 41; *TCI Cablevision Order*, 12 FCC Rcd at 21399, para. 7; *California Payphone*, 12 FCC Rcd at 14209, para. 38; *see also, e.g.*, *AT&T Comm'ns of the Sw. v. City of Dallas*, 8 F. Supp. 2d 582, 593 (N.D. Tx. 1998) (*AT&T v. City of Dallas*) ("[A]ny fee that is not based on

(continued….)

they merely require providers to bear the direct and reasonable costs caused by their decision to enter the market.[155] We decline to interpret a government's recoupment of such fundamental costs of entry as having the effect of prohibiting the provision of services, nor has any commenter argued that recovery of cost by a government would prohibit service in a manner restricted by Section 253(a).[156] Reasonable state and local regulation of facilities deployment is an important predicate for a viable marketplace for communications services by protecting property rights and guarding against conflicting deployments that could harm or otherwise interfere with others' use of property.[157] By contrast, fees that recover more than the state or local costs associated with facilities deployment—or that are based on unreasonable costs, such as exorbitant consultant fees or the like—go beyond such governmental recovery of fundamental costs of entry. In addition, interpreting Section 253(a) to prohibit states and localities from recovering a reasonable approximation of reasonable costs could interfere with the ability of states to exercise the police powers reserved to them under the Tenth Amendment.[158] We therefore conclude that Section 253(a) is circumscribed to permit states and localities to recover a reasonable approximation of their costs related to the deployment of Small Wireless Facilities.

57. *Commission Precedent*. We draw further confidence in our conclusions from the Commission's *California Payphone* decision, which we reaffirm here, finding that a state or local legal requirement would violate Section 253(a) if it "materially limits or inhibits" an entity's ability to compete in a "balanced" legal environment for a covered service.[159] As explained above, fees charged by a state or

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AT&T's use of City rights-of-way violates § 253(a) of the FTA as an economic barrier to entry."); Verizon Comments at 11-12; Verizon Aug. 10, 2018 *Ex Parte* Letter, Attach. at 7. Because we view the *California Payphone* standard as reflecting a focus on barriers to entry, we decline requests to adopt a distinct, additional standard with that as an explicit focus. *See, e.g.*, T-Mobile Comments at 35.

[155] *See, e.g., Implementation of Section 224 of the Act*, Report and Order and Order on Reconsideration, 26 FCC Rcd 5240, 5301-03, paras. 142-45 (2011) (rejecting an approach to defining a lower bound rate for pole attachments that "would result in pole rental rates *below* incremental cost" as contrary to cost causation principles); *Investigation of Interstate Access Tariff Non-Recurring Charges*, Memorandum Opinion and Order, 2 FCC Rcd 3498, 3502, para. 34 (1987) (observing in the rate regulation context that "the public interest is best served, and a competitive marketplace is best encouraged, by policies that promote the recovery of costs from the cost-causer"). Our interpretation limiting states and localities to the recovery of a reasonable approximation of objectively reasonable cost also takes into account state and local governments' exclusive control over access to the ROW.

[156] For example, Verizon states that "[a]lthough *any* fee could be said to raise the cost of providing service," Verizon Aug. 10, 2018 *Ex Parte* Letter, Attach. at 9, "[t]he Commission should interpret . . . Section 253(a) to allow cost-based fees for access to public rights-of-way and structures within them, but to prohibit above-cost fees that generate revenue in excess of state and local governments' actual costs." *Id*., Attach. at 6.

[157] *See, e.g., TCI Cablevision Order*, 12 FCC Rcd at 21441, para. 103; *see also, e.g.*, Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243 (1968). States' or localities' regulation premised on addressing effects of deployment besides these costs caused by facilities deployment are distinct issues, which we discuss below. *See infra* Part III.C.

[158] The Supreme Court has recognized that land use regulation can involve an exercise of police powers. *See, e.g., Hodel v. Va. Surface Min. & Reclamation Ass'n, Inc.*, 452 U.S. 264, 289 (1981). As that Court observed, "[i]t would . . . be a radical departure from long-established precedent for this Court to hold that the Tenth Amendment prohibits Congress from displacing state police power laws regulating private activity." *Id.* at 292. At the same time, the Court also has held that "historic police powers of the States" are not to be preempted by federal law "unless that was the clear and manifest purpose of Congress." *Wisconsin Public Intervenor v. Mortier*, 501 U.S. 597, 605 (1991) (internal quotation marks omitted). As relevant here, we see no clear and manifest intent that Congress intended to preempt publicly disclosed, objectively reasonable cost-based fees imposed on a nondiscriminatory basis, particularly in light of Section 253(c).

[159] We disagree with suggestions that the Commission applied an additional and more stringent "commercial viability" test in *California Payphone*. *See, e.g.*, Crown Castle June 7, 2018 *Ex Parte* Letter at 10. Instead, the Commission was simply evaluating the Section 253 petition on its own terms, *see, e.g., California Payphone*, 12 FCC Rcd at 14204, 14210, paras. 27, 41, and, without purporting to define the bounds of Section 253(a), explaining (continued….)

locality that recover the reasonable approximation of reasonable costs do not "materially inhibit" a provider's ability to compete in a "balanced" legal environment. To the contrary, those costs enable localities to recover their necessary expenditures to provide a stable and predictable framework in which market participants can enter and compete. On the other hand, in the *Texas PUC Order* interpreting *California Payphone*, the Commission concluded that state or local legal requirements such as fees that impose a "financial burden" on providers can be effectively prohibitive.[160] As the record shows, excessive state and local governments' fees assessed on the deployment of Small Wireless Facilities in the ROW in fact materially inhibit the ability of many providers to compete in a balanced environment.[161]

58. *California Payphone* and *Texas PUC* separately support the conclusion that fees cannot be discriminatory or introduce competitive disparities, as such fees would be inconsistent with a "balanced" regulatory marketplace. Thus, fees that treat one competitor materially differently than other competitors in similar situations are themselves grounds for finding an effective prohibition—even in the case of fees that are a reasonable approximation of the actual and reasonable costs incurred by the state or locality. Indeed, the Commission has previously recognized the potential for subsidies provided to one competitor to distort the marketplace and create a barrier to entry in violation of Section 253(a).[162] We reaffirm that conclusion here.

59. *Legislative History*. While our interpretation follows directly from the text and structure of the Act, our conclusion finds further support in the legislative history, which reflects Congress's focus on the ability of states and localities to recover the reasonable costs they incur in maintaining the rights of way.[163] Significantly, Senator Dianne Feinstein, during the floor debate on Section 253(c), "offered examples of the types of restrictions that Congress intended to permit under Section 253(c), including [to] 'require a company to pay fees to *recover an appropriate share of the increased street repair and paving costs* that result from repeated excavation.'"[164] Representative Bart Stupak, a sponsor of the legislation, similarly explained during the debate on Section 253 that "if a company plans to run 100 miles of trenching in our streets and wires to all parts of the cities, it *imposes a different burden* on the right-of-way than a company that just wants to string a wire across two streets to a couple of buildings," making clear that the compensation described in the statute is related to the burden, or cost, from a provider's use of the ROW.[165] These statements buttress our interpretation of the text and structure of Section 253 and confirm Congress's apparent intent to craft specific safe harbors for states and localities, and to permit recovery of reasonable costs related to the ROW as "fair and reasonable compensation," while preempting fees above a reasonable approximation of cost that improperly inhibit service.[166]

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that the petitioner "ha[d] not sufficiently supported its allegation" that the provision of service at issue "would be 'impractical and uneconomic.'" *Id*. at 14210, para. 41. Confirming that this language was simply the Commission's short-hand reference to arguments put forward by the petitioner itself, and not a Commission-announced standard for applying Section 253, the Commission has not applied a "commercial viability" standard in other decisions, as these same commenters recognize. *See, e.g.*, Crown Castle June 7, 2018 *Ex Parte* Letter at 10.

[160] *Texas PUC Order*, 13 FCC Rcd at 3466, 3498-500, paras. 13, 78-81.

[161] *See infra* paras. 60-65.

[162] *See, e.g., Western Wireless Order*, 15 FCC Rcd at 16231, para. 8.

[163] *See, e.g.*, WIA Comments, Attach. 2 at 70.

[164] WIA Comments, Attach. 2 at 70 (quoting 141 Cong. Rec. S8172 (daily ed. June 12, 1995) (statement of Sen. Feinstein, quoting letter from Office of City Attorney, City and County of San Francisco)) (emphasis added)); *see also, e.g.*, Verizon Comments at 15 (similar); *City of Maryland Heights*, 256 F. Supp. 2d at 995-96.

[165] 141 Cong. Rec. H8460-01, H8460 (daily ed. Aug. 4, 1995).

[166] We reject other comments downplaying the relevance of legislative statements by some commenters as inconsistent with the text and structure of the Act. *See, e.g.*, League of Arizona Cities *et al.* Joint Comments at 27-
(continued….)

60. *Capital Expenditures.* Apart from the text, structure, and legislative history of the 1996 Act, an additional, independent justification for our interpretation follows from the simple, logical premise, supported by the record, that state and local fees in one place of deployment necessarily have the effect of reducing the amount of capital that providers can use to deploy infrastructure elsewhere, whether the reduction takes place on a local, regional or national level.[167] We are persuaded that providers and infrastructure builders, like all economic actors, have a finite (though perhaps fluid)[168] amount of resources to use for the deployment of infrastructure. This does not mean that these resources are limitless, however. We conclude that fees imposed by localities, above and beyond the recovery of localities' reasonable costs, materially and improperly inhibit deployment that could have occurred elsewhere.[169] This and regulatory uncertainty created by such effectively prohibitive conduct[170] creates an appreciable impact on resources that materially limits plans to deploy service. This record evidence emphasizes the importance of evaluating the effect of fees on Small Wireless Facility deployment on an aggregate basis. Consistent with the First Circuit's analysis in *Municipality of Guayanilla*, the record persuades us that fees associated with Small Wireless Facility deployment lead to "a substantial increase

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28; NATOA Comments, Exh. A at 26-28; Smart Communities Reply at 57-58; Cities of San Antonio et al. Reply at 20-21; *see also, e.g., City of Portland v. Electric Lightwave, Inc.*, 452 F. Supp. 2d 1049, 1071-72 (D. Or. 2005).

[167] At a minimum, this analysis complements and reinforces the justifications for our interpretation provided above. While the relevant language of Section 253(a) and Section 332(c)(7)(B)(i)(II) is not limited just to Small Wireless Facilities, we proceed incrementally in our Declaratory Ruling here and address the record before us, which indicates that our interpretation of the effective prohibition standard here is particularly reasonable in the context of Small Wireless Facility deployment.

[168] For example, the precise amount of these resources might shift as a service provider encounters unexpected costs, recovers costs passed on to subscribers, or earns a profit above those costs.

[169] As Verizon observes, "[a] number of states enacted infrastructure legislation because they determined that rate relief was necessary to ensure wireless deployment," and thus could be seen as having "acknowledged that excessive fees impose a substantial barrier to the provision of service." Verizon Aug. 10, 2018 *Ex Parte* Letter, Attach. at 7-8. In view of the evidence in the record regarding the effect of state and local fees on capital expenditures, *see, e.g.*, Corning Sept. 5, 2018 *Ex Parte* Letter (noting that cost savings from reduced small cell attachment and application fees could result in $2.4 billion in capital expenditure and that 97% of this capital expenditure would go toward investments in rural and suburban areas), we disagree with arguments that fees do not affect the deployment of wireless facilities in rural and underserved areas. *See, e.g.*, Letter from Sam Liccardo, Mayor, City of San Jose, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 4 (filed Sept. 18, 2018) (City of San Jose Sept. 18, 2018 *Ex Parte* Letter) (stating that "whether or not a provider wishes to invest in a dense urban area, including underserved urban areas, or a rural area is fundamentally based on the size of the customer base and the market demand for service-not on the purported wiles of a 'must-serve' jurisdiction somehow forcing investment away from rural areas because a right of way or attachment fee is charged."); Letter from Joanne Hovis, Chief Executive Officer, Coalition for Local Internet Choice, James Baller, President, Coalition for Local Internet Choice, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, Attach. at 3 (filed Sept. 18, 2018) ("in lucrative areas, carriers will pay market fees for access to property just as they would any other cost of doing business. But they will not, as rational economic actors, necessarily apply new profits (created by FCC preemption) to deploying in otherwise unattractive areas.").

[170] *See, e.g.*, CTIA Comments at 32 (identifying "disparate interpretations" regarding the fees that are preempted and seeking FCC clarification to "dispel the resulting uncertainty"); Verizon Comments at 10 (similar); Letter from Cathleen A. Massey, Vice Pres.-Fed. Regulatory Affairs, T-Mobile, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, Attach. at 7 (filed Sept. 21, 2017) (seeking clarification of Section 253); BDAC Regulatory Barriers Report, p. 9 ("The FCC should provide guidance on what constitutes a fee that is excessive and/or duplicative, and that therefore is not 'fair and reasonable.' The Commission should specifically clarify that 'fair and reasonable' compensation for right-of way access and use implies some relation to the burden of new equipment placed in the ROW or on the local asset, or some other objective standard.").

in costs"—particularly when considered in the aggregate—thereby "plac[ing] a significant burden" on carriers and materially inhibiting their provision of service contrary to Section 253 of the Act.[171]

61. The record is replete with evidence that providers have limited capital budgets that are constrained by state and local fees.[172] As AT&T explains, "[a]ll providers have limited capital dollars to invest, funds that are quickly depleted when drained by excessive ROW fees."[173] AT&T added that "[c]ompetitive demands will force carriers to deploy small cells in the largest cities. But, when those largest cities charge excessive fees to access ROWs and municipal ROW structures, carriers' finite capital dollars are prematurely depleted, leaving less for investment in mid-level cities and smaller communities. Larger municipalities have little incentive to not overcharge, and mid-level cities and smaller municipalities have no ability to avoid this harm."[174] As to areas that might not be sufficiently crucial to deployment to overcome high fees, AT&T identified jurisdictions in Maryland, California, and Massachusetts where high fees have directly resulted in paused or decreased deployments.[175] Limiting localities to reasonable cost recovery will "allow[] AT&T and other providers to stretch finite capital dollars to additional communities."[176] Verizon similarly explains that "[c]apital budgets are finite. When providers are forced to spend more to deploy infrastructure in one locality, there is less money to spend in others. The leverage that some cities have to extract high fees means that other localities will not enjoy next generation wireless broadband services as quickly, if at all."[177] Sprint, too, affirms that, because "all carriers face limited capital budgets, they are forced to limit the number and pace of their deployment investments to areas where the delays and impediments are the least onerous, to the detriment of their customers and, ultimately and ironically, to the very jurisdictions that imposed obstacles in the first place."[178] Sprint gives a specific example of its deployments in two adjacent jurisdictions—the City of Los Angeles and Los Angeles County—and describes how high fees in the county prevented Sprint from activating any small cells there, while more than 500 deployments occurred in the city, which had significantly lower fees.[179] Similarly, Conterra Broadband states that "[w]hen time and capital are diverted away from actual facility installation and instead devoted to clearing regulatory roadblocks,

[171] *Municipality of Guayanilla*, 450 F.3d at 19.

[172] *See, e.g.*, AT&T Comments at 2; Conterra Broadband et al. Comments at 6; Mobilitie Comments at 3; Sprint Comments at 17; Letter from Courtney Neville, Associate General Counsel, Competitive Carriers Association, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 2-3 (filed July 16, 2018) (CCA July 16, 2018 *Ex Parte* Letter); Letter from Henry Hultquist, Vice President, Federal Regulatory, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 2 (filed June 8, 2018) (AT&T June 8, 2018 *Ex Parte* Letter); Crown Castle June 7, 2018 *Ex Parte* Letter at 2; Letter from Katharine R. Saunders, Managing Associate General Counsel, Federal Regulatory and Legal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 2 (filed June 21, 2018) (Verizon June 21, 2018 *Ex Parte* Letter); Letter from Ronald W. Del Sesto, Jr., Counsel for Uniti Fiber, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 5 (filed Oct. 30, 2017); Verizon Aug. 10, 2018 *Ex Parte* Letter, Attach. at 2-4. When developing capital budgets, companies rationally would account for anticipated revenues associated with the services that can be provided by virtue of planned facilities deployment, and the record does not reveal—nor do we see any basis to assume—that such revenues would be so great as to eliminate constraints on providers' capital budgets so as to enable full deployment notwithstanding the level of state and local fees.

[173] AT&T Aug. 6, 2018 *Ex Parte* Letter at 2.

[174] *Id.*

[175] *Id.* (pausing or delaying deployments in Citrus Heights, CA, Oakland, CA and three Maryland counties; decreasing deployments in Lowell, MA and decreasing deployments from 98 to 25 sites in Escondido, CA).

[176] *Id*.

[177] Verizon Aug. 10, 2018 *Ex Parte* Letter at 5, Attach. at 2-4.

[178] Sprint Comments at 17.

[179] Sprint Aug. 13, 2018 *Ex Parte* Letter at 1-2.

consumers and enterprises, including local small businesses, schools and healthcare centers, suffer."[180] Based on the record, we find that fees charged by states and localities are causing *actual* delays and restrictions on deployments of Small Wireless Facilities in a number of places across the country in violation of Section 253(a).[181]

62. Our conclusion finds further support when one considers the aggregate effects of fees imposed by individual localities, including, but not limited to, the potential limiting implications for a nationwide wireless network that reaches all Americans, which is among the key objectives of the statutory provisions in the 1996 Act that we interpret here.[182] When evaluating whether fees result in an effective prohibition of service due to financial burden, we must consider the marketplace regionally and nationally and thus must consider the cumulative effects of state or local fees on service in multiple geographic areas that providers serve or potentially would serve. Where providers seek to operate on a regional or national basis, they have constrained resources for entering new markets or introducing, expanding, or improving existing services, particularly given that a provider's capital budget for a given period of time is often set in advance.[183] In such cases, the resources consumed in serving one geographic area are likely to deplete the resources available for serving other areas.[184] The text of Section 253(a) is not limited by its terms only to effective prohibitions within the geographic area targeted by the state or local fee. Where a fee in a geographic area affects service outside that geographic area, the statute is most naturally read to encompass consideration of all affected areas.

63. A contrary, geographically-restrictive interpretation of Section 253(a) would exacerbate the digital divide by giving dense or wealthy states and localities that might be most critical for a provider to serve the ability to leverage their unique position to extract fees for their own benefit at the expense of regional or national deployment by decreasing the deployment resources available for less wealthy or dense jurisdictions.[185] As a result, the areas likely to be hardest hit by excessive government fees are not necessarily jurisdictions that charge those fees, but rather areas where the case for new, expanded, or improved service was more marginal to start—and whose service may no longer be economically justifiable in the near-term given the resources demanded by the "must-serve" areas. To cite some examples of harmful aggregate effects, AT&T notes that high annual recurring fees are particularly harmful because of their "continuing and compounding nature."[186] It also states that, "if, as S&P Global

[180] Conterra Broadband *et al*. Comments at 6; *see also* Letter from John Scott, Counsel for Mobilitie, LLC to Marlene Dortch, Secretary, FCC, WT Docket No. 17-79, at 2 ("high fees imposed by some cities hurt other cities that have reasonable fees, because they reduce capital resources that might have gone to those cities, and because they pressure other financially strapped cities not to turn away what appears to be a revenue opportunity").

[181] Letter from Kenneth J. Simon, Senior Vice President and General Counsel, Crown Castle, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 4 (filed August 10, 2018) (Crown Castle Aug. 10, 2018 *Ex Parte* Letter).

[182] *New England Public Comms. Council Petition for Preemption Pursuant to Section 253*, Memorandum Opinion and Order, 11 FCC Rcd 19713, 19717, para. 9 (1996) (1996 Act intent of "accelerat[ing] deployment of advanced telecommunications services to all Americans by opening all telecommunications markets to competition."); *see also* Crown Castle Aug. 10, 2018 *Ex Parte* Letter at 7.

[183] *See, e.g.*, AT&T June 8, 2018 *Ex Parte* Letter at 2; Crown Castle June 7, 2018 *Ex Parte* Letter at 2; Verizon June 21, 2018 *Ex Parte* Letter at 2.

[184] *See, e.g.*, *Municipality of Guayanilla*, 450 F.3d at 17 ("Given the interconnected nature of utility services across communities and the strain that the enactment of gross revenue fees in multiple municipalities would have on PRTC's provision of services, the Commonwealth-wide estimates are relevant to determining how the ordinance affects PRTC's 'ability . . . to provide any interstate or intrastate telecommunications service'" under Section 253(a)).

[185] *See, e.g.*, Letter from Sam Liccardo, Mayor or San Jose, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79, Attachment at 1-2 (filed Aug. 2, 2018) (describing payment by providers of $24 million to a Digital Inclusion Fund in order to deploy small cells in San Jose on city owned light poles).

[186] AT&T Comments at 19.

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." [187] Yet another commenter notes that, "[f]or a deployment that requires a vast number of small cell facilities across a metropolitan area, these fees quickly mount up to hundreds of thousands of dollars, often making deployment economically infeasible," and "far exceed[ing] any costs the locality incurs by orders of magnitude, while taking capital that would otherwise go to investment in new infrastructure."[188] Endorsing such a result would thwart the purposes underlying Section 253(a). As Crown Castle observes, "[e]ven where the fees do not result in a direct lack of service in a high-demand area like a city or urban core, the high cost of building and operating facilities in these jurisdictions consume [sic] capital and revenue that could otherwise be used to expand wireless infrastructure in higher cost areas. This impact of egregious fees is prohibitory and should be taken into account in any prohibition analysis."[189]

64. Some municipal commenters endorse a cost-based approach to "ensure that localities are fully compensated for their costs [and that] fees should be reasonable and non-discriminatory, and should ensure that localities are made whole"[190] in recognition that "getting [5G] infrastructure out in a timely manner can be a challenge that involves considerable time and financial resources."[191] Commenters from smaller municipalities recognize that "thousands and thousands of small cells are needed for 5G… [and] old regulations could hinder the timely arrival of 5G throughout the country"[192] and urge the Commission to "establish some common-sense standards insofar as it relates to fees associated with the deployment of small cells [due to] a cottage industry of consultants [] who have wrongly counseled communities to adopt excessive and arbitrary fees."[193] Representatives from non-urban areas in particular caution that, "if the investment that goes into deploying 5G on the front end is consumed by big, urban areas, it will take longer for it to flow outwards in the direction of places like Florence, [SC]."[194] "[R]educing the high regulatory costs in urban areas would leave more dollars to development in rural areas [because] most of investment capital is spent in the larger urban areas [since] the cost recovery can be made in those areas. This leaves the rural areas out."[195] We agree with these commenters, and we further agree with courts that have considered "the *cumulative effect* of future similar municipal [fees ordinances]" across a broad

[187] AT&T Comments at 19-20.

[188] Mobilitie Comments at 3.

[189] Crown Castle Aug. 10, 2018 *Ex Parte* Letter at 2.

[190] Sal Pace July 30, 2018 *Ex Parte* Letter at 1.

[191] LaWana Mayfield July 31, 2018 *Ex Parte Letter* at 1

[192] Dr. Carolyn Prince July 31, 2018 *Ex Parte* Letter at 2.

[193] Letter from Ashton J. Hayward III, Mayor, Pensacola, FL to the Hon. Brendan Carr, Commissioner, WT Docket No. 17-79 at 1 (filed June 8, 2018).

[194] Representative Terry Alexander Aug. 7, 2018 *Ex Parte* Letter at 1.

[195] Senator Duane Ankney July 31, 2018 *Ex Parte* Letter at 1; *see also* Letter from Elder Alexis D. Pipkins, Sr. to the Hon. Brendan Carr, Commissioner, FCC at 1 (filed July 26, 2018) ("the race to 5G is global…instead of each city or state for itself, we should be working towards aligned, streamlined frameworks that benefit us all."); Letter from Jeffrey Bohm, Chairman of the Board of Commissioners, County of St. Clair to Brendan Carr, Commissioner, FCC, WT Docket 17-79 at 1-2 (filed August 22, 2018) ("Smaller communities, such as those located in St. Clair County would benefit from having the Commissions reduce the costly and unnecessary fee's that some larger communities place on small cells as a condition of deployment. These fees, wholly disproportionate to any cost, put communities like ours at an unfair disadvantage"); Letter from Scott Niesler, Mayor, City of Kings Mountain, to Brendan Carr, Commissioner, FCC, WT Docket 17-79 at 1-2 (filed June 4, 2018) ("the North Carolina General Assembly has enacted legislation to encourage the deployment of small cell technology to limit exorbitant fees which can siphon off capital from further expansion projects. I was encouraged to see the FCC taking similar steps to enact policies that help clear the way for the essential investment").

geographic area when evaluating the effect of a particular fee in the context of Section 253(a).[196] To the extent that other municipal commenters argue that our interpretation gives wireless providers preferential treatment compared to other users of the ROW, the record does not contain data about other users that would support such a conclusion.[197] In any event, Section 253 of the Communications Act expressly bars legal requirements that effectively prohibit telecommunications service without regard to whether it might result in preferential treatment for providers of that service.[198]

65. Applying this approach here, the record reveals that fees above a reasonable approximation of cost, even when they may not be perceived as excessive or likely to prohibit service in isolation, will have the effect of prohibiting wireless service when the aggregate effects are considered, particularly given the nature and volume of anticipated Small Wireless Facility deployment.[199] The record reveals that these effects can take several forms. In some cases, the fees in a particular jurisdiction will lead to reduced or entirely forgone deployment of Small Wireless Facilities in the near term for that jurisdiction.[200] In other cases, where it is essential for a provider to deploy in a given area, the fees charged in that geographic area can deprive providers of capital needed to deploy elsewhere, and lead to reduced or forgone near-term deployment of Small Wireless Facilities in other geographic areas.[201] In both of those scenarios the bottom-line outcome on the national development of 5G networks is the same—diminished deployment of Small Wireless Facilities critical for wireless service and building out 5G networks.[202]

66. Some have argued that our decision today regarding Sections 253 and 332 should not be applied to preempt agreements (or provisions within agreements) entered into prior to this Declaratory Ruling.[203] We note that courts have upheld the Commission's preemption of the enforcement of provisions in private agreements that conflict with our decisions[204] We therefore do not exempt existing

[196] *Guayanilla District Ct. Opinion*, 354 F. Supp. 2d at 111-12; *but see, e.g.,* Letter from Nina Beety to Marlene Dortch, Secretary, FCC, WT Docket No. 17-79 at 5 (filed Sept. 17, 2018) (Nina Beety Sept. 17, 2018 *Ex Parte* Letter) (asserting that providers artificially under-capitalize their deployment budgets to build the case for poverty).

[197] Letter from Larry Hanson, Executive Director, Georgia Municipal Association to Marlene Dortch, Secretary, FCC, WT Docket No. 17-79, at 1-2 (filed Sept. 17, 2018) (Georgia Municipal Association Sept. 17, 2018 *Ex Parte* Letter).

[198] 47 U.S.C. § 253(a).

[199] *See, e.g., Wireless Infrastructure Second R&O*, FCC 18-30, at para. 64. In addition, although one could argue that, in theory, a sufficiently small departure from actual and reasonable costs might not have the effect of prohibiting service in a particular instance, the record does not reveal an alternative, administrable approach to evaluating fees without a cost-based focus.

[200] *See, e.g.*, AT&T June 8, 2018 *Ex Parte* Letter at 1-2; Crown Castle June 7, 2018 *Ex Parte* Letter at 2.

[201] AT&T June 8, 2018 *Ex Parte* Letter at 1-2; Crown Castle June 7, 2018 *Ex Parte* Letter at 2; Verizon June 21, 2018 *Ex Parte* Letter at 2; CCA July 16, 2018 *Ex Parte* Letter at 2-3.

[202] *See, e.g.,* Letter from Thomas J. Navin, Counsel to Corning, Inc. to Marlene Dortch, Secretary, FCC, WT Docket No. 17-79 (filed Jan 25, 2018), Attach. at 6-7 (comparing different effects on deployment between a base case and a high fee case, and estimating that pole attachment fees nationwide assuming high fees would result in 28.2M fewer premises passed, or 31 percent of the 5G Base case results, and an associated $37.9B in forgone network deployment).

[203] City of San Jose Sept. 18, 2018 *Ex Parte* Letter at 1-2.

[204] *See, e.g., Building Owners and Managers Ass'n Int'l v. FCC,* 254 F.3d 89 (D.C. Cir. 2001) (OTARD rules barring exclusivity provisions in lease agreements). As the D.C. Circuit has recognized, "[w]here the Commission has been instructed by Congress to prohibit restrictions on the provision of a regulated means of communication, it may assert jurisdiction over a party that directly furnishes those restrictions, and, in so doing, the Commission may alter property rights created under State law." *Id.* at 96; s*ee also Lansdowne on the Potomac Homeowners Ass'n v. OpenBand at Lansdowne, LLC,* 713 F.3d 187 (4th Cir. 2013).

agreements (or particular provisions contained therein) from the statutory requirements that we interpret here. That said, however, this Declaratory Ruling's effect on any particular existing agreement will depend upon all the facts and circumstances of that specific case.[205] Without examining the particular features of an agreement, including any exchanges of value that might not be reflected by looking at fee provisions alone, we cannot state that today's decision does or does not impact any particular agreement entered into before this decision.

67. *Relationship to Section 332.* While the above analysis focuses on the text and structure of the Act, legislative history, Commission orders, and case law interpreting Section 253(a), we reiterate that in the fee context, as elsewhere, the statutory phrase "prohibit or have the effect of prohibiting" in Section 332(c)(7)(B)(i)(II) has the same meaning as the phrase "prohibits or has the effect of prohibiting" in Section 253(a). As noted in the prior section, there is no evidence to suggest that Congress intended for virtually identical language to have different meanings in the two provisions.[206] Instead, we find it more reasonable to conclude that the language in both sections generally should be interpreted to have the same meaning and to reflect the same standard, including with respect to preemption of fees that could "prohibit" or have "the effect of prohibiting" the provision of covered service. Both sections were enacted to address concerns about state and local government practices that undermined providers' ability to provide covered services, and both bar state or local conduct that prohibits or has the effect of prohibiting service.

68. To be sure, Sections 253 and 332(c)(7) may relate to different categories of state and local fees. Ultimately, we need not resolve here the precise interplay between Sections 253 and 332(c)(7). It is enough for us to conclude that, collectively, Congress intended for the two provisions to cover the universe of fees charged by state and local governments in connection with the deployment of telecommunications infrastructure. Given the analogous purposes of both sections and the consistent language used by Congress, we find the phrase "prohibit or have the effect of prohibiting" in Section

[205] For example, the City of Los Angeles asserts that fee provisions in its agreements with providers are not prohibitory and must be examined in light of a broader exchange of value contemplated by the agreements in their entirety. Letter from Eric Garcetti, Mayor, City of Los Angeles to the Hon. Ajit Pai, Chairman, FCC, WT Docket No. 17-79 (filed Sept 18, 2018). We agree that agreements entered into before this decision will need to be examined in light of their potentially unique circumstances before a decision can be reached about whether those agreements or any particular provisions in those agreements are or are not impacted by today's FCC decision.

[206] We reject the claims of some commenters that Section 332(c)(7)(B)(i)(II) is limited exclusively to decisions on individual requests and therefore must be interpreted differently than Section 253(a). *See, e.g.*, San Francisco Comments at 24-26. Section 332(c)(7)(B)(i) explicitly applies to "regulation of the placement, construction, and modification," and it would be irrational to interpret "regulation" in that paragraph to mean something different from the term "regulation" as used in 253(a) or to find that it does not encompass generally applicable "regulations" as well as decisions on individual applications. Moreover, even assuming *arguendo* that San Francisco's position reflects the appropriate interpretation of the scope of Section 332(c)(7)(B)(i)(II), the record does not reveal why a distinction between broadly-applicable requirements and decisions on individual requests would call for a materially different analytical approach, even if it arguably could be relevant when evaluating the application of that analytical approach to a particular preemption claim. In addition, although some commenters assert that such an interpretation "would make it virtually impossible for local governments to enforce their zoning laws with regard to wireless facility siting," they provide no meaningful explanation why that would be the case. *See, e.g.*, San Francisco Reply at 16. While some local commenters note that the savings clauses in Section 253(b) and (c) do not have express counterparts in the text of Section 332(c)(7)(B)(i), *see, e.g.*, San Francisco Comments at 26, we are not persuaded that this compels a different interpretation of the virtually identical language restricting actual or effective prohibitions of service in Section 253(a) and Section 332(c)(7)(B)(i)(II), particularly given our reliance on considerations in addition to the savings clauses themselves when interpreting the "effective prohibition" language. *See supra* paras. 57-65. We offer these interpretations both to respond to comments and in the event that some court decision could be viewed as supporting a different result.

332(c)(7)(B)(i)(II) should be construed as having the same meaning and governed by the same preemption standard as the identical language in Section 253(a).[207]

69. *Application of the Interpretations and Principles Established Here*. Consistent with the interpretations above, the requirement that compensation be limited to a reasonable approximation of objectively reasonable costs and be non-discriminatory applies to all state and local government fees paid in connection with a provider's use of the ROW to deploy Small Wireless Facilities including, but not limited to, fees for access to the ROW itself, and fees for the attachment to or use of property within the ROW owned or controlled by the government (*e.g.*, street lights, traffic lights, utility poles, and other infrastructure within the ROW suitable for the placement of Small Wireless Facilities). This interpretation applies with equal force to any fees reasonably related to the placement, construction, maintenance, repair, movement, modification, upgrade, replacement, or removal of Small Wireless Facilities within the ROW, including, but not limited to, application or permit fees such as siting applications, zoning variance applications, building permits, electrical permits, parking permits, or excavation permits.

70. Applying the principles established in this Declaratory Ruling, a variety of fees not reasonably tethered to costs appear to violate Sections 253(a) or 332(c)(7) in the context of Small Wireless Facility deployments.[208] For example, we agree with courts that have recognized that gross revenue fees generally are not based on the costs associated with an entity's use of the ROW,[209] and where that is the case, are preempted under Section 253(a). In addition, although we reject calls to preclude a state or locality's use of third party contractors or consultants, or to find all associated compensation preempted,[210] we make clear that the principles discussed herein regarding the reasonableness of cost remain applicable. Thus, fees must not only be limited to a reasonable approximation of costs, but in order to be reflected in fees, the *costs themselves* must also be reasonable. Accordingly, any unreasonably high costs, such as excessive charges by third party contractors or consultants, may not be passed on through fees even though they are an actual "cost" to the government. If a locality opts to incur unreasonable costs, Sections 253 and 332(c)(7) do not permit it to pass those costs on to providers. Fees that depart from these principles are not saved by Section 253(c), as we discuss below.

71. *Interpretation of Section 253(c) in the Context of Fees.* In this section, we turn to the interpretation of several provisions in Section 253(c), which provides that state or local action that otherwise would be subject to preemption under Section 253(a) may be permissible if it meets specified

[207] Section 253(a) expressly addresses state or local activities that prohibit or have the effect of prohibiting "any entity" from providing a telecommunications service. 47 U.S.C. § 253(a). In the *2009 Declaratory Ruling*, the Commission likewise interpreted Section 332(c)(7)(B)(i)(II) as implicated where the state or local conduct prohibits or has the effect of prohibiting the provision of personal wireless service by one entity even if another entity already is providing such service. *See 2009 Declaratory Ruling*, 24 FCC Rcd at 14016-19, paras. 56-65.

[208] We acknowledge that a fee not calculated by reference to costs might nonetheless happen to land at a level that is a reasonable approximation of objectively reasonable costs, and otherwise constitute fair and reasonable compensation as we describe herein. If all these criteria are met, the fee would not be preempted.

[209] *See, e.g.*, *Municipality of Guayanilla*, 450 F.3d at 21; *City of Maryland Heights*, 256 F. Supp. 2d at 993-96; *Prince George's County*, 49 F. Supp. 2d at 818; *AT&T v. City of Dallas*, 8 F. Supp. 2d at 593; *see also, e.g.*, CTIA Comments at 30, 45; *id.* Attach. at 17; ExteNet Comments, Exh. 1 at 41; T-Mobile Comments at 7; WIA Comments at 52-53.

[210] *See, e.g.*, CCA Comments at 17-21 (asking the Commission to declare franchise fees or percentage of revenue fees outside the scope of fair and reasonable compensation and to prohibit state and localities from requiring service providers to obtain business licenses for individual cell sites). For example, although fees imposed by a state or local government calculated as a percentage of a provider's revenue are unlikely to be a reasonable approximation of cost, if such a percentage-of-revenue fee were, in fact, ultimately shown to amount to a reasonable approximation of costs, the fee would not be preempted.

criteria. Section 253(c) expressly provides that state or local governments may require telecommunications providers to pay "fair and reasonable compensation" for use of public ROWs but requires that the amounts of any such compensation be "competitively neutral and nondiscriminatory" and "publicly disclosed."[211]

72. We interpret the ambiguous phrase "fair and reasonable compensation," within the statutory framework we outlined for Section 253, to allow state or local governments to charge fees that recover a reasonable approximation of the state or local governments' actual and reasonable costs. We conclude that an appropriate yardstick for "fair and reasonable compensation," and therefore an indicator of whether a fee violates Section 253(c), is whether it recovers a reasonable approximation of a state or local government's objectively reasonable costs of, respectively, maintaining the ROW, maintaining a structure within the ROW, or processing an application or permit.[212]

73. We disagree with arguments that "fair and reasonable compensation" in Section 253(c) should somehow be interpreted to allow state and local governments to charge "any compensation," and we give weight to BDAC comments that, "[a]s a policy matter, the Commission should recognize that local fees designed to maximize profit are barriers to deployment."[213] Several commenters argue, in particular, that Section 253(c)'s language must be read as permitting localities latitude to charge any fee at all[214] or a "market-based rent."[215] Many of these arguments seem to suggest that Section 253 or 332 have not previously been read to impose limits on fees, but as noted above courts have long read these provisions as imposing such limits. Still others argue that limiting the fees state and local governments may charge amounts to requiring taxpayers to subsidize private companies' use of public resources.[216]

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[211] 47 U.S.C. § 253(c).

[212] *Guayanilla District Ct. Opinion*, 354 F. Supp. 2d at 114 ("fees charged by a municipality need to be related to the degree of actual use of the public rights-of way" to constitute fair and reasonable compensation under Section 253(c)); *New Jersey Payphone Ass'n, Inc. v. Town of West New York*, 130 F. Supp. 2d 631, 638 (D.N.J. 2001), *aff'd* 299 F. 3d 235 (3d Cir. 2002) (*New Jersey Payphone*) ("Plainly, a fee that does more than make a municipality whole is not compensatory in the literal sense, and risks becoming an economic barrier to entry.")

[213] BDAC Regulatory Barriers Report, Appendix C, p. 3 (a "[ROW] burden-oriented [fee] standard is flexible enough to suit varied localities and network architectures, would ensure that fees are not providing additional revenues for other localities purposes unrelated to providing and maintaining the ROW, and would provide some basis to challenge fees that, on their face, are so high as to suggest their sole intent is to maximize revenue.")

[214] *See, e.g.,* Baltimore Comments at 15-16 (noting that local governments traditionally impose fees based on rent, and other ROW users pay market-based fees and arguing that citizens should not have to "subsidize" wireless deployments); Bellevue *et al*. Reply at 12-13 (stating that "the FCC should compensate municipalities at fair market value because any physical invasion is a taking under the Fifth Amendment, and just compensation is "typically" calculated using fair market value."); NLC Comments at 5 ("local governments, like private landlords, are entitled to collect rent for the use of their property and have a duty to their residents to assess appropriate compensation. This does not necessarily translate to restricting this compensation to just the cost of managing the asset—just as private property varies in value, so does municipal property."); Smart Communities Reply at 7-10 (stating that "fair and reasonable compensation (i.e., fair market value) is not, as some commenters contend, measured by the regulatory cost for use of a ROW or other property; rather it is measured by what it would cost the user of the ROW to purchase rights form a local property owner.").

[215] Draft BDAC Rates and Fees Report, p. 10 (listing "Local Government Perspectives").

[216] *See, e.g.,* NLC Comments, Statement of the Hon. Gary Resnick, Mayor, Wilton Manors, FL Comments at 6-7 ("preemption of local fees or rent for use of government-owned light and traffic poles, or fees for use of the right-of-way amounts to a taxpayer subsidy of wireless providers and wireless infrastructure companies. There is no corresponding benefit for such taxpayers such as requiring the broadband industry to reduce consumer rates or offer advanced services to all communities within a certain time frame."); Letter from Rondella M. Hawkins, Officer, City of Austin—Telecommunications & Regulatory Affairs, to Marlene Dortch, Secretary, FCC, WT Docket No. 17-79 (filed Aug. 7, 2018) at 1. These commenters do not explain why allowing recovery of a reasonable

(continued….)

We find little support in the record, legislative history, or case law for that position.[217] Indeed, our approach to compensation ensures that cities are not going into the red to support or subsidize the deployment of wireless infrastructure.

74. The existence of Section 253(c) makes clear that Congress anticipated that "effective prohibitions" could result from state or local government fees, and intended through that clause to provide protections in that respect, as discussed in greater detail herein.[218] Against that backdrop, we find it unlikely that Congress would have left providers entirely at the mercy of effectively unconstrained requirements of state or local governments.[219] Our interpretation of Section 253(c), in fact, is consistent with the views of many municipal commenters, at least with respect to one-time permit or application fees, and the members of the BDAC Ad Hoc Committee on Rates and Fees, who unanimously concurred that one-time fees for municipal applications and permits, such as an electrical inspection or a building permit, should be based on the cost to the government of processing that application.[220] The Ad Hoc

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approximation of the state or locality's objectively reasonable costs would involve a taxpayer subsidy of service providers, and we are not persuaded that our interpretation would create a subsidy.

[217] As discussed more fully above, Congress intended through Section 253 to preempt state and local governments from imposing barriers in the form of excessive fees, while also preserving state and local authority to protect specified interests through competitively neutral regulation consistent with the Act. Our interpretation of Section 253(c) is consistent with Congress's objectives. Our interpretation of "fair and reasonable compensation" in Section 253(c) is also consistent with prior Commission action limiting fees, and easing access, to other critical communications infrastructure. For example, in implementing the requirement in the Pole Attachment Act that utilities charge "just and reasonable" rates, the Commission adopted rules limiting the rates utilities can impose on cable companies for pole attachments. Based on the costs associated with building and operation of poles, the rates the Commission adopted were upheld by the Supreme Court, which found that the rates imposed were permissible and not "confiscatory" because they "provid[ed] for the recovery of fully allocated cost, including the actual cost of capital." *See FCC v. Florida Power Corp.*, 480 U.S. 245, 254 (1987). Here, based on the specific language in the separate provision of Section 253, we interpret the "effective prohibition" language, as applied to small cells, to permit state and local governments to recover only "fair and reasonable compensation" for their maintenance of ROW and government-owned structures within ROW used to host Small Wireless Facilities. Relatedly, Smart Communities errs in arguing that the Commission's Order "provides localities 60 days to provide access and sets the rate for access," making it a "classic taking." Smart Communities Sept. 19, 2018 *Ex Parte* Letter at 25. To the contrary, the Commission has not given providers any right to compel access to any particular state or local property. *Cf. Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419 (1982). There may well be legitimate reasons for states and localities to deny particular placement applications, and adjudication of whether such decisions amount to an effective prohibition must be resolved on a case-by-case basis. In this regard, we note that the record in this proceeding reflects that the vast majority of local jurisdictions voluntarily accept placement of wireless, utility, and other facilities in their rights-of-way. And in any event, cost-based recovery of the type we provide here has been approved as just compensation for takings purposes in the context of such facilities. *See Alabama Power Co. v. FCC*, 311 F.3d 1357, 1368, 1370-71 (11th Cir. 2002). *See also United States v. 564.54 Acres of Land*, 441 U.S. 506, 513 (1979) (recognizing that alternative measure of compensation might be appropriate "with respect to public facilities such as roads or sewers").

