



DEPARTMENT OF COMMUNITY DEVELOPMENT SERVICES

Planning Division

m e m o r a n d u m

TO: The Urbana Plan Commission

FROM: Lorrie Pearson, AICP, Planning Manager

DATE: December 30, 2016

SUBJECT: Proposed revisions to Right-of-Way Ordinance regarding telecommunication facilities

At the January 5, 2017, Plan Commission meeting, staff will outline proposed revisions to Chapter 20 of the City Code to address telecommunication facilities in the right-of-way. Those proposed revisions are tentatively scheduled to be heard by the Committee of the Whole at its January 9, 2017, meeting.

The attached Zoning Practice is provided as background information to briefly summarize the issues on a national level. The document includes a discussion on the applicable laws and various approaches to address this burgeoning market.

Attachment:

“Practice Wireless Facility Siting,” **Zoning Practice**. Issue No. 11, November 2016.

ZONING PRACTICE

NOVEMBER 2016

AMERICAN PLANNING ASSOCIATION



➔ ISSUE NUMBER 11

PRACTICE WIRELESS FACILITY SITING



Regulating Wireless Facilities in Public Rights-of-Way

By L.S. (Rusty) Monroe and Jackie Hicks

Communities nationwide are being faced with a new wireless facility siting issue: applicants claiming the need and right to locate new tall communications support structures, and related equipment, in public rights-of-way.

When first discussing the issue of new wireless facilities in the public right-of-way (PROW), all too frequently we hear comments such as these from local officials and staff:

- “We were told that most of this issue was preempted and that we had little to say about it anymore.”
- “With all the changes in the law and technology, we don’t even know what choices of policies we have.”
- “We just took the company’s word with respect to our rights.”
- “How are we expected to deal with the number of applications the Federal Communications Commission (FCC) and other experts say to expect?”

It’s disheartening to hear such comments and to hear the frustration in their voices. This article is intended to end that frustration and enable local officials to better understand the issue in context, appreciate the significant regulatory rights communities still have in most states, and make informed decisions related to the issue of siting wireless facilities in the PROW.

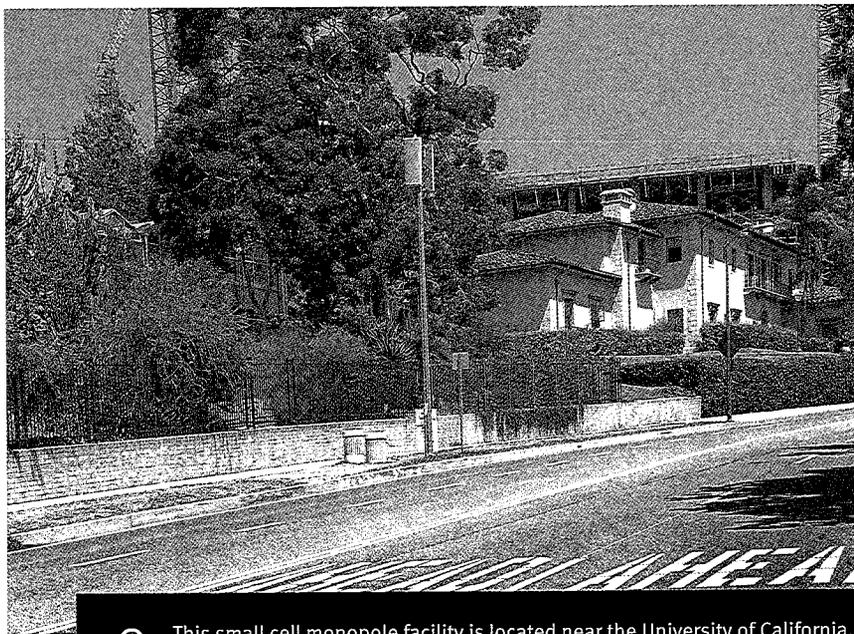
Understanding the Matter in Context

Wireless carriers face a demand by the consuming public for ever-increasing capacity, speed, and reliability. This multifaceted demand is rooted in the seemingly endless number of new wireless services being offered, coupled with the new myriad uses of

the Internet—many of which seemed like mere pipe dreams less than a decade ago. Because of this, carriers are reducing the traffic on each original high-power macrocell site by building a number of smaller sites, each serving only a portion of the original area and thus reducing the amount of traffic on any given site. This shift to smaller sites, coupled with the shorter transmission and receive distances involved, is intended to result in the increased capacity, speed, and reliability the public demands. As a consequence, communities will be faced with the challenge of finding ways to accommodate the number of new facilities needed to meet the public’s demand without upsetting a large segment of the same public by allowing structures that change neighborhood character, negatively impact property values, or present a threat to public safety. It’s a classic NIMBY (not-in-my-backyard) situation.

What’s Coming?

The wireless industry has (finally) acknowledged that the number of new sites it needs over the next several years is a magnitude greater than currently exists. Currently there are slightly more than 300,000 wireless facilities nationally. However, going forward (make sure you’re sitting down) *each carrier* is going to need—at a minimum—a site to serve no more than 50 to 75 of its customers. (You can do the arithmetic for your community.) In some communities it may be twice as many sites as that, depending upon the number of living units and the demand in a particular area of the community. Of course, in densely populated areas containing large apartment or condominium complexes, the density of sites will be significantly greater, as many complexes will need multiple sites to serve that complex.



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This small cell monopole facility is located near the University of California, Los Angeles; the base station equipment is located underground.

The need for the number of new sites is because of the (exponentially) ever-increasing demand for bandwidth, the very limited range of the newly available higher frequencies, the emergence of the Internet of Things (IoT), and the desire to use the most economical means of “backhauling” the signal to the local or network switch. Experts estimate the demand for bandwidth may be as much as 1,000 times the bandwidth used three years ago. Meanwhile, the higher the frequency of the transmission, the less robust the signal, meaning higher frequency signals have a maximum usable range that is significantly less than has historically been the case. Most experts agree that the amount of traffic on the IoT— the demand created by Internet-enabled appliances, vehicles, buildings, and other objects—is expected to exceed that of the entire Internet today. Combined, this situation is creating a sea change, both for the industry and for those charged with regulating wireless facilities.

The area served by a typical macrocell site today covers an area of about one mile radius or two miles in diameter. Going forward, this same service area could require a half-dozen or more sites (for each carrier), with each site covering a few hundred yards in each direction. In most instances this will be done using distributed antenna system (DAS) or “small cell” technologies. DAS is a system that accommodates multiple carriers using a single smaller and lower powered antenna and a single central base station, with all antenna sites (nodes) connected via optical fiber cables, thus creating a (local or regional) network. Small cell is another newer technology employing smaller, lower-powered antennas serving a single carrier, and the sites are not connected via fiber.

In most communities, these new sites will need to be located in all zoning designations, and frequently the request will be to locate in the PROW, often attaching to existing utility poles, light standards, signs, and similar structures.

A New Type of Player

In virtually every state across the nation there is a new type of player who wants to place support structures (monopoles) ranging in height from 60 to 180 feet in the PROW. The primary purpose of these installations is to provide backhaul service to carriers. “Backhaul” refers to the links between cell sites, controllers, and switches. Generally, the traffic



➡ DAS nodes are mounted on many existing light standards in and near Chicago's Loop.

David Morley

arriving at a cell site is backhauled to a central location, which is the local switch or the operator's mobile switch. This new player typically wants to use microwave transmissions to provide this function, but microwave is not the only option. In many instances it's simply the least costly and can often allow the wireless signals of multiple carriers to be aggregated.

The companies who want to install these taller support structures may claim to have all the rights of a regulated utility. In fact, many communities have received a letter from one of these companies that makes certain assertions regarding who they are, what they do, and what rights they have, as well as implicitly what rights communities do not have with respect to the siting of their facilities. Based on

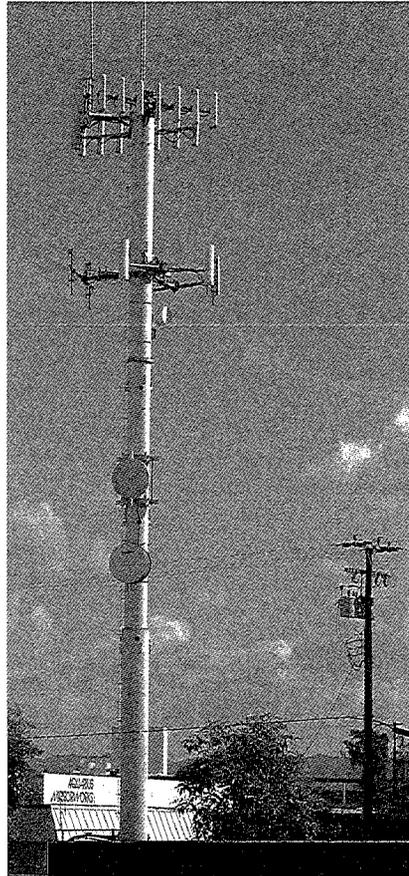
the letters and proposals to communities we have seen (coast to coast), and those we have dealt with in the context of applications, the visual and physical impact of such facilities can be significant. However, in most cases, most of the negative effects can be prevented and still allow for a win-win situation.

It's important to understand that these entities are *not* wireless carriers, and without a specifically identified carrier as a joint applicant, they have no standing (i.e., benefits) under federal law or FCC rules. They're tower/wireless support structure companies. The problem is that they often claim that they are exempt from local zoning, land-use, or similar regulations, simply because they have a “Certificate of Necessity and Convenience” (or

the functional equivalent) from the applicable state's utility regulatory agency. This assertion is not factually correct and in most states is an example of putting a self-serving "spin" on the law.

These companies are not utilities in the traditional sense. They do not provide a retail service to the consuming public as do utilities, and their operations, rates, rate-of-return on invested capital, and customer service standards are not regulated by the state's utility regulatory agency, as is the case with utilities. We have spoken with several state utility regulatory agencies, and not one could explain how or in what manner these new players were regulated by the agency. They are simply the holder of a certificate that effectively gives them the right to locate in the PROW (if permitted under local law and regulation), and in a few states (e.g., New York) enables them to be subject to somewhat less stringent zoning variance or waiver standards. However, they are still subject to local regulations, including but not limited to zoning, construction, land-use, and safety regulations (FCC 14-153§(A) (249,259)&(B)(3)). In no state that we know of does the certificate they hold exempt them from properly adopted local regulations dealing with the location, size/height, aesthetics/appearance, physical design, construction, safety, and maintenance of the facility.

Contrary to what many local officials and staff have been [mis]led to believe, under current federal law and FCC rules, local governments still retain most of their regulatory authority over these issues, including compliance with operational safety regulations. These include compliance with FCC limits on human exposure to radio frequency fields (as explained in the Office of Engineering and Technology's Bulletin 65) and TIA 222, the Telecommunications Industry Association's tower safety standards addressing the design and the ongoing physical state or condition of a tower and the equipment attached to it. Compliance with TIA 222, or in a few states' the functional equivalent, is the elephant in the room that few applicants are addressing. In handling hundreds of applications for modifications or colocations for communities in just the last 24 months, we've found it to be the exception rather than the rule when a wireless facility passes a TIA 222 safety inspection (done by a third party). It's largely a matter of *how* that authority is implemented and administered, rather than the existence



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⊙ This facility uses microwave antennas to provide backhaul to the mobile telephone switching office.

of the authority itself. The authority exists, but as with all things it must be implemented and administered in accordance with the law.

Backhauling Options

While the new player's business model involves erecting tall monopoles in the PROW to enable carriers to use microwave to backhaul the signal to the switch, microwaving is not a technical necessity, but rather a means of backhauling the signal. The alternative is fiber. Consequently, a community that prohibits new, separate wireless communications support structures in the PROW taller than the existing poles or light standards should not run afoul of the federal prohibition against communities acting in a manner that has the effect of "prohibiting" the provision of service.

A New Type of Support Structure

There has been a new development in support

structures specifically for use in the PROW. These new structures allow accommodation of multiple carriers, with all antennas housed internally, and they do not exceed the height of the adjacent utility or light poles. They can function as a utility pole for incumbent utilities and others, such as a fiber transport company, and can also be designed as a light pole, or both. However, before local governments can effectively promote these structures as alternatives to tall monopoles, the owner(s) of the existing utility or light poles must be on board with the concept, and there must be someone on staff, or available to staff, who truly knows the applicable laws that allow local governments to achieve their goals. That person also needs to know and understand the new technology and its true siting needs, as opposed to the merely asserted need. Then the two areas of knowledge can be "married" to create a win-win regulatory situation.

SECTION 6409(A) AND FCC RULEMAKING 14-153

In addition to the 1996 Telecommunications Act, the federal legislation and FCC rules that are most directly applicable to the deployment of new facilities and the modification of existing facilities today are Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, the FCC Declaratory Ruling 09-99, and the FCC Report and Order 14-153 (clarifying 6409(a) and Declaratory Ruling 09-99).

Under Section 6409(a), state and local governments must approve "eligible facility" requests to modify existing towers or base stations. There have been numerous articles that discuss in detail the specifics of what constitutes an eligible facility, so that is not addressed here. Notably, Section 6409(a) applies only to state and local governments acting in their role as land-use regulators, and does not apply to them acting in their proprietary capacities (i.e., as the owners of public property, including the PROW vis-à-vis franchise or encroachment agreements). These remain contractual in nature and are not encumbered by the new regulations.

What's Preempted Under 6409(a) and 14-153?

The FCC Report and Order 14-153 expressly protect and reconfirm local authority to enforce and condition approval on compliance with generally applicable building, structural, electrical, and safety codes and with other

laws codifying objective standards reasonably related to health and safety, including local zoning and wireless siting, design, and construction regulations. However, 6409(a) and 14-153 do preempt the following:

- The definitions of what constitute an “eligible facility” and a “substantial modification” of a facility, both inside the PROW and outside the PROW.
- The maximum time allowed for determination of completeness/incompleteness and action on an application (i.e., the “Shot Clock” requirement). The allowed time periods are 60 days for an eligible facility and 150 days for a substantial modification or for a new support structure/tower (unless a longer period of time is mutually agreeable).
- Certain National Environmental Policy Act requirements, under certain conditions, for an eligible facility application.
- Proof of technical need for eligible facilities.

Conditions for Eligible Facilities Permits

Given that a community must permit an eligible facility application, and may *not* deny it, a key issue is that of being able to attach conditions. We are not aware of any FCC rule or case law that prohibits attaching conditions to a wireless facility permit, including eligible facility applications. However, for an eligible facility application on an existing structure, the law does prohibit attaching any condition(s) in excess of or more stringent than are needed to assure compliance with the permit issued for the original facility.

HANDLING TODAY’S SITUATION

The current situation, as it has developed, is a game changer for planners and local officials. Regrettably, in our experience many, if not most, municipalities are unprepared for what will be the large number of applications, often submitted simultaneously, for small cell sites, DAS nodes, and microwave backhaul installations, especially in public rights-of-way. We have seen communities as small as 1,500 residential units have as many as a half-dozen applications filed simultaneously by a single carrier. In other larger communities as many as 20 applications, or notices of intent for as many, if not more applications, have been filed simultaneously by a single applicant. Both of these situations place an unreason-

able burden on staff and, because of the Shot Clock requirement, often force them to place these applications ahead of other types of applications awaiting action. Staff is often forced to “rubber-stamp” the applications (as submitted), rather than having the time to review the applications in the detail needed, and intended, by both Congress and the FCC.

Because the requests to place new (tall) wireless facilities in the PROW is new territory for many municipalities, we recommend that they immediately start thinking carefully about the end result(s) they want to achieve. This includes what they want to prevent, what they want to encourage, and what they want to assure happens, as well as the policies needed to achieve those results. As examples, does the community want to regulate any of the following vis-à-vis the PROW?

- The maximum allowable height of facilities in the PROW
- The minimum separation distances between wireless facilities
- The location vis-à-vis the PROW in front of residences
- Appearance/aesthetics (e.g., camouflaging to minimize the impact on the nature and character of the area)
- Setback distances
- Placement and appearance of ancillary equipment (e.g., equipment enclosures)
- The amount of rent charged for the private, commercial use of the PROW

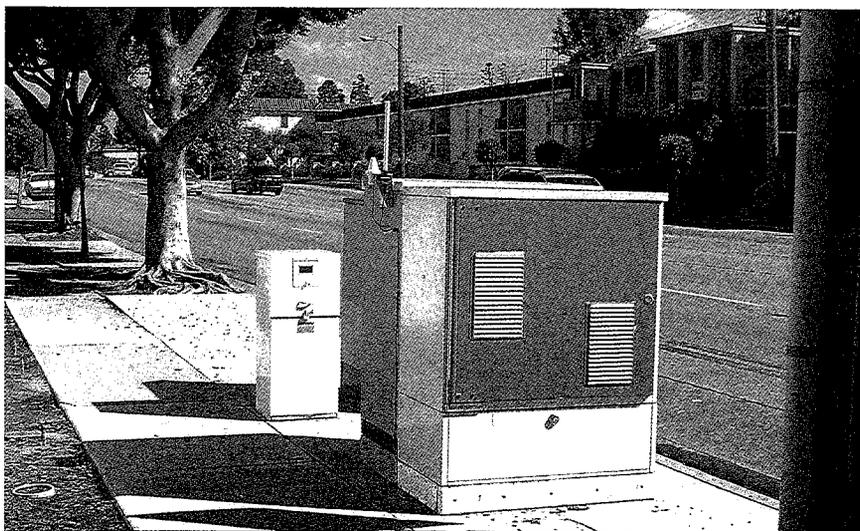
Since these facilities will likely be needed throughout most communities, and are often attempted to be placed directly in front of residences and in sensitive historic preservation and view shed areas, planners and local officials should be very careful in making the necessary new policy decisions regarding placement, size, and appearance vis-à-vis the PROW. In doing so, it is *critical* to keep in mind the law of unintended or unforeseen consequences. Knowledge of the industry, and especially what it considers its confidential and proprietary plans and goals, is the key to preventing this! To attempt to do this without an intimate knowledge of the industry can be dangerous and can have both short- and long-term undesired consequences.

RECOMMENDATIONS

The following recommendations for consideration by planners and local officials are based upon what have been unchallenged policies and practices to date.

Priority of Types of Permits

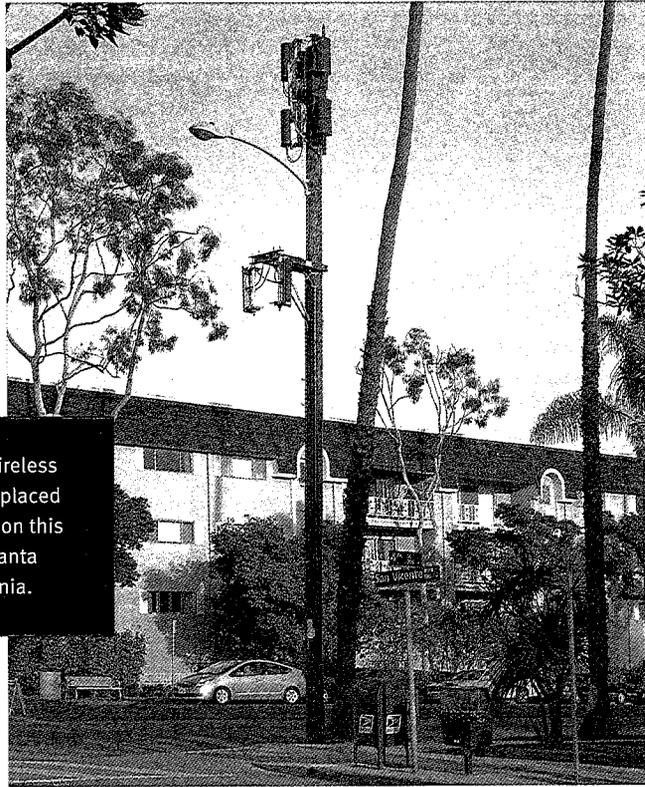
Make sure the community’s wireless facility regulations expressly state that even though a new structure may be proposed to go in the PROW, and notwithstanding anything else to the contrary, such a new structure, regardless of its location, height, or appearance, should be defined as first, foremost, and always a (wireless) communications tower or facility that is subject to the local wireless facility



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➔ These wireless communications equipment cabinets are located in the public right-of-way between the curb and the sidewalk.

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➔ Two different wireless providers have placed antenna arrays on this utility pole in Santa Monica, California.

regulations. Any other permitting regulations should be secondary to this and should require a zoning or land-use permit under the local wireless facility regulations before obtaining any other permit.

Maximum Permitted Height

We recommend that communities establish a maximum permitted height for wireless facilities in the PROW. Communities may want to consider different height limits for different zoning districts, or different geographic parts of the community regardless of the zoning district.

For taller facilities proposed in less restrictively zoned districts (such as industrial or commercial districts), but near more restrictively zoned districts (such as residential districts), there is an easy way to mitigate the impact and possibly prevent a good deal of political dissatisfaction from the public.

A community may want to require that, within a given distance of the boundary of an adjacent zoning district that is more restrictive (e.g., within 1,000 feet of an R-1 zoning district), the height limit is the same as the more restrictive district. Otherwise, residents living on or near the district border will likely have to live with the effects of a facility only a short

distance from their home that would not otherwise be allowed in the residential district.

Communities can also stipulate that the maximum permitted height in the PROW (or within reasonable proximity to the PROW) may be no taller than the existing, immediately adjacent utility poles or light standards. This is not an unreasonable limit, since the vast majority of the new wireless facilities going in the PROW are for capacity and are not primarily to increase coverage. They are intended to serve only a portion of the area currently served, and thus increased coverage is not normally an issue, other than to improve service to residents in some small areas on the border of the current service area. The goal is to have no service borders.

Since they're generally going to be serving only a portion of the area currently served, these sites seldom need to be taller than the existing adjacent utility poles. Providers may need to construct two shorter facilities, rather than a single taller facility or one shorter facility in combination with a collocation on an existing structure, but most communities would prefer either of these situations to a single tall facility (that's really not needed technically).

Federal law does not require a community to grant a permit for a single facility if two

or more smaller/shorter facilities can achieve substantially the same result, or better; nor does it require a community to take into account the capital cost to a carrier to achieve what it desires while complying with land-use and zoning regulations. Those costs are capitalized under an accelerated depreciation schedule.

Minimizing Visual Impact in the PROW

To minimize the visual impact and control the appearance of a specific facility in the PROW, communities might want to consider requiring, as the number one siting priority, that any proposed (new) array of antennas be mounted on a structure that enables the antennas to be placed *inside* a new pole, unless the applicant can prove (by clear and convincing technical evidence) that doing so would serve to "prohibit" the provision of service to at least a substantial portion of the area intended to be served by the new facility (47 U.S.C. §332(c)(7,B,II)). This is a very high bar that Congress intentionally set, and in most instances involving the PROW is extremely difficult to prove technically, if one knows and understands the technical intricacies and nuances involved.

Another slightly different approach would be to prohibit any new antenna array from being visibly identifiable as such to the average person—different wording, but the same effect.

Rather than just accepting another ugly new array of antennas attached to an existing utility pole or light standard, and notwithstanding 6409(a), some communities require that, instead of just collocating on an existing utility or light pole with the antennas mounted on the outside around the pole, an applicant must arrange to have the pole replaced with one that houses the antenna(s) inside. They may still locate in the PROW, but they must do it in accordance with this "stealth" or "camouflaging" policy in the community's wireless facility siting regulations.

Revenue and Rent

For reasons of generating revenue, a community may prefer new wireless facilities to be located in the PROW as the number one siting priority. The rent for the commercial use of the PROW can be deemed an encroachment fee, a franchise fee, or any functional equivalent. In most states this can be accomplished easily in the local regulations. This rent can be significantly more than many communities realize they can demand, and regrettably, all too

many undervalue this asset or are convinced that charging less will gain them something or prevent some negative effect.

In more than four decades assisting hundreds of communities, we do not recall a single instance when a community gained something significant or prevented something negative by charging a low rent. Rent for the private commercial use of the PROW should be a set amount, which could be dependent upon location. On a related note, pay close attention to the entire proposed lease agreement. A number of issues may be buried there to avoid scrutiny, and seldom is the language in the lessor's favor.

One example of this is the industry preference to slip in what seems a "reasonable" requirement for a periodic rent escalator to be a percent increase (e.g., 15 percent over the initial rent every five years). If this every-five-year approach is accepted for the common 20- to 30-year lease, the community (unknowingly) may give up more than half the revenue it would otherwise have realized from the rent.

Another example is the trap of tying the initial rent to the "prevailing" rent paid in the area. That sounds reasonable, but most leases, for both towers and antennas attached to other structures, were signed for significantly less rent than the landlord could have obtained, commonly as much as two-thirds less. In such instances, if all the rents in the area are based on the prevailing amount at the time the first leases were signed, by definition that base amount never changes, not unlike with rent-controlled apartments.

When the State Prohibits Requiring the Use of the Community's Property

Some states, such as North Carolina, prohibit communities from requiring outright that their property be the number one location priority. However, there are almost always multiple owners of the PROW in a community (e.g., the municipality, the county, or the state). Simply requiring that the PROW in general (not just the ones owned by the community) are deemed to be the number one priority should steer clear of state prohibitions against requiring the use of "the community's" property. It then becomes a general land-use issue and is not tied to the ownership of the land.

For a facility proposed to be located outside the PROW, but within a given distance of the PROW, a community could require "clear and convincing" (technical) evidence of the

inability to locate in the PROW, perhaps even using a couple of sites instead of just one, and still accommodate the need or goal of the carrier and likely provide even better service. Thus, there would be no "prohibition" of the provision of service vis-à-vis federal law. Conversely, if the community does not want new facilities to be located in the PROW, the PROW can be placed further down in the list of siting priorities, perhaps even last.

CONCLUSION

The rise in applications for wireless facilities in public rights-of-way is a classic NIMBY situation, but in this case it's one that actually has solutions. Often, communities can create win-win situations without giving up rights or regulatory control. Permitting can be done so that carriers can get what they need technically, but with a minimum of public controversy and with minimal visual intrusion and impact on property values.

The industry tries to get planning staff and local officials to believe that if they have the type of regulations they really need and should have, it will discourage and slow down deployment by the industry. But history has shown this to not to be factually accurate. One need only compare the situation in communities that have strict regulations crafted with an in-depth knowledge of the industry and the law to the situation in communities with minimal or even no regulation. Arguably, some of the best wireless service in the nation is found in communities with strict regulations.

Officials, staff, and attorneys should never make assumptions, unless they know for a fact that their assumptions are correct. We recommend that communities consult an expert (who has no ties with the industry) and discuss with that person their objectives and the several options they have to achieve their policy goals.

Remember, the industry largely sees part of its job as being to avoid regulations and is constantly looking for ways around—or inherent legal problems with—regulations, whether the regulations are federal, state, or local. That doesn't necessarily make them bad actors, though. They're simply not charged with protecting the public interest as are local officials.

It's up to local officials to see that they and their staff know, or have access to, an expert who knows how to assure that both the public and the public interest are protected.

ASK THE AUTHORS

L.S. (Rusty) Monroe is an owner of Monroe Telecom Associates, LLC, and a co-owner of The Center for Municipal Solutions (CMS), both of which for 20 years have assisted local governments in dealing with the regulation of towers and wireless facilities. Collectively, they currently represent approximately 900 communities in 38 states. Monroe has conducted workshops and seminars for more than 30 local and national government organizations on the regulation of towers and wireless facilities, including multiple times for a number of them. Questions may be sent to lmonroe8@nc.rr.com.

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Vol. 33, No. 11

Zoning Practice is a monthly publication of the American Planning Association. Subscriptions are available for \$95 (U.S.) and \$120 (foreign). James M. Drinan, JD, Chief Executive Officer; David Rouse, FAICP, Managing Director of Research and Advisory Services. **Zoning Practice** (ISSN 1548-0135) is produced at APA. Jim Schwab, FAICP, and David Morley, AICP, Editors; Julie Von Bergen, Senior Editor.

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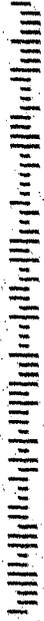
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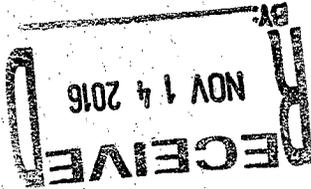
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IS YOUR COMMUNITY READY
FOR WIRELESS FACILITIES IN
PUBLIC RIGHTS-OF-WAY?

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