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PUBLIC INTEREST COMMENT

THE FCC SHOULD MODERNIZE OVER-THE-AIR-RECEPTION-DEVICE RULES

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Notice of Request for Comments
Agency: Federal Communications Commission
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Thank you for the opportunity to comment on this proceeding. The Fourth Branch project of the Mercatus Center at George Mason University is dedicated to advancing knowledge about the effects of regulation on society, commerce, and innovation. As part of its mission, the project conducts independent legal and economic analyses to assess agency rulemakings and proposals from the perspective of consumers and the public. My comments include the following key points:

1. The Federal Communications Commission (FCC) has authority to regulate small outdoor antenna siting and effect the proposals in the notice of proposed rulemaking.
2. Modernizing the Over-the-Air Reception Devices (OTARD) rules would give regulatory certainty to wireless services that currently fall into a gap in regulatory coverage.
3. The proposed rulemaking would create more siting opportunities for fixed wireless providers, as well as provide some help in 5G deployment.
4. Despite the arguments of some commenters, giving property owners and renters more freedom to install small outdoor antennas on their property would not amount to an unconstitutional per se taking.
5. To allay some commenters' concerns, the FCC should consider a soft cap on the number of small outdoor antennas permitted per housing unit.

1. AUTHORITY FOR FCC REGULATION OF SMALL OUTDOOR ANTENNA SITING

The FCC asks,

> The Commission proposes to rely on the legal authority it relied on originally to extending the OTARD rules to apply to antennas used in connection with fixed wireless services. The

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> Commission notes that it assumed all hub sites were "personal wireless service facilities" covered by section 332(c)(7) of the Act—defined by the Act to include only facilities that provide "telecommunications services"—and therefore beyond the scope of its OTARD provisions. However, this assumption does not currently appear to be accurate. The Commission therefore seeks comment on extending relief to those relay antennas and hub sites that are not "personal wireless service facilities"—i.e., those that fall into the gap between the current OTARD provisions and the protections of section 332(c)(7) of the Act, and those that WISPA [Wireless Internet Service Provider Association] claims are needed for modern high-speed broadband wireless networks. Commenters are invited to identify any other legal authorities that may be relevant.[1]

Although the current title of the rules refers to over-the-air reception devices, the scope of the rules and the FCC's authority cover more than reception devices. The Communications Act gives the FCC authority over "stations,"[2] and the FCC's OTARD rules currently "apply to antennas that transmit and receive signals, only transmit signals, or only receive signals."[3] Over-the-Air-*Reception-Device* rules, then, is a bit of a misnomer. A name change may be in order to better describe the substance of the rules and the extent of FCC authority.[4]

The current OTARD rules for small outdoor antennas like wireless internet service provider (WISP) receivers and satellite TV receivers represent the latest iteration of the FCC's and Congress's decades-long attempt to balance federalism with the federal government's interest in encouraging the deployment of interstate communications services. Senator Barry Goldwater summarized that balancing act in 1985:

> [E]ach State possesses broad authority and responsibility on a wide range of subjects. However, the basic question here is not Federal preemption of local powers. It is whether cities and counties can thwart a clear national policy which has been repeatedly enunciated by the Congress and the FCC to encourage the development of new communications technologies and services in the public interest.[5]

The late senator was referring to the FCC's preemption of unreasonable and discriminatory local restrictions on antennas since at least the 1980s.[6] The FCC took action, for instance, to protect MDS and Satellite Master Antenna (SMATV) systems,[7] then satellite earth stations.[8] The FCC in 1986 preempted the enforcement of "discriminatory, non-justified aesthetic regulation" of satellite transmitting antennas.[9]

The FCC then and now derives its authority to preempt the state and local regulation of antennas here not merely from the "broad mandate" of section 1 of the Communications Act to

