

CC 12-03-2024

Oral
Communications

Written Communications

From: [Liang Chao](#)
To: [City Clerk](#)
Cc: [B Lau](#)
Subject: Fw: Small Cell Tower Site
Date: Monday, December 2, 2024 3:23:50 AM
Attachments: [wireless telecommunications ordinance draft 2022.pdf](#)
[wireless telecommunications design guidelines resolution draft 2022-compressed.pdf](#)

Please include this email and its attachments for the written communication for the 12/3 council meeting.

Thanks!

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Liang Chao
Councilmember
City Council
LChao@cupertino.gov
408-777-3192



From: B Lau <brionelau@gmail.com>
Sent: Sunday, December 1, 2024 4:58 PM
To: Liang Chao <LChao@cupertino.gov>
Cc: City Clerk <CityClerk@cupertino.gov>
Subject: Re: Fw: Small Cell Tower Site

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Council Member Liang:

Thank you so much for forwarding my concern.

As an addendum, I would like to further propose the City of Cupertino a) public their small cell ordinance on their website like the City of Los Altos (see <https://www.losaltosca.gov/publicworks/page/small-cell-nodes>) and b) create a detailed ordinance initiated and managed by Public Works if one does not already exist (see attached Los Altos examples from their website). This is a very well defined ordinance that has defined priority areas and regulations.

If no ordinance exists for Cupertino, then it is imperative the City creates a set of acceptable standards as there currently is no reference on Cupertino's own website (<https://www.cupertino.org/our-city/departments/public-works/permitting-development-services/small-cell-information>) compared to the Los Altos example.

As further reference, the City of Palo Alto also publishes a website from Planning and Development on their wireless standards and ordinance here:

<https://www.cityofpaloalto.org/Departments/Planning-Development-Services/Current-Planning/Ordinances-Maps-Guidelines-Standards/Wireless-Communication-Facilities>

I think both cities are benchmarks for Cupertino to review and potentially emulate as best practices going forward. The current web page is a good start but seems to fall short on ordinance / code information; I was most interested in reviewing the code and understanding the setback requirements. I look forward to the City Council reviewing the current requirements (and the potential lack of a well-defined ordinance like Los Altos and Palo Alto) considering the proliferation of small cell nodes will only increase in the future.

Regards,
Brion

On Wed, Nov 27, 2024 at 4:45 PM Liang Chao <LChao@cupertino.gov> wrote:

Dear Resident,

Thank you for reaching out with your comments.

Due to a change in the implementation of how written communication is collected for the upcoming council meeting, your email will not be included in the official record unless a councilmember forwards it to the City Clerk.

Dear City Clerk,

Please enter the enclosed communication and its attachments as written communication for the upcoming council meeting from a councilmember, per CMC 2.08.100.

I am submitting this comment at the request of my constituents to ensure that community voices are included in written communications of council meetings as requested, rather than at the discretion of councilmembers, which might inadvertently leave out some minority voices.

Thank you for your attention to this matter.

Regards,

Liang

~ Cupertino City Council (elected in 2018, re-elected in 2022)



Liang Chao

Council Member
City Council
LiangChao@cupertino.org
408-777-3192



From: B Lau <brionelau@gmail.com>
Sent: Wednesday, November 27, 2024 2:44 PM
To: City Council <citycouncil@cupertino.org>
Cc: City of Cupertino Public Works - Engineering Div <engineering@cupertino.org>
Subject: Re: Small Cell Tower Site

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Council Members:

Based on the city's website and posted information on small cell towers below, it appears the last public meeting was in 2021 when Darcy Paul was mayor.

Since then, the # of cell #s has increased across Cupertino exponentially including a pending permit on Bubb Road outside Kennedy Middle School.

Reference: <https://www.cupertino.org/our-city/departments/public-works/permitting-development-services/small-cell-information>

It also appears Verizon has spent quite a bit of \$\$\$ and previously hired the legal firm MacKenzie & Albritton LLP to represent its interest on May 24, 2021.

I strongly consider the council members to allow numerous small cell towers across Cupertino especially in residentially zones and directly adjacent to public schools. Please see the published flyer related to concerns and studies related to the impact of 5G wireless.

The attached flyer is more comprehensive and helps the public make a fully informed decision as opposed to what your staff members posted on the City's small cell tower section, positioning such devices as safe (according to other experts). At best this is misleading due to only sharing partial information (<https://www.cupertino.org/our-city/departments/public-works/permitting-development-services/small-cell-information>) in the FAQs.

I urge you to add this to an upcoming council meeting and explore alternative ways to satisfy the carrier's requirements without infringing on our residential rights and safety.

Regards,
Brion Lau

On Wed, Nov 27, 2024 at 11:16 AM B Lau <brionelau@gmail.com> wrote:

Addendum:

Here is a useful link for information on 5G and cell towers from the Environmental Health Trust.

<https://ehtrust.org/liability-and-risk-from-5g-and-cell-towers/>

At the bottom of the article are links to counter-arguments and research stating 5G is safe and low levels of radiation. The fact is there is no long-term study and the fact that insurance will not cover this risk should say enough.

Thank you.

On Wed, Nov 27, 2024 at 11:03 AM B Lau <brionelau@gmail.com> wrote:

Dear City Council Members:

Please see the email below originally addressed to Planning and Public Works departments.

I should have copied you on the original protest.

Please consider relocating the installation to an alternate site acceptable to the carrier such as the screenshot provided.

Thank you,
Brion

----- Forwarded message -----

From: **B Lau** <brionelau@gmail.com>

Date: Wed, Nov 27, 2024 at 10:42 AM

Subject: Re: Small Cell Tower Site

To: City of Cupertino Planning Dept. <planning@cupertino.org>

Cc: <engineering@cupertino.org>

Screenshot attached with the location of a potential alternate location.

Or, at the very least, please relocate this to another area that would minimize RF exposure and impact.

On Wed, Nov 27, 2024 at 10:41 AM B Lau <brionelau@gmail.com> wrote:

Hi Team,

I just met a contractor doing a site analysis on the streetlight outside 21600 Rainbow Drive. He mentioned they are planning to install a small cell tower on this streetlight for a public carrier such as Verizon.

I am concerned about this site in particular because my family, neighbors and I will be subjected to constant RF (radio frequency) waves that could potentially be harmful to our health especially those of us within 400 meters of this small cell tower.

I realize the City is allowing these towers but previously they were located closer to the retail corridors with high traffic. This location is directly within a neighborhood with no local businesses nearby.

Besides the long-term health risks, any argument that we need improved signal is misleading. Many of us who live in this area use Wi-Fi calling and do not depend on cell signal or strength alone.

Please relocate this small cell tower elsewhere 400 meters away from this site. My suggestion is to use the utility structure at the top of Fremont Older Preserve (see attached). The elevation is higher and this is further away from residential homes instead of right in the middle of our neighborhood.

I would also like to understand how far along this is in the planning process and if permits have been issued. If so, please provide a copy of the site analysis and whether or not the operator has an FCC exemption (<https://www.ecfr.gov/current/title-47/chapter-I/subchapter-A/part-1/subpart-I/section-1.1307>) under section B.

I appreciate your consideration and assistance ensuring our long-term neighborhood health remains a top priority over commercial concerns for such an installation.

Regards,
Brion Lau
Ph: (408) 219-6415

RESOLUTION No. 2022-__

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF
LOS ALTOS ADOPTING DESIGN GUIDELINES AND
STANDARDS FOR WIRELESS FACILITIES**

THE CITY COUNCIL OF THE CITY OF LOS ALTOS DOES RESOLVE AS FOLLOWS:

SECTION 1. FINDINGS

A. Pursuant to the California Constitution, Article XI, section 7; California Government Code § 37100 and other applicable law, the City Council may make and enforce within its limits all local, police, sanitary and other ordinances, resolutions and other regulations not in conflict with general laws.

B. It is in the public interest for the City to establish reasonable, uniform and comprehensive design and siting guidelines for the installation of wireless facilities . The City having previously established design guidelines pursuant to Resolution No. 2019-35 adopted on August 5, 2019 (hereinafter “the Existing Design Guidelines”), now wishes to rescind the Existing Design Guidelines and replace them with new design guidelines set forth below in the **Appendix** as discussed below in Section 2 (“New Design Guidelines”), in order to protect the City of Los Altos and its aesthetics and preserve the public health and safety of the community.

C. These New Design Guidelines are intended to, and should be applied to, protect and promote public health, safety and welfare, and also balance the benefits that flow from wireless services with the City's local rules which include, without limitation, the aesthetic character of the City, its neighborhoods and community.

D. Los Altos’ public rights-of-way are a uniquely valuable public resource, closely linked with the City’s rural character and natural beauty. Los Altos has a population of 30,000 and is suburban community near Silicon Valley. The City has a small town, semi-rural atmosphere – with wooded, quiet low-density single-family homes. The regulation of wireless communication facilities both within the public right-of-way and other locations within the City, is necessary to protect and preserve the aesthetics of the community. The City’s General Plan also provides for the undergrounding of new telephone and utility lines, “maintaining the low density, low profile residential character of the community through zoning regulations and design guidelines,” and “ensuring compatibility between residential and non-residential development through zoning regulations and design review.” The City’s concerns for preservation of its community including public safety, visual impact, and aesthetics relate to preserving the residential character of the community by imposing these New Design Guidelines that relate to location, camouflaging, height, size and spacing of wireless telecommunications facilities. As well, the New Design Guidelines also provide separation between wireless telecommunications facilities and the front of homes along permitted rights-of-way within residential zones serves to reduce the intrusiveness of any new wireless telecommunications facilities.

E. The City is mindful of the need to minimize the potential adverse impacts on the community which includes amongst other things, limiting wireless site visibility and impacts to

the City's aesthetic well-being, while balancing same against the need for sufficient cell coverage for emergency needs and complying with both federal and state laws. These New Design Guidelines are particularly focused on minimizing visibility from residences, encouraging undergrounding of utilities, and limiting the height of such facilities to be consistent with the single-family residences that predominate the housing stock of Los Altos. In keeping with these goals, these New Design Guidelines serve to ensure the preservation of the local residential areas.

F. These New Design Guidelines serve to help minimize and/or alleviate possible threats to the public health, safety and welfare of the City of Los Altos, including but not limited to, potential disturbance to the right-of-way through the installation and maintenance of wireless telecommunication facilities; traffic and pedestrian safety hazards due to the unsafe location of wireless facilities; impacts to trees where proximity conflicts may require unnecessary trimming of branches or require removal of roots due to related undergrounding of equipment or connection lines; land use conflicts and incompatibilities including excessive height of poles and/or towers; creation of visual and aesthetic blights and potential safety concerns arising from excessive size, heights, noise or lack of camouflaging of wireless telecommunications facilities including the associated pedestals, meters, equipment and power generators; and the creation of unnecessary visual and aesthetic blight by failing to utilize alternative technologies or capitalizing on collocation opportunities, all of which has the potential to yield serious negative impacts on the unique quality and character of Los Altos.

G. The reasonably regulated and orderly development of wireless telecommunication facilities in the public-right-of-way is desirable, and unregulated or disorderly development represents a threat to the health, welfare, and safety of the Los Altos community.

H. The City's beauty is an important reason for businesses to locate in the City and for residents to live here. The City's economy, as well as the health and well-being of all who visit, work or live in the City, depends in part on maintaining the City's beauty. The City has been moving towards the undergrounding of various utilities, including the First Street and Lincoln Park Undergrounding Utility projects, and needs to ensure that this effort is not hindered by the addition of numerous wireless telecommunications facilities cabinet, wires, cables, and bulky equipment that visually impede and clutter the City's public rights of way. The New Design Guidelines serve to encourage the reduction of all appurtenant equipment, screening of same, and efforts at undergrounding.

I. The City Council takes legislative notice of the various federal court decisions and FCC Order that have recognized the City's ability to impose the New Design Guidelines to protect the aesthetics of Los Altos. In fact, the FCC Order goes on to state that local aesthetic requirements that are reasonable in that they are technically feasible and reasonably directed to avoiding or remedying the intangible public harm of unsightly or out-of-character deployments are permissible. *In the Matter of Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Inv.*, 33 F.C.C. Rcd. 9088 (2018), *aff'd in part, rev'd in part, City of*

Portland v United States, 969 F.3d 1020, 1032 (9th Cir. 2020) and *see also Sprint PCS v. City of Palos Verdes Estates* (2009) 583 F.3d 716.

J. The City acknowledges that there has been an ever-increasing demand for the placement of wireless telecommunication facilities within the public rights of way, in order to offer increased coverage in the way of numerous expanding technologies such as: cell phones, video streaming, and on line access to work from home during the COVID -19 pandemic. In connection with the ever increasing demand for expanding technologies, the City is also mindful of the carriers desire to move forward with 5G and the potential increase in applications for wireless facilities within this small suburban community has the potential to greatly impact the quality of life and the bucolic nature of the community.

K. The overarching intent of the New Design Guidelines is to make wireless telecommunications reasonably available while preserving the essential rural character of Los Altos. The New Design Guidelines will foster such by minimizing the visual and physical effects of wireless telecommunications facilities through appropriate design, screening techniques and location standards; and encouraging the installation of such facilities where and in a manner such that potential adverse impacts to Los Altos is minimized.

L. The City adopted its Current Design Guidelines back in August of 2019. This occurred after the City held a study session and several public hearings, at which stakeholders discussed wireless and other infrastructure deployment issues, and expressed their design and location preferences, practical and safety concerns, aesthetic concerns, policy views and the essential local values that make Los Altos a uniquely small suburban community. The City's residents in the summer of 2019 called out the numerous concerns at play with aesthetics, and these concerns included numerous objections that were focused on visual blight such as:

- Small cell nodes previously proposed by carriers, AT&T and Verizon, to the City of Los Altos were visually intrusive and unsightly;
- The City should continue to be judicious about and distaste for visual blight;
- The need to eliminate visual blight;
- The need to consider potential visual blight, to mitigate noise and heat;
- Wireless facilities should be regulated in order to preserve Los Altos' neighborhood aesthetic guidelines;
- Cell towers or small cells are unsightly, noisy and add to the visual blight from the existing electric and telephone lines;
- Cell towers are ugly and there is no need for extra eye sores;
- The mounting of "small" refrigerator-sized boxes on the side of an existing utility poles is unsightly and adds to visual blight; and
- The cell tower is an eye sore that emits an annoying fan type noise that has a negative impact on the quality of life of the residents who live there or who walk within the community.

These same concerns as to visual blight, aesthetic impairment and noise remain at play today.

SECTION 2. DESIGN GUIDELINES: REPEAL OF PRIOR RESOLUTION.

The City Council previously adopted Resolution No. 2019-35 on August 5, 2019. The Council hereby repeals Resolution No. 2019-35 in its entirety.

SECTION 3. NEW DESIGN GUIDELINES.

The City Council hereby adopts the New Design Guidelines set forth in the **Appendix**, which New Design Guidelines are incorporated with this Resolution

SECTION 4. DEFINITIONS

The definitions set forth in Section 11.12.020 of the Municipal Code are incorporated by reference into this Resolution. In addition, the **Appendix** provides definitions for “Small Cell Facility” and Underground Areas.”

SECTION 5. SEVERABILITY.

If any provision of this Resolution or its application to any person or circumstances is held invalid, such invalidity has no effect on the other provisions or applications of the Resolution that can be given effect without the invalid provision or application, and to this extend, the provisions of this Resolution irrespective of the invalidity of any portion thereof.

SECTION 6. EFFECTIVE DATE.

The City Clerk shall certify the adoption of this Resolution and cause it, or a summary of it to be published as required by law. This Resolution shall become effective the same date that it is adopted.

APPROVED AND ADOPTED at a Regular Meeting of the City Council of the City of Los Alto this ___ day of _____, 2022.

Anita Enander
Mayor, City of Los Altos

Attest: Andrea Chelemengos
City Clerk

5041860.3
1/20/2022 9:05 PM

APPENDIX TO CITY OF LOS ALTOS RESOLUTION 2022-___
**DESIGN AND DEVELOPMENT STANDARDS FOR WIRELESS
TELECOMMUNICATIONS FACILITIES**

I. Definitions

A. Small Cell Facility: shall have the same meaning as “small wireless facility” in 47 C.F.R. 1.60020), or any successor provision (which is a personal wireless services facility that meets the following conditions that, solely for convenience, have been set forth below):

1. The facility-
 - a. is mounted on a structure 50 feet or less in height, including antennas, as defined in 47 C.F.R. Section 1.1320(d), or
 - b. is mounted on a structure no more than 10 percent taller than other adjacent structures, or
 - c. does not extend an existing structure on which it is located to a height of more than 50 feet by more than 10 percent, whichever is greater;
2. Each antenna associated with the deployment, excluding associated antenna equipment (as defined in the definition of antenna in 47 C.F.R. Section 1.1320(d)), is no more than three cubic feet in volume;
3. All other wireless equipment associated with the structure, including the wireless equipment associated with the antenna and any pre-existing associated equipment on the structure, is no more than 28 cubic feet in volume;
4. The facility does not require antenna structure registration under 47 C.F.R. Part 17;
5. The facility is not located on Tribal lands, as defined under 36 C.F. R. Section 800.16(x); and
6. The facility does not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in 47 C.F.R. Section 1.1307(6).

B. Underground areas: Those areas where there are no electrical facilities or facilities of the incumbent local exchange carrier in the right of way; or where the wires associated with the same are or are required to be located underground; or where the same are scheduled to be converted from overhead to underground. Electrical facilities are distribution facilities owned by an electric utility and do not include transmission facilities used or intended to be used to transmit electricity at nominal voltages in excess of 35,000 volts.

II. Design And Development Standards for all Wireless Telecommunications Facilities.

A. Purpose. The purpose of this section is to provide guidelines to applicants and the City that prescribe clear, reasonable, and predictable design criteria to reduce visual and land use impacts associated with wireless telecommunication facilities in the City. Nothing in this section shall be construed to permit a wireless telecommunication facility in any location or configuration that it is otherwise prohibited by the City’s locational and development standards found in Chapter 14.82.

B. Basic Design Principles. The design and development standards set forth in this section apply to all wireless telecommunications facilities no matter where they are located. Wireless telecommunications facilities shall be designed and maintained so as to minimize visual, noise, and other impacts on the surrounding community and shall be planned, designed, located, and erected in accordance with the design and development standards in this section and the following basic principles.

1. Impact Minimization. The overall impacts of a wireless telecommunications facility shall be minimized in relation to aesthetic, land use, noise, traffic, and other considerations. Although this is generally accomplished with the smallest feasible design for any given facility, a larger facility may sometimes be appropriate if it is well concealed, compatible with the surrounding neighborhood, and can reduce the overall number of wireless telecommunications facilities required to provide service within the City.

2. Integration and Concealment. Integration and concealment of a wireless telecommunications facility and its resulting visibility are a function of site context as well as the design and placement of a facility on a specific site.

a. Overall, new wireless telecommunications facilities and modifications to existing facilities shall be visually integrated into their sites and as hidden from view as feasible.

b. Non-integrated (unconcealed) installations are less preferred and permitted only where an integrated (concealed) facility is either infeasible or would reduce the number and overall visual intrusiveness of wireless telecommunications facilities required to provide service within the City.



Figure 1: This well-concealed wireless telecommunications facility has its antennas architecturally integrated into the building.

- c. Complete concealment (e.g., no visible exterior equipment) is preferred over other methods.
 - d. Covering or painting antennas and equipment does not necessarily mean they are well-concealed and must be evaluated based on their actual ability to conceal the facility. Factors to be considered include the visibility of exterior pole equipment on a pole regardless of its color and concealment methods (antenna skirts, fiberglass paneling, fiber-reinforced plastic [FRP] boxes, etc.) themselves.
 - e. RF safety barriers shall be the least visible barrier feasible. When feasible, striping and restricted access shall be used instead of posts, chains, and/or fencing. When barriers must be visible, building materials should be integrated into the design of the facility and its adjacent surroundings.
 - f. Any feature that is represented on plans and photo simulations submitted to the City as providing concealment (adjacent landscaping, paint colors, architectural elements, etc.) shall be present for the life of the project, and therefore need to be within the applicant's control.
 - g. Future modifications to a site or facility reduce concealment that was provided with the initial installation shall not be permitted unless no feasible alternative exists, or the proposed modification involves colocation and an overall reduction of the visual intrusiveness of wireless telecommunications facilities within the City.
- 3. Context.** Specific situations require specific design solutions. What integrates well into one site and conceals a wireless telecommunications facility might not be appropriate for another situation. Proposed designs shall therefore be evaluated based on the following considerations.
- a. Concealment behind a parapet might be a good design solution; however, designs that raise the parapet or only a portion of the parapet might not be.
 - b. Façade-mounted antennas or a cupola might be appropriate for certain styles of architecture, but not for others.
 - c. Placement of a wireless telecommunications facility on an existing pole or a replacement pole might or might not be visually unobtrusive, depending on the extent to which the facility adds to the height of the pole and the presence and extent of external equipment and cabling added to the pole.
 - d. Placement of a new pole within a street right-of-way might or might not be appropriate depending on the location of any nearby utility poles, streetlights, or traffic signals.
 - e. Placement of a new pole on a property outside of a right-of-way (such as on a new flagpole) might or might not be appropriate depending on its design and location in relation to buildings and other onsite features.

- f. A wireless telecommunications facility that fits into its context (e.g., a faux tree within an area having existing trees) is generally more integrated (concealed) than one that does not (e.g., a faux tree in the middle of a non-landscaped parking lot or a faux tree that is poorly designed or of a species not otherwise present in the area).
- g. New wireless telecommunications facilities are generally appropriate as a means of reducing the overall number of facilities within the community but might be visually intrusive depending on their height, design, and placement.

C. No Speculative Facilities. A wireless telecommunications facility, telecommunications collocation facility, or telecommunications tower that is built on speculation and for which there is no wireless tenant shall be prohibited within the City.