[218] *See supra* Parts III.A, B.

[219] *See, e.g., City of White Plains*, 305 F.3d at 78-79; *Guayanilla District Ct. Opinion*, 354 F. Supp. 2d at 114. We disagree with arguments that competition between municipalities, or competition from adjacent private landowners, would be sufficient to ensure reasonable pricing in the ROW. *See e.g.*, Smart Communities Comments, Exh. 2, The Economics of Government Right of Way Fees, Declaration of Kevin Cahill, Ph.D at para. 15. We find this argument unpersuasive in view of the record evidence in this proceeding showing significant fees imposed on providers in localities across the country. *See, e.g.*, AT&T Comments at 18; Verizon Comments at 6-7; *see also* BDAC Regulatory Barriers Report, Appendix. C, p. 2.

[220] *See, e.g.*, Smart Communities Comments Cahill 2A at 2-3 (noting that "…a common model is to charge a fee that covers the costs that a municipality incurs in conducting the inspections and proceedings required to allow entry, fees that cover ongoing costs associated with inspection or expansion of facilities ..."); Colorado Comm. and Utility
(continued….)

Committee noted that "[the] cost-based fee structure [for one-time fees] unanimously approved by the committee accommodates the different siting related costs that different localities may incur to review and process permit applications, while precluding excessive fees that impede deployment.[221] We find that the same reasoning should apply to other state and local government fees such as ROW access fees or fees for the use of government property within the ROW.[222]

75. We recognize that state and local governments incur a variety of direct and actual costs in connection with Small Wireless Facilities, such as the cost for staff to review the provider's siting application, costs associated with a provider's use of the ROW, and costs associated with maintaining the ROW itself or structures within the ROW to which Small Wireless Facilities are attached.[223] We also recognize that direct and actual costs may vary by location, scope, and extent of providers' planned deployments, such that different localities will have different fees under the interpretation set forth in this Declaratory Ruling.

76. Because we interpret fair and reasonable compensation as a *reasonable approximation* of costs, we do not suggest that localities must use any specific accounting method to document the costs they may incur when determining the fees they charge for Small Wireless Facilities within the ROW. Moreover, in order to simplify compliance, when a locality charges both types of recurring fees identified above (i.e., for access to the ROW and for use of or attachment to property in the ROW), we see no reason for concern with how it has allocated costs between those two types of fees. It is sufficient under the statute that the total of the two recurring fees reflects the total costs involved.[224] Fees that cannot ultimately be shown by a state or locality to be a reasonable approximation of its costs, such as high fees designed to subsidize local government costs in another geographic area or accomplish some public policy objective beyond the providers' use of the ROW, are not "fair and reasonable compensation…for *use* of the public rights-of-way" under Section 253(c).[225] Likewise, we agree with both industry and municipal commenters that excessive and arbitrary consulting fees or other costs should not be recoverable as "fair and reasonable compensation,"[226] because they are not a function of the provider's "use" of the public ROW.

(Continued from previous page)
All. *et al.* Comments at 19 (noting that "application fees are based upon recovery of costs incurred by localities."); Draft BDAC Rates and Fees Report, p. 15-16.

[221] *See also* Draft BDAC Rates and Fees Report, p. 15-16. Although the BDAC Ad Hoc Rates and Fees Committee and municipal commenters only support a cost-based approach for one-time fees, we find no reason not to extend the same reasoning to ROW access fees or fees for the use of government property within the ROW, when all three types of fees are a legal requirement imposed by a government and pose an effective prohibition. The BDAC Rates and Fees Report did not provide a recommendation on fees for ROW access or fees for the use of government property within the ROW, and we disagree with suggestions that our ruling, which was consistent with the committee's recommendation for one-time fees, circumvents the efforts of the Ad Hoc Rates and Fees Committee. *See* Georgia Municipal Association Sept. 17, 2018 *Ex Parte* Letter at 3.

[222] *See supra* para. 50.

[223] *See, e.g.*, Colorado Comm. and Utility All. *et al*. Comments at 18-19 (discussing range of costs that application fees cover).

[224] *See supra* note 71 (identifying three categories of fees charged by states and localities).

[225] 47 U.S.C. § 253(c) (emphasis added). Our interpretation is consistent with court decisions interpreting the "fair and reasonable" compensation language as requiring fees charged by municipalities relate to the degree of actual use of a public ROW. *See, e.g, Puerto Rico Tel. Co. v. Municipality of Guayanilla*, 283 F. Supp. 2d 534, 543-44 (D.P.R. 2003); *see also Municipality of Guayanilla*, 450 F.3d at 21-24; *City of Maryland Heights*, 256 F. Supp. 2d at 984.

[226] *See* Letter from Ashton J. Hayward III, Mayor, Pensacola, FL to the Hon. Brendan Carr, Commissioner, WT Docket No. 17-79 at 1 (filed June 8, 2018); *see also*, Illinois Municipal League Comments at 2 (noting that proposed small cell legislation in Illinois allows municipalities to recover "reasonable costs incurred by the municipality in reviewing the application.").

77. In addition to requiring that compensation be "fair and reasonable," Section 253(c) requires that it be "competitively neutral and nondiscriminatory." The Commission has previously interpreted this language to prohibit states and localities from charging fees on new entrants and not on incumbents.[227] Courts have similarly found that states and localities may not impose a range of fees on one provider but not on another[228] and even some municipal commenters acknowledge that governments should not discriminate as to the fees charged to different providers.[229] The record reflects continuing concerns from providers, however, that they face discriminatory charges.[230] We reiterate the Commission's previous determination that state and local governments may not impose fees on some providers that they do not impose on others. We would also be concerned about fees, whether one-time or recurring, related to Small Wireless Facilities, that exceed the fees for other wireless telecommunications infrastructure in similar situations, and to the extent that different fees are charged for similar use of the public ROW.[231]

78. *Fee Levels Likely to Comply with Section 253.* Our interpretation of Section 253(a) and "fair and reasonable compensation" under Section 253(c) provides guidance for local and state fees charged with respect to one-time fees generally, and recurring fees for deployments in the ROW. Following suggestions for the Commission to "establish a presumptively reasonable 'safe harbor' for certain ROW and use fees,"[232] and to facilitate the deployment of specific types of infrastructure critical to the rollout of 5G in coming years, we identify in this section three particular types of fee scenarios and supply specific guidance on amounts that presumptively are not prohibited by Section 253. Informed by our review of information from a range of sources, we conclude that fees at or below these amounts presumptively do not constitute an effective prohibition under Section 253(a) or Section 332(c)(7), and are presumed to be "fair and reasonable compensation" under Section 253(c).

79. Based on our review of the Commission's pole attachment rate formula, which would require fees below the levels described in this paragraph, as well as small cell legislation in twenty states, local legislation from certain municipalities in states that have not passed small cell legislation, and comments in the record, we presume that the following fees would not be prohibited by Section 253 or Section 332(c)(7): (a) $500 for non-recurring fees, including a single up-front application that includes up to five Small Wireless Facilities, with an additional $100 for each Small Wireless Facility beyond five, or $1,000 for non-recurring fees for a new pole (*i.e.*, not a collocation) intended to support one or more Small Wireless Facilities; and (b) $270 per Small Wireless Facility per year for all recurring fees,

[227] *TCI Cablevision of Oakland County*, 12 FCC Rcd. at 21443, para. 108 (1997).

[228] *City of White Plains*, 305 F.3d 80.

[229] City of Baltimore Reply at 15 ("The City does agree that rates to access the right of way by similar entities must be nondiscriminatory."). Other commenters argue that nothing in Section 253 can apply to property in the ROW. City of San Francisco Reply at 2-3, 19 (denying that San Francisco is discriminatory to different providers but also asserting that "[l]ocal government fees for use of their poles are simply beyond the purview of section 253(c)").

[230] *See, e.g.*, CFP Comments at 31-33 (noting that the City of Baltimore charges incumbent Verizon "less than $.07 per linear foot for the space that it leases in the public right-of-way" while it charges other providers "$3.33 per linear foot to lease space in the City's conduit). Some municipal commenters argue that wireless infrastructure occupies more space in the ROW. *See* Smart Communities Reply Comments at 82 ("wireless providers are placing many of those permanent facilities in the public rights-of-way, in ways that require much larger deployments. It is not discrimination to treat such different facilities differently, and to focus on their impacts"). We recognize that different uses of the ROW may warrant charging different fees, and we only find fees to be discriminatory and not competitively neutral when different amounts are charged for similar uses of the ROW.

[231] Our interpretation is consistent with principles described by the BDAC's Ad Hoc Committee on Rates and Fees. Draft BDAC Rates and Fees Report at 5 (Jul. 24, 2018) (listing "neutral treatment and access of all technologies and communication providers based upon extent/nature of ROW use" as principle to guide evaluation of rates and fees).

[232] BDAC Regulatory Barriers Report, Appendix C, p. 3.

including any possible ROW access fee or fee for attachment to municipally-owned structures in the ROW.[233]

80. By presuming that fees at or below the levels above comply with Section 253, we assume that there would be almost no litigation by providers over fees set at or below these levels. Likewise, our review of the record, including the many state small cell bills passed to date, indicate that there should be only very limited circumstances in which localities can charge higher fees consistent with the requirements of Section 253. In those limited circumstances, a locality could prevail in charging fees that are above this level by showing that such fees nonetheless comply with the limits imposed by Section 253—that is, that they are (1) a reasonable approximation of costs, (2) those costs themselves are reasonable, and (3) are non-discriminatory.[234] Allowing localities to charge fees above these levels upon this showing recognizes local variances in costs.[235]

C. Other State and Local Requirements that Govern Small Facilities Deployment

81. There are also other types of state and local land-use or zoning requirements that may restrict Small Wireless Facility deployments to the degree that they have the effect of prohibiting service

[233] These presumptive fee limits are based on a number of different sources of data. Many different state small cell bills, in particular, adopt similar fee limits despite their diversity of population densities and costs of living, and we expect that these presumptive fee limits will allow for recovery in excess of costs in many cases. 47 CFR § 1.1409; National Conference of State Legislatures, Mobile 5G and Small Cell Legislation, (May 7, 2018), http://www.ncsl.org/research/telecommunications-and-information-technology/mobile-5g-and-small-cell-legislation.aspx (providing description of state small cell legislation); Little Rock, Ark. Ordinance No. 21,423 (June 6, 2017); NCTA August 20, 2018 *Ex Parte* Letter, Attachment; *see also* H.R. 2365, 2018 Leg. 2d Reg. Sess. (Ariz. 2018) ($100 per facility for first 5 small cells in application; $50 annual utility attachment rate, $50 ROW access fee); H.R. 189 149th Gen. Assemb. Reg. Sess. (Del. 2017) ($100 per small wireless facility on application; fees not to exceed actual, direct and reasonable cost); S. 21320th Gen. Assemb. Reg. Sess. (Ind. 2017) ($100 per small wireless facility); H.R. 1991, 99th Gen. Assemb. 2nd Reg. Sess. (Missouri, 2018) ($100 for each facility collocated on authority pole; $150 annual fee per pole); H.R. 38 2018 Leg. Assemb. 2d Reg. Sess. (N.M. 2018) ($100 for each of first 5 small facilities in an application; $20 per pole annually; $250 per facility annually for access to ROW); S. 189, 2018 Leg. Gen. Sess. (Utah 2018) ($100 per facility to collocate on existing or replacement utility pole; $250 annual ROW fee per facility for certain attachments). *See also* Letter from Kara R. Graves, Director, Regulatory Affairs, CTIA, and D. Zachary Champ, Director, Government Affairs, WIA to Marlene Dortch, Secretary, FCC, WT Docket No. 17-79 (filed Aug. 10, 2018) Attach. (listing fees in twenty state small cell legislations) (CTIA/WIA Aug. 10, 2018 *Ex Parte* Letter); Letter from Scott K. Bergmann, Sen. Vice President, Regulatory Affairs, CTIA to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 (filed Sept. 4, 2018) at 3, Attach. (analyzing average and median recurring fee levels permitted under state legislation). These examples suggest that the fee levels we discuss above may be higher than what many states already allow and further support our finding that there should be only very limited circumstances in which localities can charge higher fees consistent with the requirements of Section 253. We recognize that certain fees in a minority of state small cell bills are above the levels we presume to be allowed under Section 253. Any party may still charge fees above the levels we identify by demonstrating that the fee is a reasonable approximation of cost that itself is objectively reasonable.

[234] Several state and local commenters express concern about the presumptively reasonable fee levels we establish, including concerns about the effect of the fee levels on existing fee-related provisions included in state and local legislation. *See e.g.*, Letter from Kent Scarlett, Exec. Director, Ohio Municipal League to Marlene H. Dortch, Secretary, FCC at 1 (filed Sept. 18, 2018); Letter from Liz Kniss, Mayor, City of Palo Alto to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, WC Docket No. 17-84 at 1 (filed Sept. 17, 2018). As stated above, while the fee levels we establish reflect our presumption regarding the level of fees that would be permissible under Section 253 and 332(c)(7), state or local fees that exceed these levels may be permissible if the fees are based on a reasonable approximation of costs and the costs themselves are objectively reasonable.

[235] We emphasize that localities may charge fees to recover their objectively reasonable costs and thus reject arguments that our approach requires localities to bear the costs of small cell deployment or applies a one-size-fits-all standard. *See, e,g.*, Letter from Mike Posey, Mayor, City of Huntington Beach, to Marlene Dortch, Secretary, FCC, WT Docket No. 17-79, at 1-2 (filed Sept.11, 2018) (Mike Posey Sept. 11, 2018 *Ex Parte* Letter).

in violation of Sections 253 and 332. In this section, we discuss how those statutory provisions apply to requirements outside the fee context, both generally and with a particular focus on aesthetic and undergrounding requirements.

82. As discussed above, a state or local legal requirement constitutes an effective prohibition if it "materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment."[236] Our interpretation of that standard, as set forth above, applies equally to fees and to non-fee legal requirements. And as with fees, Section 253 contains certain safe harbors that permit some legal requirements that might otherwise be preempted by Section 253(a). Section 253(b) saves state "requirements necessary to preserve and advance universal service, protect the public safety and welfare, ensure the continued quality of telecommunications services, and safeguard the rights of consumers.[237] And Section 253(c) preserves state and local authority to manage the public rights-of-way.[238]

83. Given the wide variety of possible legal requirements, we do not attempt here to determine which of every possible non-fee legal requirements are preempted for having the effect of prohibiting service, although our discussion of fees above should prove instructive in evaluating specific requirements. Instead, we focus on some specific types of requirements raised in the record and provide guidance on when those particular types of requirements are preempted by the statute.

84. *Aesthetics.* The *Wireless Infrastructure NPRM/NOI* sought comment on whether deployment restrictions based on aesthetic or similar factors are widespread and, if so, how Sections 253 and 332(c)(7) should be applied to them.[239] Parties describe a wide range of such requirements that allegedly restrict deployment of Small Wireless Facilities. For example, many providers criticize burdensome requirements to deploy facilities using "stealth" designs or other means of camouflage,[240] as well as unduly stringent mandates regarding the size of equipment, colors of paint, and other details.[241] Providers also assert that the procedures some localities use to evaluate the appearance of proposed facilities and to decide whether they comply with applicable land-use requirements are overly

[236] *California Payphone*, 12 FCC Rcd at 14206, para. 31; *see supra* paras. 34-42.

[237] 47 U.S.C. § 253(b).

[238] 47 U.S.C. § 253(c).

[239] *Wireless Infrastructure NPRM/NOI*, 32 FCC Rcd at 3362-66, paras. 90-92, 95, 97-99.

[240] *See, e.g.,* CCIA Comments at 14-15 (discussing regulations enacted by Village of Skokie, Illinois); WIA Reply Comments (WT Docket No. 16-421) at 9-10 (discussing restrictions imposed by Town of Hempstead, New York); *see also* AT&T Comments at 14-17; PTA-FLA Comments at 19; Verizon Comments at 19-20; AT&T Aug. 6, 2018 *ex parte* at 3.

[241] *See, e.g.,* CCIA Comments at 13-14 (describing regulations established by Skokie, Illinois that prescribe in detail the permissible colors of paint and their potential for reflecting light); AT&T Aug. 6, 2018 *ex parte* at 3 ("Some municipalities require carriers to paint small cell cabinets a particular color when like requirements were not imposed on similar equipment placed in the ROW by electric incumbents, competitive telephone companies, or cable companies," and asserts that it often "is highly burdensome to maintain non-factory paint schemes over years or decades, including changes to the municipal paint scheme," due to "technical constraints as well such as manufacture warranty or operating parameters, such as heat dissipation, corrosion resistance, that are inconsistent with changes in color, or finish."); AT&T Comments at 16-17 (contending that some localities "allow for a single size and configuration for small cell equipment while requiring case-by-case approval of any non-conforming equipment, even if smaller and upgraded in design and performance," and thus effectively compel "providers [to] incur the added expense of conforming their equipment designs to the approved size and configuration, even if newer equipment is smaller, to avoid the delays associated with the approval of an alternative equipment design and the risk of rejection of that design."); *id.* at 17 (some local governments "prohibit the placement of wireless facilities in and around historic properties and districts, regardless of the size of the equipment or the presence of existing more visually intrusive construction near the property or district").

restrictive.[242] Many providers are particularly critical of the use of unduly vague or subjective criteria that may apply inconsistently to different providers or are only fully revealed after application, making it impossible for providers to take these requirements into account in their planning and adding to the time necessary to deploy facilities.[243] At the same time, we have heard concerns in the record about carriers deploying unsightly facilities that are significantly out of step with similar, surrounding deployments.

85. State and local governments add that many of their aesthetic restrictions are justified by factors that the providers fail to mention. They assert that their zoning requirements and their review and enforcement procedures are properly designed to, among other things, (1) ensure that the design, appearance, and other features of buildings and structures are compatible with nearby land uses; (2) manage ROW so as to ensure traffic safety and coordinate various uses; and (3) protect the integrity of their historic, cultural, and scenic resources and their citizens' quality of life.[244]

86. Given these differing perspectives and the significant impact of aesthetic requirements on the ability to deploy infrastructure and provide service, we provide guidance on whether and in what circumstances aesthetic requirements violate the Act. This will help localities develop and implement lawful rules, enable providers to comply with these requirements, and facilitate the resolution of disputes. We conclude that aesthetics requirements are not preempted if they are (1) reasonable, (2) no more burdensome than those applied to other types of infrastructure deployments, and (3) objective and published in advance.

87. Like fees, compliance with aesthetic requirements imposes costs on providers, and the impact on their ability to provide service is just the same as the impact of fees. We therefore draw on our analysis of fees to address aesthetic requirements. We have explained above that fees that merely require providers to bear the direct and reasonable costs that their deployments impose on states and localities should not be viewed as having the effect of prohibiting service and are permissible.[245] Analogously, aesthetic requirements that are reasonable in that they are technically feasible and reasonably directed to

[242] *See, e.g.,* Crown Castle Comments at 14-15 (criticizing San Francisco's aesthetic review procedures that discriminate against providers and criteria and referring to extended litigation); CTIA Reply Comments at 17 ("San Francisco imposes discretionary aesthetic review for wireless ROW facilities."); T-Mobile Comments at 40; *but see* San Francisco Comments at 3-7 (describing aesthetic review procedures). *See also* AT&T Comments at 13-17; Extenet Comments at 37; CTIA Comments at 21-22; Sprint Comments at 38-40; T-Mobile Comments at 8-12; Verizon Comments at 5-8.

[243] *See, e.g.,* AT&T Comments at 13-17; Sprint Comments at 38-40; T-Mobile Comments at 8-12; Verizon Comments at 5-8. WIA cites allegations that an unnamed city in California recently declined to support approval of a proposed small wireless installation, claiming that the installations do not meet "Planning and Zoning Protected Location Compatibility Standards," even though the same equipment has been deployed elsewhere in the city dozens of times, and even though the "Protected Location" standards should not apply because the proposals are not on "protected view" streets). WIA Reply Comments, WT Docket No. 16-421 at 9-10; *id.* at 8 (noting that one city changed its aesthetic standards after a proposal was filed); AT&T Comments at 17 (noting that a design approval took over a year); Virginia Joint Commenters, WT Docket No. 16-421 (state law providing discretion for zoning authority to deny application because of "aesthetics" concerns without additional guidance); Extenet Reply Comments at 13 (noting that some "local governments impose aesthetic requirements based entirely on subjective considerations that effectively give local governments latitude to block a deployment for virtually any aesthetically-based reason")

[244] *See, e.g.,* NLC Comments, WT Docket No. 16-421 at 8-10; Smart Communities Comments, WT Docket No. 16-421 at 35-36; New York City Comments at 10-15; New Orleans Comments at 1-2, 5-8; San Francisco Comments at 3-12; CCUA Reply Comments at 5; Irvine (CA) Comments at 2; Oakland County (MI) Comments at 3-5; Florida Coalition of Local Gov'ts Reply Comments at 6-12 (justifications for undergrounding requirements); *id.* at 16-421 (justifications for municipal historic-preservation requirements); *id.* at 22-16 (justifications for aesthetics and design requirements).

[245] *See supra* paras. 55-56.

avoiding or remedying the intangible public harm of unsightly or out-of-character deployments are also permissible. In assessing whether this standard has been met, aesthetic requirements that are more burdensome than those the state or locality applies to similar infrastructure deployments are not permissible, because such discriminatory application evidences that the requirements are not, in fact, reasonable and directed at remedying the impact of the wireless infrastructure deployment. For example, a minimum spacing requirement that has the effect of materially inhibiting wireless service would be considered an effective prohibition of service.

88. Finally, in order to establish that they are reasonable and reasonably directed to avoiding aesthetic harms, aesthetic requirements must be objective—*i.e.*, they must incorporate clearly-defined and ascertainable standards, applied in a principled manner—and must be published in advance.[246] "Secret" rules that require applicants to guess at what types of deployments will pass aesthetic muster substantially increase providers' costs without providing any public benefit or addressing any public harm. Providers cannot design or implement rational plans for deploying Small Wireless Facilities if they cannot predict in advance what aesthetic requirements they will be obligated to satisfy to obtain permission to deploy a facility at any given site.[247]

89. We appreciate that at least some localities will require some time to establish and publish aesthetics standards that are consistent with this Declaratory Ruling. Based on our review and evaluation of commenters' concerns, we anticipate that such publication should take no longer than 180 days after publication of this decision in the Federal Register.

90. *Undergrounding Requirements.* We understand that some local jurisdictions have adopted undergrounding provisions that require infrastructure to be deployed below ground based, at least in some circumstances, on the locality's aesthetic concerns. A number of providers have complained that these types of requirements amount to an effective prohibition.[248] In addressing this issue, we first reiterate that, while undergrounding requirements may well be permissible under state law as a general matter, any local authority to impose undergrounding requirements under state law does not remove such requirements from the provisions of Section 253. In this regard, we believe that a requirement that *all* wireless facilities be deployed underground would amount to an effective prohibition given the

[246] Our decision to adopt this objective requirement is supported by the fact that many states have recently adopted limits on their localities' aesthetic requirements that employ the term "objective." *See, e.g.*, Letter from Scott Bergmann, Senior Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 8 (filed Sept. 19, 2018) (noting requirements enacted in the states of Arizona, Delaware, Missouri, North Carolina, Ohio, and Oklahoma, that local siting requirements for small wireless facilities be "objective"); *see also* Letter from Kara R. Graves, Director, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 8 (filed Sept. 4, 2018)

[247] Some local governments argue that, because different aesthetic concerns may apply to different neighborhoods, particularly those considered historic districts, it is not feasible for them to publish local aesthetic requirements in advance. *See, e.g.*, Letter from Mark J. Schwartz, County Manager, Arlington County, VA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 2 (Sept. 18, 2018) (Arlington County Sept. 18 *Ex Parte* Letter); Letter from Allison Silberberg, Mayor, City of Alexandria, VA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 2 (Sept. 18, 2018). We believe this concern is unfounded. As noted above, the fact that our approach here (including the publication requirement) is consistent with that already enacted in many state-level small cell bills supports the feasibility of our decision. Moreover, the aesthetic requirements to be published in advance need not prescribe in detail every specification to be mandated for each type of structure in each individual neighborhood. Localities need only set forth the objective standards and criteria that will be applied in a principled manner at a sufficiently clear level of detail as to enable providers to design and propose their deployments in a manner that complies with those standards.

[248] *See, e.g.,* AT&T Comments at 14-15; Crown Castle Comments at 54-56; T-Mobile Comments at 38; Verizon Comments at 6-8; WIA Comments at 56; CTIA Reply at 16. *But see* Chicago Comments at 15; City of Claremont (CA) Comments at 1; City of Kenmore (WA) Comments at 1; City of Mukilteo (WA) Comments at 2; Florida Coalition of Local Gov'ts Comments at 6-12; Smart Communities Comments at 74.

propagation characteristics of wireless signals. In this sense, we agree with the U.S. Court of Appeals for the Ninth Circuit when it observed that, "[i]f an ordinance required, for instance, that all facilities be underground and the plaintiff introduced evidence that, to operate, wireless facilities must be above ground, the ordinance would effectively prohibit it from providing services."[249] Further, a requirement that materially inhibits wireless service, even if it does not go so far as requiring that all wireless facilities be deployed underground, also would be considered an effective prohibition of service. Thus, the same criteria discussed above in the context of aesthetics generally would apply to state or local undergrounding requirements.

91. *Minimum Spacing Requirements.* Some parties complain of municipal requirements regarding the spacing of wireless installations—*i.e.*, mandating that facilities be sited at least 100, 500, or 1,000 feet, or some other minimum distance, away from other facilities, ostensibly to avoid excessive overhead "clutter" that would be visible from public areas.[250] We acknowledge that while some such requirements may violate 253(a), others may be reasonable aesthetic requirements.[251] For example, under the principle that any such requirements be reasonable and publicly available in advance, it is difficult to envision any circumstances in which a municipality could reasonably promulgate a new minimum spacing requirement that, in effect, prevents a provider from replacing its preexisting facilities or collocating new equipment on a structure already in use. Such a rule change with retroactive effect would almost certainly have the effect of prohibiting service under the standards we articulate here. Therefore, such requirements should be evaluated under the same standards for aesthetic requirements as those discussed above.[252]

D. States and Localities Act in Their Regulatory Capacities When Authorizing and Setting Terms for Wireless Infrastructure Deployment in Public Rights of Way

92. We confirm that our interpretations today extend to state and local governments' terms for access to public ROW that they own or control, including areas on, below, or above public roadways,

[249] *County of San Diego*, 543 F.3d at 580, *accord*, BDAC Model Municipal Code at 13, § 2.3.e (providing for municipal zoning authority to allow providers to deploy small wireless facilities on existing vertical structures where available in neighborhoods with undergrounding requirements, or if no technically feasible structures exist, to place vertical structures commensurate with other structures in the area).

[250] *See, e.g.*, Verizon Comments at 8 (describing requirements imposed by Buffalo Grove, Illinois); CCIA Comments at 14-15 ("These restrictions stifle technological innovation and unnecessarily burden the ability of a provider to use the best available technological to serve a particular area. For example, 5G technology will require higher band spectrum for greater network capacity, yet some millimeter wave spectrum simply cannot propagate long distances over a few thousand feet—let alone a few hundred. Therefore, a local requirement of, for example, a thousand-foot minimum separation distance between small cells would unnecessarily forestall any network provider seeking to use higher band spectrum with greater capacity when that provider needs to boost coverage in a specific area of a few hundred feet."). *See also* AT&T Comments at 15; CTIA Reply at 17.

[251] 47 U.S.C. § 253(a).

[252] Another type of restriction that imposes substantial burdens on providers, but does not meaningfully advance any recognized public-interest objective, is an explicit or implicit *quid pro quo* in which a municipality makes clear that it will approve a proposed deployment only on condition that the provider supply an "in-kind" service or benefit to the municipality, such as installing a communications network dedicated to the municipality's exclusive use. *See, e.g.*, Comcast Comments at 9-10 Verizon Comments at 7, Crown Castle Comments at 55-56. Such requirements impose costs, but rarely, if ever, yield benefits directly related to the deployment. Additionally, where such restrictions are not cost-based, they inherently have "the effect of prohibiting" service, and thus are preempted by Section 253(a). *See also* BDAC Regulatory Barriers Report, Appendix E at 1 (describing "conditions imposed that are unrelated to the project for which they were seeking ROW access" as "inordinately burdensome"); BDAC Model Municipal Code at 19, § 2.5a.(v)(F) (providing that municipal zoning authority "may not require an Applicant to perform services . . . or in-kind contributions [unrelated] to the Communications Facility or Support Structure for which approval is sought").

highways, streets, sidewalks, or similar property, as well as their terms for use of or attachment to government-owned property within such ROW, such as new, existing and replacement light poles, traffic lights, utility poles, and similar property suitable for hosting Small Wireless Facilities.[253] As explained below, for two alternative and independent reasons, we disagree with state and local government commenters who assert that, in providing or denying access to government-owned structures, these governmental entities function solely as "market participants" whose rights cannot be subject to federal preemption under Section 253(a) or Section 332(c)(7).[254]

93. First, this effort to differentiate between such governmental entities' "regulatory" and "proprietary" capacities in order to insulate the latter from preemption ignores a fundamental feature of the market participant doctrine.[255] As the Ninth Circuit has observed, at its core, this doctrine is "a presumption about congressional intent," which "may have a different scope under different federal statutes."[256] The Supreme Court has likewise made clear that the doctrine is applicable only "[i]n the absence of any express or implied indication by Congress."[257] In contrast, where state action conflicts with express or implied federal preemption, the market participant doctrine does not apply, whether or not the state or local government attempts to impose its authority over use of public rights-of-way by permit or by lease or contract.[258] Here, both Sections 253(a) and Section 332(c)(7)(B)(i)(II) expressly address preemption, and neither carves out an exception for proprietary conduct.[259]

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[253] *See supra* paras. 50-91. Some have argued that Section 224 of the Communications Act's exception of state-owned and cooperative-owned utilities from the definition of "utility," "[a]s used in this section," suggests that Congress did not intend for any other portion of the Act to apply to poles or other facilities owned by such entities. City of Mukilteo, et. al. Ex Parte Comments on the Draft Declaratory Ruling and Third Report and Order, WT Docket No. 17-79, at 1 (filed Sept. 18, 2018); Letter from James Bradford Ramsay, General Counsel, NARUC to Marlene H. Dortch, Secretary, FCC, WT Docket 17-79 at 7 (filed Sept. 19, 2018). We see no basis for such a reading. Nothing in Section 253 suggests such a limited reading, nor does Section 224 indicate that other provisions of the Act do not apply. We conclude that our interpretation of effective prohibition extends to fees for all government-owned property in the ROW, including utility poles. *Compare* 47 U.S.C. § 224 *with* 47 U.S.C. § 253. We are not addressing here how our interpretations apply to access or attachments to government-owned property located outside the public ROW.

[254] *See, e.g.,* AASHTO Comments, Att. 1 (Del. DOT Comments) at 3-5; New York City Comments at 2-8; San Antonio *et al.* Comments at 14-15; Smart Communities Comments at 62-66; San Francisco Comments at 28-30; League of Arizona Cities *et al.* Comments, WT Docket No. 16-421 at 3-9; San Antonio *et al.* Comments, WT Docket No. 16-421 at 14-15. *See also Wireless Infrastructure NPRM/NOI*, 32 FCC Rcd at 3364-65, para. 96 (seeking comment on this issue).

[255] The market participant doctrine establishes that, unless otherwise specified by Congress, federal statutory provisions may be interpreted as preempting or superseding state and local governments' activities involving regulatory or public policy functions, but not their activities as "market participants" to serve their "purely proprietary interests," analogous to similar transactions of private parties. *Building & Construction Trades Council v. Associated Builders & Contractors*, 507 U.S. 218, 229, 231 (1993) (*Boston Harbor*); *see also Wisconsin Dept. of Industry, Labor, and Human Relations v. Gould, Inc.*, 475 U.S. 282, 289 (1986) (*Gould*).

[256] *See, e.g., Engine Mfrs. Ass'n v. South Coast Air Quality Mgmt. Distr.,* 498 F.3d 1031, 1042 (9th Cir. 2007); *Johnson v. Rancho Santiago Comm. College*, 623 F.3d 1011, 1022 (9th Cir. 2010).

[257] *See Boston Harbor*, 507 U.S. at 231.

[258] *See American Trucking Ass'n v. City of Los Angeles,* 569 U.S. 641, 650 (2013) (*American Trucking*).

[259] At a minimum, we conclude that Congress's language has not unambiguously pointed to such a distinction. *See* Letter from Tamara Preiss, Vice President, Federal Regulatory and Legal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 2 (filed Aug. 23, 2018) (Verizon Aug. 23, 2018 *Ex Parte* Letter). Furthermore, we contrast these statutes with those that do not expressly or impliedly preempt proprietary conduct. *Compare, e.g., American Trucking*, 569 U.S. 641 (finding that FAA Authorization Act of 1994's provision that "State [or local government] may not enact or enforce a law, regulation, or other provision having the force and effect of law related to a price, route, or service of any motor carrier . . . with respect to the transportation of

(continued….)

94. Specifically, Section 253(a) expressly preempts certain state and local "legal requirements" and makes no distinction between a state or locality's regulatory and proprietary conduct. Indeed, as the Commission has long recognized, Section 253(a)'s sweeping reference to "State [and] local statute[s] [and] regulation[s]" and "other State [and] local legal requirement[s]" demonstrates Congress's intent "to capture a broad range of state and local actions that prohibit or have the effect of prohibiting entities from providing telecommunications services."[260] Section 253(b) mentions "requirement[s]," a phrase that is even broader than that used in Section 253(a) but covers "universal service," "public safety and welfare," "continued quality of telecommunications," and "safeguard[s for the] rights of consumers." The subsection does not recognize a distinction between regulatory and proprietary. Section 253(c), which expressly insulates from preemption certain state and local government activities, refers in relevant part to "manag[ing] the public rights-of-way" and "requir[ing] fair and reasonable compensation," while eliding any distinction between regulatory and proprietary action in either context. The Commission has previously observed that Section 253(c) "makes explicit a local government's continuing authority to issue construction permits regulating how and when construction is conducted on roads and other public rights-of-way."[261] We conclude here that, as a general matter, "manage[ment]" of the ROW includes any conduct that bears on access to and use of those ROW, notwithstanding any attempts to characterize such conduct as proprietary.[262] This reading, coupled with Section 253(c)'s narrow scope, suggests that Congress's omission of a blanket proprietary exception to preemption was intentional, and thus, that such conduct can be preempted under Section 253(a). We therefore construe Section 253(c)'s requirements, including the requirement that compensation be "fair and reasonable," as applying equally to charges imposed via contracts and other arrangements between a state or local government and a party engaged in wireless facility deployment.[263] This interpretation is consistent with Section 253(a)'s reference to "State

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property" expressly preempted the terms of a standard-form concession agreement drafted to govern the relationship between the Port of Los Angeles and any trucking company seeking to operate on the premises), *and Gould*, 475 U.S. at 289 (finding that NLRA preempted a state law barring state contracts with companies with disfavored labor practices because the state scheme was inconsistent with the federal scheme), *with Boston Harbor*, 507 U.S. at 224-32. In *Boston Harbor,* the Supreme Court observed that the NLRA contained no express preemption provision or implied preemption scheme and consequently held:

> In the absence of any express or implied indication by Congress that a State may not manage its own property when it pursues its purely proprietary interests, and where analogous private conduct would be permitted, this Court will not infer such a restriction.

Id. (internal citations omitted).

[260] *See Minnesota Order*, 14 FCC Rcd at 21707, para. 18. We find these principles to be equally applicable to our interpretation of the meaning of "regulation[s]" referred to under Section 332(c)(7)(B) insofar as such actions impermissibly "prohibit or have the effect of prohibiting the provision of personal wireless services." *Supra* paras. 34-42.

[261] *See Minnesota Order*, 14 FCC Rcd at 21728-29, para. 60, quoting H. R. Rep. No. 104-204, U.S. Congressional & Administrative News, March 1996, vol.1, Legislative History section at 41 (1996).

[262] Indeed, to permit otherwise could limit the utility of ROW access for telecommunications service providers and thus conflict with the overarching preemption scheme set up by Section 253(a), for which 253(b) and 253(c) are exceptions. By construing "manage[ment]" of a ROW to include some proprietary behaviors, we mean to suggest that conduct taken in a proprietary capacity is likewise subject to 253(c)'s general limitations, including the requirement that any compensation charged in such capacity be "fair and reasonable."

[263] *Cf. Minnesota Order*, 14 FCC Rcd at 21729-30, para. 61-62 (internal citations omitted) ("Moreover, Minnesota has not shown that the compensation required for access to the right-of-way is 'fair and reasonable.' The compensation appears to reflect the value of the exclusivity inherent in the Agreement [which provides the developer with exclusive physical access, for at least ten years, to longitudinal rights-of-way along Minnesota's interstate freeway system] rather than fair and reasonable charges for access to the right-of-way. Nor has Minnesota shown that the Agreement provides for 'use of public rights-of-way on a nondiscriminatory basis.'")

or local legal requirement[s]," which the Commission has consistently construed to include such agreements.[264] In light of the foregoing, whatever the force of the market participant doctrine in other contexts,[265] we believe the language, legislative history, and purpose of Sections 253(a) and (c) are incompatible with the application of this doctrine in this context. We observe once more that "[o]ur conclusion that Congress intended this language to be interpreted broadly is reinforced by the scope of section 253(d)," which "directs the Commission to preempt any statute, regulation, or legal requirement *permitted* or imposed by a state or local government if it contravenes sections 253(a) or (b). A more restrictive interpretation of the term 'other legal requirements' easily could permit state and local restrictions on competition to escape preemption based solely on the way in which [state] action was structured. We do not believe that Congress intended this result."[266]

95. Similarly, and as discussed elsewhere,[267] we interpret Section 332(c)(7)(B)(ii)'s references to "any request[s] for authorization to place, construct, or modify personal wireless service facilities" broadly, consistent with Congressional intent. As described below, we find that "any" is unqualifiedly broad, and that "request" encompasses anything required to secure all authorizations necessary for the deployment of personal wireless services infrastructure. In particular, we find that Section 332(c)(7) includes authorizations relating to access to a ROW, including but not limited to the "place[ment], construct[ion], or modif[ication]" of facilities on government-owned property, for the purpose of providing "personal wireless service." We observe that this result, too, is consistent with Commission precedent such as the *Minnesota Order*, which involved a contract that provided exclusive access to a ROW. As but one example, to have limited that holding to exclude government-owned property within the ROW even if the carrier needed access to that property would have the effect of diluting or completely defeating the purpose of Section 332(c)(7).[268]

96. Second, and in the alternative, even if Section 253(a) and Section 332(c)(7) were to permit leeway for states and localities acting in their proprietary role, the examples in the record would be excepted because they involve states and localities fulfilling regulatory objectives.[269] In the proprietary

[264] *Cf.* Crown Castle June 7, 2018 *Ex Parte* Letter at 17 n.83 ("Section 253(c), which carves out ROW management, would hardly be necessary if all ROW decisions were proprietary and shielded from the statute's sweep.").

[265] We acknowledge that the Commission previously concluded that "Section 6409(a) applies only to State and local governments acting in their role as land use regulators" and found that "this conclusion is consistent with judicial decisions holding that Sections 253 and 332(c)(7) of the Communications Act do not preempt 'non regulatory decisions[.]'" *See 2014 Wireless Infrastructure Order*, 29 FCC Rcd at 12964-65, paras. 237-240. To the extent necessary, we clarify here that the actions and analysis there were limited in scope given the different statutory scheme and record in that proceeding, which did not, at the time, suggest a need to "further elaborate as to how this principle should apply to any particular circumstance" (there, in connection with application of Section 6409(a)). Here, in contrast, as described herein, we find that further elucidation by the Commission is needed.

[266] *Minnesota Order*, 14 FCC Rcd at 21707, para. 18 (internal citations omitted) (emphasis omitted).

[267] *See infra* Part IV.C.1 (Authorizations Subject to the "Reasonable Period of Time" Provision of Section 332(c)(7)(B)(ii)).

[268] *See also infra* para. 134-36 and cases cited therein. Precedent that may appear to reach a different result can be distinguished in that it resolves disputes arising under Section 332 and/or 253(a) without analyzing the scope of Section 253(c). Furthermore, those situations did not involve government-owned property or structures within a public ROW. *See, e.g.*, *Sprint Spectrum L.P. v. Mills*, 283 F.3d 404, 420-21 (2d Cir. 2002) (declining to find preemption under Section 332 applicable to terms of a school rooftop lease); *Omnipoint Commc'ns, Inc. v. City of Huntington Beach*, 738 F.3d 192, 195-96, 200-01 (9th Cir. 2013) (declining to find preemption under Section 332 applicable to restrictions on lease of parkland).

[269] In this regard, also relevant to our interpretations here is courts' admonition that government activities that are characterized as transactions but in reality are "tantamount to regulation" are subject to preemption, *Gould*, 475 U.S. at 289, and that government action disguised as private action may not be relied on as a pretext to advance regulatory objectives. *See, e.g.*, *Coastal Communications Service v. City of New York*, 658 F. Supp. 2d 425, 441-42 (continued….)

context, "a State acts as a 'market participant with no interest in setting policy.'"[270] We contrast state and local governments' purely proprietary actions with states and localities acting with respect to managing or controlling access to property within public ROW, or to decisions about where facilities that will provide personal wireless service to the public may be sited. As several commenters point out, courts have recognized that states and localities "hold the public streets and sidewalks in trust for the public" and "manage public ROW in their regulatory capacities."[271] These decisions could be based on a number of regulatory objectives, such as aesthetics or public safety and welfare, some of which, as we note elsewhere, would fall within the preemption scheme envisioned by Congress. In these situations, the state or locality's role seems to us to be indistinguishable from its function and objectives as a regulator.[272] To the extent that there is some distinction, the temptation to blend the two roles for purposes of insulating conduct from federal preemption cannot be underestimated in light of the overarching statutory objective that telecommunications service and personal wireless services be deployed without material impediments.

97. Our interpretation of both provisions finds ample support in the record of this proceeding. Specifically, commenters explain that public ROW and government-owned structures within such ROW are frequently relied upon to supply services for the benefit of the public, and are often the best-situated locations for the deployment of wireless facilities.[273] However, the record is also replete with examples of states and localities refusing to allow access to such ROW or structures, or imposing onerous terms and conditions for such access.[274] These examples extend far beyond governments' treatment of single structures;[275] indeed, in some cases it has been suggested that states or localities are using their proprietary roles to effectuate a general municipal policy disfavoring wireless deployment in public

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(E.D.N.Y. 2009) (finding that a restriction on advertising on newly-installed payphones was subject to section 253(a) where the advertising was a material factor in the provider's ability to provide the payphone service itself).

[270] *See, e.g., Chamber of Commerce of U.S. v. Brown*, 554 U.S. 60, 70 (2008).

[271] *See* Verizon Comments at 26-28 & n.85; T-Mobile Comments at 50 & n.210 and cases cited therein.