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[1] Updating the Commission's Rule for Over-the-Air Reception Devices, 84 Fed. Reg. 18759 (May 2, 2019).
[2] Communications Act, 47 U.S.C. § 303(d) (2018) (providing the FCC authority to "[d]etermine the location of classes of stations or individual stations").
[3] Federal Communications Commission, First Report and Order and Further Notice of Proposed Rulemaking in WT Docket No. 99-217, Fifth Report and Order and Memorandum Opinion and Order in CC Docket No. 96-98, and Fourth Report and Order and Memorandum Opinion and Order in CC Docket No. 88-57 46 (2000).
[4] One option, which will be used in this comment, could be small outdoor antenna rules.
[5] 131 Cong. Rec. 5357 (Jan. 3, 1985) (statement of Sen. Barry Goldwater).
[6] Preemption of Local Zoning or Other Regulation of Receive-Only Satellite Earth Stations, 51 Fed. Reg. 5519 (1986).
[7] *See* Preemption of Local Zoning or Other Regulation of Receive-Only Satellite Earth Stations, 51 Fed. Reg. 5523 (1986).
[8] *See* Federal Communications Commission, Preemption of Local Zoning of Earth Stations, 47 C.F.R. § 25.104 (1986).
[9] Preemption of Local Zoning or Other Regulation of Receive-Only Satellite Earth Stations, 51 Fed. Reg. 5525 (1986).

communications available to all,[10] but from the "numerous powers" granted by title III of the act,[11] namely, the FCC's express statutory authority in section 303 to regulate antenna siting.[12] In section 207 of the Communications Act, Congress instructed the FCC to use its section 303 authority specifically to "prohibit restrictions that impair a viewer's ability to receive" TV programming on satellite TV receivers and other TV reception devices.[13]

Some commenters suggest that the FCC's authority over small outdoor antennas is limited to section 207, which is focused on TV reception devices.[14] The FCC considered and rejected that interpretation more than a decade ago. As the FCC noted in the Massport order regarding congressional intent and the FCC's section 303 authority,

> [T]here is no indication that Congress intended to limit the Commission's discretionary preemptive authority over antenna siting to the strict parameters of Section 207. Congress directed the Commission to promulgate regulations pursuant to Section 303 without limitation. Although the Commission relied upon both Sections 303(r) and 4(i) of the Act as bases for exercise of its ancillary jurisdiction in the *Competitive Networks Report and Order*, Section 303(d) provides the Commission with express statutory authority to regulate antenna siting. Specifically, Section 303(d) states that "the Commission from time to time, as public convenience, interest or necessity requires shall . . . [d]etermine the location of classes of stations or individual stations." The Act defines the terms "radio station" or "station" as "a station equipped to engage in radio communication or radio transmission of energy." "Radio communication" is in turn defined as "the transmission by radio of writing, signs, signals, pictures, and sounds of all kinds, including all instrumentalities, facilities, apparatus, and services (among other things, the receipt, forwarding, and delivery of communications) incidental to such transmission." These broad definitions of radio stations and radio communications encompass the antennas subject to the Commission's OTARD rules, and the Commission's authority to determine the locations of radio stations pursuant to Section 303(d) includes the authority to preempt restrictions that interfere with that authority.[15]

It has been the FCC's interpretation since then that it has express statutory authority to regulate antenna siting, aside from the "personal wireless services facilities" that Congress "preserved" for state and local siting regulation in the 1996 Telecommunications Act,[16] discussed later.