D. General Guidelines.

- 1. Concealment.** Each facility shall be designed to be as visually inconspicuous as feasible, to prevent the facility from dominating the surrounding area, and to conceal the facility from predominant views from surrounding properties, all in a manner that achieves compatibility with the community.
 - a. Cabling and equipment should be concealed wherever feasible. Where cabling and/or equipment cannot feasibly be fully concealed from public view, they should be designed and located so as to minimize their visual intrusiveness.
- 2. Traffic Safety.** All facilities shall be designed and located in such a manner as to avoid adverse impacts on traffic safety.
 - a. Any wireless telecommunications facility attachments placed less than 16 feet above ground level shall not be placed closer than 18 inches to a curb, nor shall they extend over a sidewalk (Caltrans Highway Design Manual Section 309).
 - b. All wireless telecommunications facility equipment shall maintain at least 3 feet separation from any curb cut.
- 3. Antennas.** The applicant shall use the least visible antennas possible to accomplish the coverage objectives. Antenna elements shall be flush mounted, to the extent reasonably feasible. All antenna mounts shall be designed so as not to preclude possible future collocation by the same or other operators or carriers. Antennas shall be situated to reduce visual impact without compromising their function. Whip antennas need not be screened.

4. Landscaping.

- a. Where appropriate, facilities shall be installed so as to maintain and enhance existing landscaping on the site, including trees, foliage, and shrubs, whether or not the landscaping is used for screening.
 - b. The wireless telecommunications facility's design shall be consistent with the existing and/or proposed landscape design of the adjacent site, using a similar or complementary plant palette.
 - c. Existing, mature trees shall be retained when feasible. Any existing landscaping removed or damaged by installation shall be replaced in kind.
 - d. Additional landscaping shall be planted, irrigated, and maintained where such vegetation is deemed necessary by the City to provide screening or to block the line of sight between facilities and adjacent uses. Landscaping to screen wireless telecommunications facilities shall not, however, block the lines of sight and create hazards for motorists, bicyclists, and pedestrians.
 - e. Any proposed underground vaults shall be designed and constructed so as to protect existing street trees, including roots within the tree's drip line.
 - (1) A report from an experienced arborist shall be provided to the City upon request confirming the tree's root system has been adequately protected.
 - f. Landscaping proposed to screen, conceal, complement, or soften the visual intrusiveness of a wireless telecommunications facility shall remain for the life of the permit, even if not located within the applicant's lease area. Adequate provisions shall be entered into with property owners to ensure that required landscaping is not removed, and that it is properly maintained. Landscaping outside the applicant's control is generally not considered to provide concealment, but concealment provided by such landscaping can be considered on a case-by-case basis.
- 5. Signage.** Wireless telecommunications facilities and wireless telecommunications collocation facilities shall not bear any signs or advertising devices other than certification, wattage, or other signage required by law or permitted by the City.
- 6. Lighting.** A wireless telecommunications facility shall not be illuminated unless lighting is specifically required by the Federal Aviation Administration or other government agency, or the lighting is in association with the illumination of an athletic field on City or school property. Lighting arresters and beacon lights are not permitted unless required by the Federal Aviation Administration or other government agency. Legally required lightning arresters and beacons shall be included when calculating the height of facilities such as telecommunications towers, lattice towers, and monopoles.

7. Noise.

- a. Each wireless telecommunications facility and wireless telecommunications collocation facility shall be operated in such a manner so as to minimize any disruption caused by noise.
- b. At no time shall any facility be permitted to generate noise exceeding 45 dBA except for backup generators operated during periods of power outages.
- c. Backup generators shall only be operated during periods of power outages, and shall not be tested on weekends, on holidays, or on weekdays between the hours of 5:00 p.m. and 7:00 a.m. Noise from backup generators shall not exceed the noise levels specified in Municipal Code Chapter 6.16.
- d. Where feasible, passive louvers and/or other passive ventilation shall be provided as the primary means of temperature control.

8. Security. Each wireless telecommunications facility and wireless telecommunications collocation facility shall be designed to be resistant to, and minimize opportunities for, unauthorized access, climbing, vandalism, graffiti, and other conditions that would result in hazardous situations, visual blight, or attractive nuisances. The City may require the provision of warning signs, fencing, anti-climbing devices, or other techniques to prevent unauthorized access and vandalism when, because of its location or accessibility, a facility has the potential to become an attractive nuisance. The applicant shall cover any costs associated with the techniques described herein.

9. Modification of Existing Equipment. At the time of modification of a wireless telecommunications facility, existing equipment shall, to the extent feasible, be modified or replaced to reduce visual, noise, and other impacts. This shall include the reduction of the size of the ground cabinet and/or replacement with an underground vault. Examples include, but are not limited to, undergrounding the equipment or replacing larger, more visually intrusive facilities with smaller, less visually intrusive facilities.

II. Additional Design and Development Standards for Facilities Outside of the Public Right-of-Way and Public Utility Easements.

A. Basic Requirements. Facilities located outside the public right-of-way and public utility easements are subject to the design and development standards set forth in this section in addition to the design and development standards that apply to all facilities (Section 4).

B. Preferred Designs.

1. Façade-Concealed Antennas. Façade-concealed antennas have antennas, mounting apparatus, and any associated components fully concealed from all sides within a structure that achieves complete architectural integration with the existing building (for example, antennas behind fiber-reinforced plastic [FRP] in a parapet, and

equipment inside an existing building), or within outbuildings that are architecturally integrated into a site and are expected components of the setting. This preferred installation type has the following additional characteristics.

- a. Cables and cable trays are completely hidden from view with cables routed internally or buried underground.



Figure 2: This completely concealed wireless telecommunications facility, including antennas, is cited in the City of San Diego's Land Development Manual in its guidelines for wireless communications facilities.

- (1) Exterior cable trays designed to replicate an existing vertical element may be considered on a case-by-case basis.
- (2) Standard cable trays painted and textured to match the existing building are indicative of a façade-mounted facility rather than the preferred façade-concealed facility.

- b. Equipment and equipment areas shall be completely hidden.

- (1) Associated equipment shall be completely concealed inside an existing building, inside an underground vault, or by the same method as the antennas (RRUs, RRHs, surge suppressors, and similar).

- (2) Screen walls, fences, and prefabricated facilities are generally not indicative of building-concealed facilities; however, equipment enclosures designed to replicate existing buildings and structures may be considered on a case-by-case basis. This guideline shall apply to any existing or proposed mechanical equipment that serves the wireless



Figure 3: Antennas are concealed behind the circular element.

telecommunications facility, including, but not limited to, generators, air conditioning units, and similar equipment.

- c. FRPs shall be both textured and painted to match adjacent building faces. Paint and texture should match completely.
- d. There should be no noticeable transitions (e.g., seams or differences in paint or texture) between FRP and adjacent surfaces.
- e. If concealed within a parapet, the top, sides, and rear of antennas and associated components shall also be enclosed or otherwise screened from view. No wireless telecommunications facility components, including antenna, mounting apparatus, cabling, or equipment, should be visible.
- f. If a project extends the parapet upward, the extensions should have symmetry in all visible dimensions. Antennas and concealment elements shall not dominate the element on which they are placed.

2. Faux Architectural Elements. Faux architectural elements are existing or proposed architectural elements on a building that completely conceal antennas. They are distinguished from façade-concealed antennas in that they appear to be architectural elements of a building.

- a. This preferred installation type may take a variety of forms, such as tower elements and cupolas. Architectural integration may also include tapered columns (which may hide façade-mounted antennas individually), wing walls, dormers, statues, façade-mounted signage, and other elements.
- b. This preferred installation type shall be appropriate to the architectural context and have the following additional characteristics:



Figure 4: A cupola (above) and a clock tower (below) conceal antennas.

- (1) Design that matches the style of the building and is designed as a feature commonly found on the type or style of building upon which the element is proposed; and
 - (2) Colors and textures that match the existing building, including finishing features such as reveals, windows, tapers, cornices, tiling, roofing materials, and trim.
- c. Antennas and related equipment shall not encroach from a building into the public right-of way or onto an adjacent property.

3. Rooftop Concealment. If accessory equipment for roof-mounted facilities cannot be installed inside the building or underground, such accessory equipment may be located on the roof of the building that the facility is mounted on , provided that both the equipment and screening materials are painted the color of the building, roof, or surroundings. Rooftop facilities that appear to be a building façade, architectural element, or parapet are considered to be façade-concealed, façade-mounted, or faux architectural facilities. Rooftop concealment is considered to be a preferred design where façade integration is not feasible.

- a. Roof-mounted facilities shall be designed and constructed to be fully concealed or screened in a manner compatible in color, texture, and type of material with the existing architecture of the building on which the facility is mounted. Screening shall not increase the bulk of the structure nor alter the character of the structure.
 - (1) All screening materials for roof-mounted facilities shall be of a quality and design that is architecturally integrated with the design of the building or structure.
 - (2) Rooftop concealment shall be appropriate to the architectural setting, matching the colors and textures of existing building (including features such as reveals, cornices, tiling, roofing materials, and trim), and shall be designed as a feature commonly found on the type or style of building upon which the facility is proposed.
 - (3) Integration into existing rooftop elements is preferred over creating new rooftop elements unless integration would be architecturally undesirable.
 - (4) The height of rooftop screening shall not exceed the maximum height permitted by the zoning district within which the facility is located.
 - (5) Roof-mounted wireless telecommunications facilities shall not be visible from any side and may need to be concealed from the top if adjacent structures are taller and have views onto the roof where wireless telecommunications facilities are proposed to be mounted.
 - (6) Equipment located on the roof of an existing structure shall be set back or located to minimize visibility, especially from the public right of-way or

viewing locations accessible to the public. Rooftop screening elements will generally need to be set back from the roof edge at least as far as they are tall.

(7) Rooftop screening shall not dominate a façade. For example, an antenna screen that approaches the height of a building story and runs most of the length of a façade containing windows would substantially increase building height but not appear as part of the structure. In this case, it would be more desirable to extend the parapet and make the building itself appear taller.

b. Unconcealed rooftop installations such as lattice towers, monopoles, and rack mounts that are visible from the public right-of-way or viewing locations accessible to the public shall not be permitted.

4. Architecturally Designed Stand-Alone Towers. Towers that are designed to appear as buildings or signs, and that conceal antennas completely within them, may be permitted where appropriate to the site on which they are proposed. Examples include, but are not limited to, clock towers and obelisks.

a. Architecturally designed stand-alone towers shall be of high-quality design and provide variation in planes, textures, colors, or treatments to avoid the look of a simple box.

b. Clock towers shall have a functioning clock at all times.

c. A separate sign permit may be required for any onsite sign used to conceal antennas.

d. A wireless telecommunications facility permit may not be used to request signage that does not comply with Municipal Code standards for signage.

5. Athletic Field Lights. The guidelines in this section are for lights used to illuminate large areas for the purposes of recreation. For lights used to illuminate the immediate area for pedestrian or driver safety, see Section C.4, Parking Lot Light Standards, below.

a. Antennas shall be mounted as close as possible to the pole and within an antenna shroud that conceals the antennas and any associated components. No wireless telecommunications facility component except the antenna shroud shall be visibly mounted to a pole.

b. Antennas and mounting components shall be painted the same color as the pole.

c. All cables and conduit to and from the light standard shall be routed from the caisson up into the pole. Cable coverings may be permitted in limited circumstances where they would be minimally visible.

d. When a wireless telecommunications facility is proposed on a field with no existing lighting or no functional lighting, the applicant shall provide additional lighting as required to provide a functionally illuminated sports field. Partial lighting of a sports field is not acceptable.

C. Other Permitted Designs.

1. Façade-Mounted Antennas. Façade-mounted antennas are any antennas mounted on the exterior of a building that are not faux architectural elements. Façade-mounted antennas shall:

- a. Employ a symmetrical, balanced design.
 - (1) No interruption of architectural lines or horizontal or vertical reveals should occur.
 - (2) Antennas should be no longer or wider than the façade on which they are proposed and shall not encroach into window areas or protrude above or below the surface on which they are mounted.
 - (3) Antennas should be mounted with their tops at the roofline unless there is an obstacle, or unless to do so would decrease concealment.
- b. Use the smallest mounting brackets available to provide the smallest offset from the building.
- c. Limit the distance from the front of the antenna (or antenna shroud/FRP) to the face of the building to 12 inches. Panel antennas may be mounted up to 18 inches away from a building façade when the applicant provides evidence demonstrating that the wireless communication facility cannot operate without incorporating a tilt greater than 12 inches.
- d. Fit each antenna into the design of an existing façade, with each antenna being no longer or wider than the portion of the façade upon which it is mounted. The antennas should not interrupt the architectural lines of the façade.
- e. Conceal associated mounting brackets and cable from view. Any pipes or similar apparatus used to attach panel antennas to a building façade shall not extend beyond the length or width of the panel antenna. Measurements may be verified during inspection.



Figure 5: Although façade-mounted boxes are not preferred, this example from San Diego achieves integration with the structure.

- f. If a façade-mounted facility dominates a façade element, use façade-mounted FRP boxes that look like an extension of the façade.
 - g. If not covered by an FRP box, use skirts and chin covers to conceal mounting hardware, create a cleaner appearance, and minimize visual impact. Chin covers shall be designed to replicate the antenna profile. Transitions between antennas and screening devices should not be visible (no gaps). Antennas should appear to be the same length, width, and depth, spaced uniformly.
 - h. Match the color and texture of concealment measures to adjacent building surfaces, including includes trim, reveals, lines, and similar features. No visible transition lines or gaps should occur.
 - i. Avoid exposed cabling.
 - j. If not covered by an FRP box, provide a unified appearance. If antennas differ in shape or size, they should all be given unified dimensions using skirts and chin straps spaced uniformly across a façade.
 - k. Locate ventilation openings on the top or bottom of screening elements only.
 - l. Not encroach from a building into the public right-of way or onto an adjacent property.
- 2. Faux Trees.** Wireless telecommunications facilities may be designed to emulate trees where trees similar in size and species are present. Faux trees may also be appropriate when natural trees of similar species are planted concurrent with faux tree installation, depending on the density and size of trees being planted.

- a. Faux trees shall be of a type and size to adequately conceal antennas within them while appearing natural.

- (1) Faux trees shall replicate the shape, structure, and color of live trees, and be designed to look like the tree species they intend to replicate (e.g., a faux pine tree shall be shaped like a pine tree). Branching shall not make the tree look top-heavy or unnatural.



Figure 6: In this example, antennas are concealed by the faux "mono-pine."

- (2) If no trees exist within the immediate area, the applicant shall create a landscape setting that integrates the faux tree with added species of a similar height and type.
 - (3) All branches at the antenna level shall extend a minimum of 24 inches beyond the entire vertical length of the antennas for maximum concealment. Antenna socks shall not count toward this requirement.
 - (4) Faux trees shall be designed with a minimum of four branches per foot for full density coverage with limited spacing between the branches unless three dimensional (3D) models justify lower branch counts.
 - (5) There shall be no gaps in branch coverage. All branch ports shall be used for branches. Branches shall blend down the tree with no abrupt transitions.
 - (6) Poles should be five feet shorter than the overall height of the faux tree to allow branching at the top of the tree.
 - (7) Due to the physical form of palm trees and the difficulty of providing concealment for wireless telecommunications facilities, faux palms shall not be permitted.
- b. Applications proposing faux tree installations shall provide detailed specifications during plan review, including:
 - (1) 3D-modeled photo simulations illustrating branches, foliage, pole, and equipment; and
 - (2) Sufficient samples, models, or other means to demonstrate the quality, appearance, and durability of the faux tree.
 - c. Projects shall not be approved at final inspection if they do not match the approved exhibits, including photo simulations.

3. Flagpoles and Similar Vertical Elements. This section addresses the design of wireless telecommunications facilities designed as flagpoles or other stand-alone pole-like elements that are not used for illumination or above-ground utilities.

- a. Flagpoles shall replicate the design, diameter, and proportion of the vertical element they are intended to imitate and shall maintain a tapered design.
- b. Generally, flagpoles should be 30 feet or less in height and not exceed 9 inches in diameter.
 - (1) Flagpoles that are higher than 30 feet and/or exceed 9 inches in diameter may be permitted where the flagpole is located in a suitable setting and appropriately tapered to maintain the appearance of an authentic flagpole.
- b. Antennas and any pole-mounted equipment shall be enclosed within the flagpole. Flagpoles shall not have an antenna shroud.

- c. Flagpoles shall comply with the U.S. Flag Code at all times.
 - d. All cables shall be routed directly from the ground up through the pole.
- 4. Parking Lot Light Standards.** These guidelines are for lights used to illuminate the immediate area for vehicular and pedestrian safety within a parking lot.
- a. Light standards used for wireless telecommunications facilities shall:
 - (1) Replicate the design, diameter, and proportion of the vertical element they are intending to imitate; and
 - (2) Replicate as closely as possible the design of any other lighting standard within the parking lot, including but not limited to the height of other parking lot lighting standards and the design, material, and color of nearby light poles.
 - b. All cables and conduit to and from the light standard shall be routed from the caisson through the pole to the antennas.
 - c. All antennas shall be concealed inside an antenna shroud of a shall be compatible with the diameter of the pole or concealed within the pole.
 - d. Light fixtures shall be sized and balanced with the design and height of the overall light pole.

D. Pole-Mounted Telecommunications Facilities.

- 1. Facilities mounted to a telecommunications tower, including, but not limited to, the attached antennas, shall be designed to be the minimum functional height and width required to adequately support the proposed facility and meet Federal Communications Commission (FCC) requirements. The applicant shall provide documentation satisfactory to the City Manager establishing compliance with this paragraph.
- 2. Monopole installations shall be situated so as to utilize existing natural or man-made features including topography, vegetation, buildings, or other structures to provide the greatest amount of visual screening.
- 3. All antenna components and accessory wireless equipment shall be treated with exterior coatings of a color and texture to match the predominant visual background or existing architectural elements so as to visually blend in with the surrounding development. Subdued colors and non-reflective materials that blend with surrounding materials and colors shall be used.
- 4. Monopoles shall be no greater in diameter or other cross-sectional dimensions than is necessary for the proper functioning of the facility.

E. Accessory Equipment.

1. All accessory equipment associated with the operation of any wireless telecommunications facility shall be fully screened or camouflaged, and located in a manner to minimize its visibility to the greatest extent feasible.
2. Accessory equipment for facilities mounted to a telecommunications tower shall be visually screened by locating the equipment either within a nearby building, in an underground vault (with the exception of required electrical panels) or in another type of enclosed structure, which shall comply with the development and design standards of the zoning district in which the accessory equipment is located. Such enclosed structure shall be architecturally treated and adequately screened from view by landscape plantings, decorative walls, fencing or other appropriate means, selected so that the resulting screening will be visually integrated with the architecture and landscaping of the surroundings.

F. Signage.

1. All wireless facilities must include signage that accurately identifies the equipment owner/operator, the site name or identification number, and a toll-free number to the owner/operator's network operations center.
2. Wireless facilities may not bear any other signage or advertisements unless expressly approved by the City, required by law or recommended under existing and future FCC or other United States governmental agencies for compliance with RF emissions regulations.
3. RF notification signs shall be placed where appropriate, and not at pedestrian eye level, unless required by the FCC or other regulatory agencies.

III. Additional Design and Development Standards for Facilities in the Public Right-of-Way and in Public Utility Easements.

A. Basic Requirements. Facilities located in the public right-of-way and in public utility easements are subject to the design and development standards set forth in this section in addition to the design and development standards that apply to all facilities. Only pole-mounted antennas shall be permitted in the right-of-way. All other telecommunications towers are prohibited.

B. Preferred Configurations

- 1. Light Poles Wherein all Equipment, Cabling, and Antennas are Within the Pole Itself and/or Entirely Under the Ground.**
 - a. Use of light poles for wireless telecommunications facilities may be permitted where there are existing light poles or in areas where a new light pole would be appropriate (e.g., intersections).

- b. The maximum height of any antenna mounted to a street light pole shall not exceed seven feet above the existing height of a street light pole in a location where the closest adjacent district is a commercial zoning district and shall not exceed three feet above the existing height of a street light pole in any other zoning district. Any portion of the antenna or equipment mounted on such a pole shall be no less than 18 feet above any drivable road surface.
- c. Antenna shrouds shall be the same diameter as the pole. The bottom 66 inches of a pole (the “base”) may be up to 6 inches in diameter wider to accommodate equipment.
- d. To prevent accumulation of trash, facilities shall be designed to avoid flat surfaces in the transition from the base to the upper pole.
- e. Poles shall be painted and textured to City standards to match existing streetlights in the vicinity.

C. Less Preferred Configurations.

1. Existing or Replacement Utility Poles.

- a. The maximum height of any antenna mounted to an existing utility pole shall not exceed 24 inches above the height of an existing utility pole, nor shall any portion of the antenna or equipment mounted on a pole be less than 18 feet above any drivable road surface. All installations on utility poles shall fully comply with the California Public Utilities Commission (CPUC) general orders (GOs), including, but not limited to, GO 95.1.
- b. All antennas shall be shrouded. Antenna shrouds should have an outer diameter of 15" or less and measure no more than five cubic feet in size. The shroud should be no more than 4 feet tall, including antenna, radio head, mounting bracket, and all other hardware necessary for a complete installation.



Figure7: Landscaping conceals wireless telecommunications equipment mounted on the exterior of this pole located on Distel Drive.

