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. 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.

RELEVANT LINKS:

47 U.S.C. § 253 (commonly known as Section 253 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. Cellular carriers, telecommunications wholesalers, and 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 the right of way. In October 2018, the FCC issued a “Declaratory Ruling and Third Report and Order” (FCC order), which effectively upheld these claims by the wireless telecommunications industry.
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 part of this, cities are facing cell industry arguments that federal law requires cities to approve tower siting requests.

The telecommunications industry has argued that section 253 and section 332 of the TCA limit the ability of cities to regulate the deployment of telecommunications facilities, even if the deployment uses city assets. Section 253 states that “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.

In September 2018, the FCC sided with the telecommunications industry in these arguments. The result of the FCC’s ruling limits the ability of cities to regulate the deployment of telecommunications facilities on city assets and within the right of way.

Some cellular companies try to gain unfettered access to the 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 that, under the city’s ordinances, they get the same treatment as other utilities. Courts have rejected the first argument of entitlement, citing the specific directive that local municipalities retain traditional zoning discretion.
B. State law

Prior to the latest FCC ruling, the argument that under a city’s local ordinances, towers are treated the same as utilities has carried more weight with the courts on occasion and in different states. 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 (the Minnesota ROW Law), to specifically address small wireless facilities and the support structures on which those facilities may attach (the “Telecom ROW Law”).

Minnesota law contains specific provisions that apply when Minnesota cities through an ordinance manage their right of way, recover their right of way management costs (subject to certain restrictions), and charge rent for attaching to city-owned structures in the public right 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 Telecom 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. But cities can request proof of compliance with the FCC rules.

If a cellular company wants to challenge the denial of a siting request under federal law, it can bring an action in federal court. 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 to further regulate “telecommunications right of way users” by ordinance.

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 right 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. 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 right 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 the right 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 the wireless support structures that accommodate them 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.
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 and federal 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. They can also 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.
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 for applicants. 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 the Minnesota Government Data Practices Act.

Additionally, Minnesota’s Telecom ROW Law sets forth other requirements that apply only to small cell wireless facility deployment. The Telecom ROW Law placed restrictions on the ability of cities to regulate small cell facilities. The recent FCC order created additional regulations that conflict with the state’s regulations, creating a patchwork of wireless regulations. Minnesota cities must now balance these separate regulations when processing applications for wireless facilities. A chart detailing these differences can be found in the Appendix.

1. **Definition of small cell wireless facility**

Under state law, a small cell wireless facility is a facility that includes an antenna located inside an enclosure of no more than six cubic feet in volume. Any other equipment related to the facility may be no more than 28 cubic feet in volume.

The FCC creates a different definition of small cell wireless facilities. Particularly an antenna, under the federal definition, must be no more than three cubic feet, not six as defined by the state.

2. **Shot clocks**

Both the state and the FCC have mandated that applications requesting to place certain wireless facilities on city assets must be acted upon in a specific amount of time. Failure of a city to act upon an application within the shot clock time may result in the application being deemed approved without city action.

Under state law, an application to place a small cell wireless facility on a city asset must be acted upon within 90 days from when the application is received. Under the state law, a city may stop the shot clock if it provides notice to the applicant within 30 days of receipt that the application was incomplete.
The state shot clock may be extended for an additional 30 days if a city receives applications within a single seven-day period from one or more applicants seeking approval of permits for more than 30 small wireless facilities. In order for a city to extend this shot clock, it must inform the affected applicants in writing.

The Minnesota shot clocks only apply to applications related to small cell wireless facilities. Minnesota statute does not apply to applications for macro cell facilities.

The FCC order created its own set of shot clocks for both small cell and macro cell facilities. These shot clocks are inconsistent with the Minnesota shot clocks, creating confusion for cities. The federal shot clocks, however, are not hard deadlines like the state. Rather, the shot clocks are deemed “presumed reasonable” time frames for which cities must act. If a city fails to approve or deny an application within the presumed reasonable shot clock, the applicant could seek expedited judicial review and force the city to show why it has not acted within the time frames set by the FCC. Note the different remedy available to the wireless carriers under the two shot clocks. Under the Minnesota law, an application is “deemed approved” for failure to meet the shot clock. Pursuant to the FCC order, an applicant must go to court and ask a judge to act on the application. There are currently multiple law suits initiated by wireless providers requesting that the FCC order include a deemed granted remedy similar to Minnesota.

Under the FCC order, a presumed reasonable shot clock for small cell wireless applications is 60 days on applications for existing structures and 90 days for new structures.

The FCC has also created a shot clock for applications to place macro cell facilities on city assets. In order to meet the presumed reasonable federal time frame, a city would need to act on a macro cell application within 90 days for existing structures and 150 days for new structures.

**a. Applications**

In order to meet the shot clocks noted above, it is important for cities to draft applications that require an applicant to provide all materials necessary to properly consider the application. Cities should consider the following items when determining where wireless facilities will be allowed:

- How many facilities can be placed on a particular city asset.
- Requirements to safely mount facilities to a city asset.
- What types of assets will be permitted to house wireless facilities.
- Design of facilities.
3. Fees

Minnesota law and the FCC order have created different requirements that cities must navigate when charging fees to applicants of wireless facilities. Fees are generally separated into application fees and rent.

a. Application fees

In Minnesota, it is common practice for cities to charge fees to cover the costs of processing applications. In addition, it is a common practice for applicants to pay the actual costs incurred by a city in processing an application. Such fees typically include costs paid by a city to a third-party consultant who helps process an application.