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[10] Communications Act, 47 U.S.C. § 151 (2018).
[11] Preemption of Local Zoning or Other Regulation of Receive-Only Satellite Earth Stations, 51 Fed. Reg. 5522 (1986).
[12] Communications Act, 47 U.S.C. § 303(d) (providing the FCC with authority to "[d]etermine the location of classes of stations or individual stations"). *See* FEDERAL COMMUNICATIONS COMMISSION, IN THE MATTER OF CONTINENTAL AIRLINES PETITION FOR DECLARATORY RULING REGARDING THE OVER-THE-AIR RECEPTION DEVICES (OTARD) RULES, ET DKT. NO. 05-247 16 (2006).
[13] Communications Act, 47 U.S.C. § 303(n) (2018).
[14] *See* NATIONAL ASSOCIATION OF TELECOMMUNICATIONS OFFICERS AND ADVISORS ET AL., COMMENTS OF THE NATIONAL ASSOCIATION OF TELECOMMUNICATIONS OFFICERS AND ADVISORS, THE NATIONAL LEAGUE OF CITIES AND THE NATIONAL ASSOCIATION OF REGIONAL COUNCILS, WT DKT. NO. 19-71 (2019); NATIONAL MULTIFAMILY HOUSING COUNCIL ET AL., JOINT COMMENTS OF THE NATIONAL MULTIFAMILY HOUSING COUNCIL, THE NATIONAL APARTMENT ASSOCIATION, THE BUILDING OWNERS AND MANAGERS ASSOCIATION INTERNATIONAL, THE INSTITUTE OF REAL ESTATE MANAGEMENT, NAREIT, THE NATIONAL ASSOCIATION OF REALTORS, THE NATIONAL REAL ESTATE INVESTORS ASSOCIATION, AND THE REAL ESTATE ROUNDTABLE, WT DKT. NO. 19-71 (2019) ("Section 207 is the outer limit of the Commission's power in this area").
[15] FEDERAL COMMUNICATIONS COMMISSION, IN THE MATTER OF CONTINENTAL AIRLINES PETITION FOR DECLARATORY RULING REGARDING THE OVER-THE-AIR RECEPTION DEVICES (OTARD) RULES, ET DKT. NO. 05-247 16 (2006).
[16] Communications Act, 47 U.S.C. § 332(c)(7).

If, in the alternative, the FCC agrees with commenters that its preemptive authority is limited to section 207—that is, TV reception devices—that means countless devices that are currently serving wireless services to people outside those devices' premises are now subject to state, local, and landlord siting restrictions and fees. A finding that FCC authority here is limited to section 207 means that the US Conference of Mayors et al. are correct that the FCC's distinction between OTARD rules-protected devices that transmit to people outside the premises and unprotected "hubs" is "fictional."[17]

If section 207 is the FCC's limit, Massport is no longer valid. In that case, countless Wi-Fi access points in airports are not the only devices exposed to state, local, and landlord restrictions. For years, providers have installed millions of Wi-Fi access points that—like the Wi-Fi in Massport—"offer routing service to additional users" outside of the premises, such as public Wi-Fi systems and the Xfinity Wi-Fi network.[18] It is becoming more common for residents and public venue owners to install outdoor Wi-Fi antennas,[19] and these also would be subject to state and local siting restrictions if the commenters are correct that section 207 is the limit of the FCC's authority.

2. OTARD MODERNIZATION WOULD PROTECT "GAP SERVICES" THAT ARE CURRENTLY AT A COMPETITIVE DISADVANTAGE

As the FCC indicated in the notice of proposed rulemaking, new wireless services have been developed since the 1996 law. There are now many wireless technologies that are unprotected by the OTARD rules but also are not "personal wireless service facilities."[20] As commenters point out, state and local governments have express authority to regulate the siting of personal wireless service facilities.[21] Each of the personal wireless services is a common carrier service or offers interconnected service.[22] The "gap services," therefore, appear to be data-only wireless services, private mobile services,[23] and wireless internet access services.[24]

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[17] US CONFERENCE OF MAYORS ET AL., COMMENTS OF THE UNITED STATES CONFERENCE OF MAYORS; THE TEXAS COALITION OF CITIES FOR UTILITY ISSUES; THE CITY OF DALLAS, TEXAS; THE CITY OF BOSTON, MASSACHUSETTS; THE CITY OF LOS ANGELES, CALIFORNIA; THE CITY OF FOUNTAIN VALLEY, CALIFORNIA; THE CITY OF PIEDMONT, CALIFORNIA AND MONTGOMERY COUNTY, MARYLAND, WT DKT. 19-71 5 (2019): "In 2004 . . . the Commission again expanded the OTARD Rule to include customer-end equipment that contained the additional capability of routing service to additional users. The Commission sought to create a fictional distinction between customer end antennas as opposed to hub or relay antennas."

[18] Michael Horowitz, *Comcast XFINITY WiFi: Just Say No*, COMPUTERWORLD (June 27, 2014, 10:43 PM), https://www .computerworld.com/article/2476444/mobile-security-comcast-xfinity-wifi-just-say-no.html ("About a year ago, Comcast started modifying the routers of some of their customers to create a quasi-public wireless system. . . .").

