



INFORMATION MEMO

Cell Towers, Small Cell Technologies & Distributed Antenna Systems

Learn about large and small cell tower deployment and siting requests for small cell, small wireless and distributed antenna systems (DAS) technology. Better understand the trend of the addition of DAS, small wireless or small cell equipment on existing utility equipment. Be aware of common gaps in city zoning, impact of federal and state law, reasons for collocation agreements and some best practices for dealing with large and small cell towers, small wireless facilities and DAS.

Please note: On September 26, 2018, the Federal Communications Commission approved a *Declaratory Ruling and Third Report and Order* focusing on state and local management of small cell wireless infrastructure deployment. The ruling conflicts with Minnesota's existing law and this resource has not yet been updated to reflect that as we are trying to work through the complex legal issues. If you have questions about how the ruling will affect your city's regulation, please consult your city attorney for legal advice.

RELEVANT LINKS:

[47 U.S.C. § 253](#) (commonly known as Section 253 of Telecommunications Act).

[47 U.S.C. §332](#) (commonly known as Section 332 of Telecommunications Act).

[FCC Website.](#)



I. Deployment of large cell towers or antennas

A cell site or cell tower creates a “cell” in a cellular network and typically supports antennas plus other equipment, such as one or more sets of transceivers, digital signal processors, control electronics, GPS equipment, primary and backup electrical power and sheltering. Only a finite number of calls or data can go through these facilities at once and the working range of the cell site varies based on any number of factors, including height of the antenna. The Federal Communications Commission (FCC) has stated that cellular or personal communications services (PCS) towers typically range anywhere from 50 to 200 feet high.

The emergence of personal communications services, the increased number of cell providers, and the growing demand for better coverage have spurred requests for new cell towers, small cell equipment, and distributed antenna systems (DAS) nationwide. Thus, some cellular carriers, telecommunications wholesalers or tower companies, have attempted to quickly deploy telecommunications systems or personal wireless service facilities, and, in doing so, often claim federal law requires cities to allow construction or placement of towers, equipment, or antennas in rights of way. Such claims generally have no basis. Although not completely unfettered, cities can feel assured that, in general, federal law preserves local zoning and land use authority.

This material is provided as general information and is not a substitute for legal advice. Consult your attorney for advice concerning specific situations.

RELEVANT LINKS:

[47 U.S.C. § 253](#) (commonly known as Section 253 of Telecommunications Act).

[47 U.S.C. § 332](#) (commonly known as Section 332 of Telecommunications Act).

[FCC website interpreting Telecommunications Act of 1996.](#)

[47 U.S.C. § 253](#) (Section 253 of Telecommunications Act).

[47 U.S.C. § 332\(c\)\(7\).](#)

[FCC 09-99, Declaratory Ruling](#) (Nov. 18, 2009).

[47 U.S.C. § 253\(e\)\(e\)](#) (Section 253 of Telecommunications Act).

[47 U.S.C. § 332\(c\)\(7\).](#)

[FCC 09-99, Declaratory Ruling](#) (Nov. 18, 2009).

A. The Telecommunications Act and the FCC

The Telecommunications Act of 1996 (TCA) represented America's first successful attempt to reform regulations on telecommunications in more than 60 years, and was the first piece of legislation to address internet access. Congress enacted the TCA to promote competition and higher quality in American telecommunications services and to encourage rapid deployment of new telecommunications technologies.

The FCC is the federal agency charged with creating rules and policies under the TCA and other telecommunications laws.

The FCC also manages and licenses commercial users (like cell providers and tower companies), as well as non-commercial users (like local governments). As a result, both the TCA and FCC rulings impact interactions between the cell industry and local government.

The significant changes in the wireless industry and its related shared wireless infrastructures, along with consumer demand for fast and reliable service on mobile devices, have fueled a frenzy of requests for large and small cell/DAS site development and/or deployment. As a part of this, cities find themselves facing cell industry arguments that federal law requires cities to approve tower siting requests.

Companies making these claims most often cite Section 253 or Section 332 of the TCA as support. Section 253 states "no state or local statute or regulation may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service." Section 332 has a similar provision ensuring the entry of commercial mobile services into desired geographic markets to establish personal wireless service facilities.

These provisions should not, however, be read out of context. When reviewing the relevant sections in their entirety, it becomes clear that federal law does not pre-empt local municipal regulations and land use controls. Specifically, the law states "[n]othing in this section affects the authority of a state or local government to manage the public rights of way or to require fair and reasonable compensation from telecommunications providers, on a competitively neutral and nondiscriminatory basis, for use of public rights of way ..." and that "nothing in this chapter shall limit or affect the authority of ... local government ... over decisions regarding the placement, construction, and modification of personal wireless service facilities".

RELEVANT LINKS:

[Sprint Spectrum v. Mills](#), 283 F.3d 404 (2nd Cir. 2002).

[USCOC of Greater Missouri v. Vill. Of Marlborough](#), 618 F.Supp.2d 1055 (E.D. Mo. 2009).

[FCC 09-99, Declaratory Ruling](#) (Nov. 18, 2009).

[Vertical Broadcasting v. Town of Southampton](#), 84 F. Supp.2d 379 (E.D.N.Y. 2000).

[Paging v. Bd. of Zoning Appeals for Montgomery Cty.](#), 957 F.Supp. 805 (W.D. Va. 1997).

[Letter from Minnesota Department of Commerce to Mobilitie.](#)

[Minn. Stat. § 237.162
Minn. Stat. § 237.163
Chapter 94, Art. 9, 2017
Regular Session.](#)

[Minnesota Public Utilities Commission, Meeting Agenda](#) (Nov. 3, 2016).

Courts consistently have agreed that local governments retain their regulatory authority and, when faced with making decisions on placement of towers, antenna or *new* telecommunication service equipment on city facilities, they generally have the same rights that private individuals have to deny or permit placement of a cellular tower on their property. This means cities can regulate and permit placement of towers and other personal wireless service facilities, including, in most situations (though some state law restrictions exist regarding regulations of small wireless support structures), controlling height, exterior materials, accessory buildings, and even location. Cities should be careful to make sure that local regulations don't have the effect of completely banning all cell towers or personal wireless service facilities. Such regulation could run afoul of federal law (not to mention state law as well).

Some cellular companies try to gain unfettered access to city right of way by claiming they are utilities. The basis for such a claim usually follows one of two themes—either that, as a utility, federal law entitles them to entry; or, in the alternative, under the city's ordinances, they get the same treatment as other utilities. Courts have rejected the first argument of entitlement, citing to the specific directive that local municipalities retain traditional zoning discretion.

B. State law

In the alternative, the argument that a city's local ordinances include towers as a utility has, on occasion and in different states, carried more weight with a court. To counter such arguments, cities may consider specifically excluding towers, antenna, small cell, and DAS equipment from their ordinance's definition of utilities. The Minnesota Department of Commerce, in a letter to a wireless infrastructure provider, cautioned one infrastructure company that its certificate of authority to provide a local niche service did not authorize it to claim an exemption from local zoning. The Minnesota Department of Commerce additionally requested that the offending company cease from making those assertions.

In Minnesota, to clear up confusion about whether wireless providers represent telecommunications right-of-way users under state law and to address concerns about deployment of small wireless technology, the Legislature amended Minnesota's Right-of-Way User statutes, or Minnesota ROW Law, in the 2017 legislative session to specifically address small wireless facilities and the support structures on which those facilities may attach.

RELEVANT LINKS:

[Minn. Stat. § 237.162.](#)
[Minn. Stat. § 237.163](#)
[Chapter 94, Art. 9, 2017](#)
Regular Session.

[USCOC of Greater Missouri v. Vill. Of Marlborough](#), 618 F.Supp.2d 1055 (E.D. Mo. 2009).

[Minnesota Towers Inc. v. City of Duluth](#), 474 F.3d 1052 (8th Cir. 2007).

[NE Colorado Cellular, Inc. v. City of North Platte](#), 764 F.3d 929 (8th Cir. 2014) (denial of CUP for tower must be “in writing” but need not be a separate finding from the reasons in the denial).

[Smith Comm. V. Washington Cty, Ark.](#), 785 F.3d 1253 (8th Cir. 2015) (substantial evidence' analysis involves whether the local zoning authority's decision is consistent with the applicable local zoning requirements and can include aesthetic reasons).

Because of these amendments, effective May 31, 2017 additional specific state statutory provisions apply when cities, through an ordinance, manage their rights of way, recover their right-of-way management costs (subject to certain restrictions), and charge rent for attaching to city-owned structures in public rights of way. Rent, however, is capped for collocation of small wireless facilities. State law defines “collocate” or “collocation” as a means to install, mount, maintain, modify, operate, or replace a small wireless facility on, under, within, or adjacent to an existing wireless support structure that is owned privately or by a local government unit.

The Minnesota ROW Law allows cities to require telecommunications right-of-way users to get a permit for use of the right of way; however, it creates a separate permitting structure for the siting of small wireless facilities.

Because of the recent significant changes in the state law and the specific requirements for deployment of small wireless facilities that do not apply to other telecommunications right-of-way users, cities should work with their city attorneys to review and update their ordinances.

C. Limitations on cities’ authority

1. Federal law

Although federal law expressly preserves local governmental regulatory authority, it does place several substantive and procedural limits on that authority. Specifically, a city:

- Cannot unreasonably discriminate among providers of functionally equivalent services.
- Cannot regulate those providers in a manner that prohibits or has the effect of prohibiting the provision of telecommunications services or personal wireless services.
- Must act on applications within a reasonable time.
- Must document denial of an application in writing supported by “substantial evidence.”

Proof that the local zoning authority’s decision furthers the applicable local zoning requirements or ordinances satisfies the substantial evidence test. Municipalities cannot cite environmental concerns as a reason for denial, however, when the antennas comply with FCC rules on radio emissions. In the alternative, cities can request proof of compliance with the FCC rules.

RELEVANT LINKS:

[FCC 09-99, Declaratory Ruling](#), Nov. 18, 2009.

[Tower and Antenna Siting FAQ sheet from FCC](#).

T-Mobile West V. Crow, No. CV08-1337 (D. AZ. Dec. 16, 2009).

[Minn. Stat. § 237.162](#)
[Minn. Stat. § 237.163](#)
[Chapter 94, Art. 9](#), 2017 Regular Session.

See further discussion of state law restrictions in Section II-A, below

Minnesota Towers Inc. v. City of Duluth, 474 F.3d 1052 (8th Cir. 2007). *Smith Comm. V. Washington City, Ark.*, 785 F.3d 1253 (8th Cir. 2015).

Voicestream PCSII Corp. v. City of St. Louis, No. 4:04CV732 (E.D.Mo. August 3, 2005) (city interpretation of city ordinance treats communication facility as a utility).

Bringing an action in federal court represents the recourse available to the cellular industry if challenging the denial of a siting request under federal law. Based on the limitations set forth in the federal law on local land use and zoning authority, most often, when cities deny siting requests, the challenges to those denials claim one of the following:

- The municipal action has the effect of “prohibiting the provision of personal wireless service.”
- The municipal action unreasonably discriminates among providers of functionally equivalent services (i.e., cell providers claiming to be a type of utility so they can get the same treatment as a utility under city ordinance).

2. State law

In addition to mirroring some of the federal law requirements, such as the requirement of equal treatment of all like providers, state law permits cities, by ordinance, to further regulate “telecommunications right-of-way users.”

Minnesota’s Telecom ROW Law expressly includes wireless service providers as telecommunications right-of-way users, making the law applicable to the siting of both large and small, wire-lined or wireless telecommunications equipment and facilities, in the rights of way.

State law places additional restrictions on the permitting and regulating of small wireless facilities and wireless support structure placement. Accordingly, cities should work with city attorneys when drafting, adopting, or amending their ordinance. The Telecom ROW Law still expressly protects local control, allowing cities to deny permits for reasonable public health, welfare, and safety reasons, with no definitions of or limitations on what qualifies as health, welfare, and safety reasons.

D. Court decisions

The 8th U.S. Circuit Court of Appeals (controlling law for Minnesota) recognizes that cities do indeed retain local authority over decisions regarding the placement and construction of towers and personal wireless service facilities.

The 8th Circuit also has heard cases where a carrier or other telecommunications company argued they are a utility and should be treated as such under local ordinances. Absent a local ordinance that includes this type of equipment within its definition of utilities, courts do not necessarily deem cell towers or other personal communications services equipment functionally equivalent to utilities.

RELEVANT LINKS:

[USCOC of Greater Missouri v. Vill. Of Marlborough](#), 618 F.Supp2d 1055, 1064 (E.D. Mo. 2009) (TCA explicitly contemplates some discrimination amount providers of functionally equivalent services).

For regulation of telecommunications right-of-way users, see Appendix A, Sample Ordinances and Agreements.

[Minn. Stat. 237.163, Subd. 2 \(f\). Chapter 94, Art. 9, 2017 Regular Session.](#)



Additionally, courts have found that the federal law anticipates some disparate application of the law, even among those deemed functionally equivalent. For example, courts determined it reasonable to consider the location of a cell tower when deciding whether to approve tower construction (finding it okay to treat different locations differently), so long as cities do not allow one company to build a tower at a specific location at the exclusion of other providers.

E. City approaches

Regulation of placement of cell towers and personal wireless services can occur through an ordinance. The Minnesota ROW Law provides cities with comprehensive authority to manage their rights of way. With the unique application of federal law to telecommunications and the recent changes to state law, along with siting requests for locations both in and out of rights of way, many cities find having a separate telecommunications right-of-way user ordinance (in addition to a right-of-way ordinance) allows cities to better regulate towers and other telecommunications equipment, as well as collocation of small wireless facilities and support structures.

Some cities also have modified the definitions in their ordinances to exclude cell towers, telecommunications, wireless systems, DAS, small cell equipment, and more from utilities to counter the cell industry's requests for equal treatment or more lenient zoning under the city's zoning ordinances.

In addition to adopting specific regulations, many city zoning ordinances recognize structures as conditional uses requiring a permit (or many of these regulations include a provision for variances, if needed). While cities may require special permits or variances to their zoning for siting of large cell facilities, under state law, small wireless facilities and wireless support structures accommodating those small wireless facilities are deemed a permitted use. The only exception to the presumed, permitted use for small wireless is that a city may require a special or conditional land use permit to install a new wireless support structure in a residentially zoned or historic district. Cities will want to review their zoning to make sure it complies with the Minnesota ROW Law.

II. Deployment of small cell technologies and DAS

Small cell equipment and DAS both transmit wireless signals to and from a defined area to a larger cell tower. They are often installed at sites that support cell coverage either within a large cell area that has high coverage needs or at sites within large geographic areas that have poor cell coverage overall.

RELEVANT LINKS:



[Minn. Stat. § 237.162.](#)
[Minn. Stat. § 237.163.](#)
[Chapter 94, Art. 9, 2017 Regular Session.](#)
See Appendix A, Sample Ordinances and Agreements.

See League [FAQ on Minnesota 2017 Telecommunication Right of Way User Amendments](#) (July 2017).

See Appendix A, Sample Ordinances and Agreements

Situational needs dictate when cell providers use small cell towers, as opposed to DAS technology. Generally, cell providers install small cell towers when they need to target specific indoor or outdoor areas like stadiums, hospitals, or shopping malls. DAS technology, alternatively, uses a small radio unit and an antenna (that directly link to an existing large cell tower via fiber optics). Installation of a DAS often involves cell providers using the fiber within existing utility structures to link to its larger cell tower. Cities sometimes are asked to provide the power needed for the radios, which the city can negotiate into the leasing agreement with the cell provider.

A. Additional zoning and permitting needs under state law

Historically, many cities' ordinances address large cell sites, but not small cell towers or DAS. With the recent changes to state law, cities should work with their city attorney to review their ordinances in consideration of the new statutory permit process for the siting of small wireless facilities.

Cities can charge rent (up to a cap for small wireless siting) under the statute for placement of cell technology or DAS on existing or newly installed support structures, like poles or water towers; and, also, can enter into a separate agreement to address issues not covered by state law or ordinance. Cities should work with their city attorney to get assistance with drafting these agreements and any additional documents, like a bill of sale (for transfer of pole from carrier to city), if necessary.

The terms and conditions of these agreements, called collocation agreements, for siting of small wireless facilities, most likely will mirror agreements formerly referred to as master licensing agreements, often including provisions such as:

- Definitions of scope of permitted uses.
- Establishment of right-of-way rental fee (note statutory limitations).
- Protection of city resources.
- Provision of contract term (note statutory limitations).
- Statement of general provisions.
- Maintenance and repair terms.
- Indemnity provisions.
- Insurance and casualty.
- Limitation of liability provision.
- Terms for removal.

RELEVANT LINKS:

[Minn. Stat. § 237.162.](#)
[Minn. Stat. § 237.163.](#)
Chapter 94, Art. 9, 2017
Regular Session.

See League [FAQ on Minnesota 2017 Telecommunication Right of Way User Amendments](#) (July 2017).

State law does not require a separate agreement, and some cities have chosen to put these provisions in their ordinance or permit instead. For cities that choose to have a separate agreement in place, they must develop and make that agreement publicly available no later than November 31, 2017 (six months after the effective date of this act) or three months after receiving a small wireless facility permit application from a wireless service provider. The agreement must be made available in a substantially complete form; however, the parties to the small wireless facility collocation agreement can incorporate additional mutually agreed upon terms and conditions. The law classifies any small wireless facility collocation agreement between a local government unit and a wireless service provider as public data, not on individuals, making those agreements accessible to the public under Minnesota's Data Practices Law.

Additionally, the new amendments to Minnesota's Telecom ROW Law set forth other requirements that apply only to small cell wireless facility deployment. The 2017 amendments changed Minnesota's ROW Law significantly, the details, of which, can be found in the League's [FAQ on Minnesota 2017 Telecommunication Right of Way User Amendments](#) (July 2017). However, after the amendments, the law now generally provides:

- A presumption of permitted use in all zoning districts, except in districts zoned residential or historical districts.
- The requirement that cities issue or deny small wireless facility requests within 90 days, with a tolling period allowed upon written notice to the applicant, within 30 days of receipt of the application.
- An allowance to batch applications (simultaneously submit a group of applications), with the limitation to not exceed 15 small wireless requests for substantially similar equipment on similar types of wireless support structures within a two-mile radius.
- Rent not to exceed \$150 per year with option of an additional \$25 for maintenance and allowances for electricity, if cities do not require separate metering.
- The limitation that cities cannot ask for information already provided by the same applicant in another small cell wireless facility application, as identified by the applicant, by reference number to those other applications.
- A restriction that the height of wireless support structures cannot exceed 50 feet, unless the city agrees otherwise.
- A restriction that wireless facilities constructed in the right of way may not extend more than 10 feet above an existing wireless support structure in place.

RELEVANT LINKS:

[47 U.S.C. § 332](#) (commonly known as Section 332 of Telecommunications Act).

[FCC 09-99, Declaratory Ruling](#) (Nov. 18, 2009).

[FCC 14-153, Report & Order](#) (October 21, 2014).

[Minn. Stat. § 237.163, Subd. 3a\(f\), Chapter 94, Art. 9](#), 2017 Regular Session.

See Appendix A, Sample Ordinances and Agreements.

- A prohibition on moratoriums with respect to filing, receiving, or processing applications for right-of-way or small wireless facility permits; or issuing or approving right-of-way or small wireless facility permits. For cities that did not have a right-of-way ordinance in place on or before May 18, 2017, the prohibition on moratoria does not take effect until January 1, 2018, giving those cities an opportunity to enact an ordinance regulating its public rights-of-way.

NOTE: These additional state law requirements do NOT apply to collocation on structures owned, operated maintained or served by municipal utilities. Also, the small wireless statutory requirements do not invalidate agreements in place at the time of enactment of the 2017 amendments (May 31, 2017).

The siting of DAS or new small cell technologies also must comply with the same restrictions under federal law that apply to large cell sitings. Specifically, a city:

- May not unreasonably discriminate among providers of functionally equivalent services.
- May not regulate in a manner that prohibits or has the effect of prohibiting the provision of personal wireless services.
- Must act on applications within a reasonable time.
- Must make any denial of an application in writing supported by substantial evidence in a written record.

Because of the complexities in the state law and the overlay of federal regulations, some cities have found it a best practice to adopt or amend a telecommunications right-of-way ordinance separate from their general right-of-way management ordinance. Cities that do not choose to adopt separate ordinances, at a minimum, should work with their attorney to review and amend their existing right-of-way ordinances, if necessary, to accommodate for telecommunications right-of-way users and the recent state law amendments for small wireless facilities. For example, since state law now recognizes small wireless facilities as a permitted use, zoning ordinances that require conditional use permits for these facilities likely will need amending.

Since wireless providers seek to attach their small cell and DAS equipment to city-owned structures, many cities choose to have a separate agreement in place to address terms and conditions not included in ordinances or permits. If the city chooses to do so, the law requires the city to have these agreements available in a substantial form so applicants can anticipate the terms and conditions. Again, cities should work with the city attorney to draft a template agreement governing attachment of wireless facilities to municipally owned structures in the right of way.

RELEVANT LINKS:

[Section 6409\(a\) of the Middle Class Tax Relief and Joe Creation Act of 2012, codified at 47 U.S.C. § 1455.](#)

[FCC Public Notice AD 12-2047](#) (January 25, 2013).

[FCC 14-153, Report & Order](#) (October 21, 2014).

[FCC Public Notice AD 12-2047](#) (January 25, 2013).

[FCC Public Notice AD 12-2047](#) (January 25, 2013).

[City of Arlington Texas, et. al. V. FCC, et. al.](#), 133 S.Ct. 1863, 1867 (2013) (90 days to process collocation application and 150 days to process all other applications, relying on §332(c)(7)(B)(ii)).

This model ordinance and other information can be found at [National Association of Counties Website](#).

With the nationwide trend encouraging deployment of these new technologies, if a city denies an application, it must do so in writing and provide detailed reasonable findings that document the health, welfare, and safety reasons for the denial. With the unique circumstances of each community often raising concerns about sitings, cities may benefit from proactively working with providers.

B. Modifications of existing telecommunication structures

If a siting request proposes *modifications to and/or collocations of wireless transmission equipment on existing FCC-regulated towers or base stations*, then federal law further limits local municipal control. Specifically, federal law requires cities to grant requests for modifications or collocation to existing *FCC-regulated structures* when that modification would not “substantially change” the physical dimensions of the tower or base station.

The FCC has established guidelines on what “substantially change the physical dimensions” means and what constitutes a “wireless tower or base station.”

Once small cell equipment or antennas gets placed on that pole, then the pole becomes a telecommunication structure subject to federal law and FCC regulations. Accordingly, after allowing collocation once, the city then must comply with the more restrictive federal laws that allow modifications to these structures that do not substantially change the physical dimensions of the pole, like having equipment from the other cell carriers.

Under this law, it appears cities cannot ask an applicant who is requesting modification for documentation information other than how the modification impacts the physical dimensions of the structure. Accordingly, documentation illustrating the need for such wireless facilities or justifying the business decision likely cannot be requested. Of course, as with the other siting requests, state and local zoning authorities must take prompt action on these siting applications for wireless facilities (60-day shot clock rule).

Two wireless industry associations, the WIA (formerly known as the PCIA) and CTIA, collaborated with the National League of Cities, the National Association of Counties, and the National Association of Telecommunications Officers and Advisors to: (1) develop a model ordinance and application for reviewing eligible small cell/DAS facilities requests under federal law; (2) discuss and distribute wireless siting best practices; (3) create a checklist that local government officials can use to help streamline the review process; and (4) hold webinars regarding the application process.

RELEVANT LINKS:

[Minn. Stat. § 237.163, Subd. 2\(d\), Chapter 94, Art. 9, 2017 Regular Session.](#)

III. Moratoriums

The cellular industry often challenges moratoriums used to stall placement of cell towers, as well as small cell/DAS technology, until cities can address regulation of these structures. Generally, these providers argue that these moratoriums do one of the following:

- Prohibit or have the effect of prohibiting the provision of personal wireless services.
- Violate federal law by failing to act on an application within a reasonable time.

State law now prohibits moratoriums with respect to: (1) filing, receiving, or processing applications for right-of-way or small wireless facility permits; or (2) issuing or approving right-of-way or small wireless facility permits. For cities that did not have an ordinance enabling it to manage its right-of-way on or before May 18, 2017, the prohibition on moratoria does not take effect until January 1, 2018, giving those cities an opportunity to enact an ordinance regulating its public rights-of-way.

IV. Conclusion

With the greater use of calls and data associated with mobile technology, cities likely will see more new cell towers, as well as small cell technology/DAS requests. Consequently, it would make sense to proactively review city regulations to ensure consistency with federal and state law, while still retaining control over the deployment of structures and the use of rights of way.