2. Stand-Alone Poles along Rights-of-Way with No Existing Overhead Utility Lines.

- a. Where a stand-alone pole is proposed within a right-of-way or public utility easement with no overhead utility lines, the preferred configuration is for all equipment to be concealed within the pole itself, with an antenna/shroud mounted directly to the top of the pole and no visible transitions. No equipment shall be visible outside the pole. Equipment may, however, be placed in an underground vault.
- b. Antenna shrouds shall be the same diameter as the pole, which should be no wider than 14 inches. The bottom 66 inches of a pole (the “base”) may be up to 18 inches to accommodate equipment. To prevent accumulation of trash, facilities shall be designed to avoid flat surfaces in the transition from the base to the upper pole.
- c. Stand-alone poles match the height and color of any nearby streetlight or utility pole.



Figure 8: Stand-alone small cell poles (as shown in this example) are not preferred but may be permitted if enclosure of all equipment within the pole or in an underground vault is technically infeasible.

3. Light Poles Wherein Equipment, Cabling, and Antennas are Not Completely within the Pole Itself and/or Entirely Under the Ground.

- a. Use of light poles for wireless telecommunications facilities may be permitted only in areas where light poles are appropriate.
- b. The maximum height of any antenna mounted to a street light pole shall not exceed seven feet above the existing height of a street light pole in a location where the closest adjacent district is a commercial zoning district and shall not exceed three feet above the existing height of a street light pole in any other zoning district. Any portion of the antenna or equipment mounted on such a pole shall be no less than 18 feet above any drivable road surface.
- c. Antenna shrouds shall be the same diameter as the pole. The bottom 66 inches of a pole (the “base”) may be up to 6 inches in diameter wider to accommodate equipment.
- d. To prevent accumulation of trash, facilities shall be designed to avoid flat surfaces in the transition from the base to the upper pole.

- e. Poles shall be painted and textured to City standards to match existing streetlights in the vicinity

D. Requirements for Approval of Less-Preferred Configurations.

1. **Application Requirements.** Applications that involve less-preferred configurations may be approved only if the applicant demonstrates that:
 - a. No preferred configuration would be technically feasible; or
 - b. The proposed configuration would be aesthetically superior to a preferred configuration due to existing conditions at the proposed site.

The burden of proof for demonstrating that one of these two conditions exists shall lie with the applicant.

2. **Accompanying Evidence.** Applications that involve a less-preferred configuration shall be accompanied by clear and convincing written evidence demonstrating the need for approval of the proposed configuration rather than a preferred configuration.
3. **Independent Consultant.** In reviewing a request for a less-preferred configuration, the City may hire an independent consultant at the applicant's expense to evaluate the applicant's demonstration of need for the proposed less-preferred configuration.

E. Pole Requirements.

1. Pole Height and Width Limitations.

- a. All poles for wireless telecommunications facilities shall be designed to be the minimum functional height and width required to support the proposed antenna installation and meet FCC requirements. Poles, antennas, and similar structures shall be no greater in diameter or other cross-sectional dimension than is necessary for the proper functioning of the facility.
- b. Pole-mounted equipment shall not exceed six cubic feet in dimension.

2. **Requirements for Replacement Poles.** If an applicant proposes to replace a pole in order to accommodate the facility, the pole shall match the appearance of the original pole to the extent feasible, unless another design better accomplishes the objectives of this section. Such replacement pole shall not exceed the height of the pole it is replacing by more than seven feet.

3. **Requirements for New Poles.** New poles shall be designed to resemble existing poles in the right-of-way, including size, height, color, materials, and style, unless (a) the existing poles are scheduled to be removed and not replaced, or (b) another design better accomplishes the objectives of this section.

F. Pole-Mounted Facilities Requirements.

1. Facilities Mounted to a Telecommunications Tower.

- a. Facilities mounted to a telecommunications tower, including, but not limited to, the attached antennas, shall be designed to be the minimum functional height and width required to adequately support the proposed facility and meet FCC requirements. The applicant shall provide documentation satisfactory to the City Manager establishing compliance with this paragraph. In any event, facilities mounted to a telecommunications tower shall not exceed the applicable height limit for structures in the applicable zoning district.
- b. Aside from the antenna itself, no additional equipment may be visible. All cables, including, but not limited to, electrical and utility cables, shall be run within the interior of the telecommunications tower and shall be camouflaged or hidden to the fullest extent feasible without jeopardizing the physical integrity of the tower.

2. Monopoles.

- a. Monopole installations shall be situated so as to utilize existing natural or man-made features including topography, vegetation, buildings, or other structures to provide the greatest amount of visual screening.
- b. All antenna components and accessory wireless equipment shall be treated with exterior coatings of a color and texture to match the predominant visual background or existing architectural elements so as to visually blend in with the surrounding development. Subdued colors and non-reflective materials that blend with surrounding materials and colors shall be used.
- c. Monopoles shall be no greater in diameter or other cross-sectional dimension than is necessary for the proper functioning of the facility.

G. Accessory Equipment.

- 1. All accessory equipment associated with the operation of any wireless telecommunications facility shall be screened or camouflaged, and located in a manner to minimize the equipment's visibility to the greatest feasible extent.
- 2. Accessory equipment for facilities mounted to a telecommunications tower shall be visually screened by locating the equipment either within a nearby building, in an underground vault (with the exception of required electrical panels), or in another type of enclosed structure that shall comply with the development and design standards of the zoning district in which the accessory equipment is located. Such enclosed structure shall be architecturally treated and adequately screened from view by landscape plantings, decorative walls, fencing, or other appropriate means, selected so that the resulting screening will be visually integrated with the architecture and landscaping of the surroundings.

3. **Space Occupied.** Facilities shall be designed to occupy the least amount of space in the right-of-way that is technically feasible.
4. **Cables.** All cables, including, but not limited to, electrical and utility cables, between the pole and any accessory equipment shall be placed underground, if feasible.
5. **Wires.** All new wires needed to service the wireless telecommunications facility shall be installed within the width of the existing utility pole so as to not exceed the diameter and height of the existing utility pole.
6. **Equipment Undergrounding.** All equipment (other than the antenna, antenna supports, ancillary wires, cables and any electric meter) shall be installed underground wherever feasible.
7. With the exception of the electric meter, which shall be pole-mounted to the extent feasible, all accessory equipment shall be located underground to the extent feasible. All wireless equipment installed on poles should be completely contained within an equipment shroud. Equipment shroud and lines should be painted, treated or finished to match existing utility pole and line aesthetics. Utility line installations should have a non-reflective color and finish. Required electrical meter cabinets shall be adequately screened and camouflaged.

H. Americans with Disabilities Act Compliance. All facilities shall be built in compliance with the Americans with Disabilities Act (ADA), and no facility shall be approved that would render any portion of the right-of-way noncompliant with the ADA.

I. Other Requirements.

1. **Facilities on Decorative Streetlights Prohibited.** Small wireless facilities shall not be located on decorative streetlights.
2. **Pole Height Calculation.** Legally required lightning arresters and beacons shall be included when calculating the height of facilities. Pole height shall be is measured from the top of foundation, which should be flush with the ground, to the top of pole or top of antenna, whichever is greater.
3. **New Pole Material and Finish** New pole material and finishes should match the existing materials of the City standard streetlight poles or match aesthetics and materials of existing decorative poles.
4. **Disturbance of Topography and Vegetation.** Disturbance of existing topography and on-site vegetation shall be minimized unless such disturbance would substantially reduce the visual impacts of the facility.
5. **Separation of Service.** Separation of service shall be provided by installing all new electrical conduit(s) or using empty conduit(s) with the conduit owner's express consent in writing.

- 6. Facilities on Streetlight or Traffic Signal Control Poles.** For proposed facilities on streetlight or traffic signal control poles, a hand hole should be provided at the top of the pole to maintain fiber and electrical service for streetlights and future attachments.
- 7. Pole Foundation Calculations.** Pole foundation calculations shall be prepared and stamped by a California professionally licensed structural engineer and provided to the City for review. Pole foundation calculations shall account for all new and existing pole attachments and the pole.
- 8. Pole Structural Calculations.** Pole structural calculations, including seismic loads, showing the load impacts of the wireless facility on City streetlight and traffic signal control poles, shall be prepared and stamped by a California professionally licensed structural engineer and provided to the City for review.
- 9. Design Wind Velocity.** Design wind velocity shall be 115 miles per hour (mph) minimum in accordance with TIA-222 rev G, IBC 2012 with ASC 710, and amendments for local conditions.
- 10. Trench Backfill.** Asphalt concrete sections for trench backfills shall be a thickness

ORDINANCE NO. ____

AN ORDINANCE OF THE LOS ALTOS CITY COUNCIL AMENDING CHAPTER 11.12 AND ADDING CHAPTER 14.82 RELATING TO WIRELESS TELECOMMUNICATIONS FACILITIES AND UTILITY INFRASTRUCTURE SETTING NEW LOCATIONAL REQUIREMENTS AND REVISING DEVELOPMENT STANDARDS

THE LOS ALTOS CITY COUNCIL HEREBY FINDS AND ORDAINS:

SECTION 1. FINDINGS

A. Pursuant to the California Constitution, Article XI, section 7; California Government Code § 37100 and other applicable law, the City Council may make and enforce within its limits all local, police, sanitary and other ordinances, resolutions and other regulations not in conflict with general laws.

B. Los Altos' public rights-of-way are a uniquely valuable public resource, closely linked with the City's rural character and natural beauty. Los Altos has a population of 30,000 and is suburban community near Silicon Valley. The City has a small town, semi-rural atmosphere – with wooded, quiet low-density single-family homes. The regulation of wireless communication facilities both within the public right-of-way and other locations within the City, is necessary to protect and preserve the aesthetics of the community. The City's General Plan also provides for the undergrounding of new telephone and utility lines, "maintaining the low density, low profile residential character of the community through zoning regulations and design guidelines," and "ensuring compatibility between residential and non-residential development through zoning regulations and design review." The City's concerns for preservation of its community including public safety, visual impact, and aesthetics relate to preserving the residential character of the community by imposing various design standards that relate to location, camouflaging, height, size and spacing of wireless telecommunications facilities. Providing separation between wireless telecommunications facilities and the front of homes along permitted rights-of-way within residential zones serves to reduce the intrusiveness of any new wireless telecommunications facilities.

C. The City is mindful of the need to minimize the potential adverse impacts on the community which includes amongst other things, limiting wireless site visibility and impacts to the City's aesthetic well-being, while balancing same against the need for sufficient cell coverage for emergency needs and complying with both federal and state laws. The regulation as to wireless site visibility is particularly focused on minimizing visibility from residences, encouraging undergrounding of utilities, and limiting the height of such facilities to be consistent with the single-family residences that predominate the housing stock of Los Altos. In keeping with these goals, the City has revised the locational standards to encourage the location of wireless telecommunications facilities within the rights-of-way of Expressways, Arterials, Collectors, and Local Collectors designated on the City's General Plan Circulation Map, while continuing to permit these facilities along local non-residential streets. And, allowing for the permitting wireless telecommunications facilities within the rights-of-way of local residential streets in close proximity to Expressways, Arterials, Collectors, and Local Collectors, as an

alternative to concentrating facilities along any one street right of way. These sound land use locational provisions will serve to ensure the preservation of the local residential areas while also being mindful of avoiding the over saturation of wireless telecommunication facilities on a single roadway.

D. If not adequately regulated, installation of small cell and other wireless telecommunications facilities within the public right-of-way can pose a threat to the public health, safety and welfare, including disturbance to the right-of-way through the installation and maintenance of wireless telecommunication facilities; traffic and pedestrian safety hazards due to the unsafe location of wireless facilities; impacts to trees where proximity conflicts may require unnecessary trimming of branches or require removal of roots due to related undergrounding of equipment or connection lines; land use conflicts and incompatibilities including excessive height of poles and/or towers; creation of visual and aesthetic blights and potential safety concerns arising from excessive size, heights, noise or lack of camouflaging of wireless telecommunications facilities including the associated pedestals, meters, equipment and power generators; and the creation of unnecessary visual and aesthetic blight by failing to utilize alternative technologies or capitalizing on collocation opportunities, all of which has the potential to yield serious negative impacts on the unique quality and character of Los Altos. The reasonably regulated and orderly development of wireless telecommunication facilities in the public-right-of-way is desirable, and unregulated or disorderly development represents a threat to the health, welfare, and safety of the Los Altos community.

E. The City's beauty is an important reason for businesses to locate in the City and for residents to live here. Beautiful views enhance property values and increase the City's tax base. The City's economy, as well as the health and well-being of all who visit, work or live in the City, depends in part on maintaining the City's beauty. The City has been moving towards the undergrounding of various utilities, including the First Street and Lincoln Park Undergrounding Utility projects, and needs to ensure that this effort is not hindered by the addition of numerous wireless telecommunications facilities cabinet, wires, cables, and bulky equipment that visually impede and clutter the City's public rights of way. The City's development and operational standards serve to encourage the reduction of all appurtenant equipment, screening of same, and efforts at undergrounding.

F. The City Council takes legislative notice of the various federal court decisions that have set applicable standards and metrics that the City must meet in the regulation of wireless telecommunications facilities. The City recognizes that there is a long-standing test in California that looks to whether and applicant has shown that there is a "significant gap" in service and an applicant has chosen the "least intrusive means of closing that gap." *MetroPCS, Inc v. City & County of San Francisco*, 400 F.3d 715,733 (9th Cir. 2005) abrogated on other grounds in *T-Mobile S., LLC v. City of Roswell, Georgia*, 574 U.S. 293 (2015). More recently, the FCC adopted an Order in a proceeding focused on small wireless facilities and 5G, which found that local regulations are preempted if those regulations "materially inhibit" the provision of wireless services. The FCC Order goes on to state that local aesthetic requirements that are reasonable in that they are technically feasible and reasonably directed to avoiding or remedying the intangible public harm of unsightly or out-of-character deployments are permissible. *In the Matter of Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Inv.*, 33 F.C.C. Rcd. 9088 (2018), *aff'd in part, rev'd in part, City of Portland v United States*, 969 F.3d

1020, 1032 (9th Cir. 2020). That is, reasonable aesthetic requirements by definition do not “materially inhibit” service. The City is mindful of these various evolving legal decisions and FCC Orders in its provision of these revised siting and various development standards.

G. The City acknowledges that there have been significant changes in federal laws that affect local authority over wireless telecommunication facilities and other related infrastructure deployments have occurred. These changes in federal law have occurred concurrently with an ever-increasing demand for the placement of wireless telecommunication facilities within the public rights of way, in order to offer increased coverage in the way of numerous expanding technologies such as: cell phones, video streaming, and on line access to work from home during the COVID -19 pandemic. In connection with the ever increasing demand for expanding technologies, the City is also mindful of the carriers desire to move forward with 5G and the recent published decision in *Environmental Health Trust v. Federal Communications Commission*, 9 Fed. 4th 893, 905 (D.C. Cir. 2021) , wherein that Court noted that the FCC had failed to provide a reasoned explanation for its determination that exposure to RF as implicated by various technological developments that have occurred since 1996, including the ubiquity of wireless devices and Wi-Fi, and the emergence of 5G technology.

H. The City takes legislative notice of the Federal Communications Commission ("FCC") adoption on August 2, 2018, of a Third Report & Order and Declaratory Ruling in the rulemaking proceeding titled Accelerating Wireline and Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment, 33 FCC Red. 7705 (rel. Aug. 3, 2018) (“the August 2018 Order”), that, among other things, contained a declaratory ruling prohibiting express and de facto moratoria for all personal wireless services, telecommunications services and their related facilities; and that the FCC adopted a Declaratory Ruling and Third Report and Order in September of 2018, --- FCC Red. ---, FCC 18-133 (rel. Sep. 27, 2018) (the "September 2018 Order"), which, among many other things, creates new shorter "shot clocks" for small wireless facilities (as defined in the September 2018 Order), alters existing "shot clock" regulations to require local public agencies to do more in less time.

I. The City recognizes its responsibilities under the Federal Telecommunications Act of 1996 and state law, and believes that it is acting consistent with the current state of the law in ensuring that irreversible development activity does not occur that would harm the public health, safety, or welfare. The City does not intend that this Ordinance prohibit or have the effect of prohibiting telecommunications service, as those terms are used in the Federal Telecommunications Act; rather, the City includes appropriate regulations to ensure that the installation, augmentation and relocation of wireless telecommunications facilities in the public rights-of-way are conducted in such a manner as to lawfully balance the legal rights of applicants under the Federal Telecommunications Act and the California Public Utilities Code while, at the same time, protect to the full extent feasible against the safety and land use concerns described herein. Indeed, the City has engaged a land use expert to map the available sites that are permissible for the siting of wireless telecommunication facilities under these siting criteria and he concludes that this current locations standards would permit small wireless

telecommunications along more than 101,185 linear feet of roadway right-of-way within Los Altos.

J. The overarching intent of this Ordinance is to make wireless telecommunications reasonably available while preserving the essential rural character of Los Altos. This will be realized by: minimizing the visual and physical effects of wireless telecommunications facilities through appropriate design, siting, screening techniques and location standards; encouraging the installation of Wireless Telecommunications Facilities at locations where other such facilities already exist; and encouraging the installation of such facilities where and in a manner such that potential adverse impacts to Los Altos is minimized.

K. The City adopted an Ordinance regulating wireless telecommunication facilities in August of 2019. This occurred after the City held a study session and several public hearings, at which stakeholders discussed wireless and other infrastructure deployment issues, potential local regulatory responses to the recent changes in federal law in the FCC orders and expressed their design and location preferences, practical and safety concerns, aesthetic concerns, policy views and the essential local values that make Los Altos a uniquely small suburban community. The City's residents in the summer of 2019 called out the numerous concerns at play with aesthetics, and these concerns included numerous objections that were focused on visual blight such as:

- Small cell nodes previously proposed by carriers, AT&T and Verizon, to the City of Los Altos were visually intrusive and unsightly;
- The City should continue to be judicious about and distaste for visual blight;
- The need to eliminate visual blight;
- The need to consider potential visual blight, to mitigate noise, heat, and exposure to EMF, and to protect our enjoyment of our property and its market value;
- These cell towers should be placed in commercial areas, in the medians of major streets, and such. They should not be placed in residential neighborhoods;
- Wireless facilities should be installed in some public/commercial place instead of residential street and so close to people's house. Los Altos neighborhood aesthetic guidelines and property value is one of the main reasons people are willing to stay in this great City.
- Cell towers or small cells are unsightly, noisy and add to the visual blight from the existing electric and telephone lines. While urging that small cells should not be placed in a small residential neighborhood cul de sac street but rather, it would be better to locate same on a major street or in the back of a commercial property;
- Cell towers are ugly and there is no need for extra eye sores;
- The mounting of "small" refrigerator-sized boxes on the side of an existing utility poles is unsightly and adds to visual blight; and
- The cell tower is an eye sore that emits an annoying fan type noise that has a negative impact on the quality of life of the residents who live there or who walk within the community.

These same concerns as to visual blight, aesthetic impairment and noise remain at play today. The visual and aesthetic impacts of the proposed wireless telecommunications facilities is much greater in a residential area versus in a non-residential area such as downtown Los Altos, or Loyola Corners, or along a main arterial or collector streets within Los Altos.

L. On _____, 2022, the City Planning Commission held a duly noticed public hearing to consider an Ordinance to add Chapter 14.82 and to amend Chapter 11.12 at which the Planning Commission received, reviewed, and considered the staff report, written and oral testimony from the public and other information in the record, and recommended to the City Council the adoption of this Ordinance regulating the placement of wireless telecommunication facilities.

M. The City recognizes its responsibilities under the Federal Telecommunications Act of 1996 and state law, and believes that it is acting consistent with the current state of the law in ensuring that irreversible development activity does not occur that would harm the public health, safety, or welfare. The City does not intend that this Ordinance prohibit or have the effect of prohibiting telecommunications service; rather, the City includes appropriate regulations to ensure that the installation, augmentation and relocation of wireless telecommunications facilities in the public rights-of-way are conducted in such a manner as to lawfully balance the legal rights of applicants under the Federal Telecommunications Act and the California Public Utilities Code while, at the same time, protect to the full extent feasible against the safety and land use concerns described herein.

N. It is not the purpose or intent of this Ordinance, nor shall it be interpreted or applied to: (1) prohibit or to have the effect of prohibiting wireless telecommunications services; or (2) unreasonably discriminate among providers of functionally equivalent wireless communications services; or (3) regulate the placement, construction or modification of Wireless Telecommunication Facilities on the basis of the environmental effects of radio frequency ("RF") emissions where it is demonstrated that the Wireless Telecommunication Facilities does or will comply with the applicable FCC regulations; or (4) prohibit or effectively prohibit any entity's ability to provide any interstate or intrastate telecommunications service, subject to any competitively neutral and nondiscriminatory rules or regulation for rights-of-way management; or (5) prohibit or effectively prohibit collocations or modifications that the City must approve under state or federal law; or (6) otherwise authorize the City to preempt any applicable federal or state law.

O. The regulations of wireless installations are necessary to protect and preserve the aesthetic character of the community and to ensure that all wireless telecommunications facilities are installed using the least intrusive means possible. The City is also mindful of the fact that there are a number of different bands that can be utilized by carriers for wireless telecommunication facilities (including 700 MHz, 800 MHz, 1900 MHz, and 2100 MHz), and that these additional available band options need to be reviewed and considered in the determination of the least intrusive alternatives. As well, there are available a number of alternative means to provide coverage within Los Altos, including but not limited to: the

upgrading of existing telecommunications facilities, the placement of macro towers, the co-location of wireless telecommunications facilities, the provision of micro towers, etc.

SECTION 2. LOCATIONAL CRITERIA

A. Chapter 14.82 of the Los Altos Municipal Code is added to provide as follows:

Chapter 14.82 Standards for the Location of Wireless Telecommunications Facilities

- 14.82.010 Purpose**
- 14.82.020 Definitions**
- 14.82.030 Wireless Telecommunications Facilities Locational Preferences**
- 14.82.040 Requirements for Approval of Less Preferred Locations**
- 14.82.050 Alternative to Wireless Telecommunications Facilities at Preferred and Less Preferred Locations**
- 14.82.060 Additional Locational Preferences**
- 14.82.070 Eligible Facilities Requested Per Municipal Code 12.12.100 and Applications Pursuant to Government Code § 65850.6**

14.82.010 Purpose

The purpose of the following siting criteria is to provide for the location of wireless telecommunications facilities within the City of Los Altos in a manner that minimizes the visual intrusiveness of wireless telecommunications facilities and provides for coverage throughout the City.