[19] *See, e.g.*, Scott D. Thompson & Bree Murphy, *Trends in Outdoor and Public-Venue WiFi Networks*, CABLING INSTALLATION & MAINTENANCE (Feb. 24, 2018), https://www.cablinginstall.com/design-install/cabling-installation/article/16468559/trends-in -outdoor-and-publicvenue-wifi-networks.

[20] Communications Act, 47 U.S.C. § 332(c)(7) (2018).

[21] US CONFERENCE OF MAYORS ET AL., COMMENTS OF THE UNITED STATES CONFERENCE OF MAYORS; THE TEXAS COALITION OF CITIES FOR UTILITY ISSUES; THE CITY OF DALLAS, TEXAS; THE CITY OF BOSTON, MASSACHUSETTS; THE CITY OF LOS ANGELES, CALIFORNIA; THE CITY OF FOUNTAIN VALLEY, CALIFORNIA; THE CITY OF PIEDMONT, CALIFORNIA AND MONTGOMERY COUNTY, MARYLAND, WT DKT. 19-71 (2019).

[22] "[T]he term 'personal wireless services' means commercial mobile services, unlicensed wireless services, and common carrier wireless exchange services." Communications Act, 47 U.S.C. § 332(c)(7) (2018). The latter is clearly a common carrier service. Commercial mobile service requires interconnected service. Communications Act, 47 U.S.C. § 332(d)(1) (2018). Unlicensed wireless service means the offering of telecommunications services. Communications Act, 47 U.S.C. § 332(c)(7)(C)(iii) (2018).

[23] Communications Act, 47 U.S.C. § 332(d)(3) (2018).

[24] One of those services was designated in the Middle Class Tax Relief and Job Creation Act of 2012: "commercial mobile data services." Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112-96, 126 Stat. 156 § 6001(8) (2012). These are mobile data services not interconnected with the public switched network. Federal Communications Commission, Definitions, 47 C.F.R. § 20.3 (2018).

These data-only wireless services, including WISP operators, find themselves in a regulatory no-man's-land when it comes to siting access. If they don't offer telecommunications or interconnected service, which is common, they generally cannot avail themselves of the section 224 utility pole access regime.[25] Further, as Starry points out regarding its local approvals, "internet-only fixed wireless sites" applications seem to be delayed because "they do not definitionally fit within existing local permitting rules that apply to personal wireless service facilities."[26]

These "gap services," such as fixed wireless, are typically low power but require precise placement to cover customers. Permitting delays can be punishing, especially because many WISP operators are small in size. Gaining access to city rights-of-way is a daunting task even for some of the largest companies in the world. As Blair Levin and Larry Downs note, Google Fiber's plans to deploy fiber on rights-of-way successfully "change[d] the nature of relations between infrastructure providers and local authorities" into one of collaboration in much of the country.[27] However, Google Fiber's competitive struggles reveal just how difficult it is to bring wireline high-speed service to communities via the public right-of-way,[28] even with an accommodating municipality and subscription commitments from customers. In 2016, Google Fiber refocused to fixed wireless deployment because it's easier and less expensive to deploy.[29]

When even Google finds right-of-way access and local permitting daunting, the FCC should be looking for all regulatory tools at its disposal to make fixed wireless deployment easier. Extending OTARD-like protections to their hubs and relays would allow faster deployment and would free up local telecommunications permitting resources for large deployments like 5G on city rights-of-way.

3. THE POTENTIAL OF OTARD RULE MODERNIZATION

3.1. OTARD Rule Modernization Would Create More Siting Opportunities for Internet Providers

The FCC asks,

> To what extent would extending the rule create more siting opportunities for fixed wireless service providers?[30]

There doesn't seem to be research on how much the current OTARD rules help improve expansion of satellite TV and fixed wireless. At the market level, the OTARD rules coincide with an unprecedented increase in pay-TV competition, as millions of OTARD rules-protected satellite dishes were installed on homes around the country. In 1996, when section 207 was passed, satellite