[272] Indeed, the Commission has long recognized that, in enacting Sections 253(c) and 332(c)(7), Congress affirmatively protected the ability of state and local governments to carry out their responsibilities for maintaining, managing, and regulating the use of ROW and structures therein for the benefit of the public. *TCI Cablevision Order*, 12 FCC Rcd at 21441, para. 103 (1997) ("We recognize that section 253(c) preserves the authority of state and local governments to manage public rights-of-way. Local governments must be allowed to perform the range of vital tasks necessary to preserve the physical integrity of streets and highways, to control the orderly flow of vehicles and pedestrians, to manage gas, water, cable (both electric and cable television), and telephone facilities that crisscross the streets and public rights-of-way."); *Moratoria Declaratory Ruling*, FCC 18-111, para. 142 (same); *Classic Telephone, Inc. Petition for Preemption, Declaratory Ruling, and Injunctive Relief*, Memorandum Opinion and Order, 11 FCC Rcd 13082, 13103, para. 39 (1996) (same). We find these situations to be distinguishable from those where a state or locality might be engaged in a discrete, *bona fide* transaction involving sales or purchases of services that do not otherwise violate the law or interfere with a preemption scheme. *Compare, e.g.*, *Cardinal Towing & Auto Repair, Inc., v. City of Bedford*, 180 F.3d 686, 691, 693-94 (5th Cir. 1999) (declining to find that the FAA Authorization Act of 1994, as amended by the ICC Termination Act of 1995, preempted an ordinance and contract specifications that were designed only to procure services that a municipality itself needed, not to regulate the conduct of others), *with NextG Networks of N.Y., Inc. v. City of New York*, 2004 WL 2884308 (N.D.N.Y., Dec. 10, 2004) (crediting allegations that a city's actions, such as issuing a request for proposal and implementing a general franchising scheme, were not of a purely proprietary nature, but rather, were taken in pursuit of a regulatory objective or policy). This action could include, for example, procurement of services for the state or locality, or a contract for employment services between a state or locality and one of its employees. We do not intend to reach these scenarios with our interpretations today.

[273] *See, e.g.,* Verizon Aug. 23, 2018 *Ex Parte* Letter at 4-5.

[274] *See supra* para. 25.

[275] *Cf. Sprint Spectrum L.P. v. Mills*, 283 F.3d 404.

ROW.[276] We believe that Section 253(c) is properly construed to suggest that Congress did not intend to permit states and localities to rely on their ownership of property within the ROW as a pretext to advance regulatory objectives that prohibit or have the effect of prohibiting the provision of covered services, and thus that such conduct is preempted.[277] Our interpretations here are intended to facilitate the implementation of the scheme Congress intended and to provide greater regulatory certainty to states, municipalities, and regulated parties about what conduct is preempted under Section 253(a). Should factual questions arise about whether a state or locality is engaged in such behavior, Section 253(d) affords state and local governments and private parties an avenue for specific preemption challenges.

E. Responses to Challenges to Our Interpretive Authority and Other Arguments

98. We reject claims that we lack authority to issue authoritative interpretations of Sections 253 and 332(c)(7) in this Declaratory Ruling. As explained above, we act here pursuant to our broad authority to interpret key provisions of the Communications Act, consistent with our exercise of that interpretive authority in the past.[278] In this instance, we find that issuing a Declaratory Ruling is necessary to remove what the record reveals is substantial uncertainty and to reduce the number and complexity of legal controversies regarding certain fee and non-fee state and local legal requirements in connection with Small Wireless Facility infrastructure. We thus exercise our authority in this Declaratory Ruling to interpret Section 253 and Section 332(c)(7) and explain how those provisions apply in the specific scenarios at issue here.[279]

[276] *See NextG Networks of N.Y., Inc. v. City of New York*, 2004 WL 2884308; *Coastal Communications Service v. City of New York*, 658 F. Supp. 2d at 441-42.

[277] We contrast this instance to others in which we either declined to act or responded to requests for action with respect to specific disputes. *See, e.g.*, *2014 Wireless Infrastructure Order*, 29 FCC Rcd at 12964-65, paras. 237-240; *Continental Airlines Petition for Declaratory Ruling Regarding the Over-the-Air Reception Devices (OTARD) Rules*, Memorandum Opinion and Order, 21 FCC Rcd 13201, 13220, para. 43 (2006) (observing, in the context of a different statutory and regulatory scheme, that "[g]iven that the Commission intended to preempt restrictions [regarding restrictions on Continental's use of its Wi-Fi antenna] in private lease agreements, however, Massport would be preempted even if it is acting in a private capacity with regard to its lease agreement with Continental."); *Sandwich Isles Section 253 Order*, 32 FCC Rcd at 5883, para. 14 (rejecting argument that argument that Section 253(a) is inapplicable where it would affect the state's ability to "deal[] with its real estate interests . . . as it sees fit," such as by granting access to "rights-of-way over land that it owns); *Minnesota Order*, 14 FCC Rcd at 21706-08, paras. 17-19; *cf. Amigo.Net Petition for Declaratory Ruling*, Memorandum Opinion and Order, 17 FCC Rcd 10964, 10967 (WCB 2002) (Section 253 did not apply to carrier's provision of network capacity to government entities exclusively for such entities' internal use); *T-Mobile West Corp. v. Crow*, 2009 WL 5128562 (D. Ariz., Dec. 17, 2009) (Section 332(c)(7) did not apply to contract for deployment of wireless facilities and services for use on state university campus). We clarify here that such prior instances are not to be construed as a concession that Congress did not make preemption available, or that the Commission lacked the authority to support parties' attempts to avail themselves of relief offered under preemption schemes, when confronted with instances in which a state or locality is relying on its proprietary role to skirt federal regulatory reach. Indeed, these instances demonstrate the opposite—that preemption is available to effectuate Congressional intent—and merely illustrate application of this principle. Also, we do not find it necessary to await specific disputes in the form of Section 253(d) petitions to offer these interpretations. In the alternative and as an independent means to support the interpretations here, we clarify that we intend for our views to guide how preemption should apply in fact-specific scenarios.

[278] *See, e.g.*, *Moratoria Declaratory Ruling*, FCC 18-111, paras. 161-68; *2009 Declaratory Ruling*, 24 FCC Rcd at 14001, para. 23.

[279] Targeted interpretations of the statute like those we adopt here fall far short of a "federal regulatory program dictating the scope and policies involved in local land use" that some commenters fear. League of Minnesota Cities Comments at 9.

99. Nothing in Sections 253 or 332(c)(7) purports to limit the exercise of our general interpretive authority.[280] Congress's inclusion of preemption provisions in Section 253(d) and Section 332(c)(7)(B)(v) does not limit the Commission's ability pursuant to other sections of the Act to construe and provide its authoritative interpretation as to the meaning of those provisions.[281] Any preemption under Section 253 and/or Section 332(c)(7)(B) that subsequently occurs will proceed in accordance with the enforcement mechanisms available in each context. But whatever enforcement mechanisms may be available to preempt specific state and local requirements, nothing in Section 253 or Section 332(c)(7) prevents the Commission from declaring that a category of state or local laws is inconsistent with Section 253(a) or Section 332(c)(7)(B)(i)(II) because it prohibits or has the effect of prohibiting the relevant covered service.[282]

100. Although some commenters contend in general terms that differences in judicial approaches to Section 253 are limited and thus there is little need for Commission guidance,[283] the

[280] We also reject claims that Section 601(c)(1) of the 1996 Act constrains our interpretation of these provisions. *See, e.g.*, NARUC Reply at 3; Smart Communities Reply at 33, 35-36. That provision guards against implied preemption, while Section 253 and Section 332(c)(7)(B) both expressly restrict state and local activities. *See, e.g.*, *Texas PUC Order*, 13 FCC Rcd at 3485-86, para. 51. Courts also have read that provision narrowly. *See, e.g.*, *In re FCC 11-161*, 753 F.3d 1015, 1120 (10th Cir. 2014); *Qwest Corp. v. Minnesota Pub. Utilities Comm'n*, 684 F.3d 721, 730-31 (8th Cir. 2012); *Farina v. Nokia Inc.*, 625 F.3d 97, 131 (3d Cir. 2010). Although the Ninth Circuit in *County of San Diego* asserted that there is a presumption that express preemption provisions should be read narrowly, and that the presumption would apply to the interpretation of Section 253(a), *County of San Diego*, 543 F.3d at 548, the cited precedent applies that presumption where "the State regulates in an area where there is no history of significant federal presence." *Air Conditioning & Refrigeration Inst. v. Energy Res. Conservation & Dev. Comm'n*, 410 F.3d 492, 496 (9th Cir. 2005). Whatever the applicability of such a presumption more generally, there is a substantial history of federal involvement here, particularly insofar as interstate telecommunications services and wireless services are implicated. *See, e.g.*, *Ting v. AT&T*, 319 F.3d 1126, 1136 (9th Cir. 2003); *Ivy Broadcasting Co. v. Am. Tel. & Tel. Co.*, 391 F.2d 486, 490–92 (2d Cir. 1968); 47 U.S.C., Title III.

[281] *See, e.g.*, California PUC Comments at 11; Verizon Comments at 31-33; CTIA Reply at 22-23; WIA Reply at 16-18. We thus reject claims to the contrary. *See, e.g.*, City of New York Comments at 8; Virginia Joint Commenters Comments, Exh. A at 41-44; City of New York Reply at 1-2; NATOA Reply at 9-10; Smart Communities Reply at 34. Indeed, the Fifth Circuit upheld just such an exercise of authority with respect to the interpretation of Section 332(c)(7) in the past. *See generally City of Arlington*, 668 F.3d at 249-54. While some commenters assert that the questions addressed by the Commission in the order underlying the Fifth Circuit's *City of Arlington* decision are somehow more straightforward than our interpretations here, they do not meaningfully explain why that is the case, instead seemingly contemplating that the Commission would address a wider, more general range of circumstances than we actually do here. *See, e.g.*, Virginia Joint Commenters Comments, Exh. A at 44-45.

[282] Consequently, we reject claims that relying on our general interpretative authority to interpret Section 253 and Section 332(c)(7) would render any provisions of the Act mere surplusage, *see, e.g.*, Smart Communities Reply at 34-35, or would somehow "usurp the role of the judiciary." Washington State Cities Reply at 14. We likewise reject other arguments insofar as they purport to treat Section 253(d)'s provision for preemption as more specific than, or otherwise controlling over, other Communications Act provisions enabling the Commission to authoritatively interpret the Act. *See, e.g.*, Virginia Joint Commenters Comments, Exh. A at 43. To the contrary, "[t]he specific controls but only within its self-described scope." *Nat'l Cable & Telecomm. Ass'n v. Gulf Power*, 534 U.S. 327, 336 (2002). In addition, concerns that the Commission might interpret Section 253(c) in a manner that would render it a nullity or in a manner divorced from relevant context—things we do not do here—bear on the reasonableness of a given interpretation and not on the existence of interpretive authority in the first instance, as some contend. *See, e.g.*, Virginia Joint Commenters Comments, Exh. A at 43-44.

[283] *See, e.g.*, City of San Antonio *et al*. Comments, Exh. B at 26-27; Fairfax County Comments at 20; Smart Communities Comments at 61. Some commenters assert that there are reasonable, material reliance interests arising from past court interpretations that would counsel against our interpretations in this order because "localities and providers have adjusted to the tests within their circuits" and "reflected those standards in local law." Smart Communities Comments, WT Docket No. 16-141 at 67 (filed Mar. 8, 2017) cited in City of Austin Comments at 2 n.3. Arguments such as these, however, merely underscore the regulatory patchwork that inhibits the development (continued….)

interpretations we offer in this Declaratory Ruling are intended to help address certain specific scenarios that have caused significant uncertainty and legal controversy, irrespective of the degree to which this uncertainty has been reflected in court decisions. We also reject claims that a Supreme Court brief joined by the Commission demonstrates that there is no need for the interpretations in this Declaratory Ruling.[284] To the contrary, that brief observed that some potential interpretations of certain court decisions "would create a serious conflict with the Commission's understanding of Section 253(a), and [] would undermine the federal competition policies that the provision seeks to advance."[285] The brief also noted that, if warranted, "the Commission can restore uniformity by issuing authoritative rulings on the application of Section 253(a) to particular types of state and local requirements."[286] Rather than cutting against the need for, or desirability of, the interpretations we offer in this Declaratory Ruling, the brief instead presaged them.[287]

101. Our interpretations of Sections 253 and Section 332(c)(7) are likewise not at odds with the Tenth Amendment and constitutional precedent, as some commenters contend.[288] In particular, our interpretations do not directly "compel the states to administer federal regulatory programs or pass legislation."[289] The outcome of violations of Section 253(a) or Section 332(c)(7)(B) of the Act are no

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of a robust nationwide telecommunications and private wireless service as envisioned by Congress. By offering interpretations of the relevant statutes here, we intend, thereby, to eliminate potential regional regulatory disparities flowing from differing interpretations of those provisions. *See, e.g.*, WIA Reply at 19-20.

[284] *See* City of San Antonio *et al*. Comments, Exh. B at 27 (citing Brief for the United States as Amicus Curiae, *Level 3 Commc'ns v. City of St. Louis*, Nos. 08-626, 08-759 at 9, 11 (filed May 28, 2009) (Amicus Brief)).

[285] Amicus Brief at 12-13. The brief also identified other specific areas of concern with those cases. *See, e.g.*, *id*. at 13 ("The court appears to have accorded inordinate significance to Level 3's inability to 'state with specificity what additional services it might have provided' if it were not required to pay St. Louis's license fee. That specific failure of proof—which the court of appeals seems to have regarded as emblematic of broader evidentiary deficiencies in Level 3's case—is not central to a proper Section 253(a) inquiry." (citation omitted)); *id*. at 14 ("Portions of the Ninth Circuit's decision, moreover, could be read to suggest that a Section 253 plaintiff must show effective preclusion—rather than simply material interference—in order to prevail. As discussed above, limiting the preemptive reach of Section 253(a) to legal requirements that completely preclude entry would frustrate the policy of open competition that Section 253 was intended to promote." (citation omitted)).

[286] *Id*. at 18.

[287] Contrary to some claims, the need for these clarifications also is not undercut by prior determinations that advanced telecommunications capability is being deployed in a reasonable and timely fashion to all Americans. *See, e.g.*, Letter from Nancy Werner, General Counsel, NATOA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 2 (filed June 21, 2018) (NATOA June 21, 2018 *Ex Parte* Letter) (citing *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 33 FCC Rcd 1660, 1707-08, para. 94 (2018) (*2018 Broadband Deployment Report*)). These commenters do not explain why the distinct standard for evaluating deployment of advanced telecommunications capability, *see 2018 Broadband Deployment Report*, 33 FCC Rcd at 1663-76, paras. 9-39, should bear on the application of Section 253 or Section 332(c)(7). Further, as the Commission itself observed, "[a] finding that deployment of advanced telecommunications capability is reasonable and timely in no way suggests that we should let up in our efforts to foster greater deployment." *Id*. at 1664, para. 13.

[288] *See, e.g.*, City of San Antonio *et al*. Comments, Exh. A at 28; Smart Communities Comments at 77-78; Smart Communities Reply at 48-50; NATOA June 21, 2018 *Ex Parte* Letter at 3.

[289] *Montgomery County*, 811 F.3d at 128; *see Printz v. United States*, 521 U.S. 898 (1997) (*Printz*); *New York v. United States*, 505 U.S. 144 (1992) (*New York*). These provisions preempting state law thus do not "compel the States to enact or administer a federal regulatory program," *Printz*, 521 U.S. at 900, or "dictate what a state . . . may or may not do." *Murphy v. Nat'l Collegiate Athletic Ass'n*, 138 S. Ct. 1461, 1478 (2018) (*Murphy*).

more than a consequence of "the limits Congress already imposed on State and local governments" through its enactment of Section 332(c)(7).[290]

102. We also reject the suggestion that the limits Section 253 places on state and local ROW fees and management will unconstitutionally interfere with the relationship between a state and its political subdivisions.[291] As relevant to our interpretations here, it is not clear, at first blush, that such concerns would be implicated.[292] Because state and local legal requirements can be written and structured in myriad ways, and challenges to such state or local activities could be framed in broad or narrow terms, we decline to resolve such questions here, divorced from any specific context.

IV. THIRD REPORT AND ORDER

103. In this Third Report and Order, we address the application of shot clocks to state and local review of wireless infrastructure deployments. We do so by taking action in three main areas. First, we adopt a new set of shot clocks tailored to support the deployment Small Wireless Facilities. Second, we adopt a specific remedy that applies to violations of these new Small Wireless Facility shot clocks, which we expect will operate to significantly reduce the need for litigation over missed shot clocks. Third, we clarify a number of issues that are relevant to all of the FCC's shot clocks, including the types of authorizations subject to these time periods.

A. New Shot Clocks for Small Wireless Facility Deployments

104. In 2009, the Commission concluded that we should use shot clocks to define a presumptive "reasonable period of time" beyond which state or local inaction on wireless infrastructure siting applications would constitute a "failure to act" within the meaning of Section 332.[293] We adopted a 90-day clock for reviewing collocation applications and a 150-day clock for reviewing siting applications other than collocations. The record here suggests that our two existing Section 332 shot clocks have increased the efficiency of deploying wireless infrastructure. Many localities already process wireless siting applications in less time than required by those shot clocks, and a number of states have enacted laws requiring that collocation applications be processed in 60 days or less.[294] Some siting agencies acknowledge that they have worked to gain efficiencies in processing siting applications and welcome the

[290] *2009 Declaratory Ruling*, 24 FCC Rcd at 14002, para. 25. The Communications Act establishes its own framework for oversight of wireless facility deployment—one that is largely deregulatory, *see, e.g.*, *Wireless Infrastructure Second R&O*, FCC 18-30, at para. 63; *Implementation of Sections 3(n) and 332 of the Communications Act*, GN Docket No. 93-252, Second Report and Order, 9 FCC Rcd 1411, 1480-81, para. 182 (1994)—and it is reasonable to expect state and local governments electing to act in that area to do so only in a manner consistent with the Act's framework. *See, e.g., Murphy*, 138 S. Ct. at 1470-71, 1480. Thus, the application of Section 253 and Section 332(c)(7)(B) is clearly distinguishable from the statute the Supreme Court struck down in *Murphy*, which did not involve a preemption scheme but nonetheless prohibited state authorization of sports gambling. *Id*. at 1481. The application here is also clearly distinguishable from the statute in *Printz*, which mandated states to run background checks on handgun purchases, *Printz*, 521 U.S. at 904–05, and the statute in *New York*, which required states to enact state laws that provide for the disposal of radioactive waste or else take title to such waste. *New York*, 505 U.S. at 151–52.

[291] *See, e.g.*, City of New York Comments at 9-10; Smart Communities Comments at 78.; *see also, e.g., Nixon v. Mo. Mun. League*, 541 U.S. 125, 134 (2004) (identifying Tenth Amendment issues with the application of Section 253 where that application would implicate "state or local governmental self-regulation (or regulation of political inferiors)").

[292] For example, where a state or local law or other legal requirement simply sets forth particular fees to be paid, or where the legal requirement at issue is simply an exercise of discretion that governing law grants the state or local government, it is not clear that preemption would unconstitutionally interfere with the relationship between a state and its political subdivisions.

[293] *2009 Declaratory Ruling*, 24 FCC Rcd at 13994.

[294] *See infra* para. 106.

addition of new shot clocks tailored to the deployment of small scale facilities.[295] Given siting agencies' increased experience with existing shot clocks, the greater need for rapid siting of Small Wireless Facilities nationwide, and the lower burden siting of these facilities places on siting agencies in many cases, we take this opportunity to update our approach to speed the deployment of Small Wireless Facilities.[296]

1. Two New Section 332 Shot Clocks for Deployment of Small Wireless Facilities

105. In this section, using authority confirmed in *City of Arlington*, we adopt two new Section 332 shot clocks for Small Wireless Facilities—60 days for review of an application for collocation of Small Wireless Facilities using a preexisting structure and 90 days for review of an application for attachment of Small Wireless Facilities using a new structure. These new Section 332 shot clocks carefully balance the well-established authority that states and local authorities have over review of wireless siting applications with the requirements of Section 332(c)(7)(ii) to exercise that authority "within a reasonable period of time… taking into account the nature and scope of the request."[297] Further, our decision is consistent with the BDAC's Model Code for Municipalities' recommended timeframes, which utilize this same 60-day and 90-day framework for collocation of Small Wireless Facilities and new structures[298] and are similar to shot clocks enacted in state level small cell bills and the real world experience of many municipalities which further supports the reasonableness of our approach.[299] Our actions will modernize the framework for wireless facility siting by taking into consideration that states

[295] Chicago Comments at 7 ("[T]he City has worked to achieve efficient processing times even for applications where no federal deadline exists."); New Orleans Comments at 3 ("City supports the concept proposed by the Commission . . . to establish . . . more narrowly defined classes of deployments, with distinct reasonable times frames for action within each class.").

[296] *See* LaWana Mayfield July 31, 2018 *Ex Parte* Letter at 2 ("However, getting this infrastructure out in a timely manner can be a challenge that involves considerable time and financial resources. The solution is to streamline relevant policies—allowing more modern rules for modern infrastructure."); Letter from John Richard C. King, House of Representatives, South Carolina, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79, at 1 (filed Aug. 27, 2018) ("A patchwork system of town-to-town, state-to-state rules slows the approval of small cell installations and delays the deployment of 5G. We need a national framework with guardrails to streamline the path forward to our wireless future"); Letter from Andy Thompson, State Representative, Ohio House District 95, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 1 (filed Aug. 24, 2018) ("In order for 5G to arrive as quickly and as effectively as possible, relevant infrastructure regulations must be streamlined. It makes very little sense for rules designed for 100-foot cell towers to govern the path to deployment for modern equipment called small cells that can fit into a pizza box."); Letter from Todd Nash, Wallowa County Board of Commissioners, Oregon, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79, at 2 (filed Sept. 10, 2018) (FCC should streamline regulatory processes by, for example, tightening the deadlines for states and localities to approve new network facilities).

[297] 47 U.S.C. § 332(c)(7)(ii).

[298] The BDAC Model Municipal Code recommended, for certain types of facilities, shot clocks of 60 days for collocations and 90 days for new constructions on applications for siting Small Wireless Facilities. BDAC Model Municipal Code at §§ 2.2, 2.3, 3.2a(i)(B). Our approach utilizes the same timeframes set forth in the Model Municipal Code, and we disagree with comments that it is inconsistent with or ignores the work of the BDAC. GMA September 17 *Ex Parte* Letter at 4-5.

[299] For instance, while the City of Chicago opposes the shot clocks adopted here, we note that the City has also stated that, "[d]espite th[e] complex review process, involving many utilities and other entities, CDOT on average processed small cell applications last year in 55 days." Letter from Edward N. Siskel, Corp. Counsel, Dept. of Law, City of Chicago, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 et al., at 2 (filed Sept. 19, 2018).

and localities should be able to address the siting of Small Wireless Facilities in a more expedited review period than needed for larger facilities.[300]

106. We find compelling reasons to establish a new presumptively reasonable Section 332 shot clock of 60 days for collocations of Small Wireless Facilities on existing structures. The record demonstrates the need for, and reasonableness of, expediting the siting review of these collocations.[301] Notwithstanding the implementation of the current shot clocks, more streamlined procedures are both reasonable and necessary to provide greater predictability for siting applications nationwide for the deployment of Small Wireless Facilities. The two current Section 332 shot clocks do not reflect the evolution of the application review process and evidence that localities can complete reviews more quickly than was the case when the existing Section 332 shot clocks were adopted nine years ago. Since 2009, localities have gained significant experience processing wireless siting applications.[302] Indeed, many localities already process wireless siting applications in less than the required time[303] and several jurisdictions require by law that collocation applications be processed in 60 days or less.[304] With the

[300] Just like the shot clocks originally established in 2009—later affirmed by the Fifth Circuit and the Supreme Court—the shot clocks framework in this Third Report and Order are no more than an interpretation of "the limits Congress already imposed on State and local governments" through its enactment of Section 332(c)(7). *2009 Declaratory Ruling*, 24 FCC Rcd at 14002, para. 25. *See also City of Arlington*, 668 F.3d at 259. As explained in the *2009 Declaratory Ruling*, the shot clocks derived from Section 332(c)(7) "will not preempt State or local governments from reviewing applications for personal wireless service facilities placement, construction, or modification," and they "will continue to decide the outcome of personal wireless service facility siting applications pursuant to the authority Congress reserved to them in Section 332(c)(7)(A)." *2009 Declaratory Ruling*, 24 FCC Rcd at 14002, para. 25.

[301] CTIA Comments, WT Docket No. 16-421, at 33 (filed Mar. 8, 2017); Letter from Juan Huizar, City Manager of the City of Pleasanton, TX, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79, at 1 (filed June 4, 2018) (describing the firsthand benefit of small cells and noting that communications infrastructure is a critical component of local growth); Letter from Sara Blackhurst, President, Action 22, to the Hon. Brendan Carr, Commissioner, FCC, WT Docket No. 17-79, at 2 (filed May 18, 2018) (Action 22 *Ex Parte*)("While we understand the need for relevant federal rules and protections appropriate for larger wireless infrastructure, we feel these same rules are not well-suited for smaller wireless facilities and risk slowing deployment in communities that need connectivity now."); Letter from Maurita Coley Flippin, President and CEO, MMTC, to the Hon. Ajit Pai, Chairman, FCC, WT Docket No. 17-79 at 2 (filed Sept. 5, 2018) (encourages the Commission to remove unnecessary barriers such as unreasonable delays so deployment can proceed expeditiously); Fred A. Lamphere Sept. 11, 2018 *Ex Parte* Letter at 1 (It is critical that the Commission continue to remove barriers to building new wireless infrastructure such as by setting reasonable timelines to review applications).

[302] T-Mobile Comments at 20; Crown Castle Reply at 5 (noting that the adoption of similar time frames by several states for small cell siting review confirms their reasonableness, and the Commission should apply these deadlines on a nationwide basis).

[303] Alaska Dep't of Natural Resources Comments at 2 ("[W]e are currently meeting or exceeding the proposed timeframe of the 'Shot Clock.'"); *see also* CTIA Aug. 30, 2018 *Ex Parte* Letter at 5 ("Eleven states—Delaware, Florida, Indiana, Kansas, Missouri, North Carolina, Rhode Island, Tennessee, Texas, Utah, and Virginia—recently adopted small cell legislation that includes 45-day or 60-day shot clocks for small cell collocations."); Jason R. Saine Sept. 14, 2018 *Ex Parte* Letter.

[304] North Carolina requires its local governments to decide collocation applications within 45 days of submission of a complete application. N.C. Gen. Stat. Ann. § 153A-349.53(a2). The same 45-day shot clock applies to certain collocations in Florida. Fla. Stat. Ann. § 365.172(13)(a)(1), (d)(1). In New Hampshire, applications for collocation or modification of wireless facilities generally have to be decided within 45 days (subject to some exceptions under certain circumstances) or the application is deemed approved. N.H. Rev. Stat. Ann. § 12-K:10. Wisconsin requires local governments to decide within 45 days of receiving complete applications for collocation on existing support structure that does not involve substantial modification, or the application will be deemed approved, unless the local government and applicant agree to an extension. Wis. Stat. Ann. § 66.0404(3)(c). Local governments in Indiana have 45 days to decide complete collocation applications, unless an extension is allowed under the statute. Ind. Code Ann. § 8-1-32.3-22. Minnesota requires any zoning application, including both collocation and non-

(continued….)

passage of time, siting agencies have become more efficient in processing siting applications.[305] These facts demonstrate that a shorter, 60-day shot clock for processing collocation applications for Small Wireless Facilities is reasonable.[306]

107. As we found in 2009, collocation applications are generally easier to process than new construction because the community impact is likely to be smaller.[307] In particular, the addition of an antenna to an existing tower or other structure is unlikely to have a significant visual impact on the community.[308] The size of Small Wireless Facilities poses little or no risk of adverse effects on the environment or historic preservation.[309] Indeed, many jurisdictions do not require public hearings for approval of such attachments, underscoring their belief that such attachments do not implicate complex issues requiring a more searching review.[310]

108. Further, we find no reason to believe that applying a 60-day time frame for Small Wireless Facility collocations under Section 332 creates confusion with collocations that fall within the scope of "eligible facilities requests" under Section 6409 of the Spectrum Act, which are also subject to a 60-day review.[311] The type of facilities at issue here are distinctly different and the definition of a Small Wireless Facility is clear. Further, siting authorities are required to process Section 6409 applications involving the swap out of certain equipment in 60 days, and we see no meaningful difference in processing these applications than processing Section 332 collocation applications in 60 days. There is no reason to apply different time periods (60 vs. 90 days) to what is essentially the same review: modification of an existing structure to accommodate new equipment.[312] Finally, adopting a 60-day shot clock will encourage service providers to collocate rather than opting to build new siting structures which has numerous advantages.[313]

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collocation applications, to be processed in 60 days. Minn. Stat. § 15.99, subd. 2(a). By not requiring hearings, collocation applications in these states can be processed in a timely manner.

[305] Chicago Comments at 7 ("[T]he City has worked to achieve efficient processing times even for applications where no federal deadline exists."); New Orleans Comments at 3 ("City supports the concept proposed by the Commission . . . to establish . . . more narrowly defined classes of deployments, with distinct reasonable times frames for action within each class."); Action 22 *Ex Parte* at 2 ("While we understand the need for relevant federal rules and protections appropriate for larger wireless infrastructure, we feel these same rules are not well-suited for smaller wireless facilities and risk slowing deployment in communities that need connectivity now.").

[306] CCA Comments at 11-14; T-Mobile Comments at 20; Incompas Reply at 9; Sprint Comments at 45-47 (noting that Florida, Indiana, Kansas, Texas and Virginia all have passed small cell legislation that requires small cell application attachments to be acted upon in 60 days); T-Mobile Comments at 18 (arguing that the Commission should accelerate the Section 332 shot clocks for all sites to 60 days for collocations, including small cells).

[307] *2009 Declaratory Ruling*, 24 FCC Rcd at 14012, para. 40.

[308] TIA Comments at 4.

[309] *Wireless Infrastructure Second R&O*, FCC 18-30 at para. 42 (citing Nationwide Programmatic Agreement for the Collocation of Wireless Antennas, 47 CFR Part 1, Appx. B, § VI (Collocation NPA)); *see also* 47 CFR § 1.1306(c)(1) (excluding certain wireless facilities from NEPA review).

[310] *2009 Declaratory Ruling*, 24 FCC Rcd at 14012, para. 46.

[311] DESHPO Comments at 2 ("opposes the application of separate time limits for review of facility deployments not covered by the Spectrum Act, as it would lead to confusion within the process for all parties involved (Applicants/Carrier, Consultants, SHPO)").

[312] CTIA Aug. 30, 2018 *Ex Parte* Letter at 6.

[313] Letter from Richard Rossi, Senior Vice President, General Counsel, American Tower, to Marlene Dortch, Secretary, FCC, WT Docket No. 17-79, at 3 (filed Aug. 10, 2018) ("The reason to encourage collocation is straightforward, it is faster, cheaper, more environmentally sound, and less disruptive than building new structures.").

109. Some municipalities argue that smaller facilities are neither objectively "small" nor less obtrusive than larger facilities.[314] Others contend that shorter shot clocks for a broad category of "smaller" facilities are too restrictive,[315] and would fail to take into account the varied and unique climate, historic architecture, infrastructure, and volume of siting applications that municipalities face.[316] We take those considerations into account by clearly defining the category of "Small Wireless Facility" in our rules and allowing siting agencies to rebut the presumptive reasonableness of the shot clocks based upon the actual circumstances they face. For similar reasons, we disagree that establishing shorter shot clocks for smaller facilities would impair states' and localities' authority to regulate local rights of way.[317]

110. While some commenters argue that additional shot clock classifications would make the siting process needlessly more complex without any proven benefits,[318] any additional administrative burden from increasing the number of Section 332 shot clocks from two to four is outweighed by the likely significant benefit of regulatory certainty and the resulting streamlined deployment process.[319] We also reject the assertion that revising the period of time to review siting decisions would amount to a nationwide land use code for wireless siting.[320] Our approach is consistent with the Model Code for

[314] League of Az Cities and Towns Comments at 13, 29 (arguing that many small cells or micro cells can be taller and more visually intrusive than macro cells).

[315] *See, e.g.*, Letter from Geoffrey C. Beckwith, Executive Director & CEO, Mass. Municipal. Assoc., Boston, MA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, (filed Sept. 11, 2018) (Geoffrey C. Beckwith Sept. 11, 2018 *Ex Parte* Letter); Mike Posey Sept. 11, 2018 *Ex Parte* Letter; Letter from John A. Barbish, Mayor, City of Wickliffe, OH, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 (filed Sept. 13, 2018); Letter from Pauline Russo Cutter, Mayor, City of San Leandro, CA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 (filed Sept. 12, 2018); Letter from Ed Waage, Mayor, City of Pismo Beach, CA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 1 (filed Sept. 18, 2018); Letter from Scott A. Hancock, Executive Director, MML, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 2 (filed Sept. 18, 2018); Letter from Leon Towarnicki, City Manager, Martinsville, VA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 1 (filed Sept. 18, 2018); Letter from Thomas Aujero Small, Mayor, City of Culver City, CA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 1 (filed Sept. 18, 2018).

[316] Philadelphia Comments at 4-5 (arguing that shorter shot clocks should not be implemented because "cities are already resource constrained and any further attempt to further limit the current time periods for review of applications will seriously and adversely affect public safety as well as diminish the proper role, under our federalist system, of state and local governments in regulating local rights of way"); Smart Communities Comments, Docket 16-421, at 13 (filed Mar. 8, 2017) (included by reference by Austin's Comments); Alaska Dept. of Trans. Comments at 2. *See, e.g.*, TX Hist. Comm. Comments at 2 (current shot clocks are appropriate and that further shortening these shot clocks is not warranted); Arlington, TX Comments at 2; Letter from William Tomko, Mayor of Chagrin Falls, OH, to Marlene Dortch, Secretary, FCC, WT Docket No. 17-79 et al., at 1-2 (filed Sept. 17, 2018); Nina Beety Sept. 17, 2018 *Ex Parte* Letter; Georgia Municipal Association Sept. 17, 2018 *Ex Parte* Letter at 4.

[317] League of Az Cities and Towns *et al.* Comments at 26-27, 29-35; Cities of San Antonio *et. al* Comments at 8; Philadelphia Comments at 4.

[318] T-Mobile Comments at 22; Florida Coalition Comments at 9 (creating new shot clocks would result in "too many 'shot clocks' and both the industry and local governments would be confused as to which shot clock applied to what application").

[319] While several parties proposed additional shot clock categories, we believe that the any benefit from a closer tailoring of categories to circumstances is not outweighed by the administrative burden on siting authorities and providers to manage these categories. *See* TX Hist. Comm. Comments at 2 (stating that it "could support a shorter review period for new structures less than fifty (50) feet tall, or where structures are located within or adjacent to existing utility rights-of-way (but not transportation rights-of-way) with existing utility structures taller than the proposed telecommunications structure"); Georgia Dept. of Trans. Comments at 2 (stating that time frames based on the zoning area are reasonable).

[320] Cities of San Antonio *et. al* Comments, Exh. A at 17-18. In the same vein, the Florida Department of Transportation contends that "[p]ermit review times should comply with state statutes," especially if the industry insists on being treated similarly as other utilities. AASHTO Comments, Attach. at 13 (Florida Dept. of Trans. (continued….)

Municipalities that recognizes that the shot clocks that we are adopting for the review of Small Wireless Facility deployment applications correctly balance the needs of local siting agencies and wireless service providers.[321] Our balance of the relevant considerations is informed by our experience with the previously adopted shot clocks, the record in this proceeding, and our predictive judgment about the effectiveness of actions taken here to promote the provision of personal wireless services.

111. For similar reasons as set forth above, we also find it reasonable to establish a new 90 day Section 332 shot clock for new construction of Small Wireless Facilities. Ninety days is a presumptively reasonable period of time for localities to review such siting applications. Small Wireless Facilities have far less visual and other impact than the facilities we considered in 2009, and should accordingly require less time to review.[322] Indeed, some state and local governments have already adopted 60-day maximum reasonable periods of time for review of *all* small cell siting applications, and, even in the absence of such maximum requirements, several are already reviewing and approving small-cell siting applications within 60 days or less after filing.[323] Numerous industry commenters advocated a 90-day shot clock for all non-collocation deployments.[324] Based on this record, we find it reasonable to conclude that review of an application to deploy a Small Wireless Facility using a new structure warrants more review time than a mere collocation, but less than the construction of a macro tower.[325] For the reasons explained below, we also specify today a provision that will initially reset these two new shot clocks in the event that a locality receives a materially incomplete application.

112. Finally, we note that our 60- and 90-day approach is similar to that in pending legislation that has bipartisan congressional support, and is consistent with the Model Code for Municipalities. Specifically, the draft STREAMLINE Small Cell Deployment Act, would apply a 60-day shot clock to

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Comments); *see also* Alaska Dept. of Trans. Comments at 2; TX Dept. of Trans. Comments at 2 (explaining that variations in topography, weather, government interests, and state and local political structure counsel against standardized nationwide shot clocks). The Maryland Department of Transportation is concerned about the shortened shot clocks proposed because they would conflict with a Maryland law that requires a 90-day comment period in considering wireless siting applications and because certain applications can be complex and necessitate longer review periods. AASHTO Comments, Attach. at 40 (MD Dept. of Trans. Comments).

[321] BDAC Model Municipal Code at § 3.2a(i)(B).

[322] CTIA Comments, Attach. 1 at 38.

[323] T-Mobile Comments at 19-20 (stating that some states already have adopted more expedited time frames to lower siting barriers and speed deployment, which demonstrates the reasonableness of the proposed 60-day and 90-day revised shot clocks); Incompas Reply at 9 (stating that there is no basis for differing time-periods for similarly-situated small cell installation requests, and the lack of harmonization could discourage the use of a more efficient infrastructure); CCA Comments at 14 n.52 (citing CCA Streamlining Reply at 7-8 that in Houston, Texas, the review process for small cell deployments "usually takes 2 weeks, but no more than 30 days to process and complete the site review. In Kenton County, Kentucky, the maximum time permitted to act upon new facility siting requests is 60 days. Louisville, Kentucky generally processes small cell siting requests within 30 days, and Matthews, North Carolina generally processes wireless siting applications within 10 days").

[324] CTIA Reply at 3 (stating that the Commission should shorten the shot clocks to 90 days for new facilities); CTIA Comments at 11-12 (asserting that the existing 150-day review period for new wireless sites should be shortened to 90 days); Crown Castle Comments at 29 (stating that a 90-day shot clock for new facilities is appropriate for macro cells and small cells alike, to the extent such applications require review under Section 332 at all); ExteNet Comments at 8 (asserting that the Commission should accelerate the shot clock for all other non-collocation applications, including those for new DNS poles, from 150 days to 90 days); WIA Reply at 2.

[325] CCUA argues that the new shot clocks would force siting authorities to deny applications when they find that applications are incomplete. Letter from Kenneth S. Fellman, Counsel, CCUA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 et al., at 3 (filed Sept. 18, 2018) (Kenneth S. Fellman Sept. 18, 2018 *Ex Parte* Letter). We disagree that this would be the outcome in such an instance because, as explained below, siting authorities can toll the shot clocks upon a finding of incompleteness.

collocation of small personal wireless service facilities and a 90-day shot clock to any other action relating to small personal wireless service facilities.[326] Further, the Model Code for Municipalities recommended by the FCC's Broadband Deployment Advisory Committee also utilizes this same 60-day and 90-day framework for collocation of Small Wireless Facilities and new structures.[327]

2. Batched Applications for Small Wireless Facilities

113. Given the way in which Small Wireless Facilities are likely to be deployed, in large numbers as part of a system meant to cover a particular area, we anticipate that some applicants will submit "batched" applications: multiple separate applications filed at the same time, each for one or more sites *or* a single application covering multiple sites.[328] In the *Wireless Infrastructure NPRM/NOI*, the Commission asked whether batched applications should be subject to either longer or shorter shot clocks than would apply if each component of the batch were submitted separately.[329] Industry commenters contend that the shot clock applicable to a batch or a class of applications should be no longer than that applicable to an individual application of the same class.[330] On the other hand, several commenters, contend that batched applications have often been proposed in historic districts and historic buildings (areas that require a more complex review process), and given the complexities associated with reviews of that type, they urge the Commission not to apply shorter shot clocks to batched applications.[331] Some localities also argue that a single, national shot clock for batched applications would fail to account for unique local circumstances.[332]

114. We see no reason why the shot clocks for batched applications to deploy Small Wireless Facilities should be longer than those that apply to individual applications because, in many cases, the batching of such applications has advantages in terms of administrative efficiency that could actually make review easier.[333] Our decision flows from our current Section 332 shot clock policy. Under our two existing Section 332 shot clocks, if an applicant files multiple siting applications on the same day for the same type of facilities, each application is subject to the same number of review days by the siting

[326] STREAMLINE Small Cell Deployment Act, S. 3157, 115th Cong. (2018).

[327] BDAC Model Municipal Code at § 3.2a(i)(B),

[328] We define either scenario as "batching" for the purpose of our discussion here.

[329] *Wireless Infrastructure NPRM/NOI*, 32 FCC Rcd at 3338, para. 18; *see also Mobilitie PN*, 31 FCC Rcd at 13371.

[330] *See, e.g.*, Extenet Comments at 10-11 ("The Commission should not adopt a longer shot clock for batches of multiple DNS applications."); Sprint Comments, Docket No. 16-421, at 43-44 (filed Mar. 8, 2017); CCA Comments at 16 ("The FCC also should ensure that batch applications are not saddled with a longer shot clock than those afforded to individual siting applications . . . ."); Verizon Comments at 42 ("The same 60-day shot clock should apply to applications proposing multiple facilities—so called 'batch applications.'"); Crown Castle Comments at 30 ("Crown Castle also does not support altering the deadline for 'batches' of requests."); T-Mobile Comments at 22-23 ("[A]n application that batches together similar numbers of small cells of like character and in proximity to one another should also be able to be reviewed within the same time frame . . . ."); CTIA Comments at 17 ("There is, however, no need for the Commission to establish different shot clocks for batch processing of similar facilities . . . .").

[331] San Antonio Comments, Exh. A at 17, 19-20; *see also* Smart Communities Comments, Docket No. 16-421, at 47 (filed Mar. 8, 2017) (referenced by Austin's Comments).

[332] Cities of San Antonio *et al*. Comments, Exh. A at 17, 19-20; *see also* Smart Communities Comments, Docket 16-421, at 47 (filed Mar. 8, 2017) (referenced by Austin's Comments).

[333] *See, e.g.*, Sprint Comments, Docket No. 16-421, at 43-44 (filed Mar. 8, 2017); Verizon Comments at 42; CTIA Comments at 17.

agency.[334] These multiple siting applications are equivalent to a batched application and therefore the shot clocks for batching should follow the same rules as if the applications were filed separately. Accordingly, when applications to deploy Small Wireless Facilities are filed in batches, the shot clock that applies to the batch is the same one that would apply had the applicant submitted individual applications. Should an applicant file a single application for a batch that includes both collocated and new construction of Small Wireless Facilities, the longer 90-day shot clock will apply, to ensure that the siting authority has adequate time to review the new construction sites.

115. We recognize the concerns raised by parties arguing for a longer time period for at least some batched applications, but conclude that a separate rule is not necessary to address these concerns. Under our approach, in extraordinary cases, a siting authority, as discussed below, can rebut the presumption of reasonableness of the applicable shot clock period where a batch application causes legitimate overload on the siting authority's resources.[335] Thus, contrary to some localities' arguments,[336] our approach provides for a certain degree of flexibility to account for exceptional circumstances. In addition, consistent with, and for the same reasons as our conclusion below that Section 332 does not permit states and localities to prohibit applicants from requesting multiple types of approvals simultaneously,[337] we find that Section 332(c)(7)(B)(ii) similarly does not allow states and localities to refuse to accept batches of applications to deploy Small Wireless Facilities.