14.82.020 Definitions

The definitions called out in Chapter 11.12 shall apply here unless a specific alternative definition is provided.

14.82.030 Wireless Telecommunications Facilities Locational Preferences

- A. Wireless Telecommunications Facilities Located within Public Rights-of-Way and Utility Easements**
 - 1. Only facilities qualifying for a Section 6409(a) approval and those meeting the definition of a “small wireless facility” shall be permitted within public rights-of-way and public utility easements.
 - 2. The preferred location for a wireless telecommunications facility within a public right-of-way or public utility easement is within the right-of-way of

one of the following roadway types as designated on the Los Altos General Plan Circulation Element as may be amended from time to time.

- (a) Expressways;
- (b) Arterials;
- (c) Collectors fronting **non-Residential Zoning Districts** identified in the following subsections of Municipal Code Section 14.04.010.
 - K. Office-Administrative District, OA (OA);
 - L. Office-Administrative District (OA-1 and OA-4.5);
 - O. Commercial Downtown District (CD);
 - P. Commercial Retail Sales District (CRS);
 - Q. Commercial Thoroughfare District (CT);
 - R. Commercial Retail Sales/Office District (CRS/OAD); and
 - V. Loyola Corners Specific Plan Overlay District (LCSPZ).

- (d) Collectors fronting the Public and Community Facilities District (PCF) (Municipal Code Section 14.04.010 S).

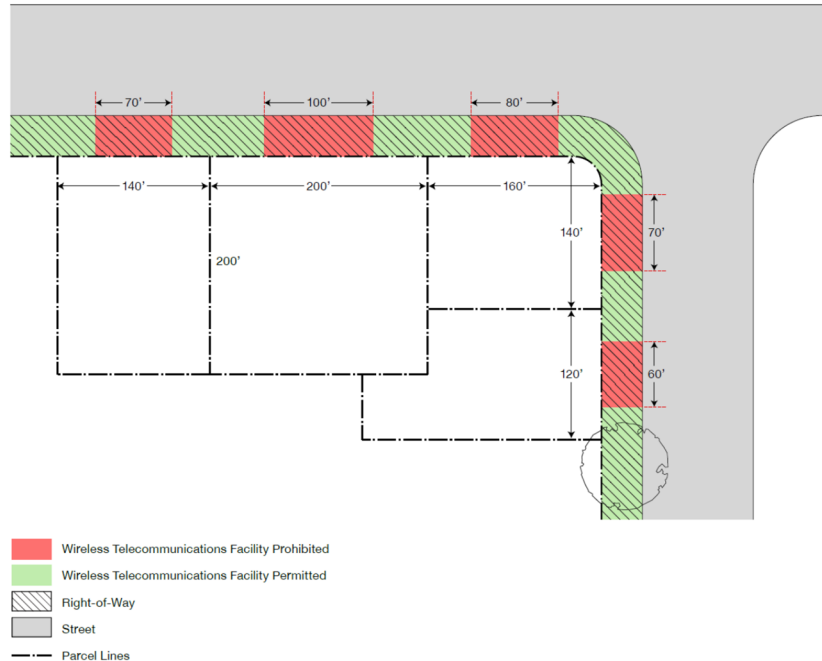
3. Less preferred locations for wireless telecommunications facilities within public rights-of-way and public utility easements include:

- (a) Rights-of-way for Local Collectors fronting non-Residential Zoning Districts (Municipal Code Sections 14.04.010 K-L, O-R, V); and
- (b) Public utility easements adjacent to non-Residential Zoning Districts (Municipal Code Sections 14.04.010 K-L, O-R, V) as designated on the City of Los Altos General Plan Circulation Plan (Figure C-1).
- (c) Rights-of-way for Local Streets fronting non-Residential Zoning Districts (Municipal Code Sections 14.04.010 K-L, O-R, V);
- (d) Rights-of-way for Expressways, Arterials, Collectors, and Local Collectors fronting Residential Zoning Districts identified in the following subsections of Municipal Code Section 14.04.010.
 - 1. Single-Family District (R1-10);
 - 2. Single-Family District (R1-H);

3. Single-Family District (R1-20);
 4. Single-Family District (R1-40);
 5. Single-Story Single-Family Overlay District (R1-S);
 6. Multiple-Family District (R3-4.5);
 7. Multiple-Family District (R3-5);
 8. Multiple-Family District (R3-3);
 9. Multiple-Family District (R3.1.8);
 10. Multiple-Family District (R3-1);
 11. Commercial Downtown/Multiple-Family District (CD/R3);
 12. Planned Community (PC); and
 13. W. Planned Unit Development (PUD).
- (e) To avoid concentration of wireless telecommunications facilities within the right-of-way of any one street within the City, small wireless telecommunications facilities may also be located within the street rights-of-way for local streets fronting Residential Zoning Districts (Municipal Code Sections 14.04.010 A-J, M, U, W) where the facility would be:
- i. Within 200 feet of the Foothill Expressway right-of-way;
 - ii. Within 500 feet of the San Antonio Avenue, El Monte Drive, Magdalena Avenue, or Homestead Road right-of-way;
 - iii. Within 300 feet of a Collector or Local Collector right-of-way.
- (f) Rights-of-way for Expressways, Arterials, Collectors, and Local Collectors and public utilities easements fronting a school in the Public and Community Facilities District (Municipal Code Section 14.04.010 S)
4. Small wireless telecommunications facilities are not permitted within 1000 feet of another small wireless telecommunications facility.

5. Placement Criteria

- (a) No portion of any wireless communications facility within a public right-of-way shall overhang a property line.
- (b) Wireless telecommunications facilities and any associated equipment or improvements shall not physically interfere with or impede access to any:
 - 1. Worker access to any above-ground or underground infrastructure for traffic control, streetlight or public transportation, including without limitation any curb control sign, parking meter, vehicular traffic sign or signal, pedestrian traffic sign or signal, barricade reflectors;
 - 2. Access to any public transportation vehicles, shelters, street furniture or other improvements at any public transportation stop;
 - 3. Worker access to above-ground or underground infrastructure owned or operated by any public or private utility agency;
 - 4. Fire hydrant or water valve;
 - 5. Access to any doors, gates, sidewalk doors, passage doors, stoops or other ingress and egress points to any building appurtenant to the rights-of-way; or
 - 6. Access to any fire escape.
- (c) No wireless telecommunications facility within a roadway right-of-way adjacent to Residential Zoning Districts (Municipal Code Sections 14.04.010 A-J, M, U, W) shall be placed within the central fifty percent (50%) of an immediately adjacent parcel's street frontage. For corner lots, this standard shall apply to both roadway frontages.



6. Wireless telecommunication facilities within roadway rights-of-way adjacent to non-Residential Zoning Districts (Municipal Code Sections 14.04.010 K-L, O-R, V) should be located on poles that are as close as feasible to shared property lines between two adjacent lots and not directly in front of a business.
7. Wireless telecommunication facilities should be located on poles that are as close as feasible to shared property lines between two adjacent lots and not directly in front of a business.
8. All components of a wireless telecommunications facility shall be located so as not to cause any physical or visual obstruction to pedestrian or vehicular traffic, inconvenience to the public's use of the right-of-way, or safety hazards to pedestrians and motorists.
9. Wireless telecommunications facilities shall not be located so as to interfere with access to fire hydrants, fire stations, fire escapes, water valves, underground vaults, valve housing structures, or any other vital public health and safety facility.
10. Facilities mounted to a telecommunications tower, above-ground accessory equipment, or walls, fences, landscaping or other screening methods shall be setback a minimum of 18 inches from the front of a curb.
11. Wireless telecommunication facilities shall be located on poles that are outside of driveway and intersection sight lines.

B. Wireless Telecommunications Facilities Located on Properties Outside of Public Rights-of-Way and Public Utility Easements

1. The preferred locations for wireless telecommunications facilities include properties within one of the following Zoning Districts identified in the following subsections of Municipal Code Section 14.04.010.
 - K. Office-Administrative District, OA (OA);
 - L. Office-Administrative District (OA-1 and OA-4.5);
 - O. Commercial Downtown District (CD);
 - P. Commercial Retail Sales District (CRS);
 - Q. Commercial Thoroughfare District (CT);
 - R. Commercial Retail Sales/Office District (CRS/OAD); and
 - V. Loyola Corners Specific Plan Overlay District (LCSPZ).

2. Less preferred locations for wireless telecommunications facilities include any City-owned property and properties within one of the following Zoning Districts identified in the following subsections of Municipal Code Section 14.04.010.
 - N. Commercial Neighborhood District (CN); and
 - S. Public and Community Facilities District (PCF).
 - T. Public and Community Facilities/Single-Family District (PCF/R1-10)

3. Location of Wireless Telecommunications Facilities on Properties Outside of Public Rights-of-Way and Public Utility Easements
 - (a) No portion of a wireless telecommunications facility may be permitted to encroach into any applicable setback for main structures for the zoning district within which it is located unless the facility is designed per the City's Design Guidelines.
 - (b) Wireless telecommunications facilities and any associated equipment or improvements shall not physically interfere with or impede access to any:
 - i. Worker access to above-ground or underground infrastructure owned or operated by any public or private utility agency;
 - ii. Fire hydrant or water valve;

- iii. Doors, gates, sidewalk doors, passage doors, stoops or other ingress and egress points to any building; or
 - iv. Fire escape.
- (c) No wireless telecommunications facility shall be located so as to replace or interfere with parking spaces in such a way as to reduce the total number of parking spaces below the number that is required, nor shall any facility be located so as to interfere with require access to parking spaces.

14.82.040 Requirements for Approval of Less Preferred Locations

- A. Applications that involve less-preferred locations may be approved only if the applicant demonstrates that:
- (1) It does not own any property or facilities within 500 feet from the proposed site that could provide service in lieu of the proposed facility;
 - (2) No preferred location exists within 500 feet from the proposed site; or
 - (3) Any preferred location within 500 feet from the proposed site would be technically infeasible.
- B. The burden of proof for demonstrating compliance with these above noted conditions shall be on the applicant and must be satisfied with clear and convincing evidence.
- C. Applications that involve a less-preferred location shall be accompanied by clear and convincing written evidence demonstrating the need for approval of the proposed location rather than a more preferred location.
- D. In reviewing a request for a less-preferred location, the City may hire an independent consultant at the applicant's expense to evaluate the applicant's demonstration of need for the proposed less-preferred location.

14.82.050 Alternative to Wireless Telecommunications Facilities at Preferred and Less Preferred Locations

- A. An application may be approved for a small wireless telecommunications facility within the right-of-way of a local residential street that is neither a preferred nor a less preferred location per the requirements of this Chapter only if:
- (1) A combination of macro and small wireless telecommunications facilities, as well as colocation with existing facilities of other

carriers at preferred and less preferred locations within the City would leave a significant gap in coverage;

(2) The total number of wireless telecommunications facilities within Residential Zoning Districts (Municipal Code Sections 14.04.010 A-J, M, U, W) is minimized.

- B. The burden of proof for demonstrating the need for one or more small wireless telecommunications facilities within the right-of-way of a local residential street that are neither a preferred nor a less preferred location per the requirements of Section 14.82.030A shall lie with the applicant and shall be included in the application submitted to the City.
- C. Applications pursuant to Section 14.82.050 shall be accompanied by clear and convincing written evidence that demonstrates the applicant's existing network configuration serving the City of Los Altos cannot be expanded and/or reconfigured or modified to provide adequate service through a combination of new and relocated wireless telecommunications facilities, as well as colocation with existing facilities of other carriers at preferred and less preferred locations; and
- D. In reviewing a permit request for facilities covered by Section 14.82.050, the City shall hire an independent consultant at the applicant's expense to evaluate the applicant's current network configuration and demonstration of need to verify that a combination of facilities within the preferred and less preferred locations cannot provide service throughout the City.

14.82.060 Additional Locational Preferences

- A. Mid-block locations are preferred to more visible corners and intersections unless:
 - (1) The wireless telecommunications facility is mounted on a traffic signal control pole or streetlight;
 - (2) The wireless telecommunications facility is designed per the City's Design Guidelines.
- B. The location of a new pole, if permitted, is preferred:
 - (1) Within the parkway strip if one is present.
 - (2) In alignment with existing trees, utility poles, and streetlights.
 - (3) At an equal distance between trees, when possible, with a minimum separation of 15 feet from the tree's trunk or outside of the tree's drip line, whichever is greater, such that no disturbance occurs within the critical root zone of any tree.

14.82.070 Eligible Facilities Requested per Municipal Code Section 12.12.100 and Applications Pursuant to Government Code Section 65850.6

Eligible facilities requested per Municipal Code Section 12.12.100 and applications pursuant to California Government Code Section 65850.6 (see Municipal Code Section 12.12.110), are permitted within all Zoning Districts and within all public rights-of-way subject to the locational preferences identified in Sections 1.2.1 and 1.2.2, above; and the City's Design Guidelines.

SECTION 3. WIRELESS TELECOMMUNICATIONS FACILITIES; PERMIT PROVISIONS

A. Title 11.12 of the Municipal Code for the City shall be repealed and/or amended to make the following changes to the existing text of Chapter 11.12:

1. Section 11.12.040.A is repealed and replaced as follows:

Section 11.12.040A. Permit Required. No wireless telecommunications facility shall be located or modified within the City on any property, including the public right-of-way, without the issuance of a permit as required by this Chapter. Such permit must comply with the locational standards set forth in Chapter 14.82 of the City's Municipal Code regulating zoning. In addition, such permit shall be subject to the conditions of Chapter 11.12, along with the City's Design Guidelines calling forth various design and placement standards adopted by the City Council by resolution, and shall be in addition to any other permit required pursuant to the Los Altos Municipal Code.

2. Section 11.12.050.A.9 is repealed and replaced as follows:
3. Section 11.12.050.A.9. Intentionally omitted
4. Section 11.12.050.B.1.c. is repealed and replaced as follows:

Section 11.12.050.B.1.c. Analysis of an application that involves a less-preferred location as set forth in the locational standards of this Chapter, to determine if the applicant owns any property or facilities within 500 feet of the proposed site that could provide service in lieu of the proposed facility, and whether there is a preferred location within 500 feet and to determine whether any such preferred location is technically feasible.

5. Section 11.12.050.E.2 is repealed and replaced as follows:

Section 11.12.050.E.2 Submittal Appointment. All applications must be filed with the City at a pre-scheduled appointment. Applicants may generally submit one application per appointment, but may schedule successive appointments for multiple applications whenever feasible and not prejudicial to other applicants. Any application received without an appointment, whether delivered in person or through any other means, will not be considered duly filed until a submittal appointment is obtained.

6. Section 11.12.060 is repealed and replaced as follows:

11.12.060 - Conditions of approval for all facilities.

A. In addition to compliance with the requirements of this Chapter, upon approval all facilities shall be subject to each of the following conditions of approval, as well as any modification of these conditions or additional conditions of approval deemed necessary by the City:

1. Before the permittee submits any application for a building permit or other permits required by the Los Altos Municipal Code, the permittee must incorporate the wireless telecommunication facility permit granted under this Chapter, all conditions associated with the wireless telecommunications facility permit and the approved plans and any photo simulations (the "approved plans") into the project plans.
2. The permittee must construct, install and operate the wireless telecommunications facility in strict compliance with the approved plans. The permittee shall submit an as built drawing within ninety (90) days after installation of the facility.
3. Where feasible, as new technology becomes available, the permittee shall:
 - a. Place above-ground wireless telecommunications facilities below ground, including, but not limited to, accessory equipment that has been mounted to a telecommunications tower or mounted on the ground; and
 - b. Replace larger, more visually intrusive facilities with smaller, less visually intrusive facilities, after receiving all necessary permits and approvals required pursuant to the Los Altos Municipal Code.
4. The permittee shall submit and maintain current at all times basic contact and site information on a form to be supplied by the City. The permittee shall notify the city of any changes to the information submitted within seven days of any change, including change of the name or legal status of the owner or operator. This information shall include, but is not limited to, the following:
 - a. Identity, including the name, address and twenty-four (24) hour local or toll free contact phone number of the permittee, the owner, the operator, and the agent or person responsible for the maintenance of the facility.
 - b. The legal status of the owner of the wireless telecommunications facility, including official identification numbers and FCC certification.

- c. Name, address, and telephone number of the property owner if different than the permittee.
5. The permittee shall not place any facilities that will deny access to, or otherwise interfere with, any public utility, easement, or right-of-way located on the site. The permittee shall allow the city reasonable access to, and maintenance of, all utilities and existing public improvements within or adjacent to the site, including, but not limited to, pavement, trees, public utilities, lighting and public signage.
6. To minimize environmental effects of installation and operations, wireless telecommunications facilities shall comply with the following performance standards:
 - a. Where ground disturbance is required for installation of a wireless telecommunications facility, applicable best management practices (BMPs) shall be implemented to minimize loss or topsoil and site erosion and to reduce diesel particulate (PM₁₀) and PM_{2.5} emissions.
 - b. In the event of an unanticipated discovery of historical, archaeological, or Tribal cultural resources during construction, ground-disturbing activities shall be halted until a City-approved qualified consulting archaeologist assesses the significance of the find according to CEQA Guidelines §15064.5. If any find is determined to be a potential Tribal cultural resource or a unique archaeological resource, the City, consulting archaeologist, and the applicable Tribal authority would determine the appropriate measures to be taken. Any Tribal cultural resources identified would be subject to Tribal mitigation requirements. Any archaeological resources recovered would be subject to scientific analysis, professional museum curation, and documentation according to current professional standards.
 - c. Installations of wireless telecommunications facilities shall meet the most current California Building Code standards required at the time of construction to reduce the potential for substantial adverse effects related to ground shaking.
 - d. In the event of an unanticipated discovery during project construction, ground-disturbing activities would be halted until a qualified paleontologist meeting the Society of Vertebrate Paleontology (SVP) Standards determines their significance, and, if significant, supervises their collection for curation. Any fossils collected during site-specific development project-related excavations, and determined to be significant by the qualified

paleontologist, shall be prepared to the point of identification and curated into an accredited repository with retrievable storage.

- e. Noise generated by equipment will not be detrimental to the public health, safety and welfare and shall not exceed the standards set forth in [chapter 6.16](#) of the Municipal Code and Resolution 2019-35.
 - f. Where temporary closure of a sidewalk or roadway travel lane would be necessary for installation of a wireless telecommunications facility, preparation and implementation of a Traffic Control Plan approved by the City Engineer shall be required. Should installation of a wireless telecommunications facility occur adjacent to a transit stop and require temporary relocation of the stop, the applicant for such facility shall provide needed improvements for such a temporary transit stop.
6. At all times, all required notices and signs shall be posted on the site as required by the FCC and California Public Utilities Commission, and as approved by the City. The location and dimensions of a sign bearing the emergency contact name and telephone number shall be posted pursuant to the approved plans.
 7. At all times, the permittee shall ensure that the facility complies with the most current regulatory and operational standards including, but not limited to, radio frequency emissions standards adopted by the FCC and antenna height standards adopted by the Federal Aviation Administration. Permittee shall conduct on-site testing to ensure the facility is in compliance with all radio frequency emissions standards adopted by the FCC. Tests shall occur upon commencement of operations, and annually thereafter. Copies of the reports from such testing shall be submitted to the city within thirty (30) days of the completion of testing. The City may retain a consultant to perform testing to verify compliance with current regulatory and operational standards.
 8. If the City Manager determines there is good cause to believe that the facility may emit radio frequency emissions that are likely to exceed FCC standards, the City Manager may require the permittee to submit a technically sufficient written report certified by a qualified radio frequency emissions engineer, certifying that the facility is in compliance with such FCC standards.
 9. Annual Certification. Each year on July 1, the permittee shall submit an affidavit which shall list, by location, all facilities it owns within the city by location, and shall certify (1) each such installation remains in use; (2) that such in-use facility remains covered by insurance; and (3) each

such installation which is no longer in use. Any facility which is no longer in use shall be removed by permittee within sixty (60) days of delivery of the affidavit.

10. Permittee shall pay for and provide a performance bond, which shall be in effect until the facilities are fully and completely removed and the site reasonably returned to its original condition, to cover permittee's obligations under these conditions of approval and the Los Altos Municipal Code. The bond coverage shall include, but not be limited to, removal of the facility, maintenance obligations and landscaping obligations. The amount of the performance bond shall be set by the City Manager in an amount rationally related to the obligations covered by the bond and shall be specified in the conditions of approval.
11. Permittee shall defend, indemnify, protect and hold harmless the City, its elected and appointed council members, boards, commissions, officers, officials, agents, consultants, employees, and volunteers from and against any and all claims, actions, or proceeding against the city and its elected and appointed council members, boards, commissions, officers, officials, agents, consultants, employees and volunteers to attack, set aside, void or annul, an approval of the City, Planning Commission or City Council concerning this permit and the project. Such indemnification shall include damages, judgments, settlements, penalties, fines, defensive costs or expenses, including, but not limited to, interest, attorneys' fees and expert witness fees, or liability of any kind related to or arising from such claim, action, or proceeding. The City shall promptly notify the permittee of any claim, action, or proceeding. Nothing contained herein shall prohibit city from participating in a defense of any claim, action or proceeding. The City shall have the option of coordinating the defense, including, but not limited to, choosing counsel for the defense at permittee's expense.
12. All conditions of approval shall be binding as to the applicant and all successors in interest to permittee.
13. A condition setting forth the permit expiration date in accordance with Section 11.12.060 shall be included in the conditions of approval.
7. Section 11.12.080 A. is repealed and replaced as follows:

Section 11.12.080. Findings.