[25] Communications Act, 47 U.S.C. § 224 (2018).
[26] STARRY, INC., COMMENTS OF STARRY, INC., WT 19-71 (2019).
[27] Blair Levin & Larry Downes, *Why Google Fiber is High-Speed Internet's Most Successful Failure*, HARVARD BUSINESS REVIEW (Sept. 7, 2018), https://hbr.org/2018/09/why-google-fiber-is-high-speed-internets-most-successful-failure.
[28] Alexei Oreskovic, *Google Fiber's CEO Is Stepping Down and the Company Is Halting Plans to Offer Service in Several Cities*, BUSINESS INSIDER (Oct. 25, 2016), https://www.businessinsider.com/google-fibers-ceo-is-stepping-down-and-the-company-is-halting-plans-to-offer-service-in-several-cities-2016-10.
[29] Business Insider reported at the time, "According to the person familiar with the matter, the Access group is halting Fiber rollout plans in the new cities because it has decided to refocus the service on wireless, which is ultimately a much faster way to roll out internet service across cities." Oreskovic, *supra* note 28.
[30] Updating the Commission's Rule for Over-the-Air Reception Devices, 84 Fed. Reg. 18757 (May 2, 2019).

TV companies had around only 5.1 million subscribers.[31] Cable TV was dominant and had about 87 percent of the market.[32] Satellite TV market share shot up quickly to over 20 million subscribers by 2003, eating away at cable's market share, which fell to around 70 percent.[33]

Once the FCC created the OTARD rules, many landlords, homeowners' associations, and cities stopped enforcing their restrictions on the installation of small outdoor antennas. That makes it hard to estimate the but-for effect on TV competition. What can't be denied is that the OTARD rules have been cited by tenants and homeowners to ward off unreasonable fees and restrictions on satellite dish and fixed wireless installations. For instance, a few years ago a woman in the Charlottesville, Virginia, area switched from cable to less expensive satellite TV service in order to save money after being laid off.[34] She had a satellite dish installed in her front yard—the only place the dish could receive an adequate signal.[35] A city zoning official sent her and about 30 neighbors letters informing them that their (OTARD rules-covered) satellite dishes were, per local ordinance, unpermitted accessory structures.[36] Any homeowners who did not remove their dish faced fines of $250 per day.[37]

Fortunately for the homeowners, the woman was familiar with the OTARD rules and informed the local officials of the FCC's authority.[38] After being informed of the FCC's OTARD regulations, the city officials declined to enforce the local ordinance and agreed to revisit the ordinance for compliance with FCC rules.[39] There are doubtless many more unreported examples of cities, landlords, and HOAs with knowledge of the FCC rules simply choosing to not to enforce a potentially noncompliant ordinance or restriction against a homeowner or tenant.

The National Association of Telecommunications Officers and Advisors et al. say that "rural communities . . . are particularly welcoming to WISPs."[40] That's sometimes the case, but as the record makes clear, many WISPs do not find welcoming city officials and HOAs. Fixed wireless systems require precise placement and special infrastructure. Most WISPs are small operations, and a significant delay in processing a permit or a surprise fee can derail a project.

Most fixed wireless operators are small businesses, serving on average about 1,200 customers.[41] As carriers have recognized about current fixed wireless deployments, fixed wireless connectivity can vary widely even between homes in close proximity.[42] Several small operators

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[31] Federal Communications Commission, In the Matter of Annual Assessment of the Status of Competition in the Markets for the Delivery of Video Programming, CS Dkt. No. 97-141 37 (1998) (reporting direct broadcast system subscribership in 1997).
[32] *Id.*
[33] *See* Federal Communications Commission, In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, MB Dkt. No. 03-172 (2003).
[34] David McNair, *Satellite Situation: City Targeted Dishes, Dish Owners Fire Back*, The Hook (Mar. 8, 2010), http://www.readthehook.com/68421/satellite-situation-city-targeted-dishes-dish-owners-fire-back.
[35] *Id.*
[36] *Id.*
[37] Total fines, under the ordinance, were capped at $5,000. *See id.*
[38] McNair, *supra* note 34.
[39] *Id.*
[40] National Association of Telecommunications Officers and Advisors et al., Comments of the National Association of Telecommunications Officers and Advisors, The National League of Cities and the National Association of Regional Councils, WT Dkt. No. 19-71 (2019).
[41] Wireless Internet Service Providers Association, Ready for Takeoff: Broadband Wireless Access Providers Prepare to Soar with Fixed Wireless 6 (2017).
[42] Linda Hardesty, *CenturyLink Counts 28 Towers on Its Road Map for Fixed Wireless*, FierceTelecom (May 9, 2019), https://www.fiercetelecom.com/telecom/centurylink-counts-28-towers-its-roadmap-for-fixed-wireless ("[Fixed wireless

commented in this proceeding and stated that the proposed modernization of the rules would give them more siting options and an easier deployment process. Commenter Matthew Jorgensen, a WISP operator offering services in southern Michigan and northern Indiana, notes that local authorities limit cell towers and other vertical infrastructure that "prevents my company from being able to service" prospective customers and leaves them with few or no broadband options.[43] Modernizing the rules to protect hubs and relays, he notes, "could make the difference in allowing me to service these customers."[44] Commenter New Wave Net, a WISP serving rural households in central Illinois, notes that high tower permit fees often "[exceed] the cost of the small towers."[45] MJM Telecom, a WISP operator in California, says that it's "turned down thousands of potential customers" because of the inability to install small hub sites.[46]

3.2 OTARD Rule Modernization Would Help Spur 5G Deployment

The FCC asks,

> [T]he Commission seeks comment on whether updating the OTARD rule could help facilitate the deployment of other 5G infrastructure, such as small wireless facilities.[47]

The proposed updates would help the deployment of 5G infrastructure. Negotiating with commercial and private landowners is a time-consuming process, and master agreements for deploying on poles and on the public right-of-way will remain the priority for 5G operators.[48] However, modernization could help 5G deployment in a few respects.

First, even if 5G antennas aren't widely deployed on private property, the rules change would put pricing pressure on cities and pole owners. If negotiations with a city or pole owner are slow or the lease conditions are onerous, a 5G operator can credibly threaten to find alternative sites on an interim basis on property outside of the public right-of-way and on multiple properties throughout a city or suburb.

Second, a rules update would increase the number of 5G sites. This may help particularly in rural areas, because an update would make backhaul easier. Mobile carriers rely on wireless backhaul in rural areas and increasingly for their small cell deployments. Sprint, for instance, estimates that about 85 percent of its outdoor small cells use wireless backhaul.[49]

Urban areas as well would benefit from more 5G siting locations. 5G networks using millimeter wave spectrum require a large number of base stations. Many cities in Japan have seemingly run out of useful 5G sites using rooftop sites. As the Japanese experience shows, the

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coverage is] inconsistent performance at best. You can have a set of homes in line with one getting 80 [Mbps] and the home behind getting 1 [Mbps].") (quoting CenturyLink CTO).

[43] Matthew Jorgensen, Comment, JF Wireless LLC (May 15, 2019), https://www.fcc.gov/ecfs/filing/1051587647823.

[44] *Id.*

[45] New Wave Net, Comment, New Wave Net (June 3, 2019), https://ecfsapi.fcc.gov/file/10603198400670/NWNC-FCC-19-17Filing.txt.

[46] MJM Telecom, Comment, MJM Telecom (June 3, 2019), https://www.fcc.gov/ecfs/filing/10603388717412.

[47] Updating the Commission's Rule for Over-the-Air Reception Devices, 84 Fed. Reg. 18757 (May 2, 2019).

[48] *See, e.g.*, Mike Dano, *Inside the 5G Small Cell Opportunity: Big & Messy*, LIGHT READING, May 13, 2019, https://www.lightreading.com/mobile/small-cells/inside-the-5g-small-cell-opportunity-big-and-messy/d/d-id/751403 ("Moreover, it's easier for carriers to ink one big small cell deal with a city government rather than trying to negotiate individual deals with dozens or hundreds of building owners in a given city").

[49] *See* Mike Dano, *Can 5G Backhaul Itself?*, LIGHT READING (Feb. 7, 2019), https://www.lightreading.com/mobile/5g/can-5g-backhaul-itself/d/d-id/749315.

siting opportunities even in urban areas can be limited for short-range 5G transmitters. The proposed reforms would open up a substantial number of possible sites in urban areas.[50]

4. THE PROPOSED ACTION IS NOT A PER SE TAKING

The National Multifamily Housing Council (NMHC) et al. claims that "under the Supreme Court's decision in *Loretto v. Manhattan Teleprompter CATV*, any attempt to extend the OTARD Rule to grant providers the right to install or operate equipment in premises leased to a third party would constitute a 'per se' taking."[51] Other commenters similarly cite the *Loretto* case.[52]

These commenters misread the *Loretto* case, which had very different facts. In *Loretto*, a New York state law disallowed a new building owner from removing cables and "taps" from the exterior of the owner's building.[53] The Supreme Court struck down that law as an unconstitutional taking because the law "authorize[d] the permanent occupation of the landlord's property by a third party."[54] The current and proposed OTARD rules do not authorize a permanent physical occupation by a third party. The Tenth Circuit explained the difference in *BOMA*, which upheld the previous amendment to the OTARD rules and rejected petitioners' arguments that the OTARD rules constitute a per se taking.[55]

NMHC et al. says that protecting hubs means "the Commission will have moved past the boundary set by *BOMA v. FCC* and stepped into *Loretto* [*per se* takings] territory."[56] Again, this is a misreading of the case law. The *BOMA* case did not turn on whether the antennas were customer end, as NMHC et al. contends it did.[57] BOMA turned on whether the regulation authorized a permanent physical occupation by a third party.[58] As the court said, "A key factor that places the amended OTARD rule outside the scope of *Loretto*: consent to the occupation of the property":

> Unlike the building owner in *Loretto*, whose premises were occupied [by the cable operator] without her consent, the landlord subject to the amended OTARD rule has ceded control of his or her property to a tenant with whom the landlord has a contractual relationship.[59]

Once the landlord has ceded possession of property to a tenant exclusively, the landlord can't claw back that exclusive possessory interest when the tenant wishes to install, or have installed, a

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[50] Rintaro Tobita, *Japan to Greenlight 5G Base Stations on 200,000 Traffic Signals*, NIKKEI ASIAN REVIEW (June 3, 2019), https://asia.nikkei.com/Spotlight/5G-networks/Japan-to-greenlight-5G-base-stations-on-200-000-traffic-signals.
[51] NATIONAL MULTIFAMILY HOUSING COUNCIL ET AL., JOINT COMMENTS OF THE NATIONAL MULTIFAMILY HOUSING COUNCIL, THE NATIONAL APARTMENT ASSOCIATION, THE BUILDING OWNERS AND MANAGERS ASSOCIATION INTERNATIONAL, THE INSTITUTE OF REAL ESTATE MANAGEMENT, NAREIT, THE NATIONAL ASSOCIATION OF REALTORS, THE NATIONAL REAL ESTATE INVESTORS ASSOCIATION, AND THE REAL ESTATE ROUNDTABLE, WT DKT. NO. 19-71 (2019).
[52] *Id.*
[53] *See* Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 421–24 (1982).
[54] *Id.* at 440.
[55] Building Owners and Managers Association v. FCC, 254 F.3d 89, 97 (2001).
[56] NATIONAL MULTIFAMILY HOUSING COUNCIL ET AL., JOINT COMMENTS OF THE NATIONAL MULTIFAMILY HOUSING COUNCIL, THE NATIONAL APARTMENT ASSOCIATION, THE BUILDING OWNERS AND MANAGERS ASSOCIATION INTERNATIONAL, THE INSTITUTE OF REAL ESTATE MANAGEMENT, NAREIT, THE NATIONAL ASSOCIATION OF REALTORS, THE NATIONAL REAL ESTATE INVESTORS ASSOCIATION, AND THE REAL ESTATE ROUNDTABLE, WT DKT. NO. 19-71 (2019).
[57] *Id.* (opining that allowing tenants to install hubs presents Fifth Amendment issues "because the antennas to be installed would not be 'customer-end' equipment").
[58] Building Owners and Managers Association v. FCC, 254 F.3d 89, 97 (2001).
[59] *Id.*

small, outdoor antenna.[60] Nowhere does "customer-end" factor into the *BOMA* Court's Fifth Amendment analysis.

CAI cites *Florida Power Corp.* for the notion that FCC protection of hubs would amount to a per se taking.[61] However, the *BOMA* court cited *Florida Power Corp.* for the opposite conclusion—the OTARD rules are not a "forced entry policy" and are clearly distinguishable from the per se taking in *Loretto*.[62]

5. THE FCC SHOULD CONSIDER LIMITS ON THE NUMBER OF PROTECTED DEVICES PER HOUSING UNIT

Some parties raise the possibility that expanding the OTARD rules protection to small outdoor antennas means "a property owner or tenant could affix an unlimited number of antennas anywhere on the property."[63] A large number of small outdoor antennas on a property is likely to remain rare because few neighborhoods could provide the economic base to support several wireless broadband operators. Further, most homeowners are likely uninterested in having a transmitter installed on their property. And many of the properties of those who are interested are simply not well placed to provide wireless services to neighbors owing to lack of backhaul or foliage, rooftops, and other obstructions. It's also difficult to imagine fixed wireless providers being interested in installing hubs on rental properties, which face high turnover of residents.[64]

Nevertheless, to allay concerns that a few homeowners will abuse the purpose of the rules, a per-housing unit cap or numerical safe harbor on small outdoor antennas may be appropriate. Driving around any rural area or urban neighborhood, one is likely to see a few houses with two or three OTARDs attached (often two satellite dishes and a broadcast TV receiver). A safe harbor of four or five small outdoor antennas per housing unit seems reasonable. A soft cap would continue to protect nearly all OTARDs installed today and allow households to have multiple small outdoor antennas providing different functionality—say, the satellite TV receiver for the living room, an outdoor Wi-Fi access point, the broadcast TV receiver for the den, and a WISP hub for neighbors' internet access.

CONCLUSION

Technology changes since the 1996 Telecommunications Act have made it so that many internet-only wireless services—including WISP service, outdoor Wi-Fi, mesh networks, and wireless backhaul—fall into a regulatory gap at a time when consumers are demanding more services. The FCC has authority to bring some regulatory certainty to those services so that operators and property owners can install small outdoor antennas. The OTARD rules have helped tens of millions

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[60] *Id.* at 98. "As with the pole rentals in *Florida Power*, the landlord affected by the amended OTARD rule will have voluntarily ceded control of an interest in his or her property to a tenant. Having ceded such possession of the property, a landlord thereby submits to the Commission's rightful regulation of a term of that occupation."

[61] COMMUNITY ASSOCIATIONS INSTITUTE, COMMENTS OF THE COMMUNITY ASSOCIATIONS INSTITUTE, WT DKT. NO. 19-71 (2019).

[62] Building Owners and Managers Association v. FCC, 254 F.3d 89, 98 (2001): "As with the pole rentals in *Florida Power*, the landlord affected by the amended OTARD rule will have voluntarily ceded control of an interest in his or her property to a tenant. Having ceded such possession of the property, a landlord thereby submits to the Commission's rightful regulation of a term of that occupation."

[63] NATIONAL ASSOCIATION OF TELECOMMUNICATIONS OFFICERS AND ADVISORS ET AL., *supra* note 40.

[64] Rental unit turnover rates exceed 45 percent annually. NATIONAL APARTMENT ASSOCIATION, 2018 NAA SURVEY OF OPERATING INCOME & EXPENSES IN RENTAL APARTMENT COMMUNITIES (2018) (recording that rental unit turnover was 46.8 percent in 2017).

of Americans self-provide and install satellite dishes and fixed wireless receivers on their property. As commenters have pointed out, protecting small outdoor antennas from unreasonable restrictions and fees would help WISP operators bring service to high-cost areas and would help 5G operators find suitable siting during impasses over right-of-way access. If the satellite deployment after the creation of the OTARD rules is any indication, taking the proposed actions would massively expand the number of siting options for small outdoor antennas and help extend broadband options to millions of customers.