B. New Remedy for Violations of the Small Wireless Facilities Shot Clocks

116. In adopting these new shot clocks for Small Wireless Facility applications, we also provide an additional remedy that we expect will substantially reduce the likelihood that applicants will need to pursue additional and costly relief in court at the expiration of those time periods.

117. At the outset, and for the reasons the Commission articulated when it adopted the 2009 shot clocks, we determine that the failure of a state or local government to issue a decision on a Small Wireless Facility siting application within the presumptively reasonable time periods above will constitute a "failure to act" within the meaning of Section 332(c)(7)(B)(v). Therefore, a provider is, at a minimum, entitled to the same process and remedies available for a failure to act within the new Small Wireless Facility shot clocks as they have been under the FCC's 2009 shot clocks. But we also add an additional remedy for our new Small Wireless Facility shot clocks.

118. State or local inaction by the end of the Small Wireless Facility shot clock will function not only as a Section 332(c)(7)(B)(v) failure to act but also amount to a presumptive prohibition on the provision of personal wireless services within the meaning of Section 332(c)(7)(B)(i)(II). Accordingly, we would expect the state or local government to issue all necessary permits without further delay. In cases where such action is not taken, we assume, for the reasons discussed below, that the applicant would have a straightforward case for obtaining expedited relief in court.[338]

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[334] WIA Comments at 27 ("Merely bundling similar sites into a single batched application should not provide a locality with more time to review a single batched application than to process the same applications if submitted individually.").

[335] *See infra* paras. 117, 119. *See* Letter from Nina Beety, to Marlene Dortch, Secretary, FCC, WT Docket No. 17-79 (filed Sept. 17, 2018); Letter from Dave Ruller, City Manager, City of Kent, OH, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 at 2 (filed Sept. 18, 2018).

[336] Cities of San Antonio *et al*. Comments, Exh. A at 17, 19-20; *see also* Smart Communities Comments, Docket 16-421, at 47 (filed Mar. 8, 2017) (referenced by Austin's Comments).

[337] *See infra* para. 144.

[338] Where we discuss litigation here, we refer, for convenience, to "the applicant" or the like, since that is normally the party that pursues such litigation. But we reiterate that under the Act, "[a]ny person adversely affected by" the siting authority's failure to act could pursue such litigation. 47 U.S.C. § 332(c)(7)(B)(v).

119. As discussed in the Declaratory Ruling, a regulation under Section 332(c)(7)(B)(i)(II) constitutes an effective prohibition if it materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment.[339] Missing shot clock deadlines would thus presumptively have the effect of unlawfully prohibiting service in that such failure to act can be expected to materially limit or inhibit the introduction of new services or the improvement of existing services.[340] Thus, when a siting authority misses the applicable shot clock deadline, the applicant may commence suit in a court of competent jurisdiction alleging a violation of Section 332(c)(7)(B)(i)(II), in addition to a violation of Section 332(c)(7)(B)(ii), as discussed above. The siting authority then will have an opportunity to rebut the presumption of effective prohibition by demonstrating that the failure to act was reasonable under the circumstances and, therefore, did not materially limit or inhibit the applicant from introducing new services or improving existing services.

120. Given the seriousness of failure to act within a reasonable period of time, we expect, as noted above, siting authorities to issue without any further delay all necessary authorizations when notified by the applicant that they have missed the shot clock deadline, absent extraordinary circumstances. Where the siting authority nevertheless fails to issue all necessary authorizations and litigation is commenced based on violations of Sections 332(c)(7)(B)(i)(II) and/or 332(c)(7)(B)(ii), we expect that applicants and other aggrieved parties will likely pursue equitable judicial remedies.[341] Given the relatively low burden on state and local authorities of simply acting—one way or the other—within the Small Wireless Facility shot clocks, we think that applicants would have a relatively low hurdle to clear in establishing a right to expedited judicial relief. Indeed, for violations of Section 332(c)(7)(B), courts commonly have based the decision whether to award preliminary and permanent injunctive relief on several factors. As courts have concluded, preliminary and permanent injunctions fulfill Congressional intent that action on applications be timely and that courts consider violations of Section 332(c)(7)(B) on an expedited basis.[342] In addition, courts have observed that "[a]lthough Congress in the Telecommunications Act left intact some of local zoning boards' authority under state law," they should not be owed deference on issues relating to Section 332(c)(7)(B)(ii), meaning that "in the majority of cases the proper remedy for a zoning board decision that violates the Act will be an order. . . instructing the board to authorize construction."[343] Such relief also is supported where few or no issues remain to be decided, and those that remain can be addressed by a court.[344]

121. Consistent with those sensible considerations reflected in prior precedent, we expect that courts will typically find expedited and preliminary and permanent injunctive relief warranted for violations of Sections 332(c)(7)(B)(i)(II) and 332(c)(7)(B)(ii) of the Act when addressing the circumstances discussed in this Order. Prior findings that preliminary and permanent injunctive relief best advances Congress's intent in assuring speedy resolution of issues encompassed by Section

[339] *See supra* paras. 34-42.

[340] *Id.*

[341] *See, e.g., 2014 Wireless Infrastructure Order*, 29 FCC Rcd at 12978, para. 284.

[342] *See, e.g., Green Mountain Realty Corp. v. Leonard*, 750 F.3d 30, 41 (1st Cir. 2014) (addressing claimed violation of Section 332(c)(7)(B)(i)(II) of the Act); *Nat'l Tower, LLC v. Plainville Zoning Bd. of Appeals*, 297 F.3d 14, 21-22 (1st Cir. 2002) (*Nat'l Tower*) (same); *Cellular Tel. Co. v. Town of Oyster Bay*, 166 F.3d 490, 497 (2d Cir. 1999) (addressing violation of Section 332(c)(7)(B)(v) of the Act); *AT&T Mobility Servs., LLC v. Vill. of Corrales*, 127 F. Supp. 3d 1169, 1175-76 (D.N.M. 2015) (addressing violation of Section 332(c)(7)(B)(i)(II)); *Bell Atl. Mobile of Rochester v. Town of Irondequoit*, 848 F. Supp. 2d 391, 403 (W.D.N.Y. 2012) (addressing violation of Section 332(c)(7)(B)(ii)); *New Cingular Wireless PCS, LLC v. City of Manchester*, 2014 WL 79932, *8 (D.N.H. Feb. 28, 2014) (addressing violation of Section 332(c)(7)(B)(i)(II)).

[343] *See, e.g., Nat'l Tower*, 297 F.3d at 21-22; *AT&T Mobility*, 127 F. Supp. 3d at 1176.

[344] *See, e.g., Green Mountain Realty*, 750 F.3d at 41-42; *Nat'l Tower*, 297 F.3d at 24-25; *Cellular Tel. Co.*, 166 F.3d at 497; *Bell Atl. Mobile*, 848 F. Supp. 2d at 403; *New Cingular Wireless PCS*, 2014 WL 79932, *8.

332(c)(7)(B) appear equally true in the case of deployments of Small Wireless Facilities covered by our interpretation of Section 332(c)(7)(B)(ii) in this Third Report and Order.[345] Although some courts, in deciding whether an injunction is the appropriate form of relief, have considered whether a siting authority's delay resulted from bad faith or involved other abusive conduct,[346] we do not read the trend in court precedent overall to treat such considerations as more than relevant (as opposed to indispensable) to an injunction. We believe that this approach is sensible because guarding against barriers to the deployment of personal wireless facilities not only advances the goal of Section 332(c)(7)(B) but also policies set out elsewhere in the Communications Act and 1996 Act, as the Commission recently has recognized in the case of Small Wireless Facilities.[347] This is so whether or not these barriers stem from bad faith. Nor do we anticipate that there would be unresolved issues implicating the siting authority's expertise and therefore requiring remand in most instances.

122. In light of the more detailed interpretations that we adopt here regarding reasonable time frames for siting authority action on specific categories of requests—including guidance regarding circumstances in which longer time frames nonetheless can be reasonable—we expect that litigation generally will involve issues that can be resolved entirely by the relevant court. Thus, as the Commission has stated in the past, "in the case of a failure to act within the reasonable time frames set forth in our rules, and absent some compelling need for additional time to review the application, we believe that it would also be appropriate for the courts to treat such circumstances as significant factors weighing in favor of [injunctive] relief."[348] We therefore caution those involved in potential future disputes in this area against placing too much weight on the Commission's recognition that a siting authority's failure to act within the associated timeline might not always result in a preliminary or permanent injunction under the Section 332(c)(7)(B) framework while placing too little weight on the Commission's recognition that policies established by federal communications laws are advanced by streamlining the process for deploying wireless facilities.

123. We anticipate that the traditional requirements for awarding preliminary or permanent injunctive relief would likely be satisfied in most cases and in most jurisdictions where a violation of 332(c)(7)(B)(i)(II) and/or 332(c)(7)(B)(ii) is found. Typically, courts require movants to establish the following elements of preliminary or permanent injunctive relief: (1) actual success on the merits for permanent injunctive relief and likelihood of success on the merits for preliminary injunctive relief, (2) continuing irreparable injury, (3) the absence of an adequate remedy at law, (4) the injury to the movant outweighs whatever damage the proposed injunction may cause the opposing party, and (5) award of injunctive relief would not be adverse to the public interest.[349] Actual success on the merits would be

[345] *See Green Mountain Realty Corp.*, 750 F.3d at 41 (reasoning that remand to the siting authority "would not be in accordance with the text or spirit of the Telecommunications Act); *Cellular Tel. Co*, 166 F.3d at 497 (noting "that injunctive relief best serves the TCA's stated goal of expediting resolution" of cases brought under 47 U.S.C. § 332(c)(7)(B)(v)).

[346] *See, e.g., Nat'l Tower*, 297 F.3d at 23; *Up State Tower Co. v. Town of Kiantone*, 718 Fed. Appx. 29, 32 (2d Cir. 2017) (Summary Order).

[347] *See, e.g., Wireless Infrastructure Second R&O*, FCC 18-30 at para. 62; *Wireless Infrastructure NPRM/NOI*, 32 FCC Rcd at 3332, para. 5.

[348] *2014 Wireless Infrastructure Order*, 29 FCC Rcd at 12978, para, 284.

[349] *Pub. Serv. Tel. Co. v. Georgia Pub. Serv. Comm'n*, 755 F. Supp. 2d 1263, 1273 (N.D. Ga.), *aff'd*, 404 F. App'x 439 (11th Cir. 2010); *Klay v. United Healthgroup, Inc.*, 376 F.3d 1092, 1097 (11th Cir. 2004); *Nat. Res. Def. Council v. Texaco Ref. & Mktg., Inc.*, 906 F.2d 934, 941 (3d Cir. 1990); *Randolph v. Rodgers*, 170 F.3d 850, 857 (8th Cir. 1999); *Prairie Band Potawatomi Nation v. Wagnon*, 476 F.3d 818, 822 (10th Cir. 2007); *Walters v. Reno*, 145 F.3d 1032, 1048 (9th Cir. 1998); *K-Mart Corp. v. Oriental Plaza, Inc.*, 875 F.2d 907, 914–15 (1st Cir. 1989). Note that the standards for permanent injunctive relief differ in some respects among the circuits and the states. For example, "most courts do not consider the public interest element in deciding whether to issue a permanent injunction, though the Third Circuit has held otherwise." *Klay*, 376 F.3d at 1097. Courts in the Second Circuit

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demonstrated when an applicant prevails in its failure-to-act or effective prohibition case; likelihood of success would be demonstrated because, as discussed, missing the shot clocks, depending on the type of deployment, presumptively prohibits the provision of personal wireless services and/or violates Section 332(c)(7)(B)(ii)'s requirement to act within a reasonable period of time.[350] Continuing irreparable injury likely would be found because remand to the siting authority "would serve no useful purpose" and would further delay the applicant's ability to provide personal wireless service to the public in the area where deployment is proposed, as some courts have previously determined.[351] There also would be no adequate remedy at law because applicants "have a federal statutory right to participate in a local [personal wireless services] market free from municipally-imposed barriers to entry," and money damages cannot directly substitute for this right.[352] The public interest and the balance of harms also would likely favor the award of a preliminary or permanent injunction because the purpose of Section 332(c)(7) is to encourage the rapid deployment of personal wireless facilities while preserving, within bounds, the authority of states and localities to regulate the deployment of such facilities, and the public would benefit if further delays in the deployment of such facilities—which a remand would certainly cause—are prevented.[353] We also expect that the harm to the siting authority would be minimal because the only right of which it would be deprived by a preliminary or permanent injunction is the right to act on the siting application beyond a reasonable time period,[354] a right that "is not legally cognizable, because under [Sections 332(c)(7)(B)(i)(II) and 332(c)(7)(B)(ii)], the [siting authority] has no right to exercise this power."[355] Thus, in the context of Small Wireless Facilities, we expect that the most appropriate remedy in typical cases involving a violation of Sections 332(c)(7)(B)(i)(II) and/or 332(c)(7)(B)(ii) is the award of injunctive relief in the form of an order to issue all necessary authorizations.[356]

124. Our approach advances Section 332(c)(7)(B)(v)'s provision that certain siting disputes, including those involving a siting authority's failure to act, shall be heard and decided by a court of competent jurisdiction on an expedited basis. The framework reflected in this Order will provide the courts with substantive guiding principles in adjudicating Section 332(c)(7)(B)(v) cases, but it will not dictate the result or the remedy appropriate for any particular case; the determination of those issues will remain within the courts' domain.[357] This accords with the Fifth Circuit's recognition in *City of Arlington*

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consider only irreparable harm and success on the merits. *Omnipoint Commc'ns, Inc. v. Vill. of Tarrytown Planning Bd.*, 302 F. Supp. 2d 205, 225 (S.D.N.Y. 2004). The Third and Fifth Circuits have precedents holding that irreparable harm is not an essential element of a permanent injunction. *See Roe v. Operation Rescue*, 919 F.2d 857, 873 n. 8 (3d Cir. 1990); *Lewis v. S. S. Baune*, 534 F.2d 1115, 1123–24 (5th Cir. 1976). For the sake of completeness, our analysis discusses all of the elements that have been used in decided cases.

[350] *See New Jersey Payphone*, 130 F. Supp. 2d at 640.

[351] *See Vill. of Tarrytown Planning Bd.*, 302 F. Supp. 2d at 225–26 (quoting *Nextel Partners, Inc. v. Town of Amherst, N.Y.*, 251 F. Supp. 2d 1187, 1201 (W.D.N.Y. 2003)); *see Upstate Cellular Network v. City of Auburn*, 257 F. Supp. 3d 309, 318 (N.D.N.Y. 2017).

[352] *New Jersey Payphone*, 130 F. Supp. 2d at 641.

[353] *City of Arlington*, 668 F.3d at 234.

[354] *Contra* 47 U.S.C. 332(c)(7)(B)(ii).

[355] *New Jersey Payphone*, 130 F. Supp. 2d at 641.

[356] *See Cellular Tel. Co*, 166 F.3d at 496. While our discussion here focused on cases that apply the permanent injunction standard, we have the same view regarding relief under the preliminary injunction standard when a locality fails to act within the applicable shot clock periods. *See, e.g.*, *Winter v. Natural Res. Def. Council, Inc*., 555 U.S. 7, 22 (2008) (discussing the standard for preliminary injunctive relief).

[357] Several commenters support this position, urging the Commission to reaffirm that adversely affected applicants must seek redress from the courts. *See, e.g.*, League of Ar Cities and Towns *et al*. Comments at 14-21; Philadelphia Comments at 2; Philadelphia Reply at 4-6; City of San Antonio *et al*. Comments, Exh. B at 14-15; San Francisco Comments at 16-17; Colorado Munis Comments at 7; CWA Reply at 5; Fairfax County Comments at 12-15;
(continued….)

that the Act could be read "as establishing a framework in which a wireless service provider must seek a remedy for a state or local government's unreasonable delay in ruling on a wireless siting application in a court of competent jurisdiction while simultaneously allowing the FCC to issue an interpretation of § 332(c)(7)(B)(ii) that would guide courts' determinations of disputes under that provision."[358]

125. The guidance provided here should reduce the need for, and complexity of, case-by-case litigation and reduce the likelihood of vastly different timing across various jurisdictions for the same type of deployment.[359] This clarification, along with the other actions we take in this Third Report and Order, should streamline the courts' decision-making process and reduce the possibility of inconsistent rulings. Consequently, we believe that our approach helps facilitate courts' ability to "hear and decide such [lawsuits] on an expedited basis," as the statute requires.[360]

126. Reducing the likelihood of litigation and expediting litigation where it cannot be avoided should significantly reduce the costs associated with wireless infrastructure deployment. For instance, WIA states that if one of its members were to challenge every shot clock violation it has encountered, it would be mired in lawsuits with forty-six localities.[361] And this issue is likely to be compounded given the expected densification of wireless networks. Estimates indicate that deployments of small cells could reach up to 150,000 in 2018 and nearly 800,000 by 2026.[362] If, for example, 30 percent (based on T-Mobile's experience[363]) of these expected deployments are not acted upon within the applicable shot clock period, that would translate to 45,000 violations in 2018 and 240,000 violations in 2026.[364] These sheer

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AASHTO Comments at 20-21, 23 (ID Dept. of Trans. Comments); NATOA Comments, Attach. 3 at 53-55; NLC Comments at 3-4; Smart Communities Comments at 39-43. Our interpretation thus preserves a meaningful role for courts under Section 332(c)(7)(B)(v), contrary to the concern some commenters expressed with particular focus on alternative proposals we do not adopt, such as a deemed granted remedy. *See, e.g.*, Colorado Comm. and Utility All. *et al*. Comments at 6-7; League of Az Cities and Towns *et al*. Comments at 14-23; Philadelphia Comments at 2; Baltimore Reply at 11; City of San Antonio *et al*. Reply at 2; San Francisco Reply at 6; League of Az Cities and Towns *et al*. Reply at 2-3. In addition, our interpretation of Section 332(c)(7)(B)(ii) does not result in a regime in which the Commission could be seen as implicitly issuing local land use permits, a concern that states and localities raised regarding an absolute deemed granted remedy, because applicants are still required to petition a court for relief, which may include an injunction directing siting authorities to grant the application. *See* Alexandria Comments at 2; Baltimore Reply at 10; Philadelphia Reply at 8; Smart Cities Coal Comments at ii, 4, 39.

[358] *City of Arlington*, 668 F.3d at 250.

[359] The likelihood of non-uniform or inconsistent rulings on what time frames are reasonable or what circumstances could rebut the presumptive reasonableness of the shot clock periods stems from the intrinsic ambiguity of the phrase "reasonable period of time," which makes it susceptible of varying constructions. *See City of Arlington*, 668 F.3d at 255 (noting "that the phrase 'a reasonable period of time,' as it is used in § 332(c)(7)(B)(ii), is inherently ambiguous"); *Capital Network System, Inc. v. FCC*, 28 F.3d 201, 204 (D.C. Cir. 1994) ("Because 'just,' 'unjust,' 'reasonable,' and 'unreasonable' are ambiguous statutory terms, this court owes substantial deference to the interpretation the Commission accords them."). *See also* Lightower Comments at 3 ("The lack of consistent guidance regarding statutory interpretation is creating uncertainty at the state and local level, with many local jurisdictions seeming to simply make it up as they go. Differences in the federal courts are only exacerbating the patchwork of interpretations at the state and local level.").

[360] 47 U.S.C. § 332(c)(7)(B)(v).

[361] WIA Comments at 16.

[362] *Comment Sought on Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies; Mobilitie, LLC Petition for Declaratory Ruling*, Public Notice, 31 FCC Rcd 13360, 13363-64 (2016) (citing S&P Global Market Intelligence, John Fletcher, Small Cell and Tower Projections through 2026, SNL Kagan Wireless Investor (Sept. 27, 2016)).

[363] T-Mobile Comments at 8.

[364] These numbers would escalate under WIA's estimate that 70 percent of small cell deployment applications exceed the applicable shot clock. WIA Comments at 7.

numbers would render it practically impossible to commence Section 332(c)(7)(B)(v) cases for all violations, and litigation costs for such cases likely would be prohibitive and could virtually bar providers from deploying wireless facilities.[365]

127. Our updated interpretation of Section 332(c)(7) for Small Wireless Facilities effectively balances the interest of wireless service providers to have siting applications granted in a timely and streamlined manner[366] and the interest of localities to protect public safety and welfare and preserve their authority over the permitting process.[367] Our specialized deployment categories, in conjunction with the acknowledgement that in rare instances, it may legitimately take longer to act, recognize that the siting process is complex and handled in many different ways under various states' and localities' long-established codes. Further, our approach tempers localities' concerns about the inflexibility of the *Wireless Infrastructure NPRM/NOI*'s deemed granted proposal because the new remedy we adopt here accounts for the breadth of potentially unforeseen circumstances that individual localities may face and the possibility that additional review time may be needed in truly exceptional circumstances.[368] We further find that our interpretive framework will not be unduly burdensome on localities because a number of states have already adopted even more stringent deemed granted remedies.[369]

128. At the same time, there may be merit in the argument made by some commenters that the FCC has the authority to adopt a deemed granted remedy.[370] Nonetheless, we do not find it necessary to decide that issue today, as we are confident that the rules and interpretations adopted here will provide substantial relief, effectively avert unnecessary litigation, allow for expeditious resolution of siting applications, and strike the appropriate balance between relevant policy considerations and statutory objectives[371] guiding our analysis.[372]

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[365] *See* CTIA Comments at 9 (explaining that, "[p]articularly for small cells, the expense of litigation can rarely be justified); WIA Comments at 16 (quoting and discussing Lightower's Comments in 2016 Streamlining Public Notice); T-Mobile Comment, Attach. A at 8.

[366] *See, e.g.*, AT&T Comments at 26; CCA Comments at 7, 9, 11-12; CCA Reply at 5-6, 8; Cityscape Consultants Comments at 1; CompTIA Comments at 3; CIC Comments at 17-18; Crown Castle Comments at 23-28; Crown Castle Reply at 3; CTIA Comments at 7-9, Attach. 1 at 5, 39-43, Attach. 2 at 3, 23-24; GCI Comments at 5-9; Lightower Comments at 7, 18-19; Samsung Comments at 6; T-Mobile Comments at 13, 16, Attach. A at 25; WIA Comments at 15-17.

[367] *See, e.g.*, Arizona Munis Comments at 23; Arizona Munis Reply at 8-9; Baltimore Reply at 10; Lansing Comments at 2; Philadelphia Reply at 9-12; Torrance Comments at 1-2; CPUC Comments at 14; CWA Reply at 5; Minnesota Munis Comments at 9; *but see* CTIA Reply at 9.

[368] *See, e.g.*, Chicago Comments at 2 (contending that wireless facilities siting entails fact-specific scenarios); AASHTO Comments, Attach. at 40 (MD Dept. of Trans. SHA Comments) (describing the complexity of reviewing proposed deployments on rights-of-way); AASHTO Comments, Attach. at 51 (Wyoming DOT Comments); Baltimore Reply at 11; Philadelphia Comments at 4; Alexandria Comments at 6; Mukilteo Comments at 1; Alaska Dept. of Trans. Comments at 2; Alaska SHPO Reply at 1.

[369] *See* Fla. Stat. Ann. § 365.172(13)(d)(3.b); Ariz. Rev. Stat. Ann. § 9-594(C) (3); 53 Pa. Stat. Ann. § 11702.4; Cal. Gov't Code § 65964.1; Va. Code Ann. § 15.2-2232; Va. Code Ann. § 15.2-2316.4; Va. Code Ann. § 56-484.29; Va. Code Ann. § 56-484.28; Ky. Rev. Stat. Ann. § 100.987; N.H. Rev. Stat. Ann. § 12-K:10; Wis. Stat. Ann. § 66.0404; Kan. Stat. Ann. § 66-2019(h)(3); Del. Code Ann. tit. 17, § 1609; Iowa Code Ann. § 8C.7A(3)(c)(2); Iowa Code Ann. § 8C.4(4)(5); Iowa Code Ann. § 8C.5; Mich. Comp. Laws Ann. § 125.3514. *See also* CCA Reply at 9.

[370] *See, e.g.*, CTIA Comments at 10-11; T-Mobile Comments at 15-18, Verizon Comments at 37, 39-41, WIA Comments at 17-20.

[371] *City of Arlington*, 668 F.3d at 234 (noting that the purpose of Section 332(c)(7) is to balance the competing interests to preserve the traditional role of state and local governments in land use and zoning regulation and the rapid development of new telecommunications technologies).

129. We expect that our decision here will result in localities addressing applications within the applicable shot clocks in a far greater number of cases. Moreover, we expect that the limited instances in which a locality does not issue a decision within that time period will result in an increase in cases where the locality then issues all needed permits. In what we expect would then be only a few cases where litigation commences, our decision makes clear the burden that localities would need to clear in those circumstances.[373] Our updated interpretation of Section 332 for Small Wireless Facilities will help courts to decide failure-to-act cases expeditiously and avoid delays in reaching final dispositions.[374] Placing this burden on the siting authority should address the concerns raised by supporters of a deemed granted remedy—that filing suit in court to resolve a siting dispute is burdensome and expensive on applicants, the judicial system, and citizens—because our interpretations should expedite the courts' decision-making process.

130. We find that the more specific deployment categories and shot clocks, which presumptively represent the reasonable period within which to act, will prevent the outcome proponents

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[372] *See supra* paras. 119-20 (explaining how the remedy strikes the proper balance between competing interests). Because our approach to shot clocks involves our interpretation of Section 332(c)(7)(B)(ii) and the consequences that flow from that—and does not rely on Section 253 of the Act—we need not, and thus do not, resolve disputes about the potential use of Section 253 in this specific context, such as whether it could serve as authority for a deemed granted or similar remedy. *See, e.g.*, San Francisco Comments at 9-10; CPUC Comments at 10; Smart Communities Comments at 4-11, 21; Smart Communities Reply at 78-79; League of Az Cities and Towns *et al.* Reply at 4; Alexandria Comments at 5; Irvine Comments at 5; Minnesota Cities Comments at 11-13; Philadelphia Reply at 2, 7; Fairfax County Comments at 17; Greenlining Reply at 4; NRUC Reply at 3-5; NATOA June 21, 2018 *Ex Parte* Letter. To the extent that commenters raise arguments regarding the proper interpretation of "prohibit or have the effect of prohibiting" under Section 253 or the scope of Section 253, these issues are discussed in the Declaratory Ruling, *see supra* paras. 34-42.

[373] *See* App Association Comments at 9; CCI Comments at 6-8; Conterra Comments at 14-17; ExteNet Comments at 13; T-Mobile Comments at 17; Quintillion Reply at 6; Verizon Comments at 8-18; WIA Comments at 9-10. WIA contends that adoption of a deemed granted remedy is needed because various courts faced with shot clock claims have failed to provide meaningful remedies, citing as an example a case in which the court held that the town failed to act within the shot clock period but then declined to issue an injunction directing the siting agency to grant the application. WIA Comments at 16-17. However, a number of cases involving violations of the "reasonable period of time" requirement of Section 332(c)(7)(B)(ii)—decided either before or after the promulgation of the Commission's Section 332(c)(7)(B)(ii) shot clocks—have concluded with an award of injunctive relief. *See, e.g., Upstate Cellular Network*, 257 F. Supp. 3d at 318 (concluding that the siting authority's failure to act within the 150-day shot clock was unreasonable and awarding a permanent injunction in favor of the applicant); *Am. Towers, Inc. v. Wilson County*, No. 3:10-CV-1196, 2014 WL 28953, at *13–14 (M.D. Tenn. Jan. 2, 2014) (finding that the county failed to act within a reasonable period of time, as required under Section 332(c)(7)(B)(ii), and granting an injunction directing the county to approve the applications and issue all necessary authorizations for the applicant to build and operate the proposed tower); *Cincinnati Bell Wireless, LLC v. Brown County*, Ohio, No. 1:04-CV-733, 2005 WL 1629824, at *4–5 (S.D. Ohio July 6, 2005) (finding that the county failed to act within a reasonable period of time under Section 332(c)(7)(B)(ii) and awarding injunctive relief). *But see Up State Tower Co. v. Town of Kiantone*, 718 Fed. Appx. 29 (2d Cir. 2017) (declining to reverse district court's refusal to issue injunction compelling immediate grant of application). Courts have also held "that injunctive relief best serves the TCA's stated goal of expediting resolution of" cases brought under Section 332(c)(7)(B)(v). *Cellular Tel. Co.*, 166 F.3d at 497; *Brehmer v. Planning Bd. of Town of Wellfleet*, 238 F.3d 117, 121 (1st Cir. 2001). Under these circumstances, we do not agree with WIA that courts have failed to provide meaningful remedies to such an extent as would require the adoption of a deemed granted remedy.

[374] *Zoning Bd. of Adjustment of the Borough of Paramus, N.J.*, 21 F. Supp. 3d at 383, 387 (more than four-and-a-half years for Sprint to prevail in court), *aff'd*, 606 F. App'x 669 (3d Cir. 2015); *Vill. of Corrales*, 127 F. Supp. 3d 1169 (nineteen months from complaint to grant of summary judgment); *Orange County–Poughkeepsie Ltd. P'ship v. Town of E. Fishkill*, 84 F. Supp. 3d 274, 293 (S.D.N.Y.), *aff'd sub nom., Orange County–County Poughkeepsie Ltd. P'ship v. Town of E. Fishkill*, 632 F. App'x 1 (2d Cir. 2015) (seventeen months from complaint to grant of summary judgment).

of a deemed granted remedy seek to avoid: that siting agencies would be forced to reject applications because they would be unable to review the applications within the prescribed shot clock period.[375] Because the more specific deployment categories and shot clocks inherently account for the nature and scope of a variety of deployment applications, our new approach should ensure that siting agencies have adequate time to process and decide applications and will minimize the risk that localities will fail to act within the established shot clock periods. Further, in cases where a siting authority misses the deadline, the opportunity to demonstrate exceptional circumstances provides an effective and flexible way for siting agencies to justify their inaction if genuinely warranted. Our overall framework, therefore, should prevent situations in which a siting authority would feel compelled to summarily deny an application instead of evaluating its merits within the applicable shot clock period.[376] We also note that if the approach we take in this Order proves insufficient in addressing the issues it is intended to resolve, we may again consider adopting a deemed granted remedy in the future.

131. Some commenters also recommend that the Commission issue a list of "Best Practices" or "Recommended Practices."[377] The joint comments filed by NATOA and other government associations suggest the "development of an informal dispute resolution process to remove parties from an adversarial relationship to a partnership process designed to bring about the best result for all involved" and the development of "a mediation program which could help facilitate negotiations for deployments for parties who seem to have reached a point of intractability."[378] Although we do not at this time adopt these proposals, we note that the steps taken in this order are intended to facilitate cooperation between parties to reach mutually agreed upon solutions. For example, as explained below, mutual agreement between the parties will toll the running of the shot clock period, thereby allowing parties to resolve disagreements in a collaborative, instead of an adversarial, setting.[379]

C. Clarification of Issues Related to All Section 332 Shot Clocks

1. Authorizations Subject to the "Reasonable Period of Time" Provision of Section 332(c)(7)(B)(ii)

132. As indicated above, Section 332(c)(7)(B)(ii) requires state and local governments to act "within a reasonable period of time" on "any request for authorization to place, construct, or modify personal wireless service facilities."[380] Neither the *2009 Declaratory Ruling* nor the *2014 Wireless Infrastructure Order* addressed the specific types of authorizations subject to this requirement. Industry commenters contend that the shot clocks should apply to all authorizations a locality may require, and to all aspects of and steps in the siting process, including license or franchise agreements to access ROW, building permits, public notices and meetings, lease negotiations, electric permits, road closure permits, aesthetic approvals, and other authorizations needed for deployment.[381] Local siting authorities, on the other hand, argue that a broad application of Section 332 will harm public safety and welfare by not

[375] Baltimore Reply at 12; Mukilteo Comments at 1; Cities of San Antonio *et al*. Reply at 10; Washington Munis Comments, Attach. 1 at 8-9; *but see* CTIA Reply at 9.

[376] We also note that a summary denial of a deployment application is not permitted under Section 332(c)(7)(B)(iii), which requires the siting authority to base denials on "substantial evidence contained in a written record."

[377] KS Rep. Sloan Comments at 2; Nokia Comments at 10.

[378] NATOA *et al*. Comments at 16-17.

[379] *See infra* paras. 145-46.

[380] *See* 47 U.S.C. § 332(c)(7)(B)(ii).

[381] *See, e.g.*, CTIA Comments at 15; CTIA Reply at 10; Mobilitie Comments at 6-7; WIA Comments at 24; WIA Reply at 13; T-Mobile Comments at 21-22; CCA Reply at 9; Sprint June 18 *Ex Parte* at 3.

giving them enough time to evaluate whether a proposed deployment endangers the public.[382] They assert that building and encroachment permits should not be subsumed within the shot clocks because these permits incorporate essential health and safety reviews.[383] After carefully considering these arguments, we find that "any request for authorization to place, construct, or modify personal wireless service facilities" under Section 332(c)(7)(B)(ii) means all authorizations necessary for the deployment of personal wireless services infrastructure. This interpretation finds support in the record and is consistent with the courts' interpretation of this provision and the text and purpose of the Act.

133. The starting point for statutory interpretation is the text of the statute,[384] and here, the statute is written broadly, applying to "any" request for authorization to place, construct, or modify personal wireless service facilities. The expansive modifier "any" typically has been interpreted to mean "one or some indiscriminately of whatever kind," unless Congress "add[ed] any language limiting the breadth of that word."[385] The title of Section 332(c)(7) ("Preservation of local zoning authority") does not restrict the applicability of this section to zoning permits in light of the clear text of Section 332(c)(7)(B)(ii).[386] The text encompasses not only requests for authorization to *place* personal wireless service facilities, e.g., zoning requests, but also requests for authorization to *construct* or *modify* personal wireless service facilities. These activities typically require more than just zoning permits. For example, in many instances, localities require building permits, road closure permits, and the like to make construction or modification possible.[387] Accordingly, the fact that the title standing alone could be read

[382] League of Az Cities and Towns *et al*. Reply at 21-22. *See also* Arlington County, Sept. 18 *Ex Parte* Letter at 1-2 (asserting that it is infeasible to have the shot clock encompass all steps related the small cell siting process because there is no single application to get ROW access, public notice, lease negotiations, road closures, etc.; because these are separate processes involving different departments; and because the timeline in some instances will depend on the applicant, or the required information may interrelate in a manner that makes doing them all at once infeasible); Letter from Robert McBain, Mayor, Piedmont, CA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 et al., at 3 (filed Sept. 18, 2018).

[383] League of Az Cities and Towns *et al*. Reply at 21-22.

[384] *Implementation of Section 402(b)(1)(a) of the Telecommunications Act of 1996*, Notice of Proposed Rulemaking, 11 FCC Rcd 11233 (1996); *2002 Biennial Regulatory Review*, Report, 18 FCC Rcd 4726, 4731–32 (2003); *Perrin v. United States*, 444 U.S. 37, 42 (1979) ("A fundamental canon of statutory construction is that, unless otherwise defined, words will be interpreted as taking their ordinary, contemporary, common meaning."); *Communications Assistance for Law Enf't Act & Broadband Access & Servs*., First Report and Order and Further Notice of Proposed Rulemaking, 20 FCC Rcd. 14989, 14992–93, para. 9 (2005) (interpreting an ambiguous statute by considering the "structure and history of the relevant provisions, including Congress's stated purposes" in order to "faithfully implement[] Congress's intent"); *Cohen v. JP Morgan Chase & Co.*, 498 F.3d 111, 116 (2d Cir. 2007) (using legislative history "to identify Congress's clear intent"); *Arnold v. United Parcel Serv., Inc.*, 136 F.3d 854, 858 (1st Cir. 1998) (same).

[385] *United States v. Gonzales*, 520 U.S. 1, 5 (1997) (quoting Webster's Third New International Dictionary 97 (1976)); *HUD v. Rucker*, 535 U.S. 125, 131 (2002).

[386] *See Bhd. of R. R. Trainmen v. Baltimore & O. R. Co.*, 331 U.S. 519, 528–29 (1947) ("[H]eadings and titles are not meant to take the place of the detailed provisions of the text."). Our conclusion is also consistent with our interpretation that Sections 253 and 332(c)(7) apply to fees for all applications related to a Small Wireless Facility. *See supra* para. 50.

[387] *See, e.g.*, Virginia Joint Commenters Comments at 21-22 (stating that deployment of personal wireless facilities generally requires excavation and building permits); San Francisco Comments at 4-7, 12, 20-22 (describing the permitting process in San Francisco, the layers of multi-departmental review involved, and the required authorizations before certain personal wireless facilities can be constructed); Smart Cities Coal. Comments at 33-34 (describing several authorizations necessary to deploy personal wireless facilities depending on the location, e.g., public rights-of-way and other public properties, of the proposed site and the size of the proposed facility).

to limit Section 332(c)(7) to zoning decisions does not overcome the specific language of Section 332(c)(7)(B)(ii), which explicitly applies to a variety of authorizations.[388]

134. The purpose of the statute also supports a broad interpretation. As noted above, the Supreme Court has stated that the 1996 Act was enacted "to promote competition and higher quality in American telecommunications services and to encourage the rapid deployment of new telecommunications technologies" by, *inter alia*, reducing "the impediments imposed by local governments upon the installation of facilities for wireless communications, such as antenna towers."[389] A narrow reading of the scope of Section 332 would frustrate that purpose by allowing local governments to erect impediments to the deployment of personal wireless services facilities by using or creating other forms of authorizations outside of the scope of Section 332(c)(7)(B)(ii).[390] This is especially true in jurisdictions requiring multi-departmental siting review or multiple authorizations.[391]

135. In addition, our interpretation remains faithful to the purpose of Section 332(c)(7) to balance Congress's competing desires to preserve the traditional role of state and local governments in regulating land use and zoning, while encouraging the rapid development of new telecommunications technologies.[392] Under our interpretation, states and localities retain their authority over personal wireless facilities deployment. At the same time, deployment will be kept on track by ensuring that the entire approval process necessary for deployment is completed within a reasonable period of time, as defined by the shot clocks addressed in this Third Report and Order.

136. A number of courts have either explicitly or implicitly adopted the same view, that all necessary permits are subject to Section 332. For example, in *Cox Communications PCS, L.P. v. San Marcos*, the court considered an excavation permit application as falling within the parameters of Section 332.[393] In *USCOC of Greater Missouri, LLC v. County of Franklin*, the Eighth Circuit reasoned that "[t]he issuance of the requisite building permits" for the construction of a personal wireless services facility arises under Section 332(c)(7).[394] In *Ogden Fire Co. No. 1 v. Upper Chichester Township*, the Third Circuit affirmed the district court's order compelling the township to issue a building permit for the

[388] *See Bhd. of R. R. Trainmen v. Baltimore & O. R. Co.*, 331 U.S. 519, 528-29 (1947). If the title of Section 332(c)(7) were to control the interpretation of the text, it would render superfluous the provision of Section 332(c)(7)(B)(ii) that applies to "authorization to . . . construct, or modify personal wireless service facilities" and give effect only to the provision that applies to "authorization to place . . . personal wireless service facilities." This result would "flout[] the rule that 'a statute should be construed so that effect is given to all its provisions, so that no part will be inoperative or superfluous.'" *Clark v. Rameker*, 134 S. Ct. 2242, 2248 (2014) (quoting *Corley v. United States*, 556 U.S. 303, 314 (2009)).

[389] *City of Rancho Palos Verdes v. Abrams*, 544 U.S. at 115 (internal quotation marks and citations omitted).

[390] For example, if we were to interpret Section 332(c)(7)(B)(ii) to cover only zoning permits, states and localities could delay their consideration of other permits (e.g., building, electrical, road closure or other permits) to thwart the proposed deployment.

[391] *See, e.g.*, Virginia Joint Commenters Comments at 21-22; San Francisco Comments at 4-7, 12, 20-22; Smart Communities Comments at 33-34; CTIA Comments at 15 (stating that some jurisdictions "impose multiple, sequential stages of review"); WIA Comments at 24 (noting that "[m]any jurisdictions grant the application within the shot clock period only to stall on issuing the building permit"); Verizon Comments at 6 (stating that "[a] large Southwestern city requires applicants to obtain separate and sequential approvals from three different governmental bodies before it will consider issuing a temporary license agreement to access city rights-of-way"); Sprint June 18 *Ex Parte* at 3 (noting that "after a land-use permit or attachment permit is received, many localities still require electric permits, road closure permits, aesthetic approval, and other types of reviews that can extend the time required for final permission well beyond just the initial approval.").

[392] *City of Arlington*, 668 F.3d at 234.

[393] *Cox Commc'ns PCS, L.P. v. San Marcos*, 204 F. Supp. 2d 1272 (S.D. Cal. 2002).

[394] *USCOC of Greater Mo., LLC v. County of Franklin*, 636 F.3d 927, 931-32 (8th Cir. 2011).

construction of a wireless facility after finding that the township had violated Section 332(c)(7).[395] In *Upstate Cellular Network v. Auburn*, the court directed the city to approve the application, including site plan approval by the planning board, granting a variance by the zoning authority, and "any other municipal approval or permission required by the City of Auburn and its boards or officers, including but not limited to, a building permit."[396] And in *PI Telecom Infrastructure V, LLC v. Georgetown–Scott County Planning Commission*, the court ordered that the locality grant "any and all permits necessary for the construction of the proposed wireless facility."[397] Our interpretation is also consistent with judicial precedents involving challenges under Section 332(c)(7)(B) to denials by a wide variety of governmental entities, many of which involved variances,[398] special use/conditional use permits,[399] land disturbing activity and excavation permits,[400] building permits,[401] and a state department of education permit to install an antenna at a high school.[402] Notably, a lot of cases have involved local agencies that are separate and distinct from the local zoning authority,[403] confirming that Section 332(c)(7)(B) is not limited in application to decisions of zoning authorities. Our interpretation also reflects the examples in the record where providers are required to obtain other types of authorizations besides zoning permits before they can "place, construct, or modify personal wireless service facilities."[404]

137. We reject the argument that this interpretation of Section 332 will harm the public because it would "mean that building and safety officials would have potentially only a few days to

[395] *Ogden Fire Co. No. 1 v. Upper Chichester TP.*, 504 F.3d 370, 395-96 (3d Cir. 2007).

[396] *Upstate Cellular Network*, 257 F. Supp. 3d at 319.

[397] *PI Telecom Infrastructure V, LLC v. Georgetown–Scott County Planning Commission*, 234 F. Supp. 3d 856, 872 (E.D. Ky. 2017). *Accord T-Mobile Ne. LLC v. Lowell*, Civil Action No. 11–11551–NMG, 2012 WL 6681890, *6-7, *11 (D. Mass. Nov. 27, 2012) (directing the zoning board "to issue all permits and approvals necessary for the construction of the plaintiffs' proposed telecommunications facility"); *New Par v. Franklin County Bd. of Zoning Appeals*, No. 2:09–cv–1048, 2010 WL 3603645, *4 (S.D. Ohio Sept. 10, 2010) (enjoining the zoning board to "grant the application and issue all permits required for the construction of the" proposed wireless facility).

[398] *See, e.g., New Par v. City of Saginaw*, 161 F. Supp. 2d 759, 760 (E.D. Mich. 2001), *aff'd*, 301 F.3d 390 (6th Cir. 2002)

[399] *See, e.g., Virginia Metronet, Inc. v. Bd. of Sup'rs of James City County*, 984 F. Supp. 966, 968 (E.D. Va. 1998); *Cellular Tel. Co.*, 166 F.3d at 491; *T-Mobile Cent., LLC v. Unified Gov't of Wyandotte County*, 546 F.3d 1299, 1303 (10th Cir. 2008); *City of Anacortes*, 572 F.3d at 989; *Helcher*, 595 F.3d at 713-14; *AT&T Wireless Servs. of California LLC v. City of Carlsbad*, 308 F. Supp. 2d 1148, 1152 (S.D. Cal. 2003); *PrimeCo Pers. Commc'ns L.P. v. City of Mequon*, 242 F. Supp. 2d 567, 570 (E.D. Wis.), *aff'd*, 352 F.3d 1147 (7th Cir. 2003); *Preferred Sites, LLC v. Troup County*, 296 F.3d 1210, 1212 (11th Cir. 2002).