A. Where a wireless telecommunication facility requires a telecom use permit as provided for in this Chapter, the City shall not approve any application unless, all of the following findings are made:

1. The proposed facility complies with the locational and siting standards set forth in Chapter 14.82 and with all applicable building, electrical and fire safety codes.
2. The proposed facility complies with all applicable provisions of Chapter 14.82 and with the Design Guidelines adopted by the City.
3. The proposed facility complies with all applicable building, electrical and fire safety codes.
4. The proposed facility has been designed and located to achieve compatibility with the community to the maximum extent reasonably feasible.
5. The applicant has submitted a statement of its willingness to allow other carriers to collocate on the proposed wireless telecommunications facility wherever technically and economically feasible and where collocation would not harm community compatibility.
8. Section 11.12.090 Exceptions is repealed in its entirety.
9. Section 11.12.160.B is repealed and replaced as follows:

Section 11.12.160B. After the expiration of the wireless telecommunications permit provided for in Section A, above, a permittee shall apply for a new permit and comply with all the requirements of the City Code then at play.

10. Section 11.12.160. C and D are repealed in their entirety.
11. Section 11.12.180.A is repealed and replaced as follows:

A. Permittee's Removal Obligation. Upon the expiration date of the permit, or upon earlier termination or revocation of the permit, or abandonment of the facility after a period of ninety (90) days, the permittee, owner, or operator shall remove its wireless telecommunications facility and restore the site to its natural condition except for retaining the landscaping improvements and any other improvements at the discretion of the City. Removal shall be in accordance with proper health and safety requirements and all ordinances, rules, and regulations of the City. The facility shall be removed from the property within 30 days, at no cost or expense to the City. If the facility is located on private property, the private property owner shall also be independently responsible for the expense of timely removal and restoration. Should the City be required to remove the facility or restore a site within the public right-of-way, the owner/operator of the facility shall reimburse the City for its actual costs.

12. Section 11.02.080.C is repealed and replaced as follows:

Section 11.02.080.C A copy of any decision on an application made under this section shall be provided to the applicant, and to any party who submitted comments to the City Manager pursuant to notice required by this Chapter. Decisions shall also be posted on the Los Altos

website within twenty-four (24) hours of their issuance or as soon as reasonably practicable, in a manner clearly identifying the application to which the decision relates. And, the decision shall also be posted on the site of the proposed wireless telecommunications facility.

SECTION 4. DESIGN STANDARDS

The City Council hereby reviews the prior Design Standards called forth in Resolution No. 2019-35 adopted on August 5, 2019 and repeals same in its entirety and concurrently adopts New Design Guidelines in a separation resolution to regulate the design standards for wireless telecommunication facilities.

SECTION 5. CEQA

The Initial Study prepared for the proposed Wireless Telecommunications Facilities Development Standards and Design Guidelines indicates for each environmental issue it analyzed that environmental impacts would be less than significant or that no impact would occur. There is no substantial evidence, in light of the whole record before the lead agency (the City of Los Altos), that the project may have a significant effect on the environment.

SECTION 6. SEVERABILITY

If any section, subsection, sentence, clause, phrase, or portion of this Ordinance is for any reason held to be unconstitutional or otherwise invalid by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance. The Los Altos City Council hereby declares that it would have adopted the remainder of this ordinance, including each section, subsection, sentence, clause, phrase or portion irrespective of the invalidity of any other article, section, subsection, sentence, clause, phrase, or portion.

SECTION 7. AUTHORITY AND EFFECTIVE DATE.

This Ordinance is enacted pursuant to the authority conferred upon the Los Altos City Council by Government Code Section 36934 and will be effective thirty (30) days after second reading.

Anita Enander
Mayor, City of Los Altos

Attest: Andrea Chelemengos
City Clerk

ORDINANCE NO. _____ of the City of Los Altos adopted on _____, 2022 by the following roll call vote of the City Council:

From: [Liang Chao](#)
To: [City Clerk](#); [B Lau](#)
Subject: Fw: Small Cell Tower Site
Date: Wednesday, November 27, 2024 4:45:44 PM
Attachments: [Verizon Wireless Letter 052421-compressed.pdf](#)
[5G-Health-Effects-and-Policy-Issues-April-2023-compressed 1.pdf](#)

Dear Resident,

Thank you for reaching out with your comments.

Due to a change in the implementation of how written communication is collected for the upcoming council meeting, your email will not be included in the official record unless a councilmember forwards it to the City Clerk.

Dear City Clerk,

Please enter the enclosed communication and its attachments as written communication for the upcoming council meeting from a councilmember, per CMC 2.08.100.

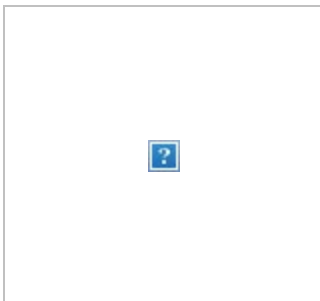
I am submitting this comment at the request of my constituents to ensure that community voices are included in written communications of council meetings as requested, rather than at the discretion of councilmembers, which might inadvertently leave out some minority voices.

Thank you for your attention to this matter.

Regards,

Liang

~ Cupertino City Council (elected in 2018, re-elected in 2022)



Liang Chao
Council Member
City Council
LiangChao@cupertino.org
408-777-3192



From: B Lau <brionelau@gmail.com>
Sent: Wednesday, November 27, 2024 2:44 PM
To: City Council <citycouncil@cupertino.org>
Cc: City of Cupertino Public Works - Engineering Div <engineering@cupertino.org>
Subject: Re: Small Cell Tower Site

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Council Members:

Based on the city's website and posted information on small cell towers below, it appears the last public meeting was in 2021 when Darcy Paul was mayor.

Since then, the # of cell #s has increased across Cupertino exponentially including a pending permit on Bubb Road outside Kennedy Middle School.

Reference: <https://www.cupertino.org/our-city/departments/public-works/permitting-development-services/small-cell-information>

It also appears Verizon has spent quite a bit of \$\$\$ and previously hired the legal firm MacKenzie & Albritton LLP to represent its interest on May 24, 2021.

I strongly consider the council members to allow numerous small cell towers across Cupertino especially in residentially zones and directly adjacent to public schools. Please see the published flyer related to concerns and studies related to the impact of 5G wireless.

The attached flyer is more comprehensive and helps the public make a fully informed decision as opposed to what your staff members posted on the City's small cell tower section, positioning such devices as safe (according to other experts). At best this is misleading due to only sharing partial information (<https://www.cupertino.org/our-city/departments/public-works/permitting-development-services/small-cell-information>) in the FAQs.

I urge you to add this to an upcoming council meeting and explore alternative ways to satisfy the carrier's requirements without infringing on our residential rights and safety.

Regards,
Brion Lau

On Wed, Nov 27, 2024 at 11:16 AM B Lau <brionelau@gmail.com> wrote:

Addendum:

Here is a useful link for information on 5G and cell towers from the Environmental Health Trust.

<https://ehtrust.org/liability-and-risk-from-5g-and-cell-towers/>

At the bottom of the article are links to counter-arguments and research stating 5G is safe

and low levels of radiation. The fact is there is no long-term study and the fact that insurance will not cover this risk should say enough.

Thank you.

On Wed, Nov 27, 2024 at 11:03 AM B Lau <brionelau@gmail.com> wrote:

Dear City Council Members:

Please see the email below originally addressed to Planning and Public Works departments.

I should have copied you on the original protest.

Please consider relocating the installation to an alternate site acceptable to the carrier such as the screenshot provided.

Thank you,
Brion

----- Forwarded message -----

From: **B Lau** <brionelau@gmail.com>

Date: Wed, Nov 27, 2024 at 10:42 AM

Subject: Re: Small Cell Tower Site

To: City of Cupertino Planning Dept. <planning@cupertino.org>

Cc: <engineering@cupertino.org>

Screenshot attached with the location of a potential alternate location.

Or, at the very least, please relocate this to another area that would minimize RF exposure and impact.

On Wed, Nov 27, 2024 at 10:41 AM B Lau <brionelau@gmail.com> wrote:

Hi Team,

I just met a contractor doing a site analysis on the streetlight outside 21600 Rainbow Drive. He mentioned they are planning to install a small cell tower on this streetlight for a public carrier such as Verizon.

I am concerned about this site in particular because my family, neighbors and I will be subjected to constant RF (radio frequency) waves that could potentially be harmful to our health especially those of us within 400 meters of this small cell tower.

I realize the City is allowing these towers but previously they were located closer to the retail corridors with high traffic. This location is directly within a neighborhood with no local businesses nearby.

Besides the long-term health risks, any argument that we need improved signal is misleading. Many of us who live in this area use Wi-Fi calling and do not depend on

cell signal or strength alone.

Please relocate this small cell tower elsewhere 400 meters away from this site. My suggestion is to use the utility structure at the top of Fremont Older Preserve (see attached). The elevation is higher and this is further away from residential homes instead of right in the middle of our neighborhood.

I would also like to understand how far along this is in the planning process and if permits have been issued. If so, please provide a copy of the site analysis and whether or not the operator has an FCC exemption (<https://www.ecfr.gov/current/title-47/chapter-1/subchapter-A/part-1/subpart-I/section-1.1307>) under section B.

I appreciate your consideration and assistance ensuring our long-term neighborhood health remains a top priority over commercial concerns for such an installation.

Regards,
Brion Lau
Ph: (408) 219-6415

MACKENZIE & ALBRITTON LLP

155 SANSOME STREET, SUITE 800
SAN FRANCISCO, CALIFORNIA 94104

TELEPHONE 415 / 288-4000
FACSIMILE 415 / 288-4010

May 24, 2021

VIA EMAIL

Mayor Darcy Paul
Vice Mayor Liang Chao
Councilmembers Hung Wei,
Kitty Moore and Jon Willey
City Council
City of Cupertino
10300 Torre Avenue
Cupertino, California 95014

Re: Regulation of Small Cell Wireless Facilities in the Right-of-Way

Dear Mayor Paul, Vice Mayor Chao and Councilmembers:

We write on behalf of Verizon Wireless regarding the Council's proposals for permitting small cells, discussed at your April 20 study session. Since 2017, Verizon Wireless has worked with the City to submit and process some 120 small cell applications, pursuant to the terms of a Settlement Agreement executed with the City that year. Last summer, Department of Public Works staff developed the City's current guidelines for small cells on City-owned poles, released August 27, 2020 (the "Guidelines"). Since then, Verizon Wireless has filed only two dozen applications under the terms of both the Settlement Agreement and the Guidelines. In October 2020, Verizon Wireless signed a "Shot Clock" tolling agreement with the City, extending the time period for Public Works to process the applications per Federal Communications Commission ("FCC") rules.

Some of the approved Verizon Wireless facilities criticized by the Council on April 20 would be restricted by the Guidelines if their applications were filed today. The Guidelines should be allowed to remain in effect, and their impact on new applications should be evaluated before they are revised, as they already address several of the Council's concerns. For example, the location preferences already favor non-residential zones over sites near residences, schools and playgrounds.

Several of the Council's new proposals would contradict federal or state law, as we explain. For example, limiting a wireless permit term to three years directly violates state law. Requiring applicants to prove that a denial would violate federal or state law is inconsistent with Federal Communications Commission ("FCC") regulations.

The City should continue processing small cell applications under the current Guidelines. Verizon Wireless proposes one modification to the Guidelines to address public participation, by giving the Department of Public Works discretion to hold a public hearing on an application prior to approval. We look forward to participating in the Council's next study session.

Federal Communications Commission Regulations Constrain Local Review of Small Cell Applications.

The FCC adopted its September 2018 order to provide direction on appropriate approval criteria for small cells. *See Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, Declaratory Ruling and Third Report and Order, 33 FCC Rcd. 9088 (September 27, 2018) (the "Infrastructure Order"). The FCC determined that a city's aesthetic criteria for small cells must be "reasonable," that is, "technically feasible" and meant to avoid "out-of-character" deployments, and also "published in advance." Last year, the Ninth Circuit Court of Appeals upheld these FCC requirements. *See City of Portland v. United States*, 969 F.3d 1020 (9th Cir. 2020), petition for cert. pending, No. 20-1354 (filed March 22, 2021).

The Court agreed with the FCC that local requirements that "materially inhibit" deployment of new technology constitute an effective prohibition of service under the Telecommunications Act. 47 U.S.C. §§ 253(a), 332(c)(7)(B)(i)(II); *Infrastructure Order* ¶ 37; *City of Portland*, 969 F.3d at 1036. The Court also upheld the FCC's "Shot Clock" rules that require a decision on small cell applications within 60 days (for existing poles) or 90 days (for new/replacement poles), subject to tolling for incompleteness. 47 C.F.R. §§ 1.6003(c), (d); *City of Portland*, 969 F.3d at 1043.

Comments on Council Proposals

Below, we explain that some of the Council's proposals are already addressed by the Guidelines. Other proposals contradict state law, federal law or the FCC's small cell regulations.

Encouraging new poles in commercial areas, instead of siting facilities in residential zones. This would not improve on the City's current location standards. The Guidelines already prefer Category 1 non-residential zones over Category 2 residential zones. To site in a Category 2 location, applicants must show that any Category 1 streetlight poles within 500 feet are infeasible. This would steer a proposed small cell away from residences to one of the many streetlight poles typically found on nearby commercial streets, if feasible. The City should allow new poles where necessary, consistent with Public Utilities Code Section 7901. Verizon Wireless has placed several new streetlight poles per the City's request, dedicating them to the City.

Requiring review of alternatives within 1,000 feet. Currently, the Guidelines require review of any more-preferred locations within 500 feet. To expand the search distance to 1,000 feet would quadruple the search area (from 5.7 acres to 22.9 acres). In the right-of-

way, small cells serve targeted areas with a limited coverage footprint. Steering a small cell too far from a proposed location would leave a target coverage area underserved or unserved, constituting a prohibition of service in violation of federal law. *See* 47 U.S.C. §§ 253(a), 332(c)(7)(B)(i)(II); *see also* Infrastructure Order, ¶¶ 37-40.

The 500-foot search distance represents a reasonable compromise between the City's desire to regulate the placement of small cell facilities, and the technical limitations of the radio frequencies licensed by Verizon Wireless from the FCC. Any greater search distance prevents Verizon Wireless from efficiently deploying its licensed frequencies, and may constitute a prohibition of service that would contradict federal law. Accordingly, Berkeley and Davis recently adopted a search distance of 500 feet, Danville and Concord 250 feet, and Oakland 200 feet.

Requiring applicants to show that a proposed location meets their service needs, compared to alternatives. Both state and federal law preempt requirements for wireless carriers to demonstrate the need for their small cells. California Public Utilities Code Section 7901 grants telephone corporations a statewide right to place their equipment along any right-of-way, including new poles, so wireless applicants need not provide information regarding need. Further, as discussed above, the FCC determined that small cells are needed to densify networks, and to enhance and introduce new services. These are Verizon Wireless's objectives in placing small cells in Cupertino.

Consistent with the FCC's direction to develop "reasonable" aesthetic criteria, the appropriate standard for comparing alternatives is technical feasibility. The Guidelines already list feasibility as a factor for reviewing more-preferred locations within 500 feet. Verizon Wireless has discounted alternative poles for feasibility factors such as excessive tree cover that blocks signal, or difficulty connecting to a sufficient power source compared to proposed pole.

Adding Categories 4 and 5, whereby sites within 40 feet of homes would require Planning Commission approval, and within 20 feet, Council approval. Proximity to residences is already addressed in the Guidelines, which list locations within 20 feet of any occupied structures in least-preferred siting Category 3. Currently, an applicant proposing a site within 20 feet of residence must show that within 500 feet, there are no feasible alternatives that are *not* within 20 feet of an occupied structure.

Because the Guidelines impose this reasonable location constraint, hearings before the Commission and/or Council are unnecessary, and would be burdensome on staff time and resources. The Planning Commission is tasked with issuing land use permits, not encroachment permits. The City Engineer has the expertise to evaluate technical feasibility of alternatives. A Commission or Council denial would likely contradict the location preferences of the Guidelines, if more-preferred location options within 500 feet are infeasible. Such a denial would "materially inhibit" service improvements, constituting a prohibition of service. Any decision of the Planning Commission or Council that contradicts the Guidelines would violate the federal requirement that standards be technically feasible and published in advance.

Increasing the setback from occupied structures from 20 to 40 feet would restrict most rights-of-way. The attached analysis by Richard Kos, AICP, evaluates the impact of an increased setback on the rights-of-way where small cells can be placed on streetlights, based on City GIS data. Combined, the current setbacks of 20 feet from occupied structures and 100 feet from schools and playgrounds limit 17.29% of the rights-of-way suitable for small cells. Increasing the occupied structure setback to 40 feet would limit 75.81% of the rights-of-way – over four times as much, and clearly constituting a prohibition of service under federal law. We also note that, if used as a measure to require Planning Commission review, the 40-foot setback would require nearly all small cell applications to be subject to a lengthy hearing process.

Finally, as noted, the City has been unable to process current Verizon Wireless applications within the required FCC “Shot Clock” periods. As a result, Verizon Wireless and the City have had to enter into multiple agreements to avoid City liability for failing to meet these federal processing timelines. To add Planning Commission and City Council hearings to this process, whether by right or through appeals, would seriously compound the City’s current inability to timely process small cell applications. The City should avoid new regulations that would make processing applications within the FCC’s “Shot Clock” timelines impossible.

Requiring applicants to show that denial would violate federal or state law. This is similar to wireless permit findings in Los Altos, which Verizon Wireless has sued because of its unlawful ordinance and an unfounded denial of a small cell (AT&T also has sued Los Altos). There is no reason to require applicants to explain why a denial would violate federal or state law, as that has no bearing on the “reasonable” aesthetic and location criteria required by the FCC.

This proposal implies that the City would deny a proposed small cell if the decision-maker did not believe that an applicant provided a sufficient legal explanation. However, such judicial determinations must be left to the courts. Evaluating the risks of denial on a case-by-case basis would suggest that the City adopted legally-suspect regulations. Instead, a city should confirm that its small cell policies are reasonable and lawful at the outset.

Limiting permit term to three years for sites closer to residences. This would violate California Government Code Section 65964(b), which bars cities from unreasonably limiting wireless permit terms, and presumes that a period less than 10 years is unreasonable.

Two-year master plan if applicant submits 10 or more applications per year. A master plan implies an evaluation of the need for a facility, but as explained above, state and federal law preempt requirements for wireless applicants to prove the need for their small cells in the right-of-way. Adherence to a previously-submitted master plan could not be a decision factor for future applications; each small cell must be evaluated on its own merits. Wireless networks are dynamic, and a carrier’s network plans may change

based on new frequencies available from the FCC, evolving technologies, shifts in customer demand, and new federal regulations. A master plan prepared today may be inapplicable next year.

Appeal to the City Manager. This would expand the City Manager’s duties with respect to administrative appeals, requiring an ordinance amendment. A formal appeal process is unnecessary because the Guidelines already provide for public participation. Currently, applicants must mail public notice to property owners with 500 feet, respond to public comments received within 21 days, and prepare a public comment report for the City Engineer. As noted, Verizon Wireless has cooperated with requests from Public Works to relocate seven of its approved small cells in response to public comment, confirming that the Guidelines’ current notice and comment procedures work.

Instead of public appeals to the City Manager, the Council should consider adding a provision to the Guidelines granting the Department of Public Works the discretion to hold a public hearing on an application, if warranted by public comment. The hearing could be conducted by the Director of Public Works, the City Engineer, or their designee, with hearing comments included in the record prior to a decision on an application.

Verizon Wireless appreciates the Council’s recognition that appeals should not be allowed if based on concern over radio frequency emissions, because that is preempted by the Telecommunications Act. 47 U.S.C. § 332(c)(7)(B)(iv). Because many public objections are based on radio frequency emissions, appeals generally would be barred by this Council proposal, demonstrating why a new appeal process is unnecessary.

Stronger aesthetic requirements. As explained above, the FCC requires that a city’s aesthetic standards for small cells be technically feasible. Wireless carriers are limited to antenna and radio models available from manufacturers that work with the frequencies that the carrier has licensed from the FCC.

Verizon Wireless has designed its small cells to minimize the profile of this required equipment. The current screened design is a compromise that allows for a uniform profile that works for Verizon Wireless, AT&T and other wireless carriers. The designs approved for Verizon Wireless small cells in Cupertino are shown in Exhibit B, “Approved Designs,” of the 2017 Settlement Agreement.

Fiber backhaul networks. Fiber lines should not be addressed in a city’s wireless regulations. Verizon Wireless will not install the fiber backhaul lines that connect its small cells in Cupertino, but will be a customer of fiber companies that provide connections for various users along a fiber route. Fiber companies are regulated differently. For example, they generally are registered with the California Public Utilities Commission as wireline telephone companies, whereas Verizon Wireless is a cellular carrier. Further, fiber backhaul networks are beyond the scope of a “small wireless facility” as defined by the FCC. 47 C.F.R. § 1.6002(l). Verizon Wireless’s encroachment permits encompass each small cell up to its point-of-connection with the

Cupertino City Council

May 24, 2021

Page 6 of 6

fiber backhaul network, but not beyond. Fiber providers would secure their own permits under applicable regulations.

The Guidelines are consistent with small cell regulations adopted by numerous other cities. Of note, the reasonable location preferences and the 500-foot search distance provide clear siting criteria for both applicants and City staff, while avoiding an unlawful prohibition of service. We encourage the City to continue processing small cell applications according to the current Guidelines.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Paul Albritton".

Paul B. Albritton

Attachment

cc: Heather Minner, Esq.
Marlene Dehlinger, Esq.
Chad Mosley
Kirsten Squarcia

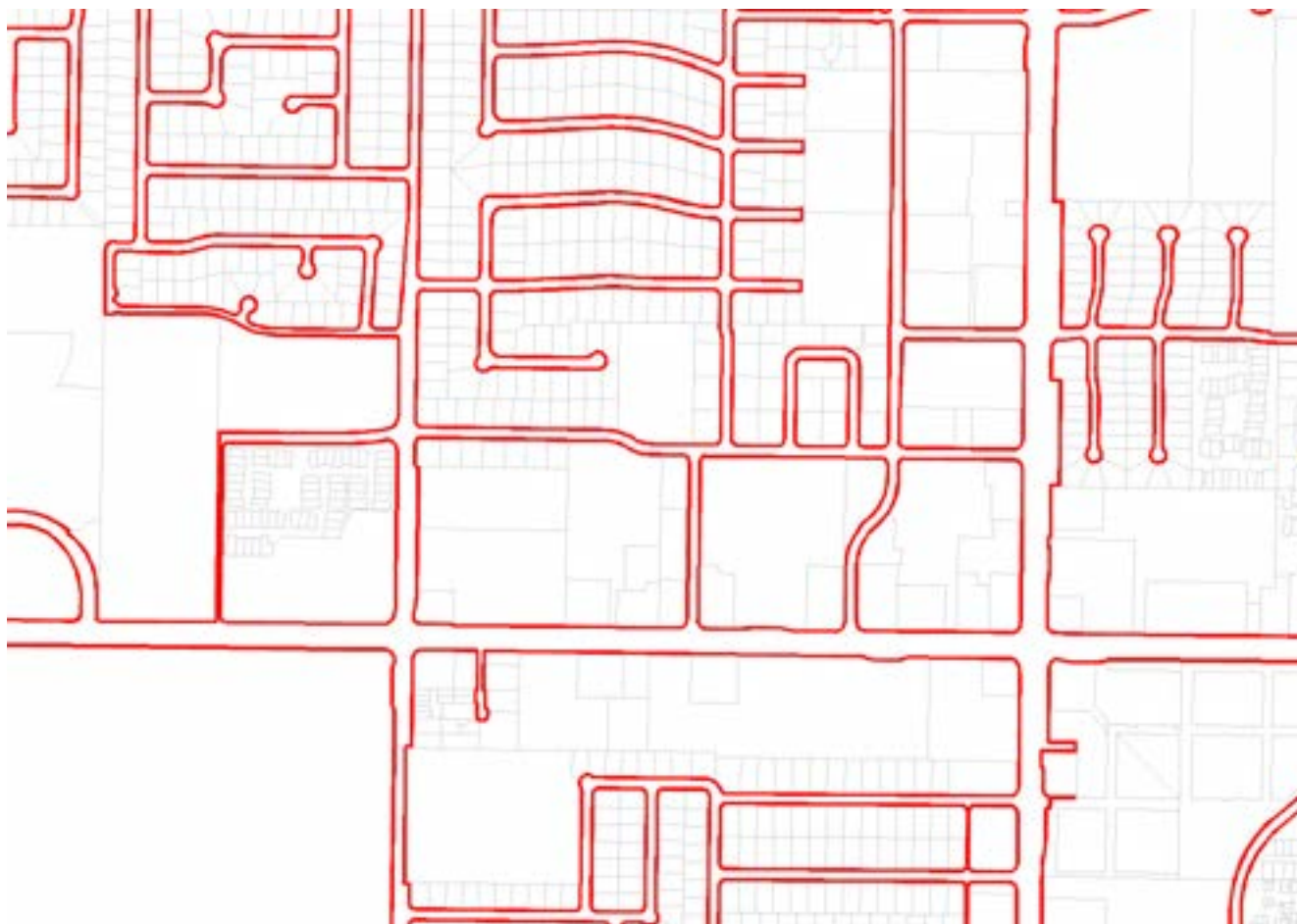
Methodology for calculating impact of setback requirements on the siting of future Verizon small cell wireless telecommunications facilities in the City of Cupertino

Prepared by Richard Kos, AICP | March 2021

Step 1. Assemble spatial datasets from the city’s open data portal (<https://www.cupertino.org/online-services/open-government-data/open-datahub>) into a geodatabase; project all datasets to a common projected coordinate system (U.S. State Plane Zone III, NAD 1983, linear units feet):

- Light poles (not “traffic poles”)
- Building footprints
- City boundary
- Edge of pavement
- Parcels
- Zoning
- Facilities
- Park structures

Step 2. Create a map layer depicting all portions of public right-of-way within 10 feet of parcel lines. This is a conservative estimate of the portion of right-of-ways within which small sites might be constructed and which lie outside of vehicular travel areas. Begin by dissolving all parcels with centroids in the Cupertino city limits into a single shape. Then use the Buffer function to delineate the 10-foot distances from the resulting edges. A portion of the resulting map layer is shown below (10-foot distances in **red**)



The objective of this analysis is to show the impact of city-imposed setback distances on the feasibility of constructing new Verizon small cell sites in “Least Preferred Sites”. Small cells are permitted on city-owned light poles per the city’s *Guidelines for Encroachment Permit Submittals*. Relevant portions of Attachment C from the *Guidelines* are shown below (highlighting added).

For reference, note the setback requirements listed below in “Category 3” (items a. through e.) The following sections of this report analyze four of the five setback distances, excluding the 500’ setback between facilities, provided under 3.b

<p>The following Categories of sites for small cell facility installations are listed in order of preference. As described below, Category 1 sites are preferred over Category 2 sites, and small cell facilities in Category 3 sites are generally not permitted, either in Category 1 or Category 2 areas:</p> <p>1) <u>Category 1 (Preferred Sites)</u> - Non-residential zoning districts</p> <p>2) <u>Category 2 (Less Preferred Sites)</u> - All residential zoning districts</p> <p>The following street types (as defined by the Cupertino General Plan) in residential zoning districts are listed from more preferred to less preferred for placement of small cell facilities:</p> <ol style="list-style-type: none"> Boulevards and Arterials Major Collectors Minor Collectors Neighborhood Connectors Residential Streets <p>Where an applicant proposes a facility on a streetlight pole in a Category 2 site, the applicant shall provide documentation showing that all streetlight poles in any Category 1 site and in any more-preferred Category 2 site within 500 feet of the proposed facility are infeasible to meet the carrier's needs (e.g. proximity to signal barriers, such as trees, capacity and coverage needs, etc.). For example, a facility proposed for a Category 2.e (Residential Street) site would need to provide documentation showing that all Category 1 and Category 2.a, 2.b, 2.c, and 2.d sites within 500 feet are infeasible.</p>	<p>3) <u>Category 3 (Least Preferred Sites)</u> - Any zoning district</p> <p>A facility shall not be permitted in a Category 3 site if non-Category 3 sites are available within 500 feet of the proposed facility, unless the applicant can provide documentation showing that a Category 3 site is the only feasible option available to address the carrier's needs.</p> <p>The following locations are considered Least Preferred sites:</p> <ol style="list-style-type: none"> Any installation in the right of way that would result in a facility being located closer than 15 feet to a public roadway intersection. An intersection is measured from the start of the curb radius. Any installation in the right of way that would result in a facility being located closer than 500 feet to any other small cell facility in the right of way owned by the same wireless carrier. Any installation in the right of way that would result in a facility being located closer than 20 feet to an occupied structure. Any installation in the right of way that would result in a facility being located closer than 100 feet to any public school building. Any installation in the right of way that would result in a facility being located closer than 100 feet to any publicly accessible playground. For purposes of this guideline, playground shall mean an improved outdoor area designed, equipped, and set aside for children's play that is not intended for use as an athletic playing field or athletic court, and shall include any playground equipment, fall zones, surface materials, access ramps, and all areas within and including the designated enclosure and barriers.
---	---

Category 3.a. 15 feet from a public roadway intersection.

There is no systematic or programmatic way in GIS to map this distance for every intersection in Cupertino since each intersection has unique geometry and there is no way to programmatically select each curb radius. Instead, a rough approximation of the right-of-way area impacted by provision 3.a. can be made. First, this 15-foot distance is understood to mean 15 feet as measured from a point of tangency at the “tip” of the curb radius. First, the number of intersections, citywide, is estimated.

Using the Intersect tool, with Cupertino roads as the input and points as output, 3,960 intersections were found after filtering out all points outside of the city limits and manually removing intersections along freeways. Manually remove another 500 points to estimate for multiple intersection points appearing along divided arterial streets (e.g. Stevens Creek Boulevard). The result is 3,460 intersections.

We can conservatively estimate that all Cupertino streets meet at 4-way intersections and – at each of these intersections – there are eight separate right-of-way “sides of the street” (sidewalk legs, for lack of a better term) per intersection.

Multiplying 3,460 intersection points by 8 ... then multiplying the result by 15 linear feet (per provision 3.a) = 415,200 linear feet of right-of-way, citywide, affected by provision 3.a. Since this analysis considers a right-of-way width of **10** feet as the area in which small cell sites could be added to city light poles, the **area** of rights-of-way affected by category 3.a. is (415,200 x 10) = 4,152,000 square feet. Divide this by 43,560 to arrive at 95.31 acres.

There are 324.30 acres in the 10-foot right of way, citywide, so dividing 95.31 acres into this value, represents **29.39% of total 10-foot right of way width is impacted by category 3.a.**

Category 3.b. 500 feet from any other small cell facility in the right-of-way owned by the same wireless carrier.

This layer is not shown on the maps. However, there may be instances where the separation of facilities is not within the applicant’s control.

Category 3.c. 20 feet from an occupied structure.

Per Modus, “occupied structure” is defined as:

“Occupied structures” as the City applies it includes any building that has people – residences, offices, commercial buildings.. it’s a pretty broad term to implement a mandatory 20’ setback across the board.¹



One way to determine how different buildings are typically occupied is to consider Cupertino’s zoning districts, listed at the right. From this list of districts, and considering the definition above, it appears that all buildings in all zoning districts could, technically, qualify as “occupied structures”. Therefore, **all** buildings in Cupertino appear to be subject to the small-cell building setback requirements. In Steps 3, 4, and 5 of this report, the impact of current building setbacks (20 feet) on small cell siting will be explored, along with an analysis of increasing these setbacks to 30 feet and 40 feet.

Category 3.d. 100 feet from a public school building.

The shapefile “Facilities” was downloaded from the city’s open data portal. This map layer includes locations of schools, including De Anza College. The layer was filtered to show only public school properties – there are 30 in the city. Since the map layer includes the entire school property for school sites, in order to isolate the school buildings “select by location” was used to select all of the building footprints that intersect those 30 properties – the result is 503 buildings, including primary structures and any other building on the school properties. The resulting 503 public school property buildings were then buffered by 100 feet.

Category 3.e. 100 feet from a publicly accessible playground.

The shapefile “Park Structures” was downloaded from the city’s open data portal. This map layer includes locations of playgrounds. When filtered for this park structure types, there are 38 playgrounds in the city. A 100-foot buffer was delineated from these 38 sites.

Step 3. Analyze the impact of **20-foot building setbacks (category 3.c.)** in combination with Category 3.d, and 3.e. Buffers

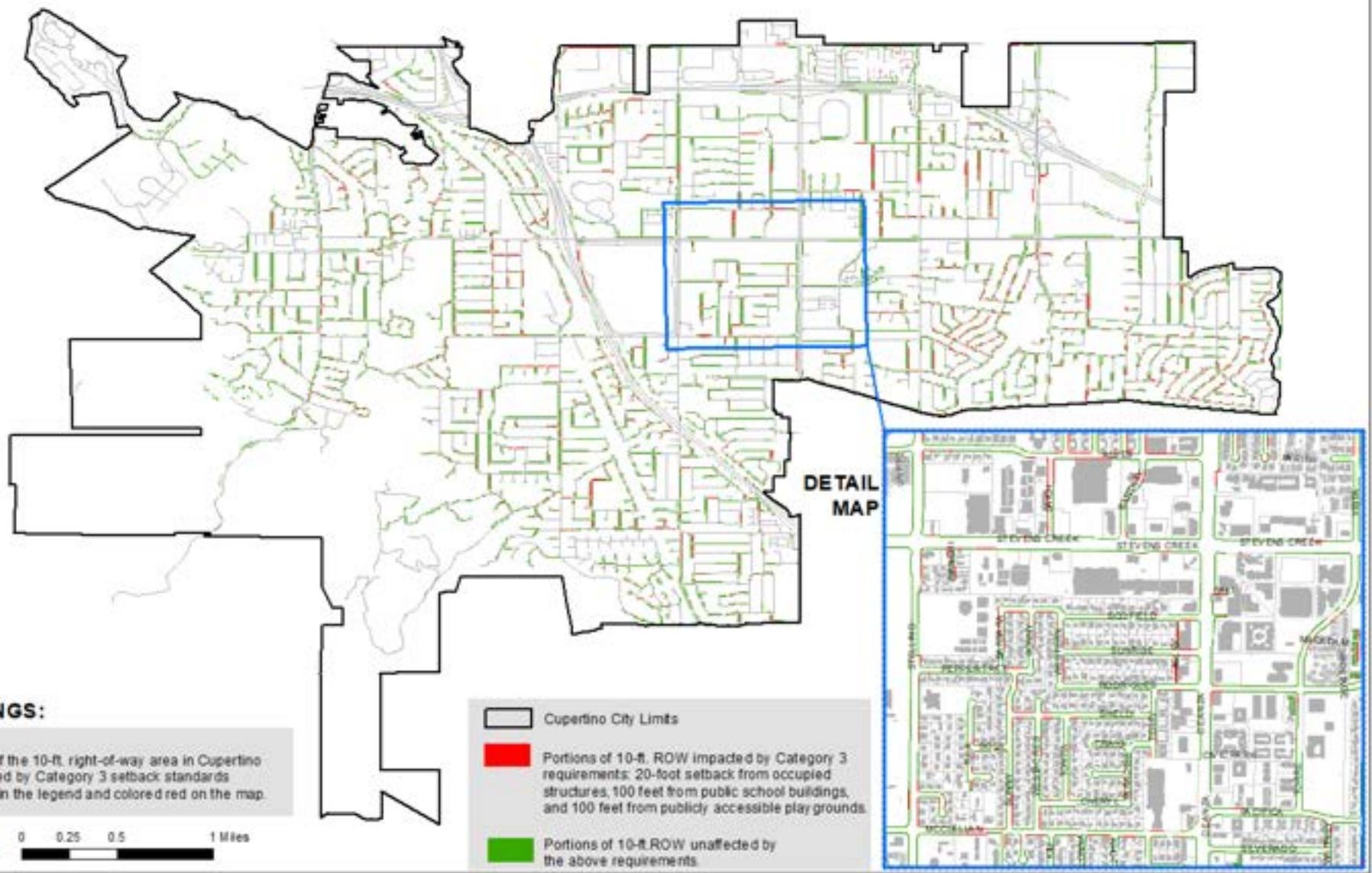
Generate 20-foot buffers around all occupied building footprints in the city and combine with the other two setback categories – school buildings and playgrounds. The map on page 4 shows rights-of-way colored **red that are impacted by these three combined setback areas** and **green where there is no impact of setbacks**.

Step 4. Repeat the process from Step 3 above, this time using a **30-foot setback** from all occupied structures. The results of this analysis are shown on page 5.

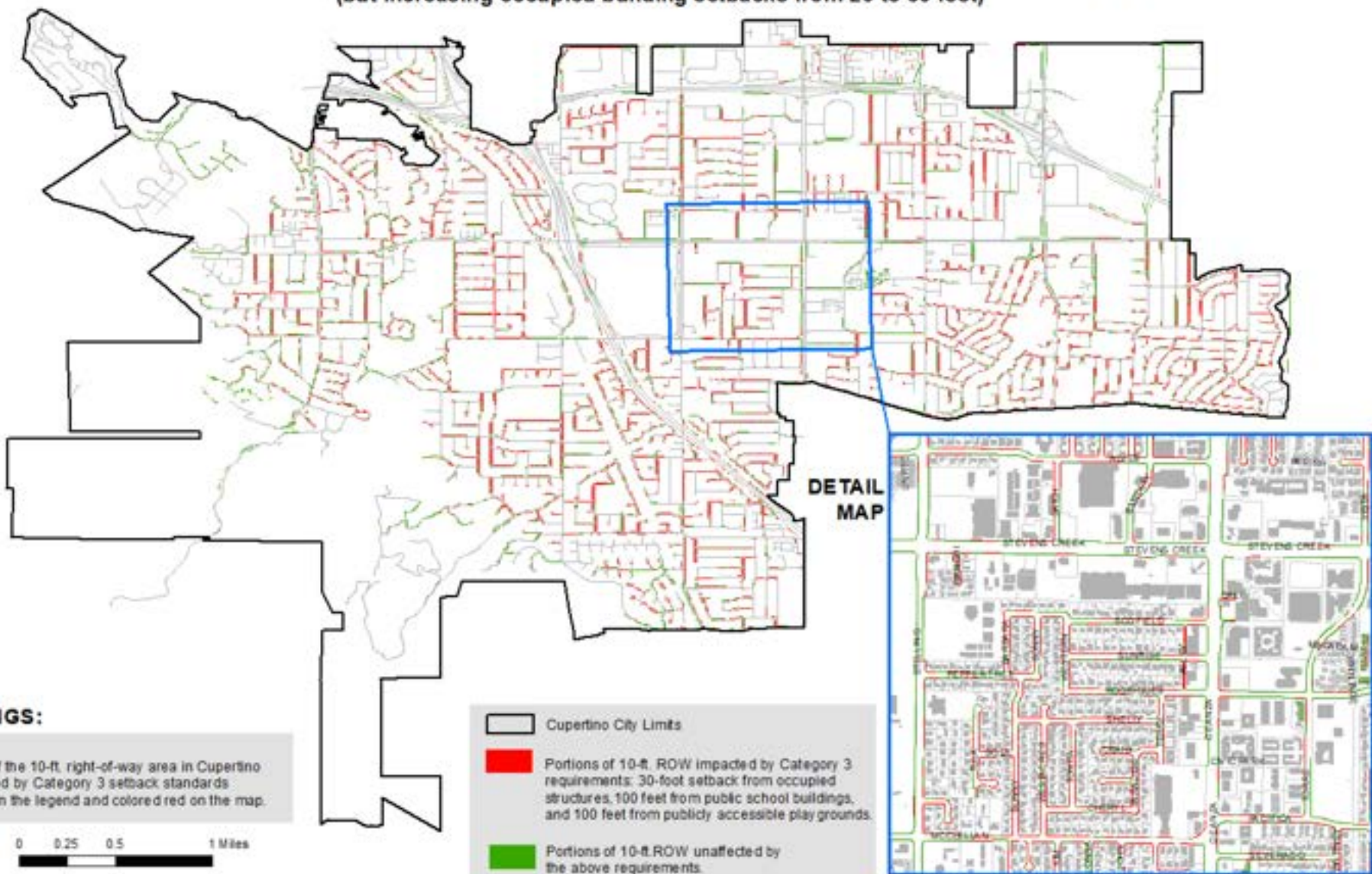
Step 5. Repeat the process from Step 3 above, this time using a **40-foot setback** from all occupied structures. The results of this analysis are shown on page 6.

¹ Email from JoAnna Wang, Modus Director of Government & Community Affairs, to Richard Kos, January 12, 2021.

Verizon Exploratory Analysis: Impact of Guidelines for Encroachment Permit Submittals with Category 3 provisions



**Verizon Exploratory Analysis: Impact of Guidelines for Encroachment Permit Submittals with Category 3 provisions
(but increasing occupied building setbacks from 20 to 30 feet)**

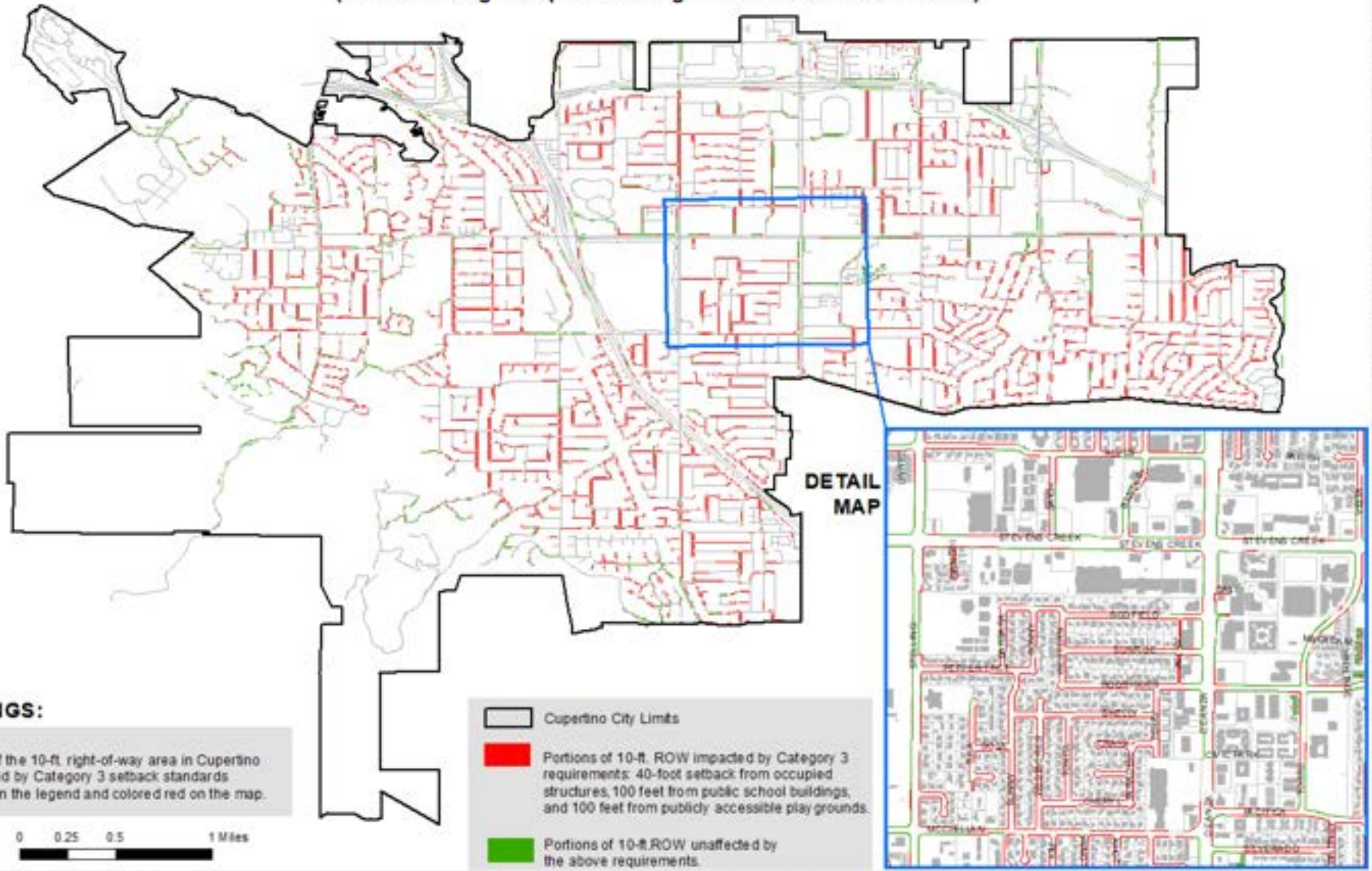


FINDINGS:

57.06% of the 10-ft. right-of-way area in Cupertino is impacted by Category 3 setback standards described in the legend and colored red on the map.



**Verizon Exploratory Analysis: Impact of Guidelines for Encroachment Permit Submittals with Category 3 provisions
(but increasing occupied building setbacks from 20 to 40 feet)**



CONCLUSIONS

With the existing **20-foot** occupied building requirement (category 3.a.):

- 56.07 acres: citywide, impacted by Category 3.c, 3.d, 3.e setback requirements
Divided by
- 324.30 acres: citywide, all 10-foot right-of-way as measured from nearest property line
Equals
- **17.29%:** the portions of 10-foot right-of-way impacted by Category 3.c, 3.d, 3.e setback requirements.

With the existing 20-foot occupied building requirement increased to **30 feet:**

- 185.03 acres: citywide, impacted by Category 3.c, 3.d, 3.e setback requirements
Divided by
- 324.30 acres: citywide, all 10-foot right-of-way as measured from nearest property line
Equals
- **57.06%:** the portions of 10-foot right-of-way impacted by Category 3.c (modified to 30 feet), 3.d, and 3.e setback requirements.

If the existing 20-foot occupied building requirement were to be doubled to **40 feet:**

- 245.86 acres: citywide, impacted by Category 3.c, 3.d, 3.e setback requirements
Divided by
- 324.30 acres: citywide, all 10-foot right-of-way as measured from nearest property line
Equals
- **75.81%:** the portions of 10-foot right-of-way impacted by Category 3.c (modified to 40 feet), 3.d, and 3.e setback requirements.



NEW YORK CITY



CHILDREN'S VULNERABILITY TO WIRELESS RADIOFREQUENCY (RF) RADIATION



The American Academy of Pediatrics states:

"In recent years, concern has increased about exposure to radio frequency (RF) electromagnetic radiation emitted from cell phones and phone station antennas. An Egyptian study confirmed concerns that living nearby mobile phone base stations increased the risk for developing:

- Headaches
- Memory problems
- Dizziness
- Depression
- Sleep problems

Short-term exposure to these fields in experimental studies have not always shown negative effects, but this does not rule out cumulative damage from these fields, so larger studies over longer periods are needed to help understand who is at risk. In large studies, an association has been observed between symptoms and exposure to these fields in the everyday environment."

-American Academy of Pediatrics
[HealthyChildren.org](https://www.healthychildren.org)

Cell towers and cell phones emit wireless radiofrequency (RF) radiation.

Children are more vulnerable to RF radiation, just as they are to other environmental exposures. They have proportionately more exposures to RF compared to adults. More importantly, even very low exposures to children can have serious impacts later in life because their nervous and immune systems are still in development.

Children absorb higher levels of RF radiation deeper into their brains and bodies because they have:

- Thinner skulls allow RF radiation to move easier into the brain.
- Higher water content in brain tissue which is more conductive to electricity.
- Smaller heads result in a shorter distance for the RF to travel from the skull to critical brain regions important for learning and memory.

Children are more sensitive to RF impacts because:

- Their brains are still developing.
- Children have more active stem cells- a type of cell scientifically found to be uniquely impacted by RF.
- Children will have a longer lifetime of higher exposures, starting from before they are born.

CELL TOWER RF RADIATION AND CANCER

International Agency for Research on Cancer



World Health
Organization

PRESS RELEASE
N° 208

31 May 2011

IARC CLASSIFIES RADIOFREQUENCY ELECTROMAGNETIC FIELDS AS POSSIBLY CARCINOGENIC TO HUMANS

Lyon, France, May 31, 2011 -- The WHO/International Agency for Research on Cancer (IARC) has classified radiofrequency electromagnetic fields as possibly carcinogenic to humans (Group 2B), based on an increased risk for glioma, a malignant type of brain cancer¹, associated with wireless phone use.

The World Health Organization International Agency for Research on Cancer Classified Radiofrequency Radiation as a "Possible" Carcinogen in 2011

In 2011, radiofrequency electromagnetic fields (RF-EMF) were classified as a Group 2B possible carcinogen by the World Health Organization's International Agency for Research on Cancer (WHO/IARC).

The WHO/IARC scientists clarified that this determination was for RF-EMF from any source be it cell phones, wireless devices, cell towers or any other type of wireless equipment.

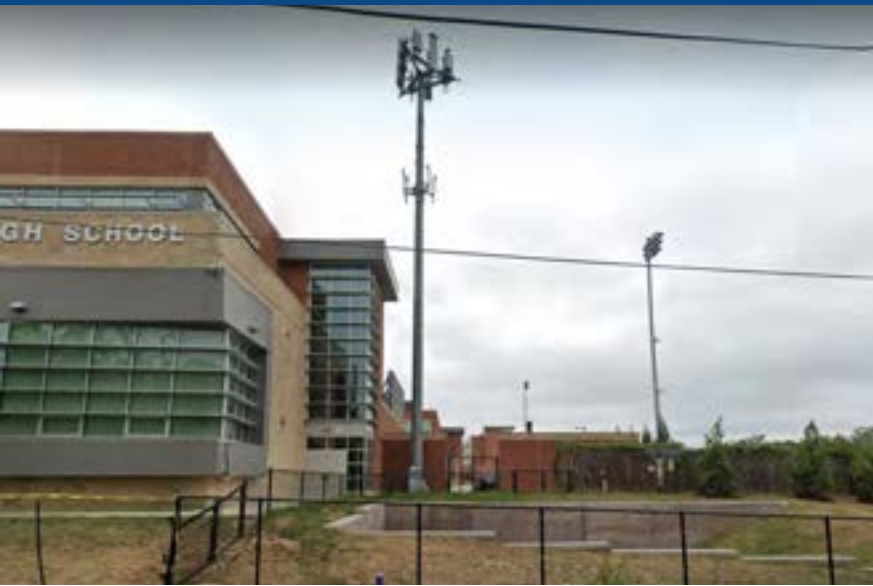
Since 2011, the published peer-reviewed scientific evidence associating RF-EMF (also known as RF-EMR and RFR) to cancer and other adverse effects has significantly increased.

A large-scale animal study published in Environmental Research found rats exposed to RF levels comparable to cell tower emissions had elevated cancers, the very same cancers also found in the US National Toxicology Program animal study of cell phone level RF that found "clear evidence" of cancer in carefully controlled conditions (Falcioni 2018).

In 2019, the WHO/IARC advisory committee recommended that radiofrequency radiation be re-evaluated as a "high" priority in light of the new research. The date of the re-evaluation has not been set.

Currently, several scientists conclude that the weight of currently available, peer-reviewed evidence supports the conclusion that radiofrequency radiation is a proven human carcinogen (Hardell and Carlberg 2017, Peleg et al. 2022, Miller et al. 2018).

PUBLISHED RESEARCH STUDIES



RESEARCHERS RECOMMEND CELL TOWERS BE DISTANCED AWAY FROM HOMES AND SCHOOLS

The review paper entitled “[Limiting liability with positioning to minimize negative health effects of cellular phone towers](#)” reviewed the “large and growing body of evidence that human exposure to RFR from cellular phone base stations causes negative health effects.” The authors recommend restricting antennas near homes, and restricting antennas within 500 meters of schools and hospitals to protect companies from future liability ([Pearce 2020](#)).

An [analysis](#) of 100 studies published in *Environmental Reviews* found approximately 80% showed biological effects near towers. “As a general guideline, cell base stations should not be located less than 1500 ft from the population, and at a height of about 150 ft” ([Levitt 2010](#)).

A [review](#) published in the *International Journal of Occupational and Environmental Health* found people living less than 500 meters from base station antennas had increased adverse neuro-behavioral symptoms and cancer in eight of the ten epidemiological studies ([Khurana 2010](#)).

A [paper](#) by human rights experts published in *Environment Science and Policy* documented the accumulating science indicating safety is not assured, and considered the issue within a human rights framework to protect vulnerable populations from environmental pollution. “We conclude that, because scientific knowledge is incomplete, a precautionary approach is better suited to State obligations under international human rights law” ([Roda and Perry 2014, PDF](#)).

APARTMENTS & CONDO BUILDINGS

INCREASED RF RADIATION FROM CELL ANTENNAS



The study "[Radiofrequency radiation from nearby mobile phone base stations-a case comparison of one low and one high exposure apartment](#)" published in *Oncology Letters* by [Koppel et al. \(2019\)](#) measured 2 apartments and found that the apartment with high RF levels had outdoor areas as close as 6 meters (about 19.6 feet) from transmitting base station cell antennas. In contrast, the apartment with low RF exposure had cell antennas at 40 meters (about 131 feet) away from the balcony.

Furthermore, the researchers also found that both high- and low-RF apartments had good mobile phone reception, and they concluded, "therefore, installation of base stations to risky places cannot be justified using the good reception requirement argument."

A measurement study by [Baltrėnas et al. \(2012\)](#) published in *Journal of Environmental Engineering and Landscape Management* investigated RF power density levels from cell phone antennas located 35 meters away from a 10-story apartment building. The transmitting antennas were approximately at the same height as the 6th floor of the building. The researchers found the highest RF levels at floors 5, 6 and 7. The RF at the 6th floor balcony was three times higher than the 3rd floor balcony. The RF power density at the 6th floor was about 15 times the RF measured at the first floor.

A [case report by Hardell et al. \(2017\)](#) of RF levels in an apartment in close proximity to rooftop cellular network antennas used an exposimeter to measure levels of different types of RF in the apartment and balconies including TV, FM, TETRA emergency services, 2G GSM, 3G UMTS, 4G LTE, DECT cordless, Wi-Fi 2.4 GHz and 5 GHz and WiMAX. The closest transmitting antennas were 6 meters away from the balcony. The researchers found 97.9% of the mean RF radiation was caused by downlink from the 2G, 3G and 4G base stations. (Downlink means frequencies emitted "down" from the base station cellular antennas.) The researchers found that if the base station RF emissions were excluded, the RF radiation in the children's bedrooms was reduced approximately 99%.

The researchers conclude, "due to the current high RF radiation, the apartment is not suitable for long-term living, particularly for children who may be more sensitive than adults."

INCREASED EXPOSURE FROM 5G/4G "SMALL" CELL ANTENNAS LOCATED CLOSE TO PEOPLE

A study entitled "[Very high radiofrequency radiation at Skeppsbron in Stockholm, Sweden from mobile phone base station antennas positioned close to pedestrians' heads](#)" published in *Environmental Research* by Koppel et al. (2022) created an RF heat map of RF measurements, finding that the highest RF measurements were in areas of close proximity to the base station antennas. The researchers concluded with recommendations to reduce close proximity placements such as positioning antennas "as far as possible from the general public" like in high-elevation locations or more remote areas.

A study entitled "[Measurements of radiofrequency electromagnetic fields, including 5G, in the city of Columbia, South Carolina, USA](#)" published in the *World Academy of Sciences Journal* found the highest RF levels in areas where the cell phone base station antennas were placed on top of utility poles, street lamps, traffic lights or other posts near to the street. The scientists compared their [2022 findings](#) to an earlier [2019 published review](#) on the mean outdoor exposure level of European cities and they found the South Carolina measurements to be higher.

The researchers concluded that the highest exposure areas were due to two reasons: cell phone base antennas on top of high-rise buildings provide "good cell coverage reaching far away, but creating elevated exposure to the radiofrequency electromagnetic fields at the immediate vicinity; and cell phone base station antennas installed on top of utility poles have placed the radiation source closer to humans walking on street level."



Figure 7. Gervais Street: Cell phone base station antenna placed close to street level and causing high exposure to pedestrians and nearby café visitors (exposure scenario illustration). The antenna appears camouflaged and seemingly part of a utility pole. The measurer only discovered the antenna due to the high radiofrequency levels in the vicinity.

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HEALTH SYMPTOMS REPORTED BY PEOPLE LIVING CLOSE TO CELL ANTENNAS

Image: Figure 1: Top floor apartment adjacent to base stations. Nilsson M, Hardell L. (2023) Development of the Microwave Syndrome in Two Men Shortly after Installation of 5G on the Roof above their Office. Ann Clin Case Rep



RESEARCH ON ANTENNAS CLOSE TO HOMES, SCHOOL AND WORK

Surveys of people living near cell tower antennas in [France](#), [Spain](#), [Iraq](#), [India](#), [Germany](#), [Egypt](#), [Poland](#) have found significantly higher reports of health issues including sleep issues, fatigue and headaches (See [Santini et al. 2003](#), [López 2021](#), [Alazawi 2011](#), [Pachua and Pachua 2016](#), [Eger et al. 2004](#), [Abdel-Rassoul et al. 2007](#), [Bortkiewicz et al., 2004](#)).

A [study](#) published in *American Journal of Men's Health* linked higher cell tower RFR exposures to delayed fine and gross motor skills and to deficits in spatial working memory and attention in school adolescents ([Meo 2018](#)).

A [study](#) published in *Environmental Research and Public Health* found higher exposures linked to higher risk of type 2 diabetes ([Meo 2015](#)).

A study following people for 6 years linked increased cell phone and cell phone tower antenna exposure to altered levels of hormones including cortisol, thyroid, prolactin and testosterone ([Eskander et al. 2021](#)).

A [study](#) that followed people in a German town after a cell tower was erected found stress hormones adrenaline and noradrenaline significantly increased over the first 6 months after the antenna activation and decreased dopamine and PEA levels after 18 months ([Buchner 2011](#)).

Two published case report document illness that developed after 5G antennas were installed. In [Hardell and Nilsson 2023](#), a couple developed microwave syndrome symptoms (e.g., neurological symptoms, tinnitus, fatigue, insomnia, emotional distress, skin disorders, and blood pressure variability) after a 5G base station was installed on the roof above their apartment.

Similarly, in "[Development of the Microwave Syndrome in Two Men Shortly after Installation of 5G on the Roof above their Office](#)" two men developed symptoms after 5G antennas were activated on the roof of their workplace. The symptoms disappeared in both men within a couple of weeks (case 1) or immediately (case 2) after leaving the office.

PUBLISHED RESEARCH ON 5G



New York City Jumbo 5G poles with 5 tiers to house transmitting antennas from numerous carriers.



New York City "small cell" antennas in front of living room window.

Scientists state that 5G's higher frequencies cannot be assumed safe.

5G systems are using low band frequencies well associated with harmful effects ([ICBE-EMF 2022](#), [European Parliament 2021](#), [Panagopoulos et al. 2021](#)). However 5G networks are also using higher frequencies such as 3.5 GHz and into the mmWave range with 24 GHz and higher.

Contrary to claims that the 5G's higher frequencies simply "bounce" off the skin, researchers have documented that the coiled portion of the skin's sweat duct can be regarded as a helical antenna in the sub-THz band and the skin, our largest organ, can intensely absorb the higher 5G frequencies ([Feldman and Ben Ishai 2017](#)).

Reviews of 5G health effects caution that the expected real-world impact would be far more serious due to the complex waveforms and other combinations with other toxic stimuli in the environment ([Kostoff et al 2020](#), [Russell, 2018](#), [Belyaev 2019](#), [McCredden et al 2023](#)).

Researchers will often experiment with zebrafish, rodents and fruit flies to gain data on potential health effects to humans. An Oregon State University study on zebrafish exposed to 3.5 GHz ([Dasgupta et al. 2022](#)) found "significant abnormal responses in RFR-exposed fish" which "suggest potential long-term behavioral effects. Yang et al 2022 found 3.5 GHz induced oxidative stress in guinea pigs.

A study on 3.5 GHz exposure to both diabetic and healthy rats ([Bektas et al 2022](#)) found an increase in degenerated neurons in the hippocampus of the brains, changes in oxidative stress parameters and changes in the energy metabolism and appetite of both healthy and diabetic rats. The researchers conclude that, "5G may not be innocent in terms of its biological effects, especially in the presence of diabetes."

PUBLISHED RESEARCH ON 5G



5G's higher frequencies will be combined with the lower frequencies from current networks already present in the environment.

Studies on rats have found exposure to both 1.5 and 4.3 GHz microwaves induced: cognitive impairment and hippocampal tissue damage ([Zhu et al 2021](#)); impairments in spatial learning and memory, *with the combined simultaneous exposures* resulting in the most most severe effects ([Wang et al 2022](#)); and immune suppressive responses ([Zhao 2022](#)).

Long-term exposure to 2.856 and 9.375 GHz microwaves impaired learning and memory abilities as well as EEG disturbance, structural damage to the hippocampus, and differential expression of hippocampal tissue and serum exosomes ([Wang et al. 2023](#)).

Studies on fruit flies exposed to 3.5 GHz have found the exposure led to increases in oxidative stress, changes in the microbial community ([Wang et al 2022](#)) and alterations of the expression of several types of genes (Wang et al 2021).

A review by [Russell 2018](#) found evidence for millimeter wave effects to the skin, eyes, immune system, gene expression, and bacterial antibiotic resistance.

Recent experimental research on high-band 5G impacts to animal fertility found that 27 GHz damages sperm quality in mussels ([Pecoraro et al 2023](#)).

Yet the US government is not funding any research on biological effects of frequencies at 3.5 GHz or above 6 GHz to humans.

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Health impact of 5G

Current state of knowledge of 5G-related carcinogenic and reproductive/developmental hazards as they emerge from epidemiological studies and *in vivo* experimental studies

The upcoming deployment of 5G mobile networks will allow for significantly faster mobile broadband speeds and increasingly extensive mobile data usage. Technical innovations include a different transmission system (MIMO: use of multiple-input and multiple-output antennas), directional signal transmission or reception (beamforming), and the use of other frequency ranges. At the same time, a change is expected in the exposure to electromagnetic fields (EMF) of humans and the environment. In addition to those used to date, the 5G pioneer bands identified at EU level have frequencies of 700 MHz, 3.6 GHz (3.4 to 3.8 GHz) and 26 GHz (24.25 to 27.5 GHz). The first two frequencies (FR1) are similar to those used for 2G to 4G technologies and have been investigated in both epidemiological and experimental studies for different end points (including carcinogenicity and reproductive/developmental effects), while 26 GHz (FR2) and higher frequencies have not been adequately studied for the same end points.

The International Agency for Research on Cancer (IARC) classified radiofrequency (RF) EMF as 'possibly carcinogenic to humans' (Group 2B) and recently recommended RF exposure for re-evaluation 'with high priority' (IARC, 2019). Since 2011 a great number of studies have been performed, both epidemiological and experimental. The present review addresses the current knowledge regarding both carcinogenic and reproductive/developmental hazards of RF as exploited by 5G. There are various *in vivo* experimental and epidemiological studies on RF at a lower frequency range (450 to 6000 MHz), which also includes the frequencies used in previous generations' broadband cellular networks, but very few (and inadequate) on the higher frequency range (24 to 100 GHz, centimetre/MMW).

The review shows: 1) 5G lower frequencies (700 and 3 600 MHz): a) limited evidence of carcinogenicity in epidemiological studies; b) sufficient evidence of carcinogenicity in experimental bioassays; c) sufficient evidence of reproductive/developmental adverse effects in humans; d) sufficient evidence of reproductive/developmental adverse effects in experimental animals; 2) 5G higher frequencies (24.25-27.5 GHz): the systematic review found no adequate studies either in humans or in experimental animals.

Conclusions: 1) cancer: FR1 (450 to 6 000 MHz): EMF are probably carcinogenic for humans, in particular related to gliomas and acoustic neuromas; FR2 (24 to 100 GHz): no adequate studies were performed on the higher frequencies; 2) reproductive developmental effects: FR1 (450 to 6 000 MHz): these frequencies clearly affect male fertility and possibly female fertility too. They may have possible adverse effects on the development of embryos, fetuses and newborns; FR2 (24 to 100 GHz): no adequate studies were performed on non-thermal effects of the higher frequencies.

5G & CELL TOWERS



EUROPE

- Resolutions to halt 5G in numerous European cities including Trafford, UK, Lille, France, Ormidia, Cyprus, Councils in Ireland and more.

ITALY

- 600 municipalities have passed resolution to halt 5G.

UNITED STATES

- Los Angeles CA Public Schools: RFR Limit 10,000x less than FCC.
- Resolutions to halt 5G passed in Hawaii County HI, Farragut TN, Keene NH & Easton CT.
- Numerous cities restrict cell antennas near homes including: Los Altos, Petaluma, Mill Valley, Malibu and San Diego County CA, Bedford NH and more.
- New Hampshire 5G Commission's 15 Recommendations include increasing transparency, reduce public exposure, research health effects and protect wildlife and trees.
- Oregon investigating health effects of wireless.
- Palo Alto, Los Angeles LA Schools Greenbelt MD, Bar Harbor ME; No school cell towers

CHILE

- Cell antennas prohibited in "sensitive areas" - kindergartens, hospitals and nursing homes.

BANGLADESH

- No cell towers on homes, schools, colleges, playing fields, populated areas and heritage areas.

FRANCE

- 60 mayors/officials petition to halt 5G.
- Federal health agency investigating 5G
- 5G antenna RFR is measured.

SWITZERLAND

- Parliament refused to weaken radio frequency radiation (RFR) limits after 5G Report.

NETHERLANDS

- Health Council recommends against 26 GHz for 5G due to lack of safety data.

RUSSIA

- No cell towers near schools.

ISRAEL

- Cell tower setback 100m from schools/ homes.

CANADA

- City of Toronto "Prudent Avoidance Policy" for Cell Towers.

BULGARIA

- Mezdra and Balchik have banned 5G.

GREECE

- The installation of cell towers at the premises of schools, kindergartens, hospitals or eldercare facilities is prohibited.

CYPRUS

- Cyprus National Committee on Environment and Child Health 5G Position Paper calls for 5G free zones.

AUSTRALIA

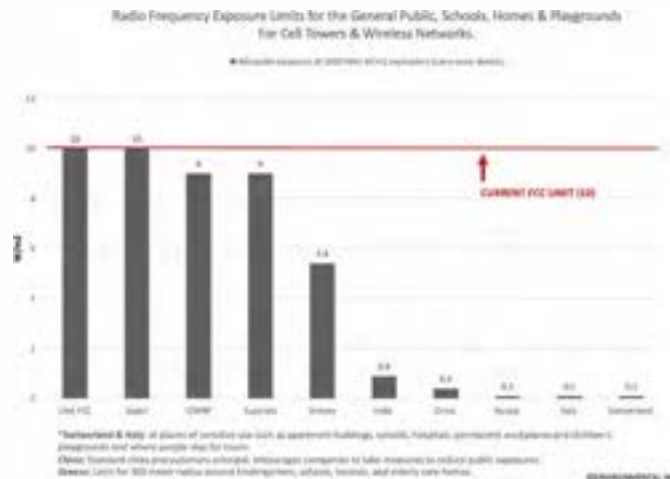
- New South Wales Dept. of Education policy objects to towers on/near schools.

LITHUANIA

- Cell antennas prohibited on kindergartens and hospitals.

INDIA

- RFR limit tightened to 1/10 of CNIRP limits after Inter-Ministerial Report on impacts to wildlife.
- Mumbai, Zilla Parishad & Karnataka: Cell towers prohibited/removed near schools, colleges, orphanages and old age homes.
- Brihanmumbai Municipal: Cell towers banned at parks and playgrounds.
- State of Rajasthan: Supreme Court of India upheld removal of "hazardous to life" cell towers from vicinity of schools, hospitals/playgrounds.



UNITED STATES OF AMERICA

5G & CELL TOWERS



CALIFORNIA

Numerous CA cities restrict cell antennas near homes with setbacks and strict ordinances including: Los Altos, Petaluma, Mill Valley, Malibu, Santa Barbara, Nevada City, Suisin, Calabasas, San Clemente, Westlake, Sonoma, Sebastopol, San Rafael, Ross Valley, Encinitas, Fairfax, Palo Alto, Walnut City and San Diego County.

As an example of CA ordinances, the Los Altos City ordinance:

- 500 foot setbacks for small cells for multi-family residences in commercial districts
- 500 ft separation from schools
- 1500 ft separation between nodes

San Diego County, California

- "SCWs shall not be located within 1,000 feet of schools, child care centers, hospitals, or churches."

CONNECTICUT

- Easton CN City Council passed a 5G cease and desist resolution
- Warren, Connecticut Policy defines "adequate coverage" and "adequate capacity." and was designed "to locate towers and/or antennas in a manner which protects property values, as well as the general safety, health, welfare and quality of life of the citizens." Coverage is considered to be "adequate" within that area surrounding a Base Station where the predicted or measured median field strength of the transmitted signal is such that the majority of the time, transceivers properly installed and operated will be able to communicate with the base station.

FLORIDA

- Coconut Creek FL Commission adopted a Resolution on 5G and radiofrequency radiation.
- Hallandale Beach FL Resolution urges the federal government to initiate independent health studies on 5G.
- Lavallette FL Resolution 2021-58: Applicant shall obtain certification from the Federal Aviation Administration and the United States Dept. of Defense demonstrating that the installation does not emit RF frequencies which may interfere with avionics of any approaching civil or military aircraft." The City also requires the applicant to provide RF meters used by their technicians and train City employees. Verizon cannot install more than a total of 20 "small cell" nodes throughout the Borough to support 5G.

HAWAII

- Hawai'i County Council passed a Resolution to halt 5G

ILLINOIS

- Oak Brook IL Resolution calls for local control re small cells.

INDIANA

Carmel City IN Council resolution asks state lawmakers, FCC and Congress to limit 5G until health effects fully understood.

MASSACHUSETTS

Randolph MA 500 ft setback. Yearly RFR measurements. Lunenburg and Great Barrington MA 500 ft setback Stockbridge MA prohibits a tower from being built 1000 feet from a school, park or athletic field and 600 ft from residence.

NEW JERSEY

- Little Silver, NJ Carriers should provide notice to property owners within 500 feet of proposed facility.

NEW YORK

- Scarsdale NY: 500 foot setbacks to homes preferred.
- Copake NY: Pre/post testing by RF engineer. No repeater closer than 200 ft to dwelling. No tower closer than 1500 ft to residence/church.
- Community Boards issuing Moratoriums on 5G poles

NEW HAMPSHIRE

- Proposed State Bill - 1640 ft setbacks.
- Keene NH Resolution to halt 5G
- Bedford NH 750 ft. setback

OHIO

- Mason OH Zoning Ordinance No small cells in residential areas or within 100 feet of residential prop; 2000 feet apart (unless colocated); equipment should be underground or wholly contained.

OKLAHOMA

- Sallisaw OK 1,500 feet setback

TENNESSEE

- Farragut City Resolution to halt 5G

WISCONSIN

- Greendale WI passed Resolution R2018-20 referring to the FCC's actions stripping local authority as "an unprecedented attack on local control."

5G, Small Cells & Cell Towers Can Drop Property Values

Would you buy a home with cell antennas outside the bedroom window?



Legal filings by cities and municipalities to the FCC highlight how small cell deployment could impact aesthetics and property values.

"many deployments of small cells could affect property values, with significant potential effect..."

— Reply Comments of Smart Communities Siting Coalition (local governments and associations representing 1,854 communities)
4/7/2017, Docket No. 16-421, April 7, 2017

"Considering that the Smart Communities' prior filings show that the addition of facilities of this size diminish property values, it is strange for the Commission to assume that approval can be granted in the regulatory blink of an eye...."

"...allowing poles to go up in areas where poles have been taken down has significant impacts on aesthetics (not to mention property values)."

— *Ex Parte* Submission of Smart Communities
Letter to Ms. Marlene H. Dortch, Secretary,
Federal Communications Commission,
September 19, 2018

5G, CELL TOWERS AND WIRELESS DECREASED PROPERTY VALUE



"While the magnitude of the impact varies, the studies uniformly indicate that there is a significant impact on residential property values from installation of cell phone towers..."

— **Report and Analysis by David E. Burgoyne, ASA, SR/WA Certified General Real Estate Appraiser to the FCC in Docket 16-421**

"In some areas with new towers, property values have decreased by up to 20%."- **"Your new neighbor, a cell tower, may impact the value of your home" National Business Post, 2022.**

"...cell towers are concerning to many people and drop property values."

"While most states do not require disclosure of neighborhood nuisances, such as cell towers or noisy neighbors, a few states do, and more are likely to in the future."

— **Real Estate Attorney, South Florida Sun Sentinel, 2021**

The California Association of Realtors' Property Sellers Questionnaire specifically lists "cell towers" on the disclosure form for sellers of real estate.

— **Click to go to the California Association of Realtors' Property Sellers Questionnaire (p. 3-4 under K. Neighborhood)**

"An overwhelming 94 percent of home buyers and renters surveyed by the National Institute for Science, Law & Public Policy (NISLAPP) say they are less interested and would pay less for a property located near a cell tower or antenna."

"of the 1,000 survey respondents, 79 % said that under no circumstances would they ever purchase or rent a property within a few blocks of a cell tower or antennas, and almost 90% said they were concerned about the increasing number of cell towers and antennas in their residential neighborhood."

"Cell Towers, Antennas Problematic for Buyers"
— **Realtor Magazine**

PDF is hyperlinked. More on property values at ehtrust.org

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SCIENTIFIC RESEARCH STUDIES



European Parliament requested a research report "**Health Impact of 5G**" which was released in July 2021 and concluded that commonly used RFR frequencies (450 to 6000 MHz) are probably carcinogenic for humans and clearly affect male fertility with possible adverse effects on the development of embryos, fetuses and newborns.

A review entitled "**Evidence for a health risk by RF on humans living around mobile phone base stations: From radiofrequency sickness to cancer**" reviewed the existing scientific literature and found radiofrequency sickness, cancer and changes in biochemical parameters (**Balmori 2022**).

A **study** published in Electromagnetic Biology and Medicine found changes in blood considered biomarkers predictive of cancer in people living closer to cell antenna arrays (**Zothansiana 2017**).

A **study** published in the International Journal of Environmental Research and Public Health found higher exposure to cell network arrays linked to higher mortality from all cancer and specifically lung and breast cancer (**Rodrigues 2021**).

A 10-year **study** published in Science of the Total Environment on cell phone network antennas by the local Municipal Health Department and several universities in Brazil found a clearly elevated relative risk of cancer mortality at residential distances of 500 meters or less from cell phone towers (**Dode 2011**).

A **study** commissioned by the Government of Styria, Austria found a significant cancer incidence in the area around the RF transmitter as well as significant exposure-effect relationships between radiofrequency radiation exposure and the incidence of breast cancers and brain tumors (**Oberfeld 2008**).

A **review** published in Experimental Oncology found "alarming epidemiological and experimental data on possible carcinogenic effects of long term exposure to low intensity microwave (MW) radiation." A year of operation of a powerful base transmitting station for mobile communication reportedly resulted in a dramatic increase of cancer incidence among the population living nearby (**Yakymenko 2011**).

PUBLISHED RESEARCH STUDIES

OUTDOOR LEVELS OF RF ARE INCREASING DUE TO THE DENSIFICATION OF WIRELESS NETWORKS

An [article](#) published in *The Lancet Planetary Health* documents how RF exposures are increasing and so is the scientific research linking exposure to adverse biological effects. [“It is plausibly the most rapidly increasing anthropogenic environmental exposure since the mid-20th century...”](#)

A [2021 report](#) by the French government on 5G analyzed more than 3,000 measurements and found that while RF levels had *not yet* significantly increased, this was due to the lack of 5G traffic. Additional study specific to 5G in the 3500 MHz band with artificially generated traffic concluded that, “initial results suggest an eventual increase of about 20% in overall exposure.”

A [2018 multi-country study](#) published in *Environment International* measured RF in several countries and found cell tower/base station radiation to be the dominant contributor to RF exposure in most outdoor areas. Urban areas had higher RF.

A [study](#) measuring RF exposure in the European cities of Basel, Ghent and Brussels found the total RF exposure levels in outdoor locations had increased up to 57.1% in one year (April 2011 to March 2012) and most notably due to mobile phone base stations.

A [2018 study](#) published in *Oncology Letters* documented “unnecessarily high” RF levels in several locations in Sweden and concludes that “using high-power levels causes an excess health risk to many people.”

A [2017 Swedish](#) study of Royal Castle, Supreme Court, three major squares and the Swedish Parliament found that despite the architecturally camouflaged RF-emitting antennas, the passive exposure was higher than RF levels associated with non-thermal biological effects. The researchers noted that the heaviest RF load falls on people working or living near hotspots.

A [2016 study](#) at Stockholm Central Railway Station in Sweden documented higher RF levels in areas where base station antennas were located closest to people. Importantly, the RF from the downlink of UMTS, LTE, GSM base station antennas contributed to most of the radiation levels.



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NEW HAMPSHIRE STATE COMMISSION

2020 REPORT: 5G HEALTH AND ENVIRONMENT

In 2020, the [New Hampshire State Commission issued a Final Report](#) with 15 recommendations to “to protect people, wildlife, and the environment from harmful levels of radiation” after a year-long investigation with numerous meetings and expert testimony.



"A likely explanation as to why regulatory agencies have opted to ignore the body of scientific evidence demonstrating the negative impact of cellphone radiation is that those agencies are “captured.”"

Recommendations To Update RF Exposure Regulations With New Science

- A resolution to U.S. Congress to require the FCC to commission an independent health study and review of safety limits.
- New measurement protocols needed to evaluate high data rate, signal characteristics associated with biological effects and summative effects of multiple radiation sources.

Recommendations To Address Impacts to Wildlife And Environment

- Engage agencies with ecological knowledge to develop RF-radiation safety limits that will protect the trees, plants, birds, insects and pollinators.
- Under the National Environmental Policy Act, FCC should do an environmental impact statement as to the effect on New Hampshire and the country as a whole from 5G and the expansion of RF wireless technologies.

Recommendations To Reduce Public Exposure

- Require setbacks of 1,640 feet for new wireless antennas from residences, businesses and schools.
- Cell phones and wireless devices should be equipped with updated software that stops cell phones from radiating when positioned against the body.
- Establish RF radiation-free zones in commercial and public buildings.
- New Hampshire health agencies should educate the public on minimizing RF exposure with public service announcements on radio, television, print.

Recommendations To Utilize Safer Alternatives

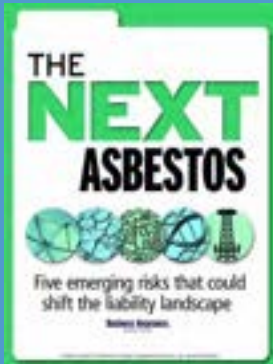
- New Hampshire schools and libraries should replace Wi-Fi with hardwired connections.
- Support statewide deployment of fiber optic cable connectivity with wired connections inside homes.

Recommendations To Increase Transparency

- State should measure RFR and post maps with RF measurements..
- Require 5G structures to be labeled for RFR at eye level and readable from nine feet away.
- RFR signal strength measurements for cell sites should be done by independent contractors.
- NH professional licensure to offer RF measurement education for home inspectors.
- Warning signs posted in commercial and public buildings.

5G, CELL TOWERS AND WIRELESS

LEGAL & LIABILITY ISSUES SHAREHOLDER WARNINGS



"Some research has shown biological effects from lower-level "non thermal" exposure and people exposed at lower levels have reported headaches, dizziness, nausea, mood disorders, mental slowing and memory loss."

***Business Insurance White Paper,
The Next Asbestos: Five Emerging Risks
That Could Shift the Liability Landscape***

Insurance Companies Have Electromagnetic Field Exclusions

Electromagnetic field exclusions" are clear and common in most insurance companies. It is applied as a market standard. This exclusion serves to exclude cover for illnesses caused by long-term EMF (non-ionizing radiation) exposure." — Complete Markets

"Exclusions: This insurance does not apply to: Bodily injury, personal injury, advertising injury, or property damage arising directly or indirectly out of, resulting from, caused or contributed to by electromagnetic radiation, provided that such loss, cost or expense results from or is contributed to by the hazardous properties of electromagnetic radiation.
— Portland Oregon Public School Insurance (page 30)

Insurance Plans Not Only Exclude EMF Damages, But Some Even Exclude Defending Decision Makers From Their Actions in Regards to Their Actions on EMFS

"This policy does not apply to and we will not provide a defense for: a. bodily injury... arising out of ... exposure to or contact with electromagnetic radiation... b. costs of abatement .. of EMF" or c. any supervision, instruction, recommendation, warning or advice given or which should have been given in connection with a or b. above."- City of Ann Arbor Michigan Insurance Policy [page 14](#).

Insurance Authorities Rate 5G as "High Risk."

5G mobile networks are classified as a "high," "off-the-leash" risk. "Existing concerns regarding potential negative health effects from electromagnetic fields (EMF) are only likely to increase. An uptick in liability claims could be a potential long-term consequence" and "[a]s the biological effects of EMF in general and 5G in particular are still being debated, potential claims for health impairments may come with a long latency."
— Swiss Re Institute (2019)

Wireless Companies Rank EMF as a Risk with High Impact

"Electro-magnetic signals emitted by mobile devices and base stations may be found to pose health risks, with potential impacts including: changes to national legislation, a reduction in mobile phone usage or litigation."
— Vodaphone 2017 Report ranks EMF as a "Principal Risk with "High" impact.

Wireless Companies Warn Shareholder About Risk But Not People Living Near Their Wireless Infrastructure

Crown Castle says:

"We cannot guarantee that claims relating to radio frequency emissions will not arise in the future or that the results of such studies will not be adverse to us...If a connection between radio frequency emissions and possible negative health effects were established, our operations, costs, or revenues may be materially and adversely affected. We currently do not maintain any significant insurance with respect to these matters."

Wireless Companies Define Pollution in Their Own Policies as Including EMFs, Microwaves and Non-ionizing Radiation.

Verizons Total Mobile Protection Plan says: "Pollution" is defined as "any solid, liquid, gaseous, or thermal irritant or contaminant including smoke, vapor, soot, fumes, acid, alkalis, chemicals, artificially produced electric fields, magnetic field, electromagnetic field, sound waves, microwaves, and all artificially produced ionizing or non-ionizing radiation and/or waste."

T-Mobile on 5G: Possible Changes to FCC Human Exposure Limits for RF Could Impact Cash Flow



T-Mobile advertises to the public about going "live" but omits the warnings they give to shareholders regarding 5G, regulatory changes and risk perception.



T-Mobile 10-K Report 2/2023

"Negative public perception of, and regulations regarding, the perceived health risks relating to 5G networks could undermine market acceptance of our 5G services" (page 13)

"We, along with equipment manufacturers and other carriers, are subject to current and potential future lawsuits **alleging adverse health effects arising from the use of wireless handsets or from wireless transmission equipment such as cell towers.**"

"In addition, **the FCC has from time to time gathered data regarding wireless device emissions, and its assessment of the risks associated with using wireless devices may evolve based on its findings.** Any of these allegations or changes in risk assessments could result in customers purchasing fewer devices and wireless services, could result in significant legal and regulatory liability, and could have a material adverse effect on our business, reputation, financial condition, cash flows and operating results." (T-Mobile 10-K Report page 21)



A 2000 Ecolog Institute Report commissioned by T-Mobile and DeTeMobil Deutsche Telekom MobilNet recommended an exposure limit 1000x lower than the FCC's current power density limit after reviewing the research on biological effects, including impacts to the immune system, central nervous system, hormones, cancer, neurotransmitters and fertility.

This PDF is hyperlinked. For more on legal liability issues go to ehtrust.org

ENVIRONMENTAL HEALTH TRUST | [EHTRUST.ORG](https://ehtrust.org)



Cell Tower Companies Warn Shareholders of Risk From Cell Tower Radiation

Why Don't They Warn Families Living Near Cell Towers?



Verizon 10-K Report

"Our wireless business also faces personal injury and wrongful death lawsuits relating to alleged health effects of wireless phones or radio frequency transmitters. We may incur significant expenses in defending these lawsuits. In addition, we may be required to pay significant awards or settlements."

Crown Castle 10-K Report

"We cannot guarantee that claims relating to radio frequency emissions will not arise in the future or that the results of such studies will not be adverse to us...If a connection between radio frequency emissions and possible negative health effects were established, our operations, costs, or revenues may be materially and adversely affected. We currently do not maintain any significant insurance with respect to these matters."

AT&T 10-K Report

"In the wireless area, we also face current and potential litigation relating to alleged adverse health effects on customers or employees who use such technologies including, for example, wireless devices. We may incur significant expenses defending such suits or government charges and may be required to pay amounts or otherwise change our operations in ways that could materially adversely affect our operations or financial results."

T- MOBILE 10-K Report

"Our business could be adversely affected by findings of product liability for health or safety risks from wireless devices and transmission equipment, as well as by changes to regulations or radio frequency emission standards."



Cell Tower Companies Warn Shareholders of Risk From Cell Tower Radiation

Why Don't They Warn Families Living Near Cell Towers?



AMERICAN TOWER®

NOKIA
CONNECTING PEOPLE



Qualcomm



ERICSSON

American Tower 10-K

"If a scientific study or court decision resulted in a finding that radio frequency emissions pose health risks to consumers, it could negatively impact our tenants and the market for wireless services, which could materially and adversely affect our business, results of operations or financial condition. We do not maintain any significant insurance with respect to these matters."

Nokia 10-K

"Although our products are designed to meet all relevant safety standards and other recommendations and regulatory requirements globally, we cannot guarantee we will not become subject to product liability claims or be held liable for such claims, which could have a material adverse effect on us."

Qualcomm 10-K

"If wireless handsets pose health and safety risks, we may be subject to new regulations, and demand for our products and those of our licensees and customers may decrease."

Ericsson Annual Report

"Any perceived risk or new scientific findings of adverse health effects from mobile communication devices and equipment could adversely affect us through a reduction in sales or through liability claims."

CELL TOWERS NEAR SCHOOLS

SCHOOL CELL TOWER SETBACKS

Many communities have policies, ordinances or zoning that ensures cellular antennas are restricted to a specific minimum distance from schools. Hempstