



PUBLIC WORKS DEPARTMENT

CITY HALL
10300 TORRE AVENUE • CUPERTINO, CA 95014-3255
TELEPHONE: (408) 777-3354 • FAX: (408) 777-3333
CUPERTINO.ORG

CITY COUNCIL STAFF REPORT

Meeting: May 5, 2020

Subject

Study Session on Small Cell Facilities within the Public Right of Way.

Recommended Action

Conduct a study session on small cellular facilities in the public right of way, with a focus on City of Cupertino regulation of small cellular facilities and regulation of small cellular facilities by other cities in the region; provide any input.

Background

For the past several years, the City of Cupertino has been working with wireless service providers to permit the installation of small cellular equipment on City-owned streetlight poles in the public right of way and has instituted design standards and encroachment permit application requirements for these facilities. Small cellular equipment includes antennae and associated cellular facilities that help enhance the coverage and capacity of cellular networks. Such small cell facilities enhance providers' 4G networks and will help to make implementation of the fifth generation of cellular services, or "5G", more effective. The City Council has conducted prior study sessions on the City's regulation of small cells on May 16, 2017, and on July 17, 2019.

Relative to macrocell towers, small cell antennae are characterized by their smaller size, lower power output, smaller coverage area, and potentially higher signal frequency and faster transmission speeds with the implementation of 5G technology. For example, a typical macrocell tower has a power output between 20 and 40 watts, whereas a small cell antenna has a considerably lower power output that ranges between 1 and 5 watts. The higher frequency signals do not travel as far and have a harder time penetrating materials, including vegetation and building walls.

The available spectrum licensed for cellular use is extremely scarce and expensive, and given that cellular usage by the public has increased exponentially in the last 20 years, wireless providers have needed to find ways to overcome this limitation in available frequency. Small cell facilities achieve this by repeating and reusing the same frequencies at different locations in a geographic area, and therefore have been recognized by industry leaders as an important method of increasing a wireless provider's cellular network

capacity, quality and coverage, as each small cell acts as an individual node for the carrier's licensed spectrum.

The City of Cupertino has established Master License Agreements with five companies for installation of small cell facilities on City-owned streetlight poles in the City's right of way. The five companies include Verizon, AT&T, Extenet, Crown Castle, and Mobilitie.

Of these five companies, Verizon and AT&T are actively seeking permits for small cell installations in the right of way throughout the City, both in commercial areas and within residential zones, in order to improve the data capacity and coverage of their networks.

Relevant Federal and State Law

Federal and state law and regulations, including the Federal Telecommunications Act of 1996 and provisions of the California Government Code and Public Utilities Code, limit how local jurisdictions may regulate wireless facilities. These limits on regulation apply to small cellular facilities installed in the public right of way. On September 27, 2018 a Federal Communications Commission (FCC) order placed additional limits on local jurisdictions' regulation of small cell facilities.

Key federal limits on local regulation are summarized below:

- Regulation of Wireless Facilities Based on Health Concerns

The FCC has established safety limits for Radio Frequency (RF) emissions from wireless facilities, including for small cells. RF emissions from small cells in Cupertino typically fall around 100 times below these limits. Under federal law, a local government may not base its regulation of wireless facilities, including a decision to deny a wireless project, on RF emissions from a facility, as long as those emissions meet the FCC's emission standards. Concerns over the effects of RF emissions from cellular equipment include concerns regarding the health effects of these emissions. This means that the City may not deny a permit application for a cellular facility, including a small cellular facility, based on concerns over the perceived health effects of the facility's equipment.

- Regulation with the Effect of Prohibiting Wireless Service

Federal law also prevents a local government from regulating wireless service in a manner that prohibits or has the effect of prohibiting the provision of personal wireless services. The FCC's September 2018 order specified that "an effective prohibition occurs where" a regulation "materially inhibits a provider's ability to engage in any of a variety of activities related to its provision of a covered service." It further specified that a local jurisdiction's regulation of wireless services can amount to an effective prohibition where it prevents a carrier from improving the quality of their service or from taking advantage of new technologies, not just where it prevents a carrier from filling gaps in service. This means that a jurisdiction cannot deny a service provider's wireless facility application simply on the basis that the jurisdiction finds the provider's existing coverage adequate. The FCC's order also prevents local jurisdictions from enforcing a

blanket prohibition on installation of small cell facilities in an area or neighborhood. However, a jurisdiction could have grounds to deny a specific placement if there is a reasonable alternative available. Finally, while a local jurisdiction may establish aesthetic regulations for small cell facilities, those regulations must be objective (incorporating “clearly-defined and ascertainable standards”), no more burdensome than those placed on other types of infrastructure deployments, and published in advance.

- “Shot Clocks” for Review of Small Cell Facility Applications

Federal law also requires local governments to act on applications for new wireless facilities within “a reasonable period of time.” The FCC’s September 2018 order sets new time limits, or “shot clocks,” defining presumptively reasonable periods of time for review of small cell facility applications. Under the FCC’s order, a jurisdiction has 60 days to review an application for placement of a small cell facility on a preexisting structure—such as an existing streetlight, utility pole, or traffic signal—and 90 days for review of an application for attachment of small cell facility to a new or replacement structure.

The shot clocks begin to run the day after an application is submitted. A jurisdiction has 10 days after submission to notify an applicant if its application is incomplete. If the jurisdiction timely provides that notice, the shot clock stops and is reset if the application is resubmitted. The jurisdiction has 10 days to review any resubmitted application for completeness and notify the applicant of missing information, at which point the stop clock tolls while the applicant assembles that information. Under this framework, the City is required to review and make a determination on small cell applications in a short amount of time, placing additional pressure on the application process.

The FCC’s September 2018 Order has been challenged as contrary to law by several coalitions of municipalities and municipal associations, including the League of California Cities, of which Cupertino is a member. The case challenging the order is currently before the Ninth Circuit Court of Appeals, which heard oral argument in February 2020. The Ninth Circuit has not yet issued an opinion in the case; it typically issues opinions between three months and a year after oral argument. The FCC order went into effect on January 14, 2019 and remains in effect while the case is pending.

Cupertino Permitting Process

As noted above, the City has instituted design standards and encroachment permit application requirements for small cellular facilities in the public right of way. The City’s current process for accepting and reviewing applications for these facilities involves the following steps:

1. Preliminary Assessment – An applicant reaches out to the City and proposes a location and a design for a facility, and City staff reviews the location to ensure the facility will not cause a public safety issue, such as obstructing vehicular and

pedestrian sight lines, or result in a barrier to ADA access. City staff also works with the applicant to ensure that each proposed location is in the least intrusive location in the surrounding vicinity.

2. Initial Submittal – Conceptual drawings are provided to City staff for review and comment. This package includes a vicinity map, a photo of the pole where the facility is planned to be located, and a photo simulation showing the layout and location of proposed equipment. The City reviews the Initial Submittal for compliance with the City's guidelines, for location concerns, and for aesthetic qualities and features of the equipment.
3. Notification – After the Initial Submittal has been reviewed and approved, the applicant is required to mail courtesy letters to all residents within 300' of the proposed facility. Cupertino's notification process is comparable to the processes of other nearby jurisdictions, which have public notification radii ranging from 250' up to 600'. Residents notified of a small cell installation have 14 days to respond to the notification. Again, Cupertino's public notification period is comparable to other nearby jurisdictions, which have notification periods ranging from 7 to 20 Days. Each applicant provides a representative to act as a point of contact for notified property owners. The representative retains a report of all inquiries received and the disposition of each. These inquiries are then provided to City staff for review. While the City cannot deny a permit application based on concerns regarding the health effects of RF emissions or other environmental concerns, as noted above, all concerns are reviewed and any concerns that the City has the ability to act on are considered and incorporated where possible.
4. Final Submittal – The applicant submits a complete construction application package to the Public Works Department that addresses the City Engineer's comments and concerns. Once all requirements have been addressed, the Public Works Department will issue the necessary permits to the applicant.
5. Close out of a permit – After construction is completed, the City requires that the applicant submit as-built drawings of the facility if any modifications occurred during construction. The City also requires the applicant to perform post-construction testing. The post-construction testing policy has been established to ensure facilities are compliant with the FCC radio frequency limits. Additionally, the City provides an opportunity for nearby residents to request that testing be done within and around their residence, if desired. Once the testing has been performed, and the results have shown that the facility is operating within the approved limits, the permit is closed out.

Using the above process, the City has been able to review and approve applications within the shot clock timeframe.

Discussion

In 2016, Cupertino staff and staff from other nearby cities began to meet regularly to discuss permit applications that were being submitted for small cellular equipment. These initial applications proposed installation of cellular facilities on new vertical structures within the public right of way. At these meetings, the participating cities discussed concerns, responses, and processes for regulation of small cell facilities, and established requirements and guidelines that could be used to provide a roughly uniform standard to apply across each of the jurisdictions.

Many of these cities are actively working with wireless providers to densify cellular networks with the installation of small cellular facilities, and they have ultimately established similar objective standards as those of the City of Cupertino (see Attachment A for Cupertino Guidelines): <https://www.cupertino.org/home/showdocument?id=24095>.

Nearby cities with similar small cell permitting processes to those in Cupertino include:

- Campbell (see Attachment B):
<https://www.ci.campbell.ca.us/DocumentCenter/View/12646/Permit-Process--City-owned-and-utility-owned-poles-FINAL>
- Los Gatos (see Attachment C):
<https://www.losgatosca.gov/DocumentCenter/View/22613/Small-Cell-Streetlight-Guidelines>
- Mountain View (see Attachment D):
<https://www.mountainview.gov/civicax/filebank/blobdload.aspx?BlobID=29146>
- San Jose (see Attachment E):
<https://www.sanjoseca.gov/home/showdocument?id=54471>
- Saratoga (see Attachment F):
<https://lfoonline.saratoga.ca.us/WebLink/DocView.aspx?id=320107&dbid=0&repo=CITYOFSARATOGA&cr=1>
- Sunnyvale (see Attachment G):
<https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=26642>
https://qcode.us/codes/sunnyvale/view.php?topic=19-4-19_54-19_54_160&frames=on
https://qcode.us/codes/sunnyvale/view.php?cite=section_19.80.040&confidence=6
https://qcode.us/codes/sunnyvale/view.php?topic=19-6-19_98-19_98_040&frames=on

The City of Los Altos' process is also very similar to Cupertino's, with the exception that applicants are required to hold a public meeting for all small cell facility applications. Additionally, Los Altos requires that the pole being proposed to house a small cell facility also be physically posted with a notification.

- Los Altos (see Attachment H):
https://www.losaltosca.gov/sites/default/files/fileattachments/community_development/page/41491/wireless_facility_submittal_requirements.pdf

The City of Palo Alto's regulation of small cell facilities differs from that of other cities in the region in several respects. Palo Alto has established a number of restrictions on where small cell facilities may be installed. If a wireless provider submits an application to place a small cell facility within an area where small cells are restricted, the applicant must request an exception to the restriction and specify the basis of the request, including all supporting evidence on which the applicant relies. The applicant has the burden of proving that federal law, state law or both, compel the City to grant the requested exceptions.

Under Palo Alto's regulations, exceptions are required to permit locating a small cell facility within:

- A residential zone
- 600' of a parcel containing a public school (but no small cell may be closer than 300' to a parcel containing a public school)
- 20' of any occupied structure (but no small cell may be located within 20' of a habitable residential building in a residential zoning district)
- 600' of any other wireless communications facility (collocations to other wireless facilities are excluded from this requirement)
- 20' of any roadway intersection
- Any scenic route, historic district or historic structure

The City of Palo Alto, like the City of Los Altos, requires that the applicant hold a public meeting for every small cell application and requires that the pole proposed to house the small cell facility be physically be posted with a notification. Palo Alto's process also specifies that all decisions to issue permits for small cell facilities are appealable directly to the City Council.

The City of Palo Alto is continuing to pursue additional modifications to its process to address resident concerns and further streamline the application and review process.

- Palo Alto (see Attachment I):
<https://cityofpaloalto.org/civicax/filebank/blobdload.aspx?t=75074.3&BlobID=74989>

Establishing a process for permitting small cell facilities similar to the City of Palo Alto's resource-intensive approach would require additional staffing resources to properly address the permit applications and appeals process. The City of Palo Alto has at least seven staff members (including two planners, a Public Works engineer and permit technician, an electrical engineer, a management analyst and a representative from the City Attorney's Office) working to help process these permit applications. Although Palo Alto's permitting process does not necessarily require fulltime attention from each of these staff members, it is more staffing resource heavy than Cupertino's process, which uses two staff members (the City Engineer and a part-time associate engineer) for application review and permit issuance, and absorbs the equivalent time of approximately one-third of a full time employee.

Regional Cities' Notification Requirements for Small Cell Applications:

Regional cities' public notification requirements for small cellular facility applications are relatively consistent, with the distance for notification ranging between a 250' radius from the proposed facility, up to a 600' radius. Most cities, including Cupertino, have established a 300' notification radius. The notification period is also relatively consistent, ranging from 7 days on the low end, up to 20 days at the upper end. Cupertino has established a 14-day notification period, though in practice, the City will accept and review all correspondence from residents regarding small cell facilities, even after the notification period has expired. Below is a list of nearby Cities and their respective notification requirements:

Cupertino	-	300' Radius	- 14 Days
Campbell	-	300' Radius	- 14 Days
Los Altos	-	500' Radius	- 10 Days
Los Gatos	-	300' Radius	- 20 Days
Mountain View	-	300' Radius	- 7 Days
Palo Alto	-	600' Radius	- 14 Days
San Jose	-	250' Radius	- 20 Days
Saratoga	-	Adjacent Property Owners – Must be Met With	
Sunnyvale	-	300' Radius	- 14 Days

To provide further notification and information to Cupertino residents, the City has created an online GIS map and e-notification sign-up list. The GIS Map shows all proposed, permitted and active small cell facilities within the city, and the e-notification sign-up will alert interested parties of any updates to the map. The GIS map and e-notification sign-up can be found on the Cupertino website here: <https://www.cupertino.org/our-city/departments/public-works/permitting-development-services/small-cell-information>.

Potential Modifications or Clarifications of the City's Existing Small Cell Regulations:

Staff has reviewed the City's existing small cell requirements to evaluate where they might be further clarified for applicants, and where additional design or placement guidelines or requirements could be developed. The items considered include:

- Supplementing the City's existing aesthetic and technical standards for small cells to ensure changes in technology and the varying equipment used by different providers can be properly accommodated.
- Creating a small cell Application Checklist to further clarify submittal requirements and materials.
- Creating a formal Submittal Review Checklist to aid staff in further streamlining the review process.
- Provide clarification on spacing restrictions for small cell facilities owned by a specific provider.
- Provide specific guidance that small cell facilities are not permitted within Public Utility Easements located on private property. The City's Master License Agreements with wireless carriers only permit installation of small cell facilities on City-owned streetlight poles located in the public right of way.
- Require that any streetlight proposed to receive a small cell facility be posted with a notification sign during the public notification period.
- Restrict small cells from being placed on any pole located within 20' of an existing residence.
- Establish a minimum vertical clearance for small cell antennae at 26' above surrounding terrain (within 10' of the pole).
- Establish a maximum vertical elevation for small cell antennae at 36' above ground level in residential areas and 41' in commercial areas.
- Provide clarification that small cell wireless antennae be oriented along the direction of travel in the public right of way, and not toward private property or occupied structures.
- Consider implementing a time and materials fee structure for small cell permitting, to ensure staffing costs are being recovered by the City.

Sustainability Impact

No sustainability impact for hearing this report.

Fiscal Impact

No fiscal impact for hearing this report.

Prepared by: Chad Mosley, City Engineer

Reviewed by: Roger Lee, Director of Public Works

Approved for Submission by: Dianne Thompson, Assistant City Manager

Attachments:

A - Cupertino - Guidelines for Wireless Communications Facilities on City Owned Poles

B - Campbell - Small Cell Permitting Guidelines

C - Los Gatos - Small Cell Development and Design Guidelines
D - Mountain View - Application Process for Small Cell Facilities
E - San Jose - Small Cell Permit and Design Guidelines
F - Saratoga - Ordinance 365 - Wireless Facilities
G - Sunnyvale - Telecommunications Submittal Requirements for Right of Way
H - Los Altos - Wireless Facility Submittal Requirements
I - Palo Alto - Wireless Standards and Ordinance