[400] *See, e.g., Tennessee ex rel. Wireless Income Properties, LLC v. City of Chattanooga*, 403 F.3d 392, 394 (6th Cir. 2005); *Cox Commc'ns PCS, L.P. v. San Marcos*, 204 F. Supp. 2d 1272 (S.D. Cal. 2002).

[401] *See, e.g., Upstate Cellular Network*, 257 F. Supp. 3d at 319; *Ogden Fire Co. No. 1 v. Upper Chichester Twp.*, 504 F.3d 370, 395-96 (3rd Cir. 2007).

[402] *Sprint Spectrum, L.P. v. Mills*, 65 F. Supp. 2d 148, 150 (S.D.N.Y. 1999), *aff'd*, 283 F.3d 404 (2d Cir. 2002).

[403] *See, e.g., Tennessee ex rel. Wireless Income Props., LLC v. City of Chattanooga*, 403 F.3d 392, 394 (6th Cir. 2005) (city public works department); *Sprint PCS Assets, L.L.C. v. City of Palos Verdes Estates*, 583 F.3d 716, 720 (9th Cir. 2009) (city public works director, city planning commission, and city council); *Sprint Spectrum, L.P. v. Mills*, 65 F. Supp. 2d at 150 (New York State Department of Education).

[404] *See, e.g.*, Virginia Joint Commenters Comments at 21-22 (stating that deployment of personal wireless facilities generally requires excavation and building permits); San Francisco Comments at 4-7, 12, 20-22 (describing the permitting process in San Francisco, the layers of multi-departmental review involved, and the required authorizations before certain personal wireless facilities can be constructed); Smart Communities Comments at 33-34 (describing several authorizations necessary to deploy personal wireless facilities depending on the location, e.g., public rights-of-way and other public properties, of the proposed site and the size of the proposed facility).

evaluate whether a proposed deployment endangers the public."[405] Building and safety officials will be subject to the same applicable shot clock as all other siting authorities involved in processing the siting application, with the amount of time allowed varying in the rare case where officials are unable to meet the shot clock because of exceptional circumstances.

2. Codification of Section 332 Shot Clocks

138. In addition to establishing two new Section 332 shot clocks for Small Wireless Facilities, we take this opportunity to codify our two existing Section 332 shot clocks for siting applications that do not involve Small Wireless Facilities. In the *2009 Declaratory Ruling*, the Commission found that 90 days is a reasonable time frame for processing collocation applications and 150 days is a reasonable time frame to process applications other than collocations.[406] Since these Section 332 shot clocks were adopted as part of a declaratory ruling, they were not codified in our rules. In the *Wireless Infrastructure NPRM/NOI*, the Commission sought comment on whether to modify these shot clocks.[407] We find no need to modify them here and will continue to use these shot clocks for processing Section 332 siting applications that do not involve Small Wireless Facilities.[408] We do, though, codify these two existing shot clocks in our rules alongside the two newly-adopted shot clocks so that all interested parties can readily find the shot clock requirements in one place.[409]

139. While some commenters argue for a 60-day shot clock for all collocation categories,[410] we conclude that we should retain the existing 90-day shot clock for collocations not involving Small

[405] League of Az Cities and Towns *et al*. Reply at 21-22.

[406] *2009 Declaratory Ruling*, 24 FCC Rcd at 14012-013, paras. 45, 48.

[407] *Wireless Infrastructure NPRM/NOI*, 32 FCC Rcd at 3332-33, 3334, 3337-38, paras. 6, 9, 17-19.

[408] Chicago Comments at 2 (supporting maintaining existing shot clocks); Bellevue *et al*. Comments at 13-14 (supporting maintaining existing shot clocks).

[409] We also adopt a non-substantive modification to our existing rules. We redesignate the rule adopted in 2014 to codify the Commission's implementation of the 2012 Spectrum Act, formerly designated as section 1.40001, as section 1.6100, and we move the text of that rule from Part 1, Subpart CC, to the same Subpart as the new rules promulgated in this Third Report and Order (Part 1, Subpart U). This recognizes that both sets of requirements pertain to "State and local government regulation of the placement, construction, and modification of personal wireless service facilities" (the caption of new Subpart U). The reference in paragraph (a) of that preexisting rule to 47 U.S.C. § 1455 has been consolidated with new rule section 1.6001 to reflect that all rules in Subpart U, collectively, implement both § 332(c)(7) and § 1455. With those non-substantive exceptions, the text of the 2014 rule has not been changed in any way. Contrary to the suggestion submitted by the Washington Joint Counties, *see* Letter from W. Scott Snyder et al., Counsel for the Washington Cities of Bremerton, Mountlake Terrace, Kirkland, Redmond, Issaquah, Lake Stevens, Richland, and Mukilteo, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 et al., at 6-7 (filed June 19, 2018), this change is not substantive and does not require advance notice. We find that "we have good cause to reorganize and renumber our rules in this fashion without expressly seeking comment on this change, and we conclude that public comment is unnecessary because no substantive changes are being made. Moreover, the delay engendered by a round of comment would be contrary to the public interest." *See 2017 Pole Replacement Order*, 32 FCC Rcd at 9770, para. 26; *see also* 5 U.S.C. §553(b)(B) (notice not required "when the agency for good cause finds (and incorporates the finding and a brief statement of reasons therefor in the rules issued) that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest").

[410] CCIA Comments at 10; CCA Comments at 13-14; CCA Reply at 6 (arguing for 30-day shot clock for collocations and a 60-to-75-day shot clock for all other siting applications); WIA Reply at 21. *See also* Letter from Jill Canfield, NTCA Vice President Legal & Industry and Assistant General Counsel, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 2 (filed June 19, 2018) (stating that NTCA supports a revised interpretation of the phrase "reasonable period of time" as found in Section 332(c) (7)(B)(ii) of the Communications Act as applicable to small cell facilities and that sixty days for collocations and 90 days for all other small cell siting applications should provide local officials sufficient time for review of requests to install small cell facilities in public rights-of-way).

Wireless Facilities. Collocations that do not involve Small Wireless Facilities include deployments of larger antennas and other equipment that may require additional time for localities to review and process.[411] For similar reasons, we maintain the existing 150-day shot clock for new construction applications that are not for Small Wireless Facilities. While some industry commenters such as WIA, Samsung, and Crown Castle argue for a 90-day shot clock for macro cells and small cells alike, we agree with commenters such as the City of New Orleans that there is a significant difference between the review of applications for a single 175-foot tower versus the review of a Small Wireless Facility with much smaller dimensions.[412]

3. Collocations on Structures Not Previously Zoned for Wireless Use

140. Wireless industry commenters assert that they should be able to take advantage of the Section 332 collocation shot clock even when collocating on structures that have not previously been approved for wireless use.[413] Siting agencies respond that the wireless industry is effectively seeking to have both the collocation definition and a reduced shot clock apply to sites that have never been approved by the local government as suitable for wireless facility deployment.[414] We take this opportunity to clarify that for purposes of the Section 332 shot clocks, attachment of facilities to existing structures constitutes collocation, regardless whether the structure or the location has previously been zoned for wireless facilities. As the Commission stated in the *2009 Declaratory Ruling*, "an application is a request for collocation if it does not involve a 'substantial increase in the size of a tower' as defined in the Nationwide Programmatic Agreement (NPA) for the Collocation of Wireless Antennas."[415] The definition of "[c]ollocation" in the NPA provides for the "mounting or installation of an antenna on an existing tower, *building or structure* for the purpose of transmitting and/or receiving radio frequency signals for communications purposes, *whether or not there is an existing antenna on the structure.*"[416] The NPA's definition of collocation explicitly encompasses collocations on structures and buildings that have not yet been zoned for wireless use. To interpret the NPA any other way would be unduly narrow and there is no persuasive reason to accept a narrower interpretation. This is particularly true given that the NPA definition of collocation stands in direct contrast with the definition of collocation in the

[411] *Wireless Infrastructure Second R&O*, FCC 18-30 at paras. 74-76.

[412] New Orleans Comments at 2-3; Samsung Comments at 4-5 (arguing that the Commission should reduce the shot clock applicable to new construction from 150 days to 90 days); Crown Castle Comments at 29 (stating that a 90-day shot clock for new facilities is appropriate for macro cells and small cells alike, to the extent such applications require review under Section 332 at all); TX Hist. Comm. Comments at 2 (arguing that the reasonable periods of time that the FCC proposed in 2009, 90 days for collocation applications and 150 days for other applications appear to be appropriate); WIA Comments at 20-23; WIA Reply at 11 (arguing for a 90-day shot clock for applications involving substantial modifications, including tower extensions; and a 120-day shot clock for applications for all other facilities, including new macro sites); CTIA Reply at 3 (stating that the Commission should shorten the shot clocks to 90 days for new facilities).

[413] AT&T Comments at 10; AT&T Reply at 9; Verizon Reply at 32; WIA Comments at 22; ExteNet Comments at 9.

[414] Bellevue *et al.* Reply at 6-7 (arguing that the Commission has rejected this argument twice and instead determined that a collocation occurs when a wireless facility is attached to an existing infrastructure that houses wireless communications facilities; San Francisco Reply at 7-8 (arguing that under Commission definitions, a utility pole is neither an existing base station nor a tower; thus, the Commission simply cannot find that adding wireless facilities to utility pole that has not previously been used for wireless facilities is an eligible facilities request). *See, e.g.*, Letter from Bonnie Michael, City Council President, Worthington, OH, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 et al., at 2 (filed Sept. 18, 2018); Letter from Jill Boudreau, Mayor, Mount Vernon, WA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 et al., at 2 (filed Sept. 18, 2018).

[415] *2009 Declaratory Ruling*, 24 FCC Rcd at 14012, para 46.

[416] 47 CFR Part 1, App. B, NPA, Subsection C, Definitions.

Spectrum Act, pursuant to which facilities only fall within the scope of an "eligible facilities request" if they are attached to towers or base stations that have already been zoned for wireless use.[417]

4. When Shot Clocks Start and Incomplete Applications

141. In the *2014 Wireless Infrastructure Order*, the Commission clarified, among other things, that a shot clock begins to run when an application is first submitted, not when the application is deemed complete.[418] The clock can be paused, however, if the locality notifies the applicant within 30 days that the application is incomplete.[419] The locality may pause the clock again if it provides written notice within 10 days that the supplemental submission did not provide the information identified in the original notice delineating missing information.[420] In the *Wireless Infrastructure NPRM/NOI*, the Commission sought comment on these determinations.[421] Localities contend that the shot clock period should not begin until the application is deemed complete.[422] Industry commenters argue that the review period for incompleteness should be decreased from 30 days to 15 days.[423]

142. With the limited exception described in the next paragraph, we find no cause or basis in the record to alter the Commission's prior determinations, and we now codify them in our rules. Codified rules, easily accessible to applicants and localities alike, should provide helpful clarity. The complaints by states and localities about the sufficiency of some of the applications they receive are adequately addressed by our current policy, particularly as amended below, which preserves the states' and localities' ability to pause review when they find an application to be incomplete.[424] We do not find it necessary at this point to shorten our 30-day initial review period for completeness because, as was the case when this review period was adopted in the *2009 Declaratory Ruling*, it remains consistent with review periods for completeness under existing state wireless infrastructure deployment statutes[425] and still "gives State and

[417] *See* 47 CFR § 1.40001(b)(3), (4), (5) (definitions of eligible facilities request, eligible support structure, and existing). Each of these definitions refers to facilities that have already been approved under local zoning or siting processes.

[418] *2014 Wireless Infrastructure Order*, 29 FCC Rcd at 12970, at para. 258.

[419] *2009 Declaratory Ruling*, 24 FCC Rcd at 14014, paras. 52-53 (providing that the "timeframes do not include the time that applicants take to respond to State and local governments' requests for additional information").

[420] *2014 Wireless Infrastructure Order*, 29 FCC Rcd at 12970, para. 259.

[421] *Wireless Infrastructure NPRM/NOI*, 32 FCC Rcd at 3338, para. 20.

[422] *See, e.g.*, Maine DOT Comments at 2-3; Philadelphia Comments at 6; League of Az Cities and Towns *et al.* at 4, 8-9; Letter from Barbara Coler, Chair, Marin Telecommunications Agency, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 et al., at 2 (filed Sept. 4, 2018) (Barbara Coler Sept. 4, 2018 *Ex Parte* Letter); Letter from Sam Liccardo, Mayor, San Jose, CA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 et al., at 5 (filed Sept. 18, 2018).

[423] Verizon Comments at 43. *See* Sprint June 18 *Ex Parte* at 2 (asserting that the shot clocks should begin to run when the application is complete and that a siting authority should review the application for completeness within the first 15 days of receipt or it would waive the right to object on that basis).

[424] *See, e.g.*, Barbara Coler Sept. 4, 2018 *Ex Parte* Letter at 2 (the pace of installation may be affected by incomplete applications); Kenneth S. Fellman Sept. 18, 2018 *Ex Parte* Letter at 3 (not uncommon to find documents not properly prepared and not in compliance with relevant regulations).

[425] Most states have a 30-day review period for incompleteness. *See, e.g.*, Colo. Rev. Stat. Ann. § 29-27-403; Ga. Code Ann. § 36-66B-5; Iowa Code Ann. § 8C.4; Kan. Stat. Ann. § 66-2019; Minn. Stat. Ann. § 237.163(3c)(b); 53 Pa. Stat. Ann. § 11702.4(b)(1); Cal. Gov't Code § 65943. A minority of states have adopted either a longer or shorter review period for incompleteness, ranging from 5 days to 45 days. *See* N.C. Gen. Stat. Ann. § 153A-349.53 (45 days); Wash. Rev. Code Ann. § 36.70B.070 (28 days); N.H. Rev. Stat. Ann. § 12-K:10 (15 days); Del. Code Ann. tit. 17, § 1609 (14 days); Va. Code Ann. §§ 15.2-2316.4; 56-484.28; 56-484.29 (10 days); Wis. Stat. Ann. § 66.0404(3) (5 days).

local governments sufficient time for reviewing applications for completeness, while protecting applicants from a last minute decision that an application should be denied as incomplete."[426]

143. However, for applications to deploy Small Wireless Facilities, we implement a modified tolling system designed to help ensure that providers are submitting complete applications on day one. This step accounts for the fact that the shot clocks applicable to such applications are shorter than those established in the *2009 Declaratory Ruling* and, because of which, there may instances where the prevailing tolling rules would further shorten the shot clocks to such an extent that it might be impossible for siting authorities to act on the application.[427] For Small Wireless Facilities applications, the siting authority has 10 days from the submission of the application to determine whether the application is incomplete. The shot clock then resets once the applicant submits the supplemental information requested by the siting authority. Thus, for example, for an application to collocate Small Wireless Facilities, once the applicant submits the supplemental information in response to a siting authority's timely request, the shot clock resets, effectively giving the siting authority an additional 60 days to act on the Small Wireless Facilities collocation application. For subsequent determinations of incompleteness, the tolling rules that apply to non-Small Wireless Facilities would apply—that is, the shot clock would toll if the siting authority provides written notice within 10 days that the supplemental submission did not provide the information identified in the original notice delineating missing information.

144. As noted above, multiple authorizations may be required before a deployment is allowed to move forward. For instance, a locality may require a zoning permit, a building permit, an electrical permit, a road closure permit, and an architectural or engineering permit for an applicant to place, construct, or modify its proposed personal wireless service facilities.[428] All of these permits are subject to Section 332's requirement to act within a reasonable period of time, and thus all are subject to the shot clocks we adopt or codify here.

145. We also find that mandatory pre-application procedures and requirements do not toll the shot clocks.[429] Industry commenters claim that some localities impose burdensome pre-application requirements before they will start the shot clock.[430] Localities counter that in many instances, applicants submit applications that are incomplete in material respects, that pre-application interactions smooth the application process, and that many of their pre-application requirements go to important health and safety matters.[431] We conclude that the ability to toll a shot clock when an application is found incomplete or by

[426] *2009 Declaratory Ruling*, 24 FCC Rcd at 14014-15, para. 53.

[427] *See, e.g.*, Geoffrey C. Beckwith Sept. 11, 2018 *Ex Parte* Letter at 1; Letter from Brad Cole, Executive Director, Illinois Municipal League, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 et al. at 1 (filed Sept. 14, 2018); Ronny Berdugo Sept. 18, 2018 *Ex Parte* Letter at 2.

[428] *See* Sprint June 18 *Ex Parte* at 3; *cf.* Virginia Joint Commenters Comments at 21-22; San Francisco Comments at 4-7, 12, 20-22; CTIA Comments at 15 ("The Commission should declare that the shot clocks apply to the entire local review process.").

[429] *Wireless Infrastructure NPRM/NOI*, 32 FCC Rcd at 3338, para. 20.

[430] *See, e.g.*, CCA Reply at 7 (noting also that some localities unreasonably request additional information after submission that is either already provided or of unreasonable scope); GCI Comments at 8-9; WIA Comments at 24; Crown Castle Comments at 21-22; CTIA Reply at 21; CIC Comments at 18; WIA Reply at 14; Conterra Comments at 2-3; Crown Castle Comments at 30-31; CTIA Comments at 15; ExteNet Comments at 4, 15-16; Mobilitie Comments at 6; T-Mobile Comments at 21-22; Verizon Comment at 42-43; AT&T Comments at 26.

[431] *See, e.g.*, Philadelphia Reply at 9 (arguing that shot clocks should not run until a complete application with a full set of engineering drawings showing the placement, size and weight of the equipment, and a fully detailed structural analysis is submitted, to assess the safety of proposed installations); Philadelphia Comments at 6; League of Az Cities and Towns *et al*. Comments at 4 (arguing that the shot clock should not begin until after an application has been "duly filed," because "some applicants believe the shot clock commences to run no matter how they submit their request, or how inadequate their submittal may be"); Colorado Comm. and Utility All. *et al*. Comments at 14 (explaining that the (continued….)

mutual agreement by the applicant and the siting authority should be adequate to address these concerns. Much like a requirement to file applications one after another, requiring pre-application review would allow for a complete circumvention of the shot clocks by significantly delaying their start date. An application is not ruled on within "a reasonable period of time after the request is duly filed" if the state or locality takes the full ordinary review period after having delayed the filing in the first instance due to required pre-application review. Indeed, requiring a pre-application review before an application may be filed is similar to imposing a moratorium, which the Commission has made clear does not stop the shot clocks from running.[432] Therefore, we conclude that if an applicant proffers an application, but a state or locality refuses to accept it until a pre-application review has been completed,[433] the shot clock begins to run when the application is proffered. In other words, the request is "duly filed" at that time,[434] notwithstanding the locality's refusal to accept it.

146. That said, we encourage *voluntary* pre-application discussions, which may well be useful to both parties. The record indicates that such meetings can clarify key aspects of the application review process, especially with respect to large submissions or applicants new to a particular locality's processes, and may speed the pace of review.[435] To the extent that an applicant voluntarily engages in a pre-application review to smooth the way for its filing, the shot clock will begin when an application is filed, presumably after the pre-application review has concluded.

147. We also reiterate, consistent with the *2009 Declaratory Ruling*, that the remedies granted under Section 332(c)(7)(B)(v) are independent of, and in addition to, any remedies that may be available under state or local law.[436] Thus, where a state or locality has established its own shot clocks, an applicant may pursue any remedies granted under state or local law in cases where the siting authority fails to act within those shot clocks.[437] However, the applicant must wait until the Commission shot clock period has expired to bring suit for a "failure to act" under Section 332(c)(7)(B)(v).[438]

(Continued from previous page)
pre-application meetings are intended "to give prospective applicants an opportunity to discuss code and regulatory provisions with local government staff, and gain a better understanding of the process that will be followed, in order to increase the probability that once an application is filed, it can proceed smoothly to final decision"); Smart Communities Comments at 15, 35 (pre-application procedures "may translate into faster consideration of individual applications over the longer term, as providers and communities alike, gain a better understanding of what is required of them, and providers submit applications that are tailored to community requirements"); UT Dept. of Trans. Comments at 5 ("The purpose of the pre-application access meeting is to help the entity or person with the application and provide information concerning the requirements contained in the rule."); CCUA *at al*. Reply at 6 ("[Pre-application meetings] provide an opportunity for informal discussion between prospective applicants and the local jurisdiction. Pre-application meetings serve to educate, answer questions, clarify process issues, and ultimately result in a more efficient process from application filing to final action."); AASHTO Comments, Attach. at 3 (GA Dept. of Trans. contending that pre-application procedures "should be encouraged and separated from an 'official' "application submittal"); League of Az Cities and Towns *et al*. Comments at 5-7 (providing examples of incomplete applications).

[432] *2014 Wireless Infrastructure Order*, 29 FCC Rcd at 12971, at para. 265.

[433] *See, e.g.*, CCA Reply at 7; GCI Comments at 8-9; WIA Comments at 24; Crown Castle Comments at 21-22; CTIA Reply at 21; CIC Comments at 18; WIA Reply at 14; Conterra Comments at 2-3; Crown Castle Comments at 30-31; CTIA Comments at 15; ExteNet Comments at 4, 15-16; Mobilitie Comments at 6; T-Mobile Comments at 21-22; Verizon Comment at 42-43; AT&T Comments at 26.

[434] 47 U.S.C. § 332(c)(7)(B)(ii).

[435] *See* CCUA *et al*. Comments at 14; Smart Communities Comments at 15, 35; UT Dept. of Trans. Comments at 5; CCUA *et al*. Reply at 6; Mukilteo Reply, Docket No. WC 17-84, at 1 (filed July 10, 2017).

[436] *2009 Declaratory Ruling*, 24 FCC Rcd at 14013-14, para. 50.

[437] *2009 Declaratory Ruling*, 24 FCC Rcd at 14013-14, para. 50.

[438] 47 U.S.C. § 332(c)(7)(B)(v).

V. PROCEDURAL MATTERS

148. *Final Regulatory Flexibility Analysis*. With respect to this Third Report and Order, a Final Regulatory Flexibility Analysis (FRFA) is contained in Appendix C. As required by Section 603 of the Regulatory Flexibility Act, the Commission has prepared a FRFA of the expected impact on small entities of the requirements adopted in this Third Report and Order. The Commission will send a copy of the Third Report and Order, including the FRFA, to the Chief Counsel for Advocacy of the Small Business Administration.

149. *Paperwork Reduction Act*. This Third Report and Order does not contain new or revised information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13.

150. *Congressional Review Act*. The Commission will send a copy of this Declaratory Ruling and Third Report and Order in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act (CRA), *see* 5 U.S.C. § 801(a)(1)(A).

VI. ORDERING CLAUSES

151. Accordingly, IT IS ORDERED, pursuant to Sections 1, 4(i)-(j), 7, 201, 253, 301, 303, 309, 319, and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i)-(j), 157, 201, 253, 301, 303, 309, 319, 332, that this Declaratory Ruling and Third Report and Order in WT Docket No. 17-79 IS hereby ADOPTED.

152. IT IS FURTHER ORDERED that Part 1 of the Commission's Rules is AMENDED as set forth in Appendix A, and that these changes SHALL BE EFFECTIVE 90 days after publication in the Federal Register.

153. IT IS FURTHER ORDERED that this Third Report and Order SHALL BE effective 90 days after its publication in the Federal Register. The Declaratory Ruling and the obligations set forth therein ARE EFFECTIVE on the same day that this Third Report and Order becomes effective. It is our intention in adopting the foregoing Declaratory Ruling and these rule changes that, if any provision of the Declaratory Ruling or the rules, or the application thereof to any person or circumstance, is held to be unlawful, the remaining portions of such Declaratory Ruling and the rules not deemed unlawful, and the application of such Declaratory Ruling and the rules to other person or circumstances, shall remain in effect to the fullest extent permitted by law.

154. IT IS FURTHER ORDERED that, pursuant to 47 CFR § 1.4(b)(1), the period for filing petitions for reconsideration or petitions for judicial review of this Declaratory Ruling and Third Report and Order will commence on the date that a summary of this Declaratory Ruling and Third Report and Order is published in the Federal Register.

155. IT IS FURTHER ORDERED that the Commission's Consumer & Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Declaratory Ruling and Third Report and Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

156. IT IS FURTHER ORDERED that this Declaratory Ruling and Third Report and Order SHALL BE sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A).

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

Final Rules

Streamlining State and Local Review of Wireless Facility Siting Applications

Part 1—Practice and Procedure

1. Add subpart U to Part 1 of Title 47 to read as follows:

Subpart U—State and Local Government Regulation of the Placement, Construction, and Modification of Personal Wireless Service Facilities

§ 1.6001 Purpose.

This subpart implements 47 U.S.C. 332(c)(7) and 1455.

§ 1.6002 Definitions.

Terms used in this subpart have the following meanings:

(a) *Action* or *to act* on a siting application means a siting authority's grant of a siting application or issuance of a written decision denying a siting application.

(b) *Antenna*, consistent with section 1.1320(d), means an apparatus designed for the purpose of emitting radiofrequency (RF) radiation, to be operated or operating from a fixed location pursuant to Commission authorization, for the provision of personal wireless service and any commingled information services. For purposes of this definition, the term antenna does not include an unintentional radiator, mobile station, or device authorized under part 15 of this title.

(c) *Antenna equipment*, consistent with section 1.1320(d), means equipment, switches, wiring, cabling, power sources, shelters or cabinets associated with an antenna, located at the same fixed location as the antenna, and, when collocated on a structure, is mounted or installed at the same time as such antenna.

(d) *Antenna facility* means an antenna and associated antenna equipment.

(e) *Applicant* means a person or entity that submits a siting application and the agents, employees, and contractors of such person or entity.

(f) *Authorization* means any approval that a siting authority must issue under applicable law prior to the deployment of personal wireless service facilities, including, but not limited to, zoning approval and building permit.

(g) *Collocation*, consistent with section 1.1320(d) and the Nationwide Programmatic Agreement (NPA) for the Collocation of Wireless Antennas, Appendix B of this part, section I.B, means—

(1) Mounting or installing an antenna facility on a pre-existing structure, and/or

(2) Modifying a structure for the purpose of mounting or installing an antenna facility on that structure.

(3) The definition of "collocation" in paragraph (b)(2) of section 1.6100 applies to the term as used in that section.

(h) *Deployment* means placement, construction, or modification of a personal wireless service facility.

(i) *Facility* or *personal wireless service facility* means an antenna facility or a structure that is used for the provision of personal wireless service, whether such service is provided on a stand-alone basis or commingled with other wireless communications services.

(j) *Siting application* or *application* means a written submission to a siting authority requesting authorization for the deployment of a personal wireless service facility at a specified location.

(k) *Siting authority* means a State government, local government, or instrumentality of a State government or local government, including any official or organizational unit thereof, whose authorization is necessary prior to the deployment of personal wireless service facilities.

(l) *Small wireless facilities*, consistent with section 1.1312(e)(2), are facilities that meet each of the following conditions:

(1) The facilities—

(i) are mounted on structures 50 feet or less in height including their antennas as defined in section 1.1320(d), or

(ii) are mounted on structures no more than 10 percent taller than other adjacent structures, or

(iii) do not extend existing structures on which they are located to a height of more than 50 feet or by more than 10 percent, whichever is greater;

(2) Each antenna associated with the deployment, excluding associated antenna equipment (as defined in the definition of antenna in section 1.1320(d)), is no more than three cubic feet in volume;

(3) All other wireless equipment associated with the structure, including the wireless equipment associated with the antenna and any pre-existing associated equipment on the structure, is no more than 28 cubic feet in volume;

(4) The facilities do not require antenna structure registration under part 17 of this chapter;

(5) The facilities are not located on Tribal lands, as defined under 36 CFR 800.16(x); and

(6) The facilities do not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in section 1.1307(b).

(m) *Structure* means a pole, tower, base station, or other building, whether or not it has an existing antenna facility, that is used or to be used for the provision of personal wireless service (whether on its own or comingled with other types of services).

Terms not specifically defined in this section or elsewhere in this subpart have the meanings defined in Part 1 of Title 47 and the Communications Act of 1934, 47 U.S.C. 151 *et seq*.

§ 1.6003 Reasonable periods of time to act on siting applications

(a) *Timely action required.* A siting authority that fails to act on a siting application on or before the shot clock date for the application, as defined in paragraph (e) of this section, is presumed not to have acted within a reasonable period of time.

(b) *Shot clock period*. The shot clock period for a siting application is the sum of—

(1) the number of days of the presumptively reasonable period of time for the pertinent type of application, pursuant to paragraph (c) of this section, plus

(2) the number of days of the tolling period, if any, pursuant to paragraph (d) of this section.

(c) *Presumptively reasonable periods of time*.

(1) The following are the presumptively reasonable periods of time for action on applications seeking authorization for deployments in the categories set forth below:

(i) Review of an application to collocate a Small Wireless Facility using an existing structure: 60 days.

(ii) Review of an application to collocate a facility other than a Small Wireless Facility using an existing structure: 90 days.

(iii) Review of an application to deploy a Small Wireless Facility using a new structure: 90 days.

(iv) Review of an application to deploy a facility other than a Small Wireless Facility using a new structure: 150 days.

(2) *Batching*.

(i) If a single application seeks authorization for multiple deployments, all of which fall within a category set forth in either paragraph (c)(1)(i) or paragraph (c)(1)(iii) of this section, then the presumptively reasonable period of time for the application as a whole is equal to that for a single deployment within that category.

(ii) If a single application seeks authorization for multiple deployments, the components of which are a mix of deployments that fall within paragraph (c)(1)(i) and deployments that fall within paragraph (c)(1)(iii) of this section, then the presumptively reasonable period of time for the application as a whole is 90 days.

(iii) Siting authorities may not refuse to accept applications under paragraphs (c)(2)(i) and (c)(2)(ii).

(d) *Tolling period.* Unless a written agreement between the applicant and the siting authority provides otherwise, the tolling period for an application (if any) is as set forth below.

(1) *For an initial application to deploy Small Wireless Facilities, if the siting authority notifies the applicant on or before the 10th day after submission that the application is materially incomplete, and clearly and specifically identifies the missing documents or information and the specific rule or regulation creating the obligation to submit such documents or information,* the shot clock date calculation shall restart at zero on the date on which the applicant submits all the documents and information identified by the siting authority to render the application complete.

(2) *For all other initial applications*, the tolling period shall be the number of days from –

(i) The day after the date when the siting authority notifies the applicant in writing that the application is materially incomplete and clearly and specifically identifies the missing documents or information that the applicant must submit to render the application complete and the specific rule or regulation creating this obligation, until

(ii) The date when the applicant submits all the documents and information identified by the siting authority to render the application complete,

(iii) But only if the notice pursuant to paragraph (d)(2)(i) is effectuated on or before the 30th day after the date when the application was submitted; or

(3) *For resubmitted applications following a notice of deficiency*, the tolling period shall be the number of days from—

(i) The day after the date when the siting authority notifies the applicant in writing that the applicant's supplemental submission was not sufficient to render the application complete and clearly and specifically identifies the missing documents or information that need to be submitted based on the siting authority's original request under paragraph (d)(1) or paragraph (d)(2) of this section, until

(ii) The date when the applicant submits all the documents and information identified by the siting authority to render the application complete,

(iii) But only if the notice pursuant to paragraph (d)(3)(i) is effectuated on or before the 10th day after the date when the applicant makes a supplemental submission in response to the siting authority's request under paragraph (d)(1) or paragraph (d)(2) of this section.

(e) *Shot clock date.* The shot clock date for a siting application is determined by counting forward, beginning on the day after the date when the application was submitted, by the number of calendar days of the shot clock period identified pursuant to paragraph (b) of this section and including any pre-application period asserted by the siting authority; *provided*, that if the date calculated in this manner is a "holiday" as defined in section 1.4(e)(1) or a legal holiday within the relevant State or local jurisdiction, the shot clock date is the next business day after such date. The term "business day" means any day as defined in section 1.4(e)(2) and any day that is not a legal holiday as defined by the State or local jurisdiction.

3. Redesignate § 1.40001 as § 1.6100, remove and reserve paragraph (a) of newly redesignated § 1.6100, and revise paragraph (b)(7)(vi) of newly redesignated § 1.6100 by changing "1.40001(b)(7)(i)(iv)" to "1.6100(b)(7)(i)-(iv)."

4. Remove subpart CC.

APPENDIX B

Comments and Reply Comments

Comments

5G Americas
Aaron Rosenzweig
ACT | The App Association
Advisory Council on Historic Preservation
Advisors to the International EMF Scientist Appeal
African American Mayors Association
Agua Caliente Band of Cahuilla Indians Tribal Historic Preservation Office
Alaska Department of Transportation & Public Facilities
Alaska Native Health Board
Alaska Office of History and Archaeology
Alexandra Ansell
American Association of State Highway and Transportation Officials
American Bird Conservancy
American Cable Association
American Petroleum Institute
American Public Power Association
Angela Fox
Arctic Slope Regional Corporation
Arizona State Parks & Trails, State Historic Preservation Office
Arkansas SHPO
Arnold A. McMahon
Association of American Railroads
AT&T
B. Golomb
Bad River Band of Lake Superior Tribe of Chippewa Indians
Benjamin L. Yousef
BioInitiative Working Group
Blue Lake Rancheria
Board of County Road Commissioners of the County of Oakland
Bristol Bay Area Health Corporation
Cahuilla Band of Indians
California Office of Historic Preservation, Department of Parks and Recreation
California Public Utilities Commission
Cape Cod Bird Club, Inc.
Catawba Indian Nation Tribal Historic Preservation Office
Charter Communications, Inc.
Cheyenne River Sioux Tribe Cultural Preservation Office
Chickasaw Nation
Chippewa Cree Tribe
Choctaw Nation of Oklahoma
Chuck Matzker
Cindy Li
Cindy Russell
Cities of San Antonio, Texas; Eugene, Oregon; Bowie, Maryland; Huntsville, Alabama; and Knoxville, Tennessee
Citizen Potawatomi Nation
Citizens Against Government Waste

City and County of San Francisco
City of Alexandria, Virginia; Arlington County, Virginia; and Henrico County, Virginia
City of Arlington, Texas
City of Austin, Texas
City of Bellevue, City of Bothell, City of Burien, City of Ellensburg, City of Gig Harbor, City of Kirkland, City of Mountlake Terrace, City of Mukilteo, City of Normandy Park, City of Puyallup, City of Redmond, and City of Walla Walla
City of Chicago
City of Claremont (Tony Ramos, City Manager)
City of Eden Prairie, MN
City of Houston
City of Irvine, California
City of Kenmore, Washington, and David Baker, Vice-Chair, National League of Cities Information Technology and Communications Committee
City of Lansing, Michigan
City of Mukilteo
City of New Orleans, Louisiana
City of New York
City of Philadelphia
City of Springfield, Oregon
Cityscape Consultants, Inc.
Coalition for American Heritage, Society for American Archaeology, American Cultural Resources Association, Society for Historical Archaeology, and American Anthropological Association
Colorado Communications and Utility Alliance (CCUA), Rainier Communications Commission (RCC), City of Seattle, Washington, City of Tacoma, Washington, King County, Washington, Jersey Access Group (JAG), and Colorado Municipal League (CML)
Colorado River Indian Tribes
Colorado State Historic Preservation Office
Comcast Corporation
Commissioner Sal Pace, Pueblo Board of County Commissioners
Community Associations Institute
Competitive Carriers Association
CompTIA (The Computing Technology Industry Association)
Computer & Communications Industry Association (CCIA)
Confederated Tribes of the Colville Reservation
Confederated Tribes of the Umatilla Indian Reservation Cultural Resources Protection Program
Consumer Technology Association
Conterra Broadband Services, Southern Light, LLC, and Uniti Group, Inc.
Critical Infrastructure Coalition
Crow Creek Sioux Tribe
Crown Castle
CTIA
CTIA and Wireless Infrastructure Association
David Roetman, Minnehaha County GOP Chairman
Defenders of Wildlife
Department of Arkansas Heritage (Arkansas Historic Preservation Program)
DuPage Mayors and Managers Conference
East Bay Municipal Utility District
Eastern Shawnee Tribe of Oklahoma
Edward Czelada
Elijah Mondy
Elizabeth Doonan

Ellen Marks
EMF Safety Network, Ecological Options Network
Environmental Health Trust
ExteNet Systems, Inc.
Fairfax County, Virginia
FibAire Communications, LLC d/b/a AireBeam
Florida Coalition of Local Governments
Fond du Lac Band of Lake Superior Chippewa
Forest County Potawatomi Community of Wisconsin
Fort Belknap Indian Community
Free State Foundation
General Communication, Inc.
Georgia Department of Transportation
Georgia Historic Preservation Division
Georgia Municipal Association, Inc.
Gila River Indian Community
Greywale Advisors
History Colorado (Colorado State Historic Preservation Office)
Hongwei Dong
Hualapai Department of Cultural Resources
Illinois Department of Transportation
Illinois Municipal League
INCOMPAS
Information Technology and Innovation Foundation
International Telecommunications Users Group
Jack Li
Jackie Cale
Jerry Day
Joel M. Moskowitz, Ph.D.
Jonathan Mirin
Joyce Barrett
Karen Li
Karen Spencer
Karon Gubbrud
Kate Kheel
Kaw Nation
Kevin Mottus
Keweenaw Bay Indian Community
Kialegee Tribal Town
League of Arizona Cities and Towns, League of California Cities, and League of Oregon Cities
League of Minnesota Cities
Leo Cashman
Lower Brule Sioux Tribe
Li Sun
Lightower Fiber Networks
Lisbeth Britt
Lower Brule Sioux Tribe
Maine Department of Transportation
Marty Feffer
Mary Whisenand, Iowa Governor's Commission on Community Action Agencies
Mashantucket (Western) Pequot Tribe
Mashpee Wampanoag Tribe

Matthew Goulet
Mayor Patrick Furey, City of Torrance, California
McLean Citizens Association
Miami Tribe of Oklahoma
Missouri State Historic Preservation Office
Mobile Future
Mobilitie, LLC
Mohegan Tribe of Indians of Connecticut
Montana State Historic Preservation Office
Monte R. Lee and Company
Muckleshoot Indian Tribe
Muscogee (Creek) Nation
National Association of Tower Erectors (NATE)
National Association of Tribal Historic Preservation Officers
National Black Caucus of State Legislators
National Conference of State Historic Preservation Officers
National Congress of American Indians
National Congress of American Indians, National Association of Tribal Historic Preservation Officers, and United South and Eastern Tribes Sovereignty Protection Fund
National Congress of American Indians and United South and Eastern Tribes Sovereignty Protection Fund
National League of Cities
National League of Cities, United States Conference of Mayors, International Municipal Lawyers Association, Government Finance Officers Association, National Association of Counties, National Association of Regional Councils, National Association of Towns and Townships, and National Association of Telecommunications Officers and Advisors
National Tribal Telecommunications Association
National Trust for Historic Preservation
Native Public Media
NATOA
Natural Resources Defense Council
Navajo Nation and the Navajo Nation Telecommunications Regulatory Commission
Naveen Albert
NCTA—The Internet & Television Association
nepsa solutions LLC
New Mexico Department of Cultural Affairs, Historic Preservation Division
Nez Perce Tribe
Nina Beety
Nokia
North Carolina State Historic Preservation Office
Northern Cheyenne Tribal Historic Preservation Office
NTCA—The Rural Broadband Association
Office of Historic Preservation for the Mashantucket Pequot Tribal Nation of Connecticut
Ohio State Historic Preservation Office
Oklahoma History Center State Historic Preservation Office
Olemara Peters
Omaha Tribe of Nebraska
ONE Media, LLC
Oregon State Historic Preservation Office
Osage Nation
Otoe-Missouria Tribe
Pala Band of Mission Indians

Patrick Wronkiewicz
Pechanga Band of Luiseno Indians
Pennsylvania State Historic Preservation Office
Prairie Island Indian Community
PTA-FLA, Inc .
Pueblo of Laguna
Pueblo of Pojoaque
Pueblo of Tesuque
Puerto Rico State Historic Preservation Office
Quad Cities Cable Communications Commission
Quapaw Tribe of Oklahoma
R Street Institute
Rebecca Carol Smith
Red Cliff Band of Lake Superior Chippewa
Representative Tom Sloan, State of Kansas House of Representatives
Representatives Anna G. Eshoo, Frank Pallone, Jr., and Raul Ruiz, U.S. House of Representatives
Rhode Island Historical Preservation and Heritage Commission
Rosebud Sioux Tribe Tribal Historic Preservation Cultural Resource Management Office
Ronald M. Powell, Ph.D.
S. Quick
Sacred Wind Communications, Inc.
Samsung Electronics America, Inc.
Santa Clara Pueblo
Sault Ste. Marie Tribe of Chippewa Indians
SCAN NATOA, Inc.
Seminole Nation of Oklahoma
Seminole Tribe of Florida
Senator Duane Ankney, Montana State Senate
Shawnee Tribe
Sisseton Wahpeton Oyate
Skokomish Indian Tribe Tribal Historic Preservation Office
Skull Valley Band of Goshute
Smart Communities and Special Districts Coalition
Soula Culver
Sprint
Standing Rock Sioux Tribe
Starry, Inc.
State of Washington Department of Archaeology & Historic Preservation
Sue Present
Swinomish Indian Tribal Community
Table Mountain Rancheria Tribal Government Office
Tanana Chiefs Conference
Telecommunications Industry Association
Texas Department of Transportation
Texas Historical Commission
Thlopthlocco Tribal Town
T-Mobile USA, Inc.
Tonkawa Tribe of Oklahoma
Triangle Communication System, Inc.
Twenty-Nine Palms Band of Mission Indians
United Keetoowah Band of Cherokee Indians In Oklahoma
Utah Department of Transportation

Ute Mountain Ute Tribe
Utilities Technology Council
Verizon
Wampanoag Tribe of Gay Head (Aquinnah)
WEC Energy Group, Inc.
Wei Shen
Wei-Ching Lee, MD, California Medical Association Delegate of Los Angeles County
Winnebago Tribe of Nebraska
Wireless Infrastructure Association
Wireless Internet Service Providers Association
Xcel Energy Services Inc.

Reply Comments

Alaska State Historic Preservation Office
American Cable Association
American Public Power Association
Association of American Railroads
California Public Utilities Commission
Catherine Kleiber
Chippewa Cree Tribe
Cities of San Antonio, Texas; Eugene, Oregon; Bowie, Maryland; Huntsville, Alabama; and Knoxville, Tennessee
City of Baltimore, Maryland
City of New York
City of Philadelphia
Colorado Communications and Utility Alliance (CCUA), Rainier Communications Commission (RCC), City of Seattle, Washington, City of Tacoma, Washington, King County, Washington, Jersey Access Group (JAG), and Colorado Municipal League (CML)
Comcast Corporation
Communications Workers of America
Competitive Carriers Association
Consumer Technology Association
Conterra Broadband Services, Southern Light, LLC, and Uniti Group Inc.
Critical Infrastructure Coalition
CTIA
Dan Kleiber
Enterprise Wireless Alliance
Environmental Health Trust
ExteNet Systems, Inc.
Florida Coalition of Local Governments
Confederated Tribes of Grand Ronde Community of Oregon Historic Preservation Department
INCOMPAS
Irregulators
League of Arizona Cities and Towns, League of California Cities, and League of Oregon Cities
National Association of Regulatory Utility Commissioners
National Association of Telecommunications Officers and Advisors, National League of Cities, National Association of Towns and Townships, National Association of Regional Councils, United States Conference of Mayors, and Government Finance Officers Association
National Congress of American Indians, United South and Eastern Tribes Sovereignty Protection Fund, and National Association of Tribal Historic Preservation Officers
National Organization of Black Elected Legislative (NOBEL) Women
National Rural Electric Cooperative Association

Navajo Nation and the Navajo Nation Telecommunications Regulatory Commission
NCTA—The Internet & Television Association
Pueblo of Acoma
Puerto Rico Telephone Company, Inc., d/b/a Claro
Quintillion Networks, LLC, and Quintillion Subsea Operations, LLC
Rebecca Carol Smith
SDN Communications
Skyway Towers, LLC
SmallCellSite.Com
Smart Communities and Special Districts Coalition
Sue Present
The Greenlining Institute
T-Mobile USA, Inc.
Triangle Communication System, Inc.
United States Conference of Mayors
Verizon
Washington, D.C. Office of the Chief Technology Officer
Wireless Internet Service Providers Association
Xcel Energy Services Inc.

APPENDIX C

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA)[1] an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rulemaking* (*NPRM*), released in April 2017.[2] The Commission sought written public comment on the proposals in the *NPRM*, including comment on the IRFA. The comments received are addressed below in Section B. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.[3]

A. Need for and Objectives of the Rules

2. In the *Third Report and Order*, the Commission continues its efforts to promote the timely buildout of wireless infrastructure across the country by eliminating regulatory impediments that unnecessarily delay bringing personal wireless services to consumers. The record shows that lengthy delays in approving siting applications by siting agencies has been a persistent problem.[4] With this in mind, the *Third Report and Order* establishes and codifies specific rules concerning the amount of time siting agencies may take to review and approve certain categories of wireless infrastructure siting applications. More specifically, the Commission addresses its Section 332 shot clock rules for infrastructure applications which will be presumed reasonable under the Communications Act. As an initial matter, the Commission establishes two new shot clocks for Small Wireless Facilities applications. For collocation of Small Wireless Facilities on preexisting structures, the Commission adopts a 60-day shot clock which applies to both individual and batched applications. For applications associated with Small Wireless Facilities new construction we adopt a 90-day shot clock for both individual and batched applications.[5] The Commission also codifies two existing Section 332 shot clocks for all other Non-Small Wireless Facilities that were established in the *2009 Declaratory Ruling* without codification.[6]These existing shot clocks require 90-days for processing of all other Non-Small Wireless Facilities collocation applications, and 150-days for processing of all other Non-Small Wireless Facilities applications other than collocations.

3. The *Third Report and Order* addresses other issues related to both the existing and new shot clocks. In particular we address the specific types of authorizations subject to the "Reasonable Period of Time" provisions of Section 332(c)(7)(B)(ii), finding that "any request for authorization to place, construct, or modify personal wireless service facilities" under Section 332(c)(7)(B)(ii) means all authorizations a locality may require, and to all aspects of and steps in the siting process, including license or franchise agreements to access ROW, building permits, public notices and meetings, lease negotiations, electric permits, road closure permits, aesthetic approvals, and other authorizations needed for deployment of personal wireless services infrastructure.[7] The Commission also addresses collocation on structures not previously zoned for wireless use,[8] when the four Section 332 shot clocks begin to run,[9]

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[1] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601—612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] *See Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Deployment*, Notice of Proposed Rulemaking, 32 FCC Rcd 3330 (2017).

[3] *See* 5 U.S.C. § 604.

[4] *See supra* paras. 23-9.

[5] *See supra* paras. 111-12.

[6] *See supra* paras. 138-39; *2009 Declaratory Ruling*.

[7] *See supra* paras. 132-37.

[8] *See supra* para. 140.

the impact of incomplete applications on our Section 332 shot clocks,[10] and how state imposed shot clocks remedies effect the Commission's Section 332 shot clocks remedies.[11]

4. The Commission discusses the appropriate judicial remedy that applicants may pursue in cases where a siting authority fails to act within the applicable shot clock period.[12] In those situations, applicants may commence an action in a court of competent jurisdiction alleging a violation of Section 332(c)(7)(B)(i)(II) and seek injunctive relief granting the application. Notwithstanding the availability of a judicial remedy if a shot clock deadline is missed, the Commission recognizes that the Section 332 time frames might not be met in exceptional circumstances and has refined its interpretation of the circumstances when a period of time longer than the relevant shot clock would nonetheless be a reasonable period of time for action by a siting agency.[13] In addition, a siting authority that is subject to a court action for missing an applicable shot clock deadline has the opportunity to demonstrate that the failure to act was reasonable under the circumstances and, therefore, did not materially limit or inhibit the applicant from introducing new services or improving existing services thereby rebutting the effective prohibition presumption.

5. The rules adopted in the *Third Report and Order* will accelerate the deployment of wireless infrastructure needed for the mobile wireless services of the future, while preserving the fundamental role of localities in this process. Under the Commission's new rules, localities will maintain control over the placement, construction and modification of personal wireless facilities, while at the same time the Commission's new process will streamline the review of wireless siting applications.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

6. Only one party—the Smart Communities and Special Districts Coalition—filed comments specifically addressing the rules and policies proposed in the IRFA. They argue that any shortening or alteration of the Commission's existing shot clocks or the adoption of a deemed granted remedy will adversely affect small local governments, special districts, property owners, small developers, and others by placing their siting applications behind wireless provider siting applications.[14] Subsequently, NATOA filed comments concerning the draft FRFA.[15] NATOA argues that the new shot clocks impose burdens on local governments and particularly those with limited resources. NATOA asserts that the new shot clocks will spur more deployment applications than localities currently process.

7. These arguments, however, fail to acknowledge that Section 332 shot clocks have been in place for years and reflect Congressional intent as seen in the statutory language of Section 332. The record in this proceeding demonstrates the need for, and reasonableness of, expediting the siting review of certain facility deployments.[16] More streamlined procedures are both reasonable and necessary to provide greater predictability. The current shot clocks do not reflect the evolution of the application review process and evidence that localities can complete reviews more quickly than was the case when the original shot clocks were adopted nine years ago. Localities have gained significant experience

(Continued from previous page)

[9] *See supra* paras. 141-46.

[10] *Id*.

[11] *See supra* para. 147.

[12] *See supra* paras. **Error! Reference source not found.**-131.

[13] *See supra* para. 127.

[14] Smart Communities Comments at 81; *see also* Letter from Gerard Lavery Lederer, Counsel, Smart Communities, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, *Ex Parte* Submission at 33 (filed Sept. 19, 2018).

[15] Letter from Nancy Werner, NATOA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79, at 4-5 (filed Sept. 19, 2018).

[16] *See supra* para. 106.

processing wireless siting applications and several jurisdictions already have in place laws that require applications to be processed in less time than the Commission's new shot clocks. With the passage of time, sitting agencies have become more efficient in processing siting applications and this, in turn, should reduce any economic burden the Commission's new shot clock provisions have on them.

8. The Commission has carefully considered the impact of its new shot clocks on siting authorities and has established shot clocks that take into consideration the nature and scope of siting requests by establishing shot clocks of different lengths of time that depend on the nature of the siting request at issue.[17] The length of these shot clocks is based in part on the need to ensure that local governments have ample time to take any steps needed to protect public safety and welfare and to process other pending utility applications.[18] Since local siting authorities have gained experience in processing siting requests in an expedited fashion, they should be able to comply with the Commission's new shot clocks.

9. The Commission has taken into consideration the concerns of the Smart Communities and Special Districts Coalition and NATOA. It has established shot clocks that will not favor wireless providers over other applicants with pending siting applications. Further, instead of adopting a deemed granted remedy that would grant a siting application when a shot clock lapses without a decision on the merits, the Commission provides guidance as to the appropriate judicial remedy that applicants may pursue and examples of exceptional circumstance where a siting authority may be justified in needing additional time to review a siting application then the applicable shot clock allows.[19] Under this approach, the applicant may seek injunctive relief as long as several minimum requirements are met. The siting authority, however, can rebut the presumptive reasonableness of the applicable shot clock under certain circumstances. The circumstances under which a sitting authority might have to do this will be rare. Under this carefully crafted approach, the interests of siting applicants, siting authorities, and citizens are protected.

C. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration

10. Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments.[20]

11. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

D. Description and Estimate of the Number of Small Entities to Which the Rules Will Apply

12. The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the rules adopted herein.[21] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[22] In addition, the term "small business" has the

[17] *See supra* paras. 105-112.

[18] *Id*.

[19] *See supra* paras. 116-131.

[20] 5 U.S.C. § 604(a)(3).

[21] *See* 5 U.S.C. § 604(a)(3).

[22] 5 U.S.C. § 601(6).

same meaning as the term "small business concern" under the Small Business Act.[23] A "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.[24]

13. *Small Businesses, Small Organizations, Small Governmental Jurisdictions*. Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three broad groups of small entities that could be directly affected herein.[25] First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the SBA's Office of Advocacy, in general a small business is an independent business having fewer than 500 employees.[26] These types of small businesses represent 99.9 percent of all businesses in the United States which translates to 28.8 million businesses.[27]

14. Next, the type of small entity described as a "small organization" is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."[28] Nationwide, as of August 2016, there were approximately 356,494 small organizations based on registration and tax data filed by nonprofits with the Internal Revenue Service (IRS).[29]

15. Finally, the small entity described as a "small governmental jurisdiction" is defined generally as "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[30] U.S. Census Bureau data from the 2012 Census of Governments[31] indicate that there were 90,056 local governmental jurisdictions consisting of general

[23] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small-business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

[24] 15 U.S.C. § 632.

[25] *See* 5 U.S.C. § 601(3)-(6).

[26] *See* SBA, Office of Advocacy, "Frequently Asked Questions, Question 1—What is a small business?" https://www.sba.gov/sites/default/files/advocacy/SB-FAQ-2016_WEB.pdf (June 2016).

[27] *See* SBA, Office of Advocacy, "Frequently Asked Questions, Question 2- How many small businesses are there in the U.S.?" https://www.sba.gov/sites/default/files/advocacy/SB-FAQ-2016_WEB.pdf (June 2016).

[28] 5 U.S.C. § 601(4).

[29] Data from the Urban Institute, National Center for Charitable Statistics (NCCS) reporting on nonprofit organizations registered with the IRS was used to estimate the number of small organizations. Reports generated using the NCCS online database indicated that as of August 2016 there were 356,494 registered nonprofits with total revenues of less than $100,000. Of this number 326,897 entities filed tax returns with 65,113 registered nonprofits reporting total revenues of $50,000 or less on the IRS Form 990-N for Small Exempt Organizations and 261,784 nonprofits reporting total revenues of $100,000 or less on some other version of the IRS Form 990 within 24 months of the August 2016 data release date. *See* http://nccs.urban.org/sites/all/nccs-archive/html//tablewiz/tw.php where the report showing this data can be generated by selecting the following data fields: Report: "The Number and Finances of All Registered 501(c) Nonprofits"; Show: "Registered Nonprofits"; By: "Total Revenue Level (years 1995, Aug to 2016, Aug)"; and For: "2016, Aug" then selecting "Show Results".

[30] 5 U.S.C. § 601(5).

[31] *See* 13 U.S.C. § 161. The Census of Government is conducted every five (5) years compiling data for years ending with "2" and "7". *See also* Program Description Census of Government *https://factfinder.census.gov/faces/affhelp/jsf/pages/metadata.xhtml?lang=en&type=program&id=program.en.COG#*.

purpose governments and special purpose governments in the United States.[32] Of this number there were 37, 132 General purpose governments (county[33], municipal and town or township[34]) with populations of less than 50,000 and 12,184 Special purpose governments (independent school districts[35] and special districts[36]) with populations of less than 50,000. The 2012 U.S. Census Bureau data for most types of governments in the local government category show that the majority of these governments have populations of less than 50,000.[37] Based on this data we estimate that at least 49,316 local government jurisdictions fall in the category of "small governmental jurisdictions."[38].

16. *Wireless Telecommunications Carriers (except Satellite).* This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular services, paging services, wireless Internet access, and wireless video services.[39] The appropriate size standard under SBA rules is that such a business is small if it has 1,500 or fewer employees.[40] For this industry, U.S. Census data for 2012 show that there were

[32] *See* U.S. Census Bureau, 2012 Census of Governments, Local Governments by Type and State: 2012 - United States-States. https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG02.US01. Local governmental jurisdictions are classified in two categories - General purpose governments (county, municipal and town or township) and Special purpose governments (special districts and independent school districts).

[33] *See* U.S. Census Bureau, 2012 Census of Governments, County Governments by Population-Size Group and State: 2012 - United States-States. https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG06.US01. There were 2,114 county governments with populations less than 50,000.

[34] *See* U.S. Census Bureau, 2012 Census of Governments, Subcounty General-Purpose Governments by Population-Size Group and State: 2012 - United States—States. https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG07.US01. There were 18,811 municipal and 16,207 town and township governments with populations less than 50,000.

[35] *See* U.S. Census Bureau, 2012 Census of Governments, Elementary and Secondary School Systems by Enrollment-Size Group and State: 2012 - United States-States. https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG11.US01. There were 12,184 independent school districts with enrollment populations less than 50,000.

[36] *See* U.S. Census Bureau, 2012 Census of Governments, Special District Governments by Function and State: 2012 - United States-States. https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG09.US01. The U.S. Census Bureau data did not provide a population breakout for special district governments.

[37] *See* U.S. Census Bureau, 2012 Census of Governments, **C**ounty Governments by Population-Size Group and State: 2012 - United States-States - https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG06.US01; Subcounty General-Purpose Governments by Population-Size Group and State: 2012 - United States–States - https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG07.US01; and Elementary and Secondary School Systems by Enrollment-Size Group and State: 2012 - United States-States. https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG11.US01. While U.S. Census Bureau data did not provide a population breakout for special district governments, if the population of less than 50,000 for this category of local government is consistent with the other types of local governments the majority of the 38, 266 special district governments have populations of less than 50,000.

[38] *Id.*

[39] U.S. Census Bureau, 2012 NAICS Definitions, "517210 Wireless Telecommunications Carriers (Except Satellite)," *See* https://factfinder.census.gov/faces/affhelp/jsf/pages/metadata.xhtml?lang=en&typib&id=ib.en./ECN.NAICS2012.517210.

[40] 13 CFR § 121.201, NAICS Code 517210.

967 firms that operated for the entire year.[41] Of this total, 955 firms had employment of 999 or fewer employees and 12 had employment of 1000 employees or more.[42] Thus under this category and the associated size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities.

17. The Commission's own data—available in its Universal Licensing System—indicate that, as of May 17, 2018, there are 264 Cellular licensees that will be affected by our actions.[43] The Commission does not know how many of these licensees are small, as the Commission does not collect that information for these types of entities. Similarly, according to Commission data, 413 carriers reported that they were engaged in the provision of wireless telephony, including cellular service, Personal Communications Service (PCS), and Specialized Mobile Radio (SMR) Telephony services.[44] Of this total, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees.[45] Thus, using available data, we estimate that the majority of wireless firms can be considered small.

18. *Personal Radio Services.* Personal radio services provide short-range, low-power radio for personal communications, radio signaling, and business communications not provided for in other services. Personal radio services include services operating in spectrum licensed under Part 95 of our rules.[46] These services include Citizen Band Radio Service, General Mobile Radio Service, Radio Control Radio Service, Family Radio Service, Wireless Medical Telemetry Service, Medical Implant Communications Service, Low Power Radio Service, and Multi-Use Radio Service.[47] There are a variety of methods used to license the spectrum in these rule parts, from licensing by rule, to conditioning operation on successful completion of a required test, to site-based licensing, to geographic area licensing. All such entities in this category are wireless, therefore we apply the definition of Wireless Telecommunications Carriers (except Satellite), pursuant to which the SBA's small entity size standard is defined as those entities employing 1,500 or fewer persons.[48] For this industry, U.S. Census data for 2012 show that there were 967 firms that operated for the entire year.[49] Of this total, 955 firms had

[41] U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ5, *Information: Subject Series: Estab and Firm Size: Employment Size of Firms for the U.S.: 2012* NAICS Code 517210, https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ5//naics~517210.

[42] *Id*. Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

[43] *See* http://wireless.fcc.gov/uls. For the purposes of this FRFA, consistent with Commission practice for wireless services, the Commission estimates the number of licensees based on the number of unique FCC Registration Numbers.

[44] *See* Federal Communications Commission, Wireline Competition Bureau, Industry Analysis and Technology Division, Trends in Telephone Service at Table 5.3 (Sept. 2010) (*Trends in Telephone Service*), https://apps.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf.

[45] *See id*.

[46] 47 CFR Part 90.

[47] The Citizens Band Radio Service, General Mobile Radio Service, Radio Control Radio Service, Family Radio Service, Wireless Medical Telemetry Service, Medical Implant Communications Service, Low Power Radio Service, and Multi-Use Radio Service are governed by subpart D, subpart A, subpart C, subpart B, subpart H, subpart I, subpart G, and subpart J, respectively, of Part 95 of the Commission's rules. *See generally* 47 CFR Part 95.

[48] 13 CFR § 121.201, NAICS Code 517312.

[49] U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ5, *Information: Subject Series: Estab and Firm Size: Employment Size of Firms for the U.S.: 2012* NAICS Code 517210, https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ5//naics~517210.

employment of 999 or fewer employees and 12 had employment of 1000 employees or more.[50] Thus under this category and the associated size standard, the Commission estimates that the majority of firms can be considered small. We note however that many of the licensees in this category are individuals and not small entities. In addition, due to the mostly unlicensed and shared nature of the spectrum utilized in many of these services, the Commission lacks direct information upon which to base an estimation of the number of small entities that may be affected by our actions in this proceeding.

19. *Public Safety Radio Licensees.* Public Safety Radio Pool licensees as a general matter, include police, fire, local government, forestry conservation, highway maintenance, and emergency medical services.[51] Because of the vast array of public safety licensees, the Commission has not developed a small business size standard specifically applicable to public safety licensees. The closest applicable SBA category is Wireless Telecommunications Carriers (except Satellite) which encompasses business entities engaged in radiotelephone communications. The appropriate size standard for this category under SBA rules is that such a business is small if it has 1,500 or fewer employees. [52] For this industry, U.S. Census data for 2012 show that there were 967 firms that operated for the entire year.[53] Of this total, 955 firms had employment of 999 or fewer employees and 12 had employment of 1000 employees or more.[54] Thus under this category and the associated size standard, the Commission estimates that the majority of firms can be considered small. With respect to local governments, in particular, since many governmental entities comprise the licensees for these services, we include under public safety services the number of government entities affected. According to Commission records, there are a total of approximately 133,870 licenses within these services.[55] There are 3,121 licenses in the 4.9 GHz band, based on an FCC Universal Licensing System search of March 29, 2017.[56] We estimate that fewer than 2,442 public safety radio licensees hold these licenses because certain entities may have multiple licenses.

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[50] *Id.* Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

[51] *See* subparts A and B of Part 90 of the Commission's Rules, 47 CFR §§ 90.1-90.22. Police licensees serve state, county, and municipal enforcement through telephony (voice), telegraphy (code), and teletype and facsimile (printed material). Fire licensees are comprised of private volunteer or professional fire companies, as well as units under governmental control. Public Safety Radio Pool licensees also include state, county, or municipal entities that use radio for official purposes. State departments of conservation and private forest organizations comprise forestry service licensees that set up communications networks among fire lookout towers and ground crews. State and local governments are highway maintenance licensees that provide emergency and routine communications to aid other public safety services to keep main roads safe for vehicular traffic. Emergency medical licensees use these channels for emergency medical service communications related to the delivery of emergency medical treatment. Additional licensees include medical services, rescue organizations, veterinarians, persons with disabilities, disaster relief organizations, school buses, beach patrols, establishments in isolated areas, communications standby facilities, and emergency repair of public communications facilities.

[52] *See* 13 CFR § 121.201, NAICS Code 517210.

[53] U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ5, *Information: Subject Series: Estab and Firm Size: Employment Size of Firms for the U.S.: 2012* NAICS Code 517210. https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ5//naics~517210.

[54] *Id.* Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

[55] This figure was derived from Commission licensing records as of June 27, 2008. Licensing numbers change daily. We do not expect this number to be significantly smaller as of the date of this order. This does not indicate the number of licensees, as licensees may hold multiple licenses. There is no information currently available about the number of public safety licensees that have less than 1,500 employees.

[56] Based on an FCC Universal Licensing System search of March 29, 2017. Search parameters: Radio Service = PA—Public Safety 4940-4990 MHz Band; Authorization Type = Regular; Status = Active.

20. *Private Land Mobile Radio Licensees*. Private land mobile radio (PLMR) systems serve an essential role in a vast range of industrial, business, land transportation, and public safety activities. These radios are used by companies of all sizes operating in all U.S. business categories. Because of the vast array of PLMR users, the Commission has not developed a small business size standard specifically applicable to PLMR users. The closest applicable SBA category is Wireless Telecommunications Carriers (except Satellite) which encompasses business entities engag*ed in radiotelephone communications.*[57] The appropriate size standard for this category under SBA rules is that such a business is small if it has 1,500 or fewer employees.[58] For this industry, U.S. Census data for 2012 show that there were 967 firms that operated for the entire year.[59] Of this total, 955 firms had employment of 999 or fewer employees and 12 had employment of 1000 employees or more.[60] Thus under this category and the associated size standard, the Commission estimates that the majority of PLMR Licensees are small entities.

21. According to the Commission's records, a total of approximately 400,622 licenses comprise PLMR users.[61] Of this number there are a total of 3,374 licenses in the frequencies range 173.225 MHz to 173.375 MHz, which is the range affected by the *Third Report and Order*.[62] The Commission does not require PLMR licensees to disclose information about number of employees, and does not have information that could be used to determine how many PLMR licensees constitute small entities under this definition. The Commission however believes that a substantial number of PLMR licensees may be small entities despite the lack of specific information.

22. *Multiple Address Systems***.** Entities using Multiple Address Systems (MAS) spectrum, in general, fall into two categories: (1) those using the spectrum for profit-based uses, and (2) those using the spectrum for private internal uses. With respect to the first category, Profit-based Spectrum use, the size standards established by the Commission define "small entity" for MAS licensees as an entity that has average annual gross revenues of less than $15 million over the three previous calendar years.[63] A "Very small business" is defined as an entity that, together with its affiliates, has average annual gross revenues of not more than $3 million over the preceding three calendar years.[64] The SBA has approved

[57] U.S. Census Bureau, 2012 NAICS Definitions, "517210 Wireless Telecommunications Carriers (Except Satellite)," *See* https://factfinder.census.gov/faces/affhelp/jsf/pages/metadata.xhtml?lang=en&type=ib&id=ib.en./ECN.NAICS2012.517210 (last visited Mar. 6, 2018).

[58] *See* 13 CFR § 121.201, NAICS Code 517210.

[59] U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ5, *Information: Subject Series: Estab and Firm Size: Employment Size of Firms for the U.S.: 2012* NAICS Code 517210. https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ5//naics~517210.

[60] *Id*. Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

[61] This figure was derived from Commission licensing records as of September 19, 2016. Licensing numbers change on a daily basis. This does not indicate the number of licensees, as licensees may hold multiple licenses. There is no information currently available about the number of PLMR licensees that have fewer than 1,500 employees.

[62] This figure was derived from Commission licensing records as of August 16, 2013. Licensing numbers change daily. We do not expect this number to be significantly smaller as of the date of this order. This does not indicate the number of licensees, as licensees may hold multiple licenses. There is no information currently available about the number of licensees that have fewer than 1,500 employees.

[63] *See Amendment of the Commission's Rules Regarding Multiple Address Systems*, Report and Order, 15 FCC Rcd 11956, 12008 para. 123 (2000).

[64] *Id*.

these definitions.[65] The majority of MAS operators are licensed in bands where the Commission has implemented a geographic area licensing approach that requires the use of competitive bidding procedures to resolve mutually exclusive applications.

23. The Commission's licensing database indicates that, as of April 16, 2010, there were a total of 11,653 site-based MAS station authorizations. Of these, 58 authorizations were associated with common carrier service. In addition, the Commission's licensing database indicates that, as of April 16, 2010, there were a total of 3,330 Economic Area market area MAS authorizations. The Commission's licensing database also indicates that, as of April 16, 2010, of the 11,653 total MAS station authorizations, 10,773 authorizations were for private radio service. In 2001, an auction for 5,104 MAS licenses in 176 EAs was conducted.[66] Seven winning bidders claimed status as small or very small businesses and won 611 licenses. In 2005, the Commission completed an auction (Auction 59) of 4,226 MAS licenses in the Fixed Microwave Services from the 928/959 and 932/941 MHz bands. Twenty-six winning bidders won a total of 2,323 licenses. Of the 26 winning bidders in this auction, five claimed small business status and won 1,891 licenses.

24. With respect to the second category, Internal Private Spectrum use consists of entities that use, or seek to use, MAS spectrum to accommodate their own internal communications needs, MAS serves an essential role in a range of industrial, safety, business, and land transportation activities. MAS radios are used by companies of all sizes, operating in virtually all U.S. business categories, and by all types of public safety entities. For the majority of private internal users, the definition developed by the SBA would be more appropriate than the Commission's definition. The closest applicable definition of a small entity is the "Wireless Telecommunications Carriers (except Satellite)" definition under the SBA rules.[67] The appropriate size standard under SBA rules is that such a business is small if it has 1,500 or fewer employees.[68] For this category, U.S. Census data for 2012 show that there were 967 firms that operated for the entire year.[69] Of this total, 955 firms had employment of 999 or fewer employees and 12 had employment of 1000 employees or more.[70] Thus under this category and the associated small business size standard, the Commission estimates that the majority of firms that may be affected by our action can be considered small.

25. *Broadband Radio Service and Educational Broadband Service.* Broadband Radio Service systems, previously referred to as Multipoint Distribution Service (MDS) and Multichannel Multipoint Distribution Service (MMDS) systems, and "wireless cable," transmit video programming to subscribers and provide two-way high-speed data operations using the microwave frequencies of the Broadband Radio Service (BRS) and Educational Broadband Service (EBS) (previously referred to as the Instructional Television Fixed Service (ITFS)).[71]

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[65] *See* Letter from Aida Alvarez, Administrator, Small Business Administration, to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, FCC (June 4, 1999).

[66] *See Multiple Address Systems Spectrum Auction Closes*, Public Notice, 16 FCC Rcd 21011 (2001).

[67] 13 CFR § 121.201, NAICS Code 517210.

[68] *Id.*

[69] U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ5, *Information: Subject Series: Estab and Firm Size: Employment Size of Firms for the U.S.: 2012* NAICS Code 517210, https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ5//naics~517210.

[70] *Id.* Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

[71] *Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act—Competitive Bidding*, Report and Order, 10 FCC Rcd 9589, 9593, para. 7 (1995).

26. *BRS* - In connection with the 1996 BRS auction, the Commission established a small business size standard as an entity that had annual average gross revenues of no more than $40 million in the previous three calendar years.[72] The BRS auctions resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs). Of the 67 auction winners, 61 met the definition of a small business. BRS also includes licensees of stations authorized prior to the auction. At this time, we estimate that of the 61 small business BRS auction winners, 48 remain small business licensees. In addition to the 48 small businesses that hold BTA authorizations, there are approximately there are approximately 86 incumbent BRS licensees that are considered small entities (18 incumbent BRS licensees do not meet the small business size standard).[73] After adding the number of small business auction licensees to the number of incumbent licensees not already counted, we find that there are currently approximately 133 BRS licensees that are defined as small businesses under either the SBA or the Commission's rules.

27. In 2009, the Commission conducted Auction 86, the sale of 78 licenses in the BRS areas.[74] The Commission offered three levels of bidding credits: (i) a bidder with attributed average annual gross revenues that exceed $15 million and do not exceed $40 million for the preceding three years (small business) received a 15 percent discount on its winning bid; (ii) a bidder with attributed average annual gross revenues that exceed $3 million and do not exceed $15 million for the preceding three years (very small business) received a 25 percent discount on its winning bid; and (iii) a bidder with attributed average annual gross revenues that do not exceed $3 million for the preceding three years (entrepreneur) received a 35 percent discount on its winning bid.[75] Auction 86 concluded in 2009 with the sale of 61 licenses.[76] Of the ten winning bidders, two bidders that claimed small business status won 4 licenses; one bidder that claimed very small business status won three licenses; and two bidders that claimed entrepreneur status won six licenses.

28. *EBS* - The Educational Broadband Service has been included within the broad economic census category and SBA size standard for Wired Telecommunications Carriers since 2007. Wired Telecommunications Carriers are comprised of establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks. Transmission facilities may be based on a single technology or a combination of technologies.[77] The SBA's small business size standard for this category is all such firms having 1,500 or fewer employees.[78]

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[72] 47 CFR § 21.961(b)(1).

[73] 47 U.S.C. § 309(j). Hundreds of stations were licensed to incumbent MDS licensees prior to implementation of Section 309(j) of the Communications Act of 1934, 47 U.S.C. § 309(j). For these pre-auction licenses, the applicable standard is SBA's small business size standard of 1500 or fewer employees.

[74] *Auction of Broadband Radio Service (BRS) Licenses, Scheduled for October 27, 2009, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 86*, Public Notice, 24 FCC Rcd 8277 (2009).

[75] *Id.* at 8296 para. 73.

[76] *Auction of Broadband Radio Service Licenses Closes, Winning Bidders Announced for Auction 86, Down Payments Due November 23, 2009, Final Payments Due December 8, 2009, Ten-Day Petition to Deny Period*, Public Notice, 24 FCC Rcd 13572 (2009).

[77] U.S. Census Bureau, 2017 NAICS Definitions, "517311 Wired Telecommunications Carriers,", https://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517110&search=2017.

[78] *See* 13 CFR § 121.201. The Wired Telecommunications Carrier category formerly used the NAICS code of 517110. As of 2017 the U.S. Census Bureau definition shows the NAICs code as 517311 for Wired Telecommunications Carriers. *See*, https://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517311&search=2017.

U.S. Census Bureau data for 2012 show that there were 3,117 firms that operated that year.[79] Of this total, 3,083 operated with fewer than 1,000 employees.[80] Thus, under this size standard, the majority of firms in this industry can be considered small. In addition to Census Bureau data, the Commission's Universal Licensing System indicates that as of October 2014, there are 2,206 active EBS licenses. The Commission estimates that of these 2,206 licenses, the majority are held by non-profit educational institutions and school districts, which are by statute defined as small businesses.[81]

29. *Location and Monitoring Service (LMS)*. LMS systems use non-voice radio techniques to determine the location and status of mobile radio units. For purposes of auctioning LMS licenses, the Commission has defined a "small business" as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not to exceed $15 million.[82] A "very small business" is defined as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not to exceed $3 million.[83] These definitions have been approved by the SBA.[84] An auction for LMS licenses commenced on February 23, 1999 and closed on March 5, 1999. Of the 528 licenses auctioned, 289 licenses were sold to four small businesses.

30. *Television Broadcasting*. This Economic Census category "comprises establishments primarily engaged in broadcasting images together with sound."[85] These establishments operate television broadcast studios and facilities for the programming and transmission of programs to the public.[86] These establishments also produce or transmit visual programming to affiliated broadcast television stations, which in turn broadcast the programs to the public on a predetermined schedule. Programming may originate in their own studio, from an affiliated network, or from external sources. The SBA has created the following small business size standard for such businesses: those having $38.5 million or less in annual receipts.[87] The 2012 Economic Census reports that 751 firms in this category operated in that year.[88] Of that number, 656 had annual receipts of $25,000,000 or less, 25 had annual receipts between $25,000,000 and $49,999,999 and 70 had annual receipts of $50,000,000 or more.[89] Based on this data we therefore estimate that the majority of commercial television broadcasters are small entities under the applicable SBA size standard.

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[79] *See* U.S. Census Bureau, *2012 Economic Census of the United States*, Table No. EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms: 2012* (517110 Wired Telecommunications Carriers). https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ5//naics~517110.

[80] *Id.*

[81] The term "small entity" within SBREFA applies to small organizations (non-profits) and to small governmental jurisdictions (cities, counties, towns, townships, villages, school districts, and special districts with populations of less than 50,000). 5 U.S.C. §§ 601(4)-(6).

[82] *Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems*, Second Report and Order, 13 FCC Rcd 15182, 15192 para. 20 (1998); *see also* 47 CFR § 90.1103.

[83] *Id.*

[84] *See* Letter from Aida Alvarez, Administrator, Small Business Administration to Thomas J. Sugrue, Chief, Wireless Telecommunications Bureau, FCC (Feb. 22, 1999).

[85] U.S. Census Bureau, 2017 NAICS Definitions, "515120 Television Broadcasting," https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=515120&search=2017+NAICS+Search&search=2017.

[86] *Id.*

[87] 13 CFR § 121.201; 2012 NAICS Code 515120.

[88] U.S. Census Bureau, Table No. EC1251SSSZ4, *Information: Subject Series - Establishment and Firm Size: Receipts Size of Firms for the United States: 2012* (515120 Television Broadcasting). https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ4//naics~515120.

[89] *Id.*

31. The Commission has estimated the number of licensed commercial television stations to be 1,377.[90] Of this total, 1,258 stations (or about 91 percent) had revenues of $38.5 million or less, according to Commission staff review of the BIA Kelsey Inc. Media Access Pro Television Database (BIA) on November 16, 2017, and therefore these licensees qualify as small entities under the SBA definition. In addition, the Commission has estimated the number of licensed noncommercial educational (NCE) television stations to be 384.[91] Notwithstanding, the Commission does not compile and otherwise does not have access to information on the revenue of NCE stations that would permit it to determine how many such stations would qualify as small entities. There are also 2,300 low power television stations, including Class A stations (LPTV) and 3,681 TV translator stations.[92] Given the nature of these services, we will presume that all of these entities qualify as small entities under the above SBA small business size standard.

32. We note, however, that in assessing whether a business concern qualifies as "small" under the above definition, business (control) affiliations must be included.[93] Our estimate, therefore likely overstates the number of small entities that might be affected by our action, because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies. In addition, another element of the definition of "small business" requires that an entity not be dominant in its field of operation. We are unable at this time to define or quantify the criteria that would establish whether a specific television broadcast station is dominant in its field of operation. Accordingly, the estimate of small businesses to which rules may apply does not exclude any television station from the definition of a small business on this basis and is therefore possibly over-inclusive. Also, as noted above, an additional element of the definition of "small business" is that the entity must be independently owned and operated. The Commission notes that it is difficult at times to assess these criteria in the context of media entities and its estimates of small businesses to which they apply may be over-inclusive to this extent.

33. *Radio Stations.* This Economic Census category "comprises establishments primarily engaged in broadcasting aural programs by radio to the public. Programming may originate in their own studio, from an affiliated network, or from external sources."[94] The SBA has established a small business size standard for this category as firms having $38.5 million or less in annual receipts.[95] Economic Census data for 2012 show that 2,849 radio station firms operated during that year.[96] Of that number, 2,806 operated with annual receipts of less than $25 million per year, 17 with annual receipts between $25 million and $49,999,999 million and 26 with annual receipts of $50 million or more.[97] Therefore, based on the SBA's size standard the majority of such entities are small entities.

34. According to Commission staff review of the BIA/Kelsey, LLC's Publications, Inc. Media Access Pro Radio Database (BIA) as of January 2018, about 11,261 (or about 99.92 percent) of

[90] *Broadcast Station Totals as of* June 30, 2018, Press Release (MB, rel. Jul. 3, 2018) (June 30, 2018 Broadcast Station Totals Press Release), https://docs.fcc.gov/public/attachments/DOC-352168A1.pdf.

[91] *Id.*

[92] *Id.*

[93] *See* 13 CFR § 21.103(a)(1) "[Business concerns] are affiliates of each other when one concern controls or has the power to control the other or a third party or parties controls or has the power to control both."

[94] U.S. Census Bureau, 2017 NAICS Definitions, "515112 Radio Stations," https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=515112&search=2017+NAICS+Search&search=2017.

[95] 13 CFR § 121.201, NAICS Code 515112.

[96] U.S. Census Bureau, *2012 Economic Census of the United States*, Table No. EC1251SSSZ4, *Information: Subject Series - Establishment and Firm Size: Receipts Size of Firms for the United States: 2012* NAICS Code 515112, https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ4//naics~515112.

[97] *Id.*

11,270 commercial radio stations had revenues of $38.5 million or less and thus qualify as small entities under the SBA definition.[98] The Commission has estimated the number of licensed commercial AM radio stations to be 4,633 stations and the number of commercial FM radio stations to be 6,738, for a total number of 11,371.[99] We note, that the Commission has also estimated the number of licensed NCE radio stations to be 4,128.[100] Nevertheless, the Commission does not compile and otherwise does not have access to information on the revenue of NCE stations that would permit it to determine how many such stations would qualify as small entities.

35. We also note, that in assessing whether a business entity qualifies as small under the above definition, business control affiliations must be included.[101] The Commission's estimate therefore likely overstates the number of small entities that might be affected by its action, because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies. In addition, to be determined a "small business," an entity may not be dominant in its field of operation.[102] We further note, that it is difficult at times to assess these criteria in the context of media entities, and the estimate of small businesses to which these rules may apply does not exclude any radio station from the definition of a small business on these basis, thus our estimate of small businesses may therefore be over-inclusive. Also, as noted above, an additional element of the definition of "small business" is that the entity must be independently owned and operated. The Commission notes that it is difficult at times to assess these criteria in the context of media entities and the estimates of small businesses to which they apply may be over-inclusive to this extent.

36. *FM Translator Stations and Low Power FM Stations.* FM translators and Low Power FM Stations are classified in the category of Radio Stations and are assigned the same NAICS Code as licensees of radio stations.[103] This U.S. industry, Radio Stations, comprises establishments primarily engaged in broadcasting aural programs by radio to the public.[104] Programming may originate in their own studio, from an affiliated network, or from external sources.[105] The SBA has established a small business size standard which consists of all radio stations whose annual receipts are $38.5 million dollars or less.[106] U.S. Census Bureau data for 2012 indicate that 2,849 radio station firms operated during that year.[107] Of that number, 2,806 operated with annual receipts of less than $25 million per year, 17 with annual receipts between $25 million and $49,999,999 million and 26 with annual receipts of $50 million or more.[108] Therefore, based on the SBA's size standard, we conclude that the majority of FM Translator Stations and Low Power FM Stations are small.

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[98] BIA/Kelsey, MEDIA Access Pro Database (viewed Jan. 26, 2018).

[99] Broadcast Station Totals as of June 30, 2018, Press Release (MB Jul. 3, 2018) (June 30, 2018 Broadcast Station Totals), https://docs.fcc.gov/public/attachments/DOC-352168A1.pdf.

[100] *Id*.

[101] 13 CFR § 121.103(a)(1). "[Business concerns] are affiliates of each other when one concern controls or has the power to control the other, or a third party or parties controls or has power to control both."

[102] 13 CFR § 121.102(b).

[103] *See*, U.S. Census Bureau, 2017 NAICS Definitions, "515112 Radio Stations," https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=515112&search=2017+NAICS+Search&search=2017.

[104] *Id*.

[105] *Id*.

[106] 13 CFR § 121.201, NAICS code 515112.

[107] U.S. Census Bureau, *2012 Economic Census of the United States*, Table No. EC1251SSSZ4, *Information: Subject Series - Establishment and Firm Size: Receipts Size of Firms for the United States: 2012* NAICS Code 515112, https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ4//naics~515112.

[108] *Id*.

37. *Multichannel Video Distribution and Data Service (MVDDS)*. MVDDS is a terrestrial fixed microwave service operating in the 12.2-12.7 GHz band. The Commission adopted criteria for defining three groups of small businesses for purposes of determining their eligibility for special provisions such as bidding credits. It defined a very small business as an entity with average annual gross revenues not exceeding $3 million for the preceding three years; a small business as an entity with average annual gross revenues not exceeding $15 million for the preceding three years; and an entrepreneur as an entity with average annual gross revenues not exceeding $40 million for the preceding three years.[109] These definitions were approved by the SBA.[110] On January 27, 2004, the Commission completed an auction of 214 MVDDS licenses (Auction No. 53). In this auction, ten winning bidders won a total of 192 MVDDS licenses.[111] Eight of the ten winning bidders claimed small business status and won 144 of the licenses. The Commission also held an auction of MVDDS licenses on December 7, 2005 (Auction 63). Of the three winning bidders who won 22 licenses, two winning bidders, winning 21 of the licenses, claimed small business status.[112]

38. *Satellite Telecommunications.* This category comprises firms "primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications."[113] Satellite telecommunications service providers include satellite and earth station operators. The category has a small business size standard of $32.5 million or less in average annual receipts, under SBA rules.[114] For this category, U.S. Census Bureau data for 2012 show that there were a total of 333 firms that operated for the entire year.[115] Of this total, 299 firms had annual receipts of less than $25 million.[116] Consequently, we estimate that the majority of satellite telecommunications providers are small entities.

39. *All Other Telecommunications.* The **"**All Other Telecommunications" category is comprised of establishments that are primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation.[117] This industry also includes establishments primarily engaged in providing satellite terminal stations and

[109] *Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range; Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2–12.7 GHz Band by Direct Broadcast Satellite Licensees and their Affiliates; and Applications of Broadwave USA, PDC Broadband Corporation, and Satellite Receivers, Ltd. to Provide A Fixed Service in the 12.2–12.7 GHz Band*, Memorandum Opinion and Order and Second Report and Order, 17 FCC Rcd 9614, 9711, para. 252 (2002).

[110] *See* Letter from Hector V. Barreto, Administrator, U.S. Small Business Administration, to Margaret W. Wiener, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC (Feb. 13, 2002).

[111] *See* "*Multichannel Video Distribution and Data Service Spectrum Auction Closes; Winning Bidders Announced*," Public Notice, 19 FCC Rcd 1834 (2004).

[112] *See* "*Auction of Multichannel Video Distribution and Data Service Licenses Closes; Winning Bidders Announced for Auction No. 63*," Public Notice, 20 FCC Rcd 19807 (2005).

[113] U.S. Census Bureau, 2017 NAICS Definitions, "517410 Satellite Telecommunications," https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=517410&search=2017+NAICS+Search&search=2017.

[114] 13 CFR § 121.201, NAICS Code 517410.

[115] U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ4, *Information: Subject Series - Estab and Firm Size: Receipts Size of Firms for the United States: 2012*, NAICS Code 517410, https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ4//naics~517410.

[116] *Id.*

[117] *See* U.S. Census Bureau, 2017 NAICS Definitions, NAICS Code "517919 All Other Telecommunications", https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=517919&search=2017+NAICS+Search&search=2017.

associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems.[118] Establishments providing Internet services or voice over Internet protocol (VoIP) services via client-supplied telecommunications connections are also included in this industry.[119] The SBA has developed a small business size standard for "All Other Telecommunications," which consists of all such firms with gross annual receipts of $32.5 million or less.[120] For this category, U.S. Census data for 2012 show that there were 1,442 firms that operated for the entire year.[121] Of these firms, a total of 1,400 had gross annual receipts of less than $25 million and 42 firms had annual receipts of $25 million to $49, 999,999.[122] Thus, a majority of "All Other Telecommunications" firms potentially affected by our action can be considered small.

40. *Fixed Microwave Services*. Microwave services include common carrier,[123] private-operational fixed,[124] and broadcast auxiliary radio services.[125] They also include the Local Multipoint Distribution Service (LMDS),[126] the Digital Electronic Message Service (DEMS),[127] the 39 GHz Service (39 GHz),[128] the 24 GHz Service,[129] and the Millimeter Wave Service[130] where licensees can choose between common carrier and non-common carrier status.[131] At present, there are approximately 66,680 common carrier fixed licensees, 69,360 private and public safety operational-fixed licensees, 20,150 broadcast auxiliary radio licensees, 411 LMDS licenses, 33 24 GHz DEMS licenses, 777 39 GHz licenses, and five 24 GHz licenses, and 467 Millimeter Wave licenses in the microwave services.[132] The Commission has not yet defined a small business size standard for microwave services. The closest applicable SBA category is Wireless Telecommunications Carriers (except Satellite) and the appropriate size standard for this category under SBA rules is that such a business is small if it has 1,500 or fewer

[118] *Id*.

[119] *Id*.

[120] 13 CFR § 121.201, NAICS Code 517919.

[121] U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ4, *Information: Subject Series - Estab and Firm Size: Receipts Size of Firms for the United States: 2012*, NAICS code 517919, https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ4//naics~517919.

[122] *Id*.

[123] *See* 47 CFR Part 101, Subpart I.

[124] Persons eligible under parts 80 and 90 of the Commission's rules can use Private-Operational Fixed Microwave services. *See* 47 CFR Parts 80 and 90. Stations in this service are called operational-fixed to distinguish them from common carrier and public fixed stations. Only the licensee may use the operational-fixed station, and only for communications related to the licensee's commercial, industrial, or safety operations.

[125] *See* 47 CFR Parts 74, 78 (governing Auxiliary Microwave Service) Available to licensees of broadcast stations, cable operators, and to broadcast and cable network entities. Auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes TV pickup and CARS pickup, which relay signals from a remote location back to the studio.

[126] *See* 47 CFR §§ 101, 1001-101, 1017.

[127] *See* 47 CFR §§ 101, 101.501-101.538.

[128] *See* 47 CFR Part 101, Subpart N (reserved for Competitive bidding procedures for the 38.6-40 GHz Band).

[129] *See id.*

[130] *See* 47 CFR §§ 101, 101.1501-101.1527.

[131] *See* 47 CFR §§ 101.533, 101.1017.

[132] These statistics are based on a review of the Universal Licensing System on September 22, 2015.

employees.[133] U.S. Census Bureau data for 2012, show that there were 967 firms in this category that operated for the entire year.[134] Of this total, 955 had employment of 999 or fewer, and 12 firms had employment of 1,000 employees or more. Thus, under this category and the associated small business size standard, the Commission estimates that a majority of fixed microwave service licensees can be considered small.

41. The Commission notes that the number of firms does not necessarily track the number of licensees. The Commission also notes that it does not have data specifying the number of these licensees that have more than 1,500 employees, and thus is unable at this time to estimate with greater precision the number of fixed microwave service licensees that would qualify as small business concerns under the SBA's small business size standard. The Commission estimates however, that virtually all of the Fixed Microwave licensees (excluding broadcast auxiliary licensees) would qualify as small entities under the SBA definition.

42. *Non-Licensee Owners of Towers and Other Infrastructure*. Although at one time most communications towers were owned by the licensee using the tower to provide communications service, many towers are now owned by third-party businesses that do not provide communications services themselves but lease space on their towers to other companies that provide communications services. The Commission's rules require that any entity, including a non-licensee, proposing to construct a tower over 200 feet in height or within the glide slope of an airport must register the tower with the Commission's Antenna Structure Registration ("ASR") system and comply with applicable rules regarding review for impact on the environment and historic properties.

43. As of March 1, 2017, the ASR database includes approximately 122,157 registration records reflecting a "Constructed" status and 13,987 registration records reflecting a "Granted, Not Constructed" status. These figures include both towers registered to licensees and towers registered to non-licensee tower owners. The Commission does not keep information from which we can easily determine how many of these towers are registered to non-licensees or how many non-licensees have registered towers.[135] Regarding towers that do not require ASR registration, we do not collect information as to the number of such towers in use and therefore cannot estimate the number of tower owners that would be subject to the rules on which we seek comment. Moreover, the SBA has not developed a size standard for small businesses in the category "Tower Owners." Therefore, we are unable to determine the number of non-licensee tower owners that are small entities. We believe, however, that when all entities owning 10 or fewer towers and leasing space for collocation are included, non-licensee tower owners number in the thousands. In addition, there may be other non-licensee owners of other wireless infrastructure, including Distributed Antenna Systems (DAS) and small cells that might be affected by the measures on which we seek comment. We do not have any basis for estimating the number of such non-licensee owners that are small entities.

44. The closest applicable SBA category is All Other Telecommunications, and the appropriate size standard consists of all such firms with gross annual receipts of $32.5 million or less.[136] For this category, U.S. Census data for 2012 show that there were 1,442 firms that operated for the entire

[133] 13 CFR § 121.201.

[134] U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ5, *Information: Subject Series, "Estab and Firm Size: Employment Size of Firms for the U.S.: 2012* NAICS Code 517210, https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ5//naics~517210.

[135] We note, however, that approximately 13,000 towers are registered to 10 cellular carriers with 1,000 or more employees.

[136] 13 CFR § 121.201, NAICS Code 517919.

year.[137] Of these firms, a total of 1,400 had gross annual receipts of less than $25 million and 15 firms had annual receipts of $25 million to $49, 999,999.[138] Thus, under this SBA size standard a majority of the firms potentially affected by our action can be considered small.

E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

45. The *Third Report and Order* does not establish any reporting, recordkeeping, or other compliance requirements for companies involved in wireless infrastructure deployment.[139] In addition to not adopting any reporting, recordkeeping or other compliance requirements, the Commission takes significant steps to reduce regulatory impediments to infrastructure deployment and, therefore, to spur the growth of personal wireless services. Under the Commission's approach, small entities as well as large companies will be assured that their deployment requests will be acted upon within a reasonable period of time and, if their applications are not addressed within the established time frames, applicants may seek injunctive relief granting their siting applications. The Commission, therefore, has taken concrete steps to relieve companies of all sizes of uncertainly and has eliminated unnecessary delays.

46. The *Third Report and Order* also does not impose any reporting or recordkeeping requirements on state and local governments. While some commenters argue that additional shot clock classifications would make the siting process needlessly complex without any proven benefits, the Commission concludes that any additional administrative burden from increasing the number of Section 332 shot clocks from two to four is outweighed by the likely significant benefit of regulatory certainty and the resulting streamlined deployment process.[140] The Commission's actions are consistent with the statutory language of Section 332 and therefore reflect Congressional intent. Further, siting agencies have become more efficient in processing siting applications and will be able to take advantage of these efficiencies in meeting the new shot clocks. As a result, the additional shot clocks that the Commission adopts will foster the deployment of the latest wireless technology and serve consumer interests.

F. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

47. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities."[141]

48. The steps taken by the Commission in the *Third Report and Order* eliminate regulatory burdens for small entities as well as large companies that are involved with the deployment of person wireless services infrastructure. By establishing shot clocks and guidance on injunctive relief for personal wireless services infrastructure deployments, the Commission has standardized and streamlined the permitting process. These changes will significantly minimize the economic burden of the siting process on all entities, including small entities, involved in deploying personal wireless services infrastructure.

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[137] U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ4, *Information: Subject Series - Estab and Firm Size: Receipts Size of Firms for the United States: 2012*, NAICS code 517919, https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ4//naics~517919.

[138] *Id*.

[139] *See supra* para. 144.

[140] *See supra* para. 110.

[141] 5 U.S.C. § 603(c)(1)-(4).

The record shows that permitting delays imposes significant economic and financial burdens on companies with pending wireless infrastructure permits. Eliminating permitting delays will remove the associated cost burdens and enabling significant public interest benefits by speeding up the deployment of personal wireless services and infrastructure. In addition, siting agencies will be able to utilize the efficiencies that they have gained over the years processing siting applications to minimize financial impacts.

49. The Commission considered but did not adopt proposals by commenters to issue "Best Practices" or "Recommended Practices,"[142] and to develop an informal dispute resolution process and mediation program, [143] noting that the steps taken in the *Third Report and Order* address the concerns underlying these proposals to facilitate cooperation between parties to reach mutually agreed upon solutions.[144] The Commission anticipates that the changes it has made to the permitting process will provide significant efficiencies in the deployment of personal wireless services facilities and this in turn will benefit all companies, but particularly small entities, that may not have the resources and economies of scale of larger entities to navigate the permitting process. By adopting these changes, the Commission will continue to fulfill its statutory responsibilities, while reducing the burden on small entities by removing unnecessary impediments to the rapid deployment of personal wireless services facilities and infrastructure across the country.

Report to Congress

50. The Commission will send a copy of the *Third Report and Order*, including this FRFA, in a report to Congress pursuant to the Congressional Review Act.[145] In addition, the Commission will send a copy of the *Third Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Third Report and Order* and FRFA (or summaries thereof) also will be published in the *Federal Register*. [146]

[142] KS Rep. Sloan Comments at 2; Nokia Comments at 10.

[143] NATOA *et al*. Comments at 16-17.

[144] *See supra* para. 131.

[145] 5 U.S.C. § 801(a)(1)(A).

[146] 5 U.S.C. § 604(b).

STATEMENT OF
CHAIRMAN AJIT PAI

Re: *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

Perhaps the defining characteristic of the communications sector over the past decade is that the world is going wireless. The smartphone's introduction in 2007 may have seemed an interesting novelty to some at the time, but it was a precursor of a transformative change in how consumers access and use the Internet. 4G LTE was a key driver in that change.

Today, a new transition is at hand as we enter the era of 5G. At the FCC, we're working hard to ensure that the United States leads the world in developing this next generation of wireless connectivity so that American consumers and our nation's economy enjoy the immense benefits that 5G will bring.

Spectrum policy of course features prominently in our 5G strategy. We're pushing a lot more spectrum into the commercial marketplace. On November 14, for example, our 28 GHz band spectrum auction will begin, and after it ends, our 24 GHz band spectrum auction will start. And in 2019, we plan to auction off three additional spectrum bands.

But all the spectrum in the world won't matter if we don't have the infrastructure needed to carry 5G traffic. New physical infrastructure is vital for success here. That's because 5G networks will depend less on a few large towers and more on numerous small cell deployments—deployments that for the most part don't exist today.

But installing small cells isn't easy, too often because of regulations. There are layers of (sometimes unnecessary and unreasonable) rules that can prevent widespread deployment. At the federal level, we acted earlier this year to modernize our regulations and make our own review process for wireless infrastructure 5G fast. And many states and localities have similarly taken positive steps to reform their own laws and increase the likelihood that their citizens will be able to benefit from 5G networks.

But as this *Order* makes clear, there are outliers that are unreasonably standing in the way of wireless infrastructure deployment. So today, we address regulatory barriers at the local level that are inconsistent with federal law. For instance, big-city taxes on 5G slow down deployment there and also jeopardize the construction of 5G networks in suburbs and rural America. So today, we find that all fees must be non-discriminatory and cost-based. And when a municipality fails to act promptly on applications, it can slow down deployment in many other localities. So we mandate shot clocks for local government review of small wireless infrastructure deployments.

I commend Commissioner Carr for his leadership in developing this *Order*. He worked closely with many state and local officials to understand their needs and to study the policies that have worked at the state and local level. It should therefore come as no surprise that this *Order* has won significant support from mayors, local officials, and state legislators.

To be sure, there are some local governments that don't like this *Order*. They would like to continue extracting as much money as possible in fees from the private sector and forcing companies to navigate a maze of regulatory hurdles in order to deploy wireless infrastructure. But these actions are not only unlawful, they're also short-sighted. They slow the construction of 5G networks and will delay if not prevent the benefits of 5G from reaching American consumers. And let's also be clear about one thing: When you raise the cost of deploying wireless infrastructure, it is those who live in areas where the

investment case is the most marginal—rural areas or lower-income urban areas—who are most at risk of losing out. And I don't want 5G to widen the digital divide; I want 5G to help close that divide.

In conclusion, I'd like to again thank Commissioner Carr for leading this effort and his staff for their diligent work. And I'm grateful to the hardworking staff across the agency who have put many hours into this *Order*. In particular, thanks to Jonathan Campbell, Stacy Ferraro, Garnet Hanly, Leon Jackler, Eli Johnson, Jonathan Lechter, Kate Matraves, Betsy McIntyre, Darrel Pae, Jennifer Salhus, Dana Shaffer, Jiaming Shang, David Sieradzki, Michael Smith, Don Stockdale, Cecilia Sulhoff, Patrick Sun, Suzanne Tetreault, and Joseph Wyer from the Wireless Telecommunications Bureau; Matt Collins, Adam Copeland, Dan Kahn, Deborah Salons, and John Visclosky from the Wireline Competition Bureau; Chana Wilkerson from the Office of Communications Business Opportunities; and Ashley Boizelle, David Horowitz, Tom Johnson, Marcus Maher, Bill Richardson, and Anjali Singh from the Office of General Counsel.

STATEMENT OF
COMMISSIONER MICHAEL O'RIELLY

Re: *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

I enthusiastically support the intent of today's item and the vast majority of its content, as it will lower the barriers that some localities place to infrastructure siting. By tackling exorbitant fees, ridiculous practices, and prolonged delays, we are taking the necessary steps to expedite deployment and make it more cost efficient. Collectively, these provisions will help facilitate the deployment of 5G and enable providers to expand services throughout our nation, with ultimate beneficiaries being the American people.

While this is a tremendous step in the right direction, there are some things that could have been done to improve the situation further. For instance, the agreement reached by all parties in the 1996 Telecommunications Act was that states and localities would have no role over radio frequency emission issues, could not regulate based on the aesthetics of towers and antennas, and were prohibited from imposing any moratoriums on processing wireless siting applications. State and localities did not honor this agreement and the courts have sadly enabled their efforts via harmful and wrongly decided cases. Accordingly, I would have preferred that the aesthetics related provisions in the item be deleted, but I will have to swallow it recognizing that I can't get the rest without it. At the very least, I do appreciate that, at my request, it was clarified that the aesthetic requirements, which must be published in advance, must be objective.

I am also concerned that by setting application and recurring fees that are presumed to be reasonable, the Commission is inviting localities to adopt these rates, even if they are not cost based. Providers should be explicitly provided the right to challenge these rates if they believe they are not cost based. Even if not stated, I hope that providers will challenge unreasonable rates. I thank my colleagues for agreeing to my edits that the application fee presumption applies to all non-recurring costs, not just the application fee.

Further, I think there should be a process and standards in place if a locality decides that it needs more time to review batched applications. Objective criteria are needed regarding what are considered "exceptional circumstances" or "exceptional cases" warranting a longer review period for batch processing, when localities need to inform the applicant that they need more time, how this notification will occur, and how much time they will get. For instance, the item appears to excuse a locality that does not act within the shot clocks for any application if there are "extraordinary circumstances," but there are no parameters on what circumstances we are envisioning. Is a lack of adequate staff or having processing rules or policies in place a sufficient excuse? Such things should be determined upfront, as opposed to allowing courts to decide such matters. Without further clarity, I fear that we may be creating unnecessary loopholes, resulting in further delay.

Finally, I would have liked today's item to be broader and cover the remaining infrastructure issues in the record. First, the Commission's new interpretation of sections 253 and 332 applies beyond small cells. While our focus has been on these newer technologies, there needs to be a recognition that macro towers will continue to play a crucial role in wireless networks. One tower provider states that "[m]acro cell sites will continue to be a central component of wireless infrastructure . . . ," because 80 [percent] of the population lives in suburban or rural areas where "macro sites are the most efficient way to transmit wireless signals."[1] Further, many of the interpretations in today's item apply not only to these

[1] American Tower Ex Parte Letter, WT Docket No. 17-79, n.6 (Aug. 10, 2018).

macro towers, but also to other telecommunications services, including those provided by traditional wireline carriers and potentially cable companies.

Second, the Commission needs to close loopholes in section 6409 that some localities have been exploiting. While these rules pertaining to the modification of existing structures are clear, some localities are trying to undermine Congress's intent and our actions. For instance, localities are refusing ancillary permissions, such as building or highway permits, to slow down or prevent siting; using the localities' concealment and aesthetic additions to increase the size of the facility or requiring that poles be replaced with stealth infrastructure for the purpose of excluding facilities from section 6409; placing improper conditions on permits; and forcing providers to sign agreements that waive their rights under section 6409. And, I have been told that some are claiming that section 6409 does not apply to their siting processes. This must stop. I appreciate the Chairman's firm commitment to my request for an additional item to address such matters, and I expect that it will be coming in the very near future.

Third, there is a need to harmonize our rules regarding compound expansion. Currently, an entity seeking to replace a structure is allowed to expand the facility's footprint by 30 feet, but if the same entity seeks to expand the tower area to hold new equipment associated with a collocation, a new review is needed. It doesn't make sense that these situations are treated differently. And while we are at it, the Commission should also harmonize its shot clocks and remedies. These issues should also be added to any future item.

Lastly, the Commission also must finish its review of the comments filed in response to the twilight towers notice, make the revisions to the program comment, and submit it to Advisory Council on Historic Preservation for their review and vote. These towers are eligible, yet not permitted, to hold an estimated 6,500 collocations that will be needed for next-generation services and FirstNet. It is time to bring this embarrassment, which started in 2001, to an end.

Not only do I thank the Chairman for agreeing to additional infrastructure items, but I also thank the Chairman and Commissioner Carr for implementing several of my edits to the item today. Besides those already mentioned, they include applying the aesthetic criteria, including that any requirements must be reasonable, objective, and published in advance, to undergrounding; stating that undergrounding requirements that apply to some, but not all facilities, will be considered an effective prohibition if they materially inhibit wireless service; and adding similar language to the minimum spacing section of the item. Further, the minimum spacing requirements will not apply to replacement facilities or prevent collocations on existing structures. Additionally, localities claiming that an application is incomplete will need to specifically state what rule requires the submission of the missing information.

With this, I approve.

STATEMENT OF
COMMISSIONER BRENDAN CARR

Re: *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

The United States is on the cusp of a major upgrade in wireless technology to 5G. The WALL STREET JOURNAL has called it transformative from a technological and economic perspective. And they're right. Winning the global race to 5G—seeing this new platform deployed in the U.S. first—is about economic leadership for the next decade. Those are the stakes, and here's how we know it.

Think back ten years ago when we were on the cusp of upgrading from 3G to 4G. Think about the largest stocks and some of the biggest drivers of our economy. It was big banks and big oil. Fast forward to today: U.S.-based technology companies, from FAANG (Facebook, Apple, Amazon, Netflix, and Google) down to the latest startup, have transformed our economy and our lives.

Think about your own life. A decade ago, catching a ride across town involved calling a phone number, waiting 20 minutes for a cab to arrive, and paying rates that were inaccessible to many people. Today, we have Lyft, Uber, Via, and other options.

A decade ago, sending money meant going to a brick-and-mortar bank, standing in that rope line, getting frustrated when that pen leashed to the table was out of ink (again!), and ultimately conducting your transaction with a teller. Now, with Square, Venmo, and other apps you can send money or deposit checks from anywhere, 24 hours a day.

A decade ago, taking a road trip across the country meant walking into your local AAA office, telling them the stops along your way, and waiting for them to print out a TripTik booklet filled with maps that you would unfold as you drove down the highway. Now, with Google Maps and other apps you get real-time updates and directions right on your smartphone.

American companies led the way in developing these 4G innovations. But it's not by chance or luck that the United States is the world's tech and innovation hub. We have the strongest wireless economy in the world because we won the race to 4G. No country had faster 4G deployment and more intense investment than we did. Winning the race to 4G added $100 billion to our GDP. It led to $125 billion in revenue for U.S. companies that could have gone abroad. It grew wireless jobs in the U.S. by 84 percent. And our world-leading 4G networks now support today's $950 billion app economy. That history should remind policymakers at all levels of government exactly what is at stake. 5G is about our leadership for the next decade.

And being first matters. It determines whether capital will flow here, whether innovators will start their new businesses here, and whether the economy that benefits is the one here. Or as Deloitte put it: "First-adopter countries . . . could sustain more than a decade of competitive advantage."

We're not the only country that wants to be first to 5G. One of our biggest competitors is China. They view 5G as a chance to flip the script. They want to lead the tech sector for the next decade. And they are moving aggressively to deploy the infrastructure needed for 5G.

Since 2015, China has deployed 350,000 cell sites. We've built fewer than 30,000. Right now, China is deploying 460 cell sites a day. That is twelve times our pace. We have to be honest about this infrastructure challenge. The time for empty statements about carrots and sticks is over. We need a concrete plan to close the gap with China and win the race to 5G.

We take this challenge seriously at the FCC. And we are getting the government out of the way, so that the private sector can invest and compete.

In March, we held that small cells should be treated differently than large, 200-foot towers. And we're already seeing results. That decision cut $1.5 billion in red tape, and one provider reports that it is now clearing small cells for construction at six times the pace as before.

So we're making progress in closing the infrastructure gap with China. But hurdles remain. We've heard from dozens of mayors, local officials, and state lawmakers who get what 5G means—they understand the economic opportunity that comes with it. But they worry that the billions in investment needed to deploy these networks will be consumed by the high fees and long delays imposed by big, "must-serve" cities. They worry that, without federal action, they may not see 5G. I'd like to read from a few of the many comments I've received over the last few months.

Duane Ankney is a retired coal miner from Montana with a handlebar mustache that would be the envy of nearly any hipster today. But more relevantly, he's a Member of the Montana State Legislature and chairs its Energy and Telecommunications Committee. He writes: "Where I see the problem is, that most of investment capital is spent in the larger urban areas. This is primarily due to the high regulatory cost and the cost recovery [that] can be made in those areas. This leaves the rural areas out."

Mary Whisenand, an Iowa commissioner, writes: "With 99 counties in Iowa, we understand the need to streamline the network buildout process so it's not just the big cities that get 5G but also our small towns. If companies are tied up with delays and high fees, it's going to take that much longer for each and every Iowan to see the next generation of connectivity."

Ashton Hayward, the Mayor of Pensacola, Florida, writes: "[E]xcessive and arbitrary fees . . . result[] in nothing more than telecom providers being required to spend limited investment dollars on fees as opposed to spending those limited resources on the type of high-speed infrastructure that is so important in our community."

And the entire board of commissioners from a more rural area in Michigan writes: "Smaller communities such as those located in St. Clair County would benefit by having the [FCC] reduce the costly and unnecessary fees that some larger communities place on small cells as a condition of deployment. These fees, wholly disproportionate to any cost, put communities like ours at an unfair disadvantage. By making small cell deployment less expensive, the FCC will send a clear message that all communities, regardless of size, should share in the benefits of this crucial new technology."

They're right. When I think about success—when I think about winning the race to 5G—the finish line is not the moment we see next-gen deployments in New York or San Francisco. Success can only be achieved when all Americans, no matter where they live, have a fair shot at fast, affordable broadband.

So today, we build on the smart infrastructure policies championed by state and local leaders. We ensure that no city is subsidizing 5G. We prevent excessive fees that would threaten 5G deployment. And we update our shot clocks to account for new small cell deployments. I want to thank Commissioner Rosenworcel for improving the new shot clocks with edits that protect municipalities from providers that submit incomplete applications and provide localities with more time to adjust their operations. Her ideas improved this portion of the order.

More broadly, our decision today has benefited from the diverse views expressed by a range of stakeholders. On the local government side, I met with mayors, city planners, and other officials in their home communities and learned from their perspectives. They pushed back on the proposed "deemed

granted" remedy, on regulating rents on their property outside of rights-of-way, and on limits to reasonable aesthetic reviews. They reminded me that they're the ones that get pulled aside at the grocery store when an unsightly small cell goes up. Their views carried the day on all of those points. And our approach respects the compromises reached in state legislatures around the country by not preempting nearly any of the provisions in the 20 state level small cells bills.

This is a balanced approach that will help speed the deployment of 5G. Right now, there is a cottage industry of consultants spurring lawsuits and disputes in courtrooms and city halls around the country over the scope of Sections 253 and 332. With this decision, we provide clear and updated guidance, which will eliminate the uncertainty inspiring much of that litigation.

Some have also argued that we unduly limit local aesthetic reviews. But allowing reasonable aesthetic reviews—and thus only preventing unreasonable ones—does not strike me as a claim worth lodging.

And some have asked whether this reform will make a real difference in speeding 5G deployment and closing the digital divide. The answer is yes. It will cut $2 billion in red tape. That's about $8,000 in savings per small cell. Cutting these costs changes the prospects for communities that might otherwise get left behind. It will stimulate $2.4 billion in new small cell deployments. That will cover 1.8 million more homes and businesses—97% of which are in rural and suburban communities. That is more broadband for more Americans.

* * *

In closing, I want to thank my colleagues for working to put these ideas in place. I want to thank Chairman Pai for his leadership in removing these regulatory barriers. And I want to recognize the exceptionally hard-working team at the FCC that helped lead this effort, including, in the Wireless Telecommunications Bureau, Donald Stockdale, Suzanne Tetrault, Garnet Hanly, Jonathan Campbell, Stacy Ferraro, Leon Jackler, Eli Johnson, Jonathan Lechter, Marcus Maher, Betsy McIntyre, Darrel Pae, Jennifer Salhus, Jiaming Shang, and David Sieradzki. I also want to thank the team in the Office of General Counsel, including Tom Johnson, Ashley Boizelle, Bill Richardson, and Anjali Singh.

STATEMENT OF
COMMISSIONER JESSICA ROSENWORCEL
APPROVING IN PART, DISSENTING IN PART

Re: *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

A few years ago, in a speech at a University of Colorado event, I called on the Federal Communications Commission to start a proceeding on wireless infrastructure reform. I suggested that if we want broad economic growth and widespread mobile opportunity, we need to avoid unnecessary delays in the state and local approval process. That's because they can slow deployment.

I believed that then. I still believe it now.

So when the FCC kicked off a rulemaking on wireless infrastructure last year, I had hopes. I hoped we could provide a way to encourage streamlined service deployment nationwide. I hoped we could acknowledge that we have a long tradition of local control in this country but also recognize more uniform policies across the country will help us in the global race to build the next generation of wireless service, known as 5G. Above all, I hoped we could speed infrastructure deployment by recognizing the best way to do so is to treat cities and states as our partners.

In one respect, today's order is consistent with that vision. We shorten the time frames permitted under the law for state and local review of the deployment of small cells—an essential part of 5G networks. I think this is the right thing to do because the shot clocks we have now were designed in an earlier era for much bigger wireless facilities. At the same time, we retain the right of state and local authorities to pursue court remedies under Section 332 of the Communications Act. This strikes an appropriate balance. I appreciate that my colleagues were willing to work with me to ensure that localities have time to update their processes to accommodate these new deadlines and that they are not unfairly prejudiced by incomplete applications. I support this aspect of today's order.

But in the remainder of this decision, my hopes did not pan out. Instead of working with our state and local partners to speed the way to 5G deployment, we cut them out. We tell them that going forward Washington will make choices for them—about which fees are permissible and which are not, about what aesthetic choices are viable and which are not, with complete disregard for the fact that these infrastructure decisions do not work the same in New York, New York and New York, Iowa. So it comes down to this: three unelected officials on this dais are telling state and local leaders all across the country what they can and cannot do in their own backyards. This is extraordinary federal overreach.

I do not believe the law permits Washington to run roughshod over state and local authority like this and I worry the litigation that follows will only slow our 5G future. For starters, the Tenth Amendment reserves powers to the states that are not expressly granted to the federal government. In other words, the constitution sets up a system of dual sovereignty that informs all of our laws. To this end, Section 253 balances the interests of state and local authorities with this agency's responsibility to expand the reach of communications service. While Section 253(a) is concerned with state and local requirements that may prohibit or effectively prohibit service, Section 253(d) permits preemption only on a case-by-case basis after notice and comment. We do not do that here. Moreover, the assertion that fees above cost or local aesthetic requirements in a single city are tantamount to a service prohibition elsewhere stretches the statute beyond what Congress intended and legal precedent affords.

In addition, this decision irresponsibly interferes with existing agreements and ongoing deployment across the country. There are thousands of cities and towns with agreements for infrastructure deployment—including 5G wireless facilities—that were negotiated in good faith. So

many of them could be torn apart by our actions here. If we want to encourage investment, upending commitments made in binding contracts is a curious way to go.

Take San Jose, California. Earlier this year it entered into agreements with three providers for the largest small cell-driven broadband deployment of any city in the United States. These partnerships would lead to 4,000 small cells on city-owned light poles and more than $500 million of private sector investment. Or take Little Rock, Arkansas, where local reforms to the permitting process have put it on course to become one of the first cities to benefit from 5G service. Or take Troy, Ohio. This town of under 26,000 spent time and energy to develop streamlined procedures to govern the placement, installation, and maintenance of small cell facilities in the community. Or take Austin, Texas. It has been experimenting with smart city initiatives to improve transportation and housing availability. As part of this broader effort, it started a pilot project to deploy small cells and has secured agreements with multiple providers.

This declaratory ruling has the power to undermine these agreements—and countless more just like them. In fact, too many municipalities to count—from Omaha to Overland Park, Cincinnati to Chicago and Los Angeles to Louisville—have called on the FCC to halt this federal invasion of local authority. The National Governors Association and National Conference of State Legislatures have asked us to stop before doing this damage. This sentiment is shared by the United States Conference of Mayors, National League of Cities, National Association of Counties, and Government Finance Officers Association. In other words, every major state and municipal organization has expressed concern about how Washington is seeking to assert national control over local infrastructure choices and stripping local elected officials and the citizens they represent of a voice in the process.

Yet cities and states are told to not worry because with these national policies wireless providers will save as much as $2 billion in costs which will spur deployment in rural areas. But comb through the text of this decision. You will not find a single commitment made to providing more service in remote communities. Look for any statements made to Wall Street. Not one wireless carrier has said that this action will result in a change in its capital expenditures in rural areas. As Ronald Reagan famously said, "trust but verify." You can try to find it here, but there is no verification. That's because the hard economics of rural deployment do not change with this decision. Moreover, the asserted $2 billion in cost savings represents no more than 1 percent of investment needed for next-generation networks.

It didn't have to be this way. So let me offer three ideas to consider going forward.

First, we need to acknowledge we have a history of local control in this country but also recognize that more uniform policies can help us be first to the future. Here's an idea: Let's flip the script and build a new framework. We can start with developing model codes for small cell and 5G deployment—but we need to make sure they are supported by a wide range of industry and state and local officials. Then we need to review every policy and program—from universal service to grants and low-cost loans at the Department of Commerce, Department of Agriculture, and Department of Transportation and build in incentives to use these models. In the process, we can create a more common set of practices nationwide. But to do so, we would use carrots instead of sticks.

Second, this agency needs to own up to the impact of our trade policies on 5G deployment. In this decision we go on at length about the cost of local review but are eerily silent when it comes to the consequences of new national tariffs on network deployment. As a result of our escalating trade war with China, by the end of this year we will have a 25 percent duty on antennas, switches, and routers—the essential network facilities needed for 5G deployment. That's a real cost and there is no doubt it will diminish our ability to lead the world in the deployment of 5G.

Finally, in this decision the FCC treats the challenge of small cell deployment with a bias toward more regulation from Washington rather than more creative marketplace solutions. But what if instead we focused our efforts on correcting the market failure at issue? What if instead of micromanaging costs we fostered competition? One innovative way to do this involves dusting off our 20-year old over-the-air-reception-device rules, or OTARD rules.

Let me explain. The FCC's OTARD rules were designed to protect homeowners and renters from laws that restricted their ability to set up television and broadcast antennas on private property. In most cases they accomplished this by providing a right to install equipment on property you control—and this equipment for video reception was roughly the size of a pizza box.

Today OTARD rules do not contemplate 5G deployment and small cells. But we could change that by clarifying our rules. If we did, a lot of benefits would follow. By creating more siting options for small cells, we would put competitive pressure on public rights-of-way, which could bring down fees through competition instead of the government ratemaking my colleagues offer here. Moreover, this approach would create more opportunities for rural deployment by giving providers more siting and backhaul options and creating new use cases for signal boosters. Add this up and you get more competitive, more ubiquitous, and less costly 5G deployment.

We don't explore these market-based alternatives in today's decision. We don't say a thing about the real costs that tariffs impose on our efforts at 5G leadership. And we don't consider creative incentive-based systems to foster deployment, especially in rural areas.

But above all we neglect the opportunity to recognize what is fundamental: if we want to speed the way for 5G service we need to work with cities and states across the country because they are our partners. For this reason, in critical part, I dissent.

Small Cell best practice adoption to proliferate high speed connectivity through 5G.

Mobile infrastructure in dense, urban areas is typically deployed by MNOs on the rooftops of office blocks and residential buildings or on poles in the street. These sites provide the key capacity layer for mobile broadband in our towns and cities, which today delivers mobile broadband speeds averaging 15 Mbps. However, there is growing expectation and demand for this mobile connectivity to grow further. 5G millimetre wave small cells offer the ability to provide ultra-fast speeds (more than 100 Mbps) and high levels of capacity while on the move.

The benefits of providing this level of connectivity could be very significant and wide ranging, enabling the anticipated proliferation of data rich services, such as mobile augmented reality, to become mainstream in densely populated areas. It will also be needed to support the smart city of the future, which will benefit from a fast, responsive, and stable mobile network, able to handle a vast amount of data.

5G and millimetre wave Wi-Fi small cells may cover an area just 100m – 200m in radius. This implies significantly more cell sites than are currently available could be needed to deliver the ultra-fast broadband speeds and high levels of capacity that future applications could require.

Due to high-speed data rate of mobile terminals (each cell having a large capacity), the capacity of the line used for the mobile fronthaul needs to be increased. For example, transmission capacity of about 160Gbps (about 16 times) is required to support 10Gbps terminals in the current Common Purpose Radio Interface (CPRI-based) mobile fronthaul. Furthermore, widespread deployment of small-size cells is expected to support high-speed and large-capacity mobile communications. In addition to macro cells with a radius of several kilometers, small cells with a radius of a few dozen meters to more than several hundred meters are being considered to be deployed together. For instance, assuming that a macro cell of 2km radius is replaced with small cells of 200m radius, the number of cells calculated based on the area above would increase 100 times..

Outdoor small cells complement both macro-level wide-area solutions for coverage and capacity, and are cost-effective in-building wireless solutions. Outdoor small cells are particularly useful in hot zone/hot spot areas with high traffic and QoS demands, where users are located outdoors or near an outside wall indoors and where local street topologies or building structures prevent operators from making full use of roof-top high-power radio solutions.

Urban studies globally with several leading operators with limited spectrum options have concluded that a macro-only upgrade can typically offer up to four times the traffic and QoS growth compared to 2012 volumes. The most critical areas are the densest urban hotspots and outdoor small cells are being deployed in the busiest of these hotspots globally.

Adding further capacity using indoor small cells seems to be inevitable beyond a tenfold traffic increase. Although outdoor small cells are important for hot spot and hot zone areas, they may be insufficient as a stand-alone solution for provisioning very high capacity and QoS to indoor users, especially when deep in-building penetration is needed.

The outdoor solution would in such cases need to be complemented by a significant amount of in-building wireless installations as traffic grows much beyond ten times the base value. When indoor traffic in dense areas is well-defined and fully-confined, operators may in some cases be able to progress directly to

deploying in-building wireless systems, supplemented only by macro-level outdoor upgrades and later, outdoor small cells.

It is expected that operators would need to address both the busiest indoor and outdoor hot zones simultaneously where these are most required.

For even higher traffic growth scenarios, a significant enhancement of spectrum will also be needed on top of a densification of the deployed small cell layer.

In a study conducted by Nokia, key challenges of small cells are site acquisition and installation costs (professional services), constituting today up to 30% of typical outdoor small cell (Total Cost of Operation) TCO when related OpEx is also considered. Transport in this case constitutes up to 20% of the TCO. The CapEx of small cell RF and baseband is typically less than 20-30%. This is a relatively small part of overall TCO but represents a significant contribution in driving the value of an outdoor small cell site. Thus, to minimize TCO per subscriber, the overall focus should be on maximizing the number of subscribers successfully served by each deployed small cell solution (individual cell or cell cluster) and on lowering the OpEx of optimization, care and maintenance.

In fact, where operators take a holistic approach to small cell deployment, as per the study , Nokia's study shows that reduction of the TCO per bit by up to 25-50 times is possible, enabling a more favorable balance between network upgrade costs and the revenue generated from Mobile Broadband. To achieve these cost levels, benefits need to be exploited from all possible domains, including:

- optimized delivery of radio capacity and high data rate coverage
- a focused strategy considering radio access technology and spectrum in combined macro and small cell deployments
- technology improvements addressing macro and small cell efficiency, energy efficiency and transport efficiency
- automation and cost-optimized management
- new business options for transport enabled by e.g. fiber initiatives
- streamlining of site acquisition processes, etc

Meanwhile, it should be kept in mind that viewing outdoor small cell sites simply as slimmed down macro cell sites does not provide a commercially feasible approach for new deployments. Instead, operators need to adopt a solution-focused, holistic network deployment mindset. They need to make use of opportunities for cost reduction within all areas of network deployment, from professional services through to radio and transport technology optimization. In all scenarios however, the macro site remains the key asset for operators, with outdoor small cells complementing these main sites to ensure required coverage, capacity and service targets can be achieved cost-effectively.

However, while outdoor small cells complement both macro-level wide-area solutions for coverage and capacity, small cells represent a fundamentally different challenge compared to towers when it comes to designing the network. While macro towers can be built based on conventional principles of network engineering and positioned in optimal places on the network, in the case of small cells, additional factors such as concealment will come into play. With small cells, the limiting factors are sometimes outside your control. Therefore, tools are needed to identify potential locations for small cells.

Network design teams need to be equipped with the right tools and information for identifying small cell site locations that have the highest chance of success when it comes to the permitting process, taking into consideration the location of existing fiber and the physical application of the small cell itself. Effective use of spare capacity on existing backhaul networks is paramount, as the costs of securing new rights of

way and building a new backhaul link can quickly swamp the cost advantage of a small cell strategy. In addition to the wireless infrastructure, Network designers should consider existing residential business fiber networks for potential use in small cell backhaul. Network design teams will need information on intergovernmental relationships and infrastructure usage restrictions, specifications on existing street furniture within jurisdictions, and information on available backhaul options and power options in every part of the network, not just the "wireless" network.

The following recommendations at the ITU Annual Forum on "IoT, Big Data and Smart Cities & Societies" Dubai, 28-29 August 2019Small cell deployment recommendations were suggested. Small cell deployment is an important option for mobile networks as they evolve to address the growing demand for mobile connectivity, improved capacity and coverage. In order to support efficient small cell deployments authorities should adopt the following policies:

1. Follow the internationally harmonised small cell power classes when developing regulations related to compliance with radiofrequency exposure limits.
2. Adopt simplified procedures for building permits for small cells (if required) based on standardised size, installation requirements and radio characteristics.
3. Accept declarations of compliance and do not require routine post-installation measurement.
4. Exempt small cell installations from location registration requirements.
5. Reduce permit costs for small cells relative to those for macrocells.
6. In respect of RF compliance provide information for consumers and local authorities based on WHO materials and recommendations.
7. Facilitate access to existing structures, electrical power and data backhaul

Planning, policy and authorizations[1]

In most countries, planning policy is the responsibility of local public entities that produce a set of requirements, many targeted toward their local situations and peculiarities. However, the scope of their authority may be limited by law or decree.

Getting authorization to proceed with small cell site deployments should be logically easier than for macro cell sites, but the question is "scalability of the process." Across the world, there are a wide range of legal and waiting periods for the approval process of RF sites in general, with a best practice for the legal period of 20 days in New Zealand, and often for other countries of 3 to 6 months (for example, the United States, United Kingdom, Italy, and France). Without being exhaustive, the following list provides a view of the various administrative requests that may apply:

• Equipment/System RF exposure limit certification, and eventual installation and services authorization, although some exemptions may apply
• Applicable national, regional, and local permits for installation and service operations
• Sectoral regulatory consideration
• Environmental considerations: planning restrictions for sensitive areas like schools, hospitals, historical buildings, or national parks

[1] http://www.stjohnpatrick.com/12/ec/5Small-Cells-Regulatory-Considerations.pdf

• Building permits: owner property authorization, public domain rights of ways, and other eventual mutualization requirements
• Street administrator – with small cells, municipality will have a new role to fill
• Applicable taxes and fees: national and/or local taxes and fees may be applicable under the form of equipment installation taxes, administrative fees, one-off and/or annual fees

We present the policies which are being followed Globally and by USA in particular

AMERICA

The National Conference of State Legislatures: Mobile 5G and Small Cell 2019 Legislation[2]

Mobile fifth-generation (5G) wireless systems are the next upgrade of wireless technology, offering faster speeds, greater capacity and better reliability.

To deploy this technology, new infrastructure, called small cells, must be used. Small cells generate less power, collect and transmit signals in a short range from one another and require collocating the cells on other infrastructure. Small cell wireless facility deployment requires streamlined federal, state and local permitting, rights of way, application timelines and other siting and application fees, and application review timelines and appeals processes to make it economically feasible for wireless companies to deploy the technology across communities.

Prior to 2019, 21 state legislatures — Arizona, Colorado, Delaware, Florida, Hawaii, Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, New Mexico, North Carolina, Ohio, Oklahoma, Rhode Island, Tennessee, Texas, Utah and Virginia — have enacted small cell legislation that streamlines regulations to facilitate the deployment of 5G small cells.

These laws take into consideration the unique circumstances of their state and local environment, but baseline principles can be established and are consistent with wireless industry standards, including:

- Streamlined applications to access public rights of way.
- Caps on costs and fees.
- Streamlined timelines for the consideration and processing of cell siting applications.

Twenty-five states and Puerto Rico have introduced mobile 5G and small cell-related legislation in the 2019 legislative session. Alabama, Arkansas, Connecticut, Florida, Georgia, Kansas, Louisiana, Maine, Nebraska, Nevada, New Hampshire, New York, North Carolina, Puerto Rico, West Virginia and Wisconsin enacted legislation or adopted resolutions in 2019.

[2] **https://www.ncsl.org/research/telecommunications-and-information-technology/mobile-5g-and-small-cell-2019-legislation.aspx**

Ninth Circuit Rejects Challenges to FCC's One-Touch Make-Ready, Small Cell Deployment, and Local Moratoria Orders[3]

On August 12, 2020, a Ninth Circuit panel affirmed three orders issued in 2018 by the Federal Communications Commission (FCC) to promote infrastructure investment and broadband deployment, including 5G small cell nodes.

In *City of Portland v. United States*, the three-judge panel largely held that the FCC's *Small Cell, Moratoria, and One-Touch Make-Ready (OTMR)* Orders were proper exercises of the FCC's authority under the 1996 Telecommunications Act. The Court did reverse, however, a few provisions of the Small Cell Order dealing with local government interpretation of aesthetic regulations.

The Small Cell Order

The FCC's September 2018 Small Cell Order was designed to remove various state and local barriers that would prevent 5G providers from accessing existing facilities for installation of small cells. Among other things, the Small Cell Order:

- Limited fees that local governments can impose for accessing public rights-of-way (ROW), above a safe harbor amount, to a "reasonable approximation" of the costs of processing applications and managing the ROW;
- Ordered that "aesthetics requirements are not preempted if they are (1) reasonable, (2) no more burdensome than those applied to other types of infrastructure deployments, and (3) objective and published in advance"; and
- Shortened the FCC's timelines for approving permit applications ("shot clocks") to deploy wireless facilities from 90 to 60 days to review applications for installations on existing infrastructure and from 150 to 90 days for all other applications.

Local government and municipally owned utilities challenged these requirements as arbitrary and capricious. They also asserted that the Small Cell Order could not preempt local regulation of public ROW, and one county argued the FCC improperly failed to address radiofrequency standards from an earlier rulemaking. But the 9th Circuit panel affirmed the FCC's Small Order in all but a few respects. The Court held that the FCC's requirement that all aesthetic regulations be "objective" was arbitrary and capricious and that legitimate aesthetic requirements were not always preempted just because they are "more burdensome."

The Moratoria Order

The FCC issued its Moratoria Order in August 2018 in response to complaints that state and local ordinances and practices were either explicitly or having the effect of barring small cell deployment. The FCC's Order therefore prohibited express and "*de facto*" moratoria that effectively halt or suspend the acceptance, processing, or approval of applications or permits for wireless facilities as in violation of Section 253(a) of the Communications Act (47 U.S.C. § 253(a)). The Commission did provide an exemption

[3] https://www.natlawreview.com/article/ninth-circuit-rejects-challenges-to-fcc-s-one-touch-make-ready-small-cell-deployment

for "emergency" bans on the construction of 5G facilities to protect public safety and welfare, but only where such laws were competitively neutral, necessary to address the emergency, disaster, or related public needs, and geographically targeted.

The City of Portland challenged the Moratoria Order as overly broad and unreasonable, in that it would include even seasonal restrictions on construction, that it was an invalid application of Section 253, and self-contradictory in its definitions of express and *de facto* moratoria. The Court rejected each of these challenges. It agreed with the FCC that municipal ordinances only would qualify as *de facto* moratoria where the delay caused by the ordinances "continues for an unreasonably long or indefinite amount of time." The Court also agreed with the FCC that Section 253(a) is broad enough to properly preempt local moratoria; that there was nothing inconsistent with the FCC's definitions; and that the emergency ban exception was necessary to prevent the pretextual use of safety to stop deployment.

Constitutional Challenges to the Small Cell and Moratoria Orders

The 9th Circuit further rejected the petitioners' claims that the Small Cell Order sanctioned unlawful takings in violation of the Fifth Amendment and that both orders compel local governments to enforce federal law in violation of the Tenth Amendment. The Court held that the Small Cell Order was not a "physical taking" because it only precludes local governments from charging unreasonable fees when granting applications and "continues to allow municipalities to deny access to property for a number of reasons." Nor was the Small Cell Order a "regulatory taking," because it still allows for recovery of actual costs. The Court also found that limiting cost recovery to actual costs is not a regulatory taking. And the Court further reasoned that neither order violated the Tenth Amendment because the FCC was "interpreting and enforcing the 1996 Telecommunications Act, adopted by Congress pursuant to its delegated authority under the Commerce Clause, to ensure that municipalities are not charging small cell providers unreasonable fees."

OTMR Order (One-Touch Make-Ready)

In August 2018, the FCC also adopted new, OTMR rules for expedited access to utility poles

(now codified at 47 C.F.R. § 1.1411(j)). The OTMR process gives an entity seeking to attach to a utility pole the choice either to perform all work necessary to prepare the pole for its facilities (called "make-ready" work) or follow the current practice where each attacher performs the necessary make-ready work on its own facilities. The OTMR option is only available for "simple" make-ready work.

A group of private utilities did not challenge the central provisions of the OTMR Order, but instead, challenged four secondary rules related to overlashing, preexisting violations, self-help, and rate reform. The Court upheld all of these rules.

- Overlashing: The FCC's new overlashing rules (47 C.F.R. § 1.1415) prohibit utilities from charging fees to overlash or requiring permits or engineering studies, and allows attachers to overlash upon 15 days' advance notice to the utility. The Court affirmed the rule, holding it still allows overlashers and utilities to negotiate the details of overlashing arrangements and the rules are "a reasonable attempt to prevent unnecessary costs to attachers."
- Preexisting Violation Rule: The Court also upheld the FCC's rule, which prohibits utilities from denying access to a new overlasher solely because of a preexisting safety violation that the

overlasher did not cause. 47 C.F.R. § 1.1415(b). Petitioners argued this violated Section 224(f)(2), which allows utilities to deny access for "reasons of safety." The Court held there was no conflict and that the new rule "prevents the utilities from passing the costs off on entities that did not cause the safety problem in the first place."

- Self-Help Rule: The FCC's new self-help remedy (47 C.F.R. § 1.1411(i)) allows a new attacher to engage a utility-approved contractors to complete surveys and make-ready work anywhere on the pole (including the power supply space) if the pole owner or existing attachers do not meet required deadlines. Petitioners argued that allowing self-help in the power supply space jeopardized safety and exceeded the FCC's authority under Section 224. The Court rejected these challenges. It explained that the rule still provides a utility a 90-day window to complete the pre-attachment work itself, and requires the new attacher provide advance notice of when the self-help work will occur so that the utility can be present if it wishes.
- Rate-Reform Rule: The Ninth Circuit panel upheld the FCC decision to remove rate disparities between ILECs and CLECs. The Court held the FCC has the authority under Section 224(b)(1) to set just and reasonable rates for all telecommunications carriers and that the max rate set by the FCC, should a disparity arise, was greater than rates set by FCC for CLECs and cable operators, where were previously determined to be reasonable.

There has been a great deal of calling for similar easing of restrictions in the U.S., with the Federal Communications Commission responding by speeding up the federal review of infrastructure, as well as the state and local review of small cells, specifically. The FCC has also committed to modernizing outdated regulations that hinder the fast and efficient rollout of 5G networks.

The ALABAMA State Legislation synopsis on small cells more or less covers the state acts which are mostly similar in nature.

- This bill would authorize the installation and deployment of qualifying antennas and poles on the public rights-of-way of the state to be used or wireless and broadband communications networks.
- This bill would establish a permitting process for the installation of small wireless facilities and poles and would establish the rates and fees for their use.
- This bill would also provide exemptions and would also provide indemnification, insurance, and bonding requirements.

In effect the legislations clearly define the technical, commercial, administrative aspects involved. it defines the antenna and base station(antenna equipment) , the applicant who could be the Communications Service Provider or the Wireless Infrastructure Provider. It clearly gives height and volumetric space to be allowed for the antenna and equipment. It specifies EME safety codes to be followed besides the various civic/municipal body codes. It is fairly comprehensive. And the actual legislation is attached along with other states legislations on Small Cells/Micro Wireless Facility or could be accessed at the link below.

European Commission

The European Commission proposes no 5G small cell planning permission obligations requiring only that **5G small cell antennas must meet certain physical and technical criteria**

In an effort to accelerate 5G small cell adoption across the European Union (EU), the European Commission (EC), after specifying the physical and technical characteristics of small cell equipment, has recommended that this type of antenna installation should be exempt from planning permission requirements.

"Together with Member States, we must pave the way for the timely rollout of 5G, without restrictive administrative barriers," said Commissioner for the Internal Market, Thierry Breton, "which will in turn create significant demand from our industry and will amplify European innovations and competitiveness."

He also called 5G networks "a pillar of socio-economic development" and said that they will be critical to COVID-19 recovery efforts.

In order to qualify for the exemption from permission requirements, the 5G antennas must meet certain physical and technical criteria. For instance, the antennas must be "invisible or mounted in a non-obstructive way onto their support structure." Further, the installed equipment must produce less electromagnetic emission than a Wi-Fi installation.

Mobile data demand has grown at an exponential rate for three decades, and according to data from IDC, there is expected to be a continued growth of about 30% per year as 5G becomes more ubiquitous.

Small cells have presented a solution to this growing need for capacity and coverage and have become increasingly common over the last five years, with an estimated 800,000 small cells deployed in just the U.S. by 2026, according to industry trade group CTIA.

It is unclear at the moment how far this regulatory ruling with reach beyond the boundaries of the current EU, or if those markets that once fell under such rule will follow suite.[4]

The Commission has adopted the **Implementing Regulation on small-area wireless access points, or small antennas,** which are crucial for the timely deployment of 5G networks that are delivering high-capacity and increased coverage as well as advanced connection speeds. The Regulation specifies the physical and technical characteristics of small cells for 5G networks. It aims to help simplify and accelerate 5G network installations, which should be facilitated through a permit-exempt deployment regime, while ensuring that national authorities keep oversight.

On the Implementing Regulation
A fully-fledged 5G rollout relies on denser and smarter wireless networks of small cells, or antennas. The Commission Implementing Regulation defines the physical and technical characteristics of those small cells, which are exempted from any individual town planning permit or other individual prior permits. The definition of small cell in the implementing regulation sets tight limits in terms of size and power of those installations.

[4] https://www.rcrwireless.com/20200701/network-infrastructure/european-commission-5g-small-cell-planning

The Implementing Regulation ensures public health protection from exposure to electromagnetic fields as well as small cells visual integration. Small-area wireless access points should assure the protection of people's health and safety, by adhering to strict EU exposure limits, which, for the general public, are 50 times lower than what international scientific evidence would suggest as having any potential effect on health. To ensure wide public acceptance for the measure, the Regulation addresses the visual appearance of small cells to avoid visual clutter. It lays out the specifications for a coherent and integrated installation, while providing national authorities with the means to oversee deployment of small cells.

Reflecting this, and to accelerate the rollout of this important new technology in the EU, small antennas should be exempted from any individual town planning permit or other individual prior permits. Permits may still be required for deployment on buildings or sites protected in accordance with national law or where necessary for public safety reasons. The Regulation allows for broader national measures in support of straightforward small cell deployment. It also foresees future amendments to incorporate the latest technological advances.

On small cells

The new small cells (antennas) will be less visible (either fully integrated and invisible to the general public or, if visible, occupy a maximum space of 30 litres). Small cells will produce less electromagnetic emissions. In fact, they could be compared to WiFi installations. Small cells will use lower power levels and therefore create lower exposure levels than existing 4G infrastructure. The overall exposure with the rollout of 5G networks will therefore be comparable to existing levels – it will be well below the strict EU exposure limits, which, for the general public, are 50 times lower than what international scientific evidence would suggest as having any potential effect on health. Public health protection is ensured by the strict exposure limits set out in Council Recommendation 1999/519/EC, which sets exposure limits at 50 times lower than international scientific recommendations that ensure public safety.

The Commission Implementing Regulation was supported by a study and considered input obtained from two open public consultations: in 2019 and in 2020. The Commission also gathered and considered the views and relevant written comments expressed by Member States within the Communications Committee and held two inter service consultations. [5]

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[6]In September 2016, the European Commission published legislative proposals to establish the European Electronic Communications Code (EECC) [EC2017], as well as, an action plan to deploy 5G across the EU as from 2018. The draft directive establishing the EECC proposes a merger of the four aforementioned telecom directives. The objective of the proposal is adopt the EU regulatory framework to the changes in digital environment and new modes of consumption. Among the EECC objectives is need to promote the availability and take up of 'Very High Capacity' (VHC) connectivity, which in practice can be enabled in part by dense small cell deployments. The EECC makes specific reference to small cells (referred to as 'small-

[5] https://ec.europa.eu/digital-single-market/en/news/commission-adopts-implementing-regulation-pave-way-high-capacity-5g-network-infrastructure

[6]https://global5g.org/sites/default/files/Global5G.org_D3.1_Study%20on%20small%20cells%20and%20dense%20cellular%20networks%20regulatory%20issues_final.pdf

area wireless access points' in EECC) in Article 56, which states that in the deployment and operation of small cells:

1. Competent authorities shall allow the deployment, connection and operation of unobtrusive small cells under the general authorisation regime and shall not unduly restrict that deployment, connection or operation through individual town planning permits or in any other way… The small-area wireless access points shall not be subject to any fees or charges going beyond the administrative charge that may be associated to the general authorisation.

2. In order to ensure the uniform implementation of the general authorisation regime for the deployment, connection and operation of small cells, the Commission may, by means of an implementing act, specify technical characteristics for the design, deployment and operation of small cells, which shall at a minimum comply with the requirements of Directive 2013/35/EU1 and take account of the thresholds defined in Council Recommendation No 1999/519/EC1 [EC]. The Commission shall specify those technical characteristics by reference to the maximum size, power and electromagnetic characteristics, as well as the visual impact, of the deployed small cells. Compliance with the specified characteristics shall ensure that small cells are unobtrusive when in use in different local contexts.

In general, the implementation of an effective regulatory framework (in EU and elsewhere) provides a number of benefits to the mobile sector and ICT industry.

Differences in macro and small cell base stations

The regulations for installation and operation of mobile infrastructure were originally specified for homogeneous networks with mostly macro base station deployments. However, the increasingly heterogeneous networks with the number of small cells base stations far exceeding macro base stations is highlighting the need for reformulation of some of the regulations, to obtain a regulatory framework that provides the benefits listed in the table below*. The core arguments for these regulatory updates is built on fundamental differences between small cell and macro base stations, as summarised in the 2nd table below**.

***Benefits of effective regulatory framework**	**Small cells perspective**
Better quality of service	The UEs connected to small cells generally have a better quality of service. This is typically due to improved performance (e.g. SINR, Gbps/km2) in areas of poor macro coverage and/or hotspots with high density of UEs. The small cells also provide "offloading gain" for macro connected UEs by reducing number of UEs served by macro base stations. The quality of service increases with the network densification, underlining the need for regulation that facilitates denser deployments.
Higher (service) penetration	Small cells enable increased service penetration by influencing service adoption through improved perception of quality of service and user experience. Furthermore, small cells enable more affordable services due to reduced capital and operational costs (less cost per

	transmitted bit). As above the regulation that facilitates denser deployments is essential.
More rapid technological innovation	The development of edge cloud computing, network slicing and small cell service APIs will transform small cell base stations from mere broadband radio access points to application and service innovation platforms. A regulatory framework that supports innovation would ideal in this case.
Increased investment27	The diversity of stakeholders able to deploy or own small cells increases the number of potential investors in mobile infrastructure (beyond traditional MNOs). The regulatory environment is a critical factor in their decision to invest in a particular region or country.
Greater economic growth	The socio-economic benefits of 5G will considerable across a number of vertical industry sectors. The dense deployment of small cells are among the critical network enhancements necessary for 5G to fulfil the KPIs demanded by the new use cases of these verticals.

****Differences in macro and small cell base stations that may influence regulation**		
Attribute	**Macro base stations**	**Small cell base stations**
RF transmit power29	High (typically 43-48 dBm)	Low/medium (≤ 38 dBm)
Antenna installation height	Typically 10-60m above ground	Typically ≤10m above ground (or indoor floor level)
Coverage range	Several km to few tens of km	Several meters to few hundred meters
Spectrum	Licensed spectrum in low (<1 GHz) and mid (1-6 GHz) bands	Licensed or unlicensed spectrum in low (<1 GHz), mid (1-6 GHz) and high (6 GHz) bands
Power consumption	High (1-5 kW)	Low/medium (5-400 W)
Deployment density	Few sites per square km	Tens or hundreds of sites per square km
Deployment locations	Outdoor radio towers or on building rooftops	Outdoor below rooftop or at street level, indoor in-building, vehicular platforms etc.
Physical characteristics	Typically separate discrete equipment (antennas, antenna cabling, baseband units, cooling systems etc.)	Relatively smaller dimensions, integrated packaging (built-in antennas), convection cooled
Base station owners	MNOs	MNOs, neutral hosts

Germany [7]

Within the framework of the 5G Initiative for Germany that was launched in autumn 2016, the First measures for a rapid development of 5G infrastructures and a comprehensive integration of the technology into the value-added processes have been presented and discussed with the stakeholders.

To make use of the full performance of 5G networks, massive infrastructure investments by network operators will be required. We are supporting this by creating a framework that will attract investments for the operational rollout of networks. This includes, in particular, the expansion of Fibre optic networks to connect base stations and the availability of antenna sites for the necessary densification of networks.

In order to be able to meet the IMT-2020 requirements for average and peak data rates up to the gigabit range for a large number of subscribers and end-user devices as well as for low latencies, the base stations and concentration points must be fully developed with fibre optics. This applies both to macro cells (cell radius up to 50 km) in rural and suburban areas as well as to metro or micro cells (cell radius up to 2 km) in city centres.

In addition, small cells (pico cells) with cell radii between twenty and a few hundred meters for intensive use of 5G at local hotspots such as stadiums or pedestrian zones have to be installed. The reason is that in the future carrier frequencies above 24 gigahertz will be used to provide very high bandwidths at the local level which have only a very limited range and object penetration. Therefore, it is necessary to increase the density of the mobile communications network at the hotspots.

The Federal Government is supporting the development of the networks with the following measures:

Step up network rollout:

-**Facilitate connection of base stations via fibre optic cables:** In order to realize the full performance of 5G, the Federal Government assumes that network operators – if they have not done so already – will significantly increase their investments in fibre optic connections of base stations and, as a result, will significantly reduce microwave link connections by 2020. The Federal Government expects network operators to make increased use of the possibilities of co-use of passive infrastructures provided by the current legal situation (DigiNetz Act). Depending on these developments, the Federal Government will examine whether it makes sense to further increase fibre-optic connection rates of base stations by the network operators and which additional legal or regulatory measures can be used if this is considered necessary. The promotion of the fibre optic connections of base stations should also be considered in this context, especially in very sparsely populated areas. Potential interactions with possible coverage obligations need to be taken into account, too.

-**Step up co-usability of passive carrier infrastructures for the development of 5G cells:** The co-use of existing carrier infrastructures will play a key role in terms of the development of small cell networks in city centres. Road infrastructure which already has power connections today, for example traffic lights and street lamps, can be used for the cost-effective development of pico cells.

The Act on the Facilitation of the Deployment of HighSpeed Digital Networks (DigiNetzG) that was adopted in November 2016 already defines some requirements with regard to
a) the co-use of public supply infrastructures for fibre optics and the co-deployment of fibre optics within the framework of public road construction schemes as well as

[7] https://www.bmvi.de/SharedDocs/EN/publications/5g-strategy-for-germany.pdf?__blob=publicationFile

b) the use of public carrier infrastructures to install micro or pico cells.

For the co-use of public supply infrastructure, a working group has already been setup within the framework of the deployment of fibre optic. It comprises representatives from the federal states, the local government associations and the telecommunications sector and is to provide information on issues related to the technical implementation as well as procedural aspects of the DigiNetz Act. The working group is analysing which of the passive carrier infrastructures that the DigiNetz Act makes reference to, for instance traffic lights, traffic signs, street furniture, crash barriers or manhole covers, are particularly suitable for the deployment of 5G by means of co-use. We are aiming to agree on standardized licensing procedures for the timely provision of these infrastructures with the municipal authorities. In addition, the technical security requirements for using these carrier structures, for example with regard to assembly standards, power connections or structural design, are to be defined in the working group of the Federal Government and the federal states.

Moreover, together with the federal states we will examine which legal measures can be used to expand the traditional infrastructure of transmission poles. In addition, we are looking for solutions to facilitate access to public sector properties owned by the Federal Government, federal states and local authorities, so that mobile communications antennae can be installed at these properties.

To support the acquisition of sites and the planning of undertakings involved in the expansion, the Federal Government is also analysing which location data can be made available in the form of open data. The objective for the public sector is to establish a lean uniform national licensing procedure for making existing infrastructure available at reasonable cost and facilitate a comprehensive and dynamic deployment of networks from which the professional mobile communications sector can also benefit.

-Support network rollout, maintain health protection:
With the deployment of small cell networks in city centres, the increasing number of private mobile communications devices as well as the emergence of smart cities and smart villages and the Internet of Things, the number of devices emitting electromagnetic fields near humans is also increasing. For this reason, the required approval procedures will become more complex.

We are therefore analysing the need for optimizing the current approval and decision-making processes at the local authority level and at the Federal Network Agency. In particular, we are examining whether there is a need to adapt the existing distance regulations with regard to antenna sites during the site certification procedure. As regards the development of small cell mobile communications networks, we are creating a reliable framework at an early stage. While doing so, we are ensuring that the acceptance of the population and the existing high safety standards for preventive health protection are maintained in all development phases. At the same time, the Federal Government will support the introduction of 5G vis-à-vis the public with transparent information.

New Zealand

Regulation 38 provides for the installation and operation of a small cell unit as a permitted activity, subject to compliance with the relevant standards. A "small cell unit" is defined in the NESTF (National Environmental Standards for Telecommunication Facilities) 2016 as:

"…a device–

(a) that receives or transmits radiocommunication or telecommunication signals; and

(b) the volume of which (including any ancillary equipment, but not including any cabling) is not more than 0.11 m3".

The standards in the NESTF 2016 controlling small cell units are minimal due to the low impact nature of these devices. The definition of small cell units and Regulation 38 require, however, that:

• the volume of a small cell unit is (by definition) to be no more than 0.11m^3 (including ancillary equipment but excluding cabling)

• small cell units must be installed on an existing structure.

Note that the RMA defines 'structure' as "any building, equipment, device, or other facility made by people and which is fixed to land; and includes any raft".

The NESTF 2016 also requires small cell units to comply with Subpart 5, which is any applicable regional earthworks rules (Regulation 54), and the standards for radiofrequency fields in Regulation 55 if it is a RFG facility. [8]

[8] https://www.mbie.govt.nz/assets/eb46bb4e5c/resource-management-regulations-2016-draft-users-guide.pdf

JAPAN[9]

The traffic during the Great East Japan earthquake needs to be considered when thinking about congestion resilience. Traffic in 2011 was 50 to 60 times higher than normal with regard to voice communication via cellar phones. Concentrated service requests from base stations that cover a wide area caused resource shortage and congestion. Telecommunication carriers then implemented 80 to 95% traffic control [39]. It was extremely difficult for users to establish a voice connection. According to the survey results, people made a call about 12 times on average until they succeeded and about 14 times on average until they gave up in disaster-stricken areas. For failure resilience, with regard to unexpected communication process disruption due to damage of network functions, the earthquake and tsunami caused collapse, flooding and washout of building facility, split and damage of undergrad cables, duct lines, etc., damage of utility poles, damage of aerial cables and collapse and washout of mobile base stations, which resulted in severe damage. Although no specific numerical target levels are shared as a future scenario in terms of disaster resilience, the government and users both demand further enhancement of telecommunication networks based on these lessons learned from the Great East Japan earthquake.

Japan had a pole-supported electrical wirescape that can be seen running up and down many of its city streets. Post the great earthquake and tsunami, now many power lines in Japan are being buried, at least down the main streets.

The poles are being kept and the power lines retained, providing a great solution for small cell deployment for 5G.

Which is just what the power company, TEPCO (Tokyo Electric Power Company) and a fine collection of Japanese 5G deploying telcos are planning.

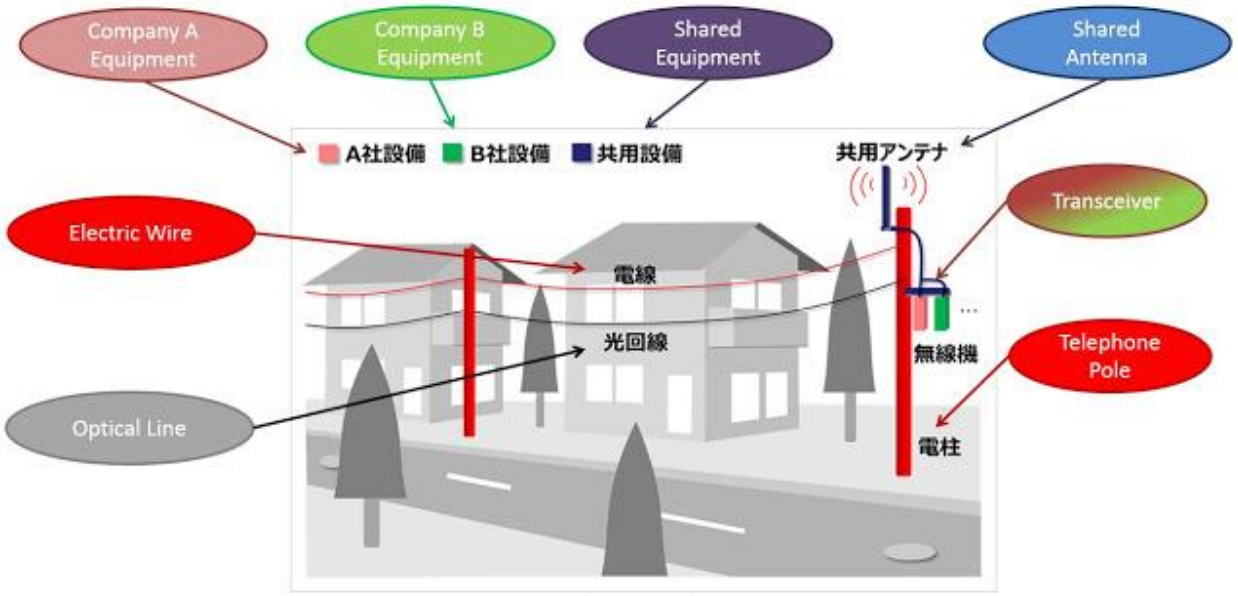
KDDI, SoftBank and Rakuten Mobile Network say they're collaborating on trials of base station equipment sharing, based on TEPCO's power line infrastructure.

This is a great match. When it comes to 5G deployment, the small cell backhaul barrier looks likely to be overcome with radio, leaving power supply as the major structural problem (along with permissions and site rentals, of course).

So if you involve the pole-owning power company as a partner and throw in site sharing with other telcos, it looks on first sight to be a very powerful, cost-busting combination.

[9] https://5gmf.jp/wp/wp-content/uploads/2017/10/Chapter-12-Network_Technologies_for_5G_v1_1.pdf

Mobile Network Infrastructure Sharing in Japan over Electric Power Infrastructure



Via: The 3G4G Blog

TEPCO (Tokyo Electric Power COmpany) Power Grid, Incorporated, KDDI CORPORATION, SoftBank Corp. and Rakuten Mobile Network, Inc. announced that the four companies have reached an agreement to collaborate on trials of base station site and equipment sharing utilizing TEPCO PG's utility poles and other electric power infrastructure, ahead of the introduction of 5th generation mobile communications systems (5G) in Japan. The trials are due to be begin in the first half of FY2019.

5G utilizes high frequency bands in order to enable higher speeds and greater capacity. As a result, the number of base stations required for 5G is expected to be larger than for 4G. The growing number of base stations not only creates difficulties in securing installation locations, but also calls for consideration on the impact too many antennas and other equipment might have on the landscape.

TEPCO PG has been working together with KDDI to explore the shared utilization of utility poles and other electric power infrastructure and base station equipment between mobile network operators, and as preparations are now complete, the companies are set to begin the trials using actual equipment.

The trials, which SoftBank and Rakuten Mobile Network are also set to join, aim to verify the feasibility of location and equipment sharing between mobile network operators. Specifically, the trials will evaluate the equipment, layout, workability, serviceability and the level of radio interference resulting from sharing the antenna for base station installations on utility poles. There are also plans to expand the number of companies participating in the trials to include other organizations planning to utilize 5G in the future.

Sharing utility poles among a number of mobile network operators makes it possible to flexibly build out base stations in urban areas and rapidly launch services in rural areas. It is also expected to address the issue of securing locations for base stations and lowers the impact of base station equipment on the landscape.

Through the trials, TEPCO PG, KDDI, SoftBank and Rakuten Mobile Network aim to reduce the infrastructure construction costs and contribute to the smooth nationwide introduction of 5G.

SOUTH KOREA[10]

Faced with the prospect of developing several separate 5G networks with patchwork coverage, South Korea's top cellular carriers have instead decided to collaborate on a single nationwide 5G infrastructure, BusinessKorea and Yonhap report. The plan is estimated to save the company's $938 million over 10 years, with the goal of enabling South Korea to "lead the fourth industrial revolution and to support the early commercialisation of 5G technology."

According to the reports, the South Korean government is coordinating the effort, which will bring mobile companies KT, LG U+, and SK Telecom together with SK Broadband to share everything from antenna mounts to manholes and conduits. Additionally, the Korea Information Society Development Institute will develop pricing models for the carriers.

Historically, carriers across the world have developed their own national or regional cellular networks, though governments in certain countries have occasionally stepped in to coordinate or entirely nationalize network development. In this case, South Korea's Ministry of Science and ICT deemed cooperation necessary because the number of 5G "small cell" base stations is expected to be between 4 and 18 times the number of larger 4G base stations, potentially leading to redundant investments.

To aid the carriers, "17 local governments and national facility management agencies" had agreed to provide equipment to facilitate the installation of wireless and cable gear within street lights and transportation structures. The carriers are now working to determine how much each will contribute to the construction effort, with plans to finalize those details during the first half of this year.

[10] https://venturebeat.com/2018/04/11/korean-carriers-agree-to-build-single-5g-network-saving-money-and-time/

MALAYSIA[11]

Site Acquisition and Engineering (SAE)

SAE deals with all aspects pertaining to the provisioning of sites for the deployment of 5G. SAE is not expected to differ too much from 4G and earlier deployment. The sites need to be acquired and prepared with necessary Civil, Mechanical & Electrical (CME) work prior to installation of 5G. On the other hand, there exists a number of new requirements for 5G that will necessitate further enhancement at sites. Considering the increased number of sites for 5G, proper plans should be put in place in order to ensure its smooth deployment.

Components of SAE

There are a few different elements that will make up the overall requirements at site. For the purposes of assessing these requirements, the elements can be categorised into three different CME aspects:

Structures, Dimensioning & Loading, and Power Requirement.

(a) Structures

Different types of structures exist for the housing of telecommunications equipment at sites. In general, the structures can be categorised into 3 different categories as depicted in the Diagram below.

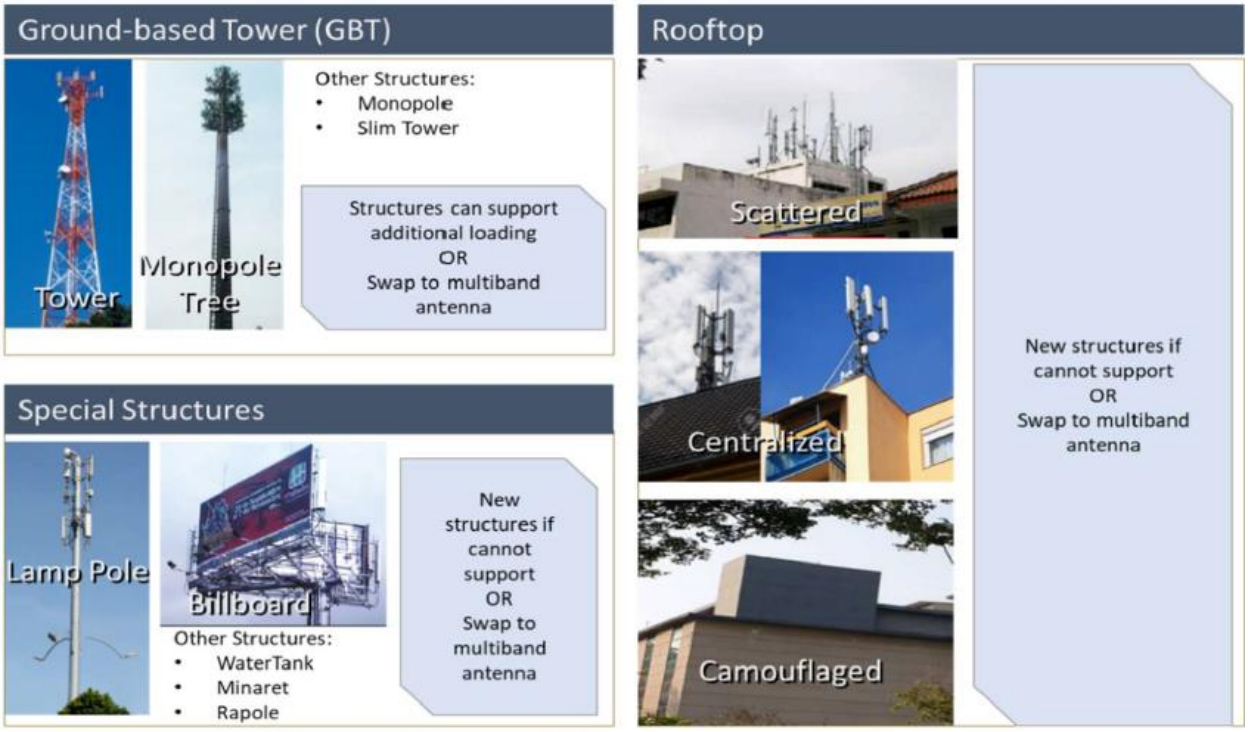


Figure 4.6: Types of Structures; Source: edotco

Deployment by Telcos in the past depended on heavy duty and tall structures of Ground-Based Tower (GBT) types, though current trends have moved towards the Roof Top Tower (RTT), Roof Top Pole (RTP) and Special Structures like Lamp Poles, Rapid Assembly Pole (Rapole), etc.

[11] https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/The-National-5G-Task-Force-Report.pdf

For the past few years, Special Structures with improved designs have made its way to certain areas. The trend is expected to continue for the deployment of 5G, thus the 5G Task Force expects to see enhanced versions of Special Structures for 5G use. Some samples of Special Structures are:

Various Street Pole Designs

Figure 4.7 (a): Samples of new special structures; Source: edotco

These relatively new approaches have the benefit of lower cost and less visual impact, but the downside is that the potential for passive sharing (multiple Telcos using shared tower and power facilities) at a site is lower than more traditional structures. New 5G small cells (aimed to alleviate load on macro cells) will cause a further shift towards these lower impact facilities. In urban areas where 5G requires more dense architecture than 4G to deliver its best performance, more 5G antennas will be mounted on Street Furniture to facilitate expansion of network coverage.
These new structures such as bus stops, smart poles, etc. can also be used for CCTV, security cameras, Wi-Fi hotspots, digital advertising, and different types of sensors. Street furniture is more suitable for small cell deployment due to limited space. Figure 4.8 depicts an example of Street Furniture suitable for 5G deployment:

Figure 4.8: Example of Bus Stop Street Furniture; Source: edotco

Today, there are few 4G sites that deploy Street Furniture. However, Street Furniture may become significant for 5G deployment with the right design and deployment strategy. This is more important in supporting uRLLC use cases outlined in above sections such as Automated, Autonomous and Connected Vehicle (AAVC), unmanned aerial vehicles, and Smart Cities. However, there could be limits on Street Furniture's ability to accommodate 5G deployment due to constraints on space and loading capability. The 5G Task Force expects that future generations of 5G equipment will more easily integrate with the natural environment and be more compact so that more types of this structure can be used, following technological advancements.

(b)Dimension and Loading

There are some changes in the dimension and weight of 5G network elements compared to the previous generations of mobile solutions, which will require changes at the sites as well. The biggest difference for 5G will be the massive MIMO features at Sub-6 GHz and mmWave bands. Current trends in 5G network elements combine the traditional Remote Radio Unit (RRU) into the back of the antenna, thus placing heavier equipment on telecommunication structures. This recent development will impact sites in the following ways:

1. Increase loads on telecommunication structures due to increasingly heavier antennas.
2. Load increases will also be due to additional wind load from the new 5G antenna. Even though the new antenna is relatively smaller than existing 2G/3G/4G antenna, the new antenna will stand alone, which increases overall wind load.
3. The cabinet at-site is also expected to be larger, as they are expected to cater to additional mobile technologies and higher power consumption.

The 5G Task Force expects many existing telecommunication structures to require upgrades, and new structures will be built to higher specifications than before.

(c)Power

The 5G system will draw more power to enable it to carry much more data than 4G. Even though it will be more power efficient per unit of data than 4G, the overall system will still require more power at sites. Power-supplying equipment at existing sites will require substantial upgrades. This will be a substantial driver of network rollout cost, and a significant increase in recurring network operating expense.

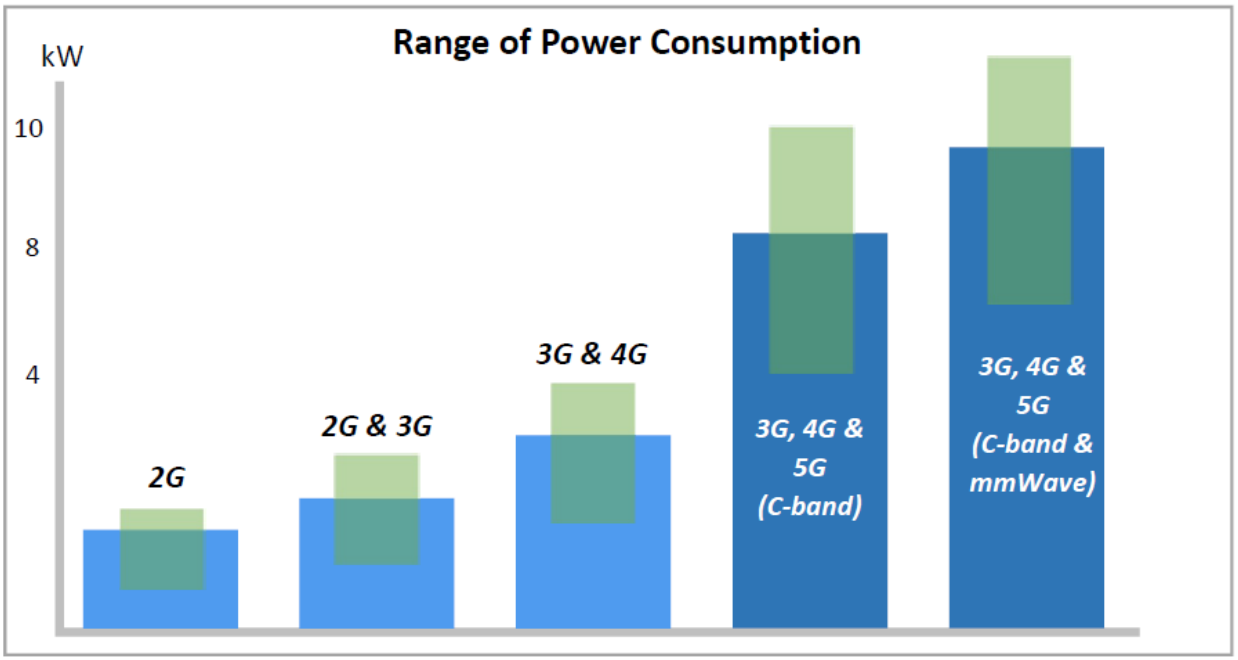


Figure 4.11: Power Requirements; Source: edotco

Challenges

With increasing number of sites required for full coverage of 5G, site acquisition will present new challenges for timely deployment of 5G. New range of equipment poses a new challenge in terms of power requirements, structure loading and space availability at sites.

1. Telcos will also be required to make careful judgment on the combination of 2G, 3G, 4G and 5G technologies to reduce operational expenses.
2. Since NSA will be most likely deployed in Malaysia, existing types of structures will still be used. For new site deployment, low height structures such as lamp poles, and Street Furniture will become more prevalent. Hence, it will require enhancements on the current process.
3. The increase in both total number of sites and antenna size at existing sites will raise aesthetic considerations. Although some degree of aesthetic improvement is possible though careful design of installations and use of camouflage, these solutions will increase cost and decrease speed of network rollout, both directly, and through the impact of any additional further approval processes.
4. Telcos are expected to face the same challenges in enabling 5G services at sites. Considering the relatively high number of sites for 5G compared to the existing 4G or 3G systems, any complications in this area will impact on the smooth deployment of 5G.

Mitigations to Reduce Cost

Considering the massive upfront investment required for 5G, some mitigating methods should be collaboratively supported by different stakeholders:

1. Some level of sharing should be encouraged. While Telcos do practice some form of sharing today, there is a need to assess deeper collaboration methods. Active sharing in the form of MORAN, MOCN, antenna sharing, etc. can be mixed among Telcos. However, all of these methods should be carefully evaluated to ensure no impact on quality.
2. The 5G Task Force urges MCMC to work with both state governments and local councils to ensure that Street Furniture is made available and suitable for Telco use. The necessary specifications such as size, height, etc. should be considered.
3. The 5G Task Force understands that some Street Furniture would require enhancements and thus, require collaborative efforts with Street Furniture providers, equipment vendors and local councils to customise solutions.
4. A concessionary electricity use rate to be applied for Telcos.
5. Public complaints will result in higher costs due to the need to provisions for aesthetic features on these structures.
6. Align with the Regulatory Working Group on changes required such as Low Impact Facilities (LIF), to manage cost increases.

Amendment to Relevant Legislations and Guidelines

Amendments to relevant legislation will be pertinent to the treatment of telecommunications services as public utilities. These amendments should include simplified approval processes to facilitate more efficient rollout.

While **telecommunications services are recognised as public utilities under Section 6 of the Communications and Multimedia Act 1998 (CMA),** *current realities do not reflect this status so further amendments need to be made to related legislations*:

1. Town and Country Planning Act 1976 (TCPA):
   - Amendments to recognise telecommunications as utility and remove the need for planning permissions for Low Impact Network Facilities (LINFs).
   - Require the provision of telecommunications services as part of draft local plans prior to getting approvals for new development.

2. Uniform Building By-Laws 1984 (UBBL): Include provision of cellular network facilities (alongside other recognised utilities like water, electricity) as prerequisite for certificate of completion and compliance for occupation. To be included in Uniform Building by Laws (UBBL) for all states.

3. Street Drainage and Building Act 1974 (SDBA): amendments to recognise telecommunications as a utility and remove the need for planning permissions to build LINFs as needed.

In addition, it will be important to streamline policies concerning infrastructure planning and approval mechanisms with coherent adoption by all government agencies to allow for timely deployment of 5G infrastructure. Key recommendations are set out below:

1. Consideration for Ministry of Housing and Local Government (KPKT)'s Smart Cities guideline to facilitate 5G and infrastructure rollout:
   - Accept and adopt MCMC's Garis Panduan Perancangan Infrastruktur Komunikasi, and Low Impact Network Facilities (LINF) guidelines (as developed) to facilitate the rollout of infrastructure including 5G.
   - Consider amending KPKT's Garis Panduan Pembinaan Menara dan Struktur Pemancar Komunikasi dalam Kawasan Pihak Berkuasa Tempatan (PBT) 2002 to be consistent with the above.

2. Embed new infrastructure standards required for 5G in the relevant guidelines for infrastructure planning and implementation (i.e. Garis Panduan Perancangan Infrastruktur Komunikasi, Garis Panduan Pembinaan Menara dan Struktur Pemancar Komunikasi dalam Kawasan PBT). PBTs shall henceforth be referred to as 'local authorities'.

3. Review KPKT's Garis Panduan (Pindaan) Pembinaan Menara dan Struktur Sistem Pemancar Komunikasi Dalam Kawasan Pihak Berkuasa Tempatan, 2002 to include:
   - Standardised process from application submission to OSA/OSC until decision-making by local authorities.
   - Standardised checklist for application submission to local authorities.
   - Standardised fees to be paid to local authorities.
   - Requirements for other types of structures i.e., local authorities/Temporary Structure, Lamp Pole, Monopole, Monopole Tree, Billboard, Minaret, Pylon, Street Furniture.

4. Operationalisation of Section 215 (1)(b) of CMA98 on LINF:
   - LINF should not require approval of state authorities prior to deployment.
   - MCMC to work with KPKT, local authorities and industry players to develop a guideline specifically for LINF, building on existing documents drafted by MTSFB (INF-R WG), e.g., definitions of LINF (to be updated as and when needed).
   - Network facilities categorised as LINF should be treated differently; not subject to local authorities' permitting.

   Finally, the 5G Task Force is also supportive of NFCP's proposal for a Cabinet decision to implement a moratorium of planning permission in the next 5 years, subject to:
   - Local council blanket approval: Subject to meeting a minimum checklist, and subject to the guidelines being met (including the Garis Panduan Perlaksanaan Infrastruktur Telekomunikasi, yet to be developed LINF and KPKT guidelines once updated).
   - Infrastructure sharing policy (to avoid duplication) to be developed as per Section 4.4.1 of this report.
   - Minimum specifications on infrastructure to facilitate sharing
   - Revision of access instruments (e.g. Access List) to facilitate sharing.

Coordination Body at Federal Government and Local Government

Establishing a Telecommunications Task Force under the Mesyuarat Majlis Negara bagi Kerajaan Tempatan (MNKT), with representation across the relevant ministries, agencies and telecommunication providers will be critical in reducing hindrances to rollout, promote standardisation and streamlining the process at national level. In parallel, close engagements with local governments will be necessary to facilitate timely 5G delivery. The local government may establish a coordination committee comprising senior officials from relevant government departments at federal and state levels as well as private sectors for this purpose too.