In Minnesota, fees must be fair, reasonable, and have a connection (nexus) to the actual cost of the service for which the fee is imposed. Fees are not to be considered a source of revenue but rather must approximate the direct and indirect costs to the city associated with issuing a permit. The Minnesota regulations on small cell wireless did not change the presumption that cities may charge fees to cover their reasonable costs related to processing a wireless application.

The FCC order noted that fees charged by cities related to wireless applications must be reasonable. The FCC created a limit on what it presumes as a reasonable fee for wireless applications. The FCC order presumes that a fee of up to $500 for up to 5 wireless facilities on existing structures is reasonable. The reasonable fee drops to $100 per facility after the initial five.

For facilities to be placed on new structures, the FCC presumes $1,000 as the reasonable fee.

The FCC limit on application fees would presumably apply to fees charged to cover third-party consultants. This would result in most applications charging more than the presumed reasonable amounts. If a Minnesota city charges fees in excess of the presumed reasonable amounts set above, it should be sure to document the excess costs and the reasons why those costs were charged. This will allow a city to justify the fees if they are challenged by a wireless provider.

Cities should track the time it takes to process applications for both small cell and macro cell permits. If a city is unable to meet the applicable shot clocks due to actions of a wireless provider, the city should be willing to either deny the application or receive written consent from the applicant to extend the shot clocks.
**b. Rent**

Both the FCC and Minnesota regulations place limits on the amount of rent cities may charge wireless providers for use of city assets.

Minnesota law places a hard limit on the amount cities may collect in rent from wireless companies. Under state statute, cities may charge up to $150 per year in rent for use of a public asset that houses a small cell facility. In addition, a city may collect up to $25 per year to cover the maintenance required as a result of the wireless facility. Finally, a city may charge a monthly fee for electricity used to operate a small cell wireless facility, if not purchased directly from a utility at the rate of $73 or $182 per radio node depending on the wattage. In the alternative, a city may charge the actual costs of electricity, if the actual costs exceed the amounts above.

The FCC order noted a presumed reasonable rent to be $270. It did not include separate amounts for maintenance and electricity use.

**4. Aesthetic standards**

The FCC order also placed additional restraints on a city’s ability to enforce aesthetic standards on small cell wireless equipment placed on city assets. Minnesota law allows cities to place reasonable conditions on the aesthetic makeup of small cell wireless equipment. The FCC order requires cities to adopt aesthetic standards in order to enforce them.

The FCC order requires aesthetic standards adopted by cities to be (1) reasonable, (2) no more burdensome than other infrastructure, and (3) objective. In order to enforce such standards, the FCC order requires the standards to be published in advance. There is no definition describing what the FCC means by “publishing” the aesthetic standards. The consensus is that standards need to be made available when a wireless provider applies for a small cell permit.

The FCC order allows some flexibility in aesthetic standards. The FCC noted “...the aesthetic requirements to be published in advance need not prescribe in detail every specification to be mandated for each type of structure in each individual neighborhood. Localities need only set forth the objective standards and criteria that will be applied in a principled manner at a sufficiently clear level of detail as to enable providers to design and propose their deployment in a manner that complies with those standards.” Cities should work closely with their city engineers and city attorney to draft aesthetic standards that meet their needs.
5. Collocation agreements

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.

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.
Two wireless industry associations, the Wireless Infrastructure Association and the Cellular Telecommunications and Internet Association, 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.

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.

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 the right of way.
Appendix A: Sample Ordinances and Sample Agreements

Many cities address cell towers in their ordinances already. For informational purposes only, the links below reference some telecommunications facilities ordinances in Minnesota. PLEASE NOTE, these ordinances reflect each city’s unique circumstances and may pre-date the 2017 Legislative Session which, then, would not have considered the amendments to Minn. Stat. §§ 237.162, 237.163 when drafted.

### Sample Telecommunications Ordinances

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<tr>
<th>City of Edina (predates 2017 amendments)</th>
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<tr>
<td>Ordinance: (Chapter 34: Telecommunications)</td>
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<th>City of Brainerd</th>
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<td>Memo to Planning Commission from City Planner, July 13, 2017 Re: Draft Ordinance: Section 35: Antennas and Towers</td>
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<tr>
<th>City of Minneapolis</th>
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<td>Ordinance: (Amendment to Ordinance to accommodate Small Cell/DAS equipment)</td>
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<td>CPED Staff Report, City of Minneapolis regarding Amendment</td>
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<th>City of Bloomington</th>
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<td>Ordinance: (Part II City Code, Chapter 17: Streets and Rights-of-Way)</td>
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<td>Ordinance: (No. 2017-16, Amending Section 14.03 of the City Code Concerning the Permit Fee)</td>
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<td>Permit: Small Cell Permit</td>
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### Sample Collocation Agreement for DAS/Small Call

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<th>Texas City Attorney Association</th>
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<td>Addendum to Local Gov. Code, Chapter 283</td>
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<th>League of Minnesota Cities Model</th>
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<td>Small Wireless Facility Collocation Agreement</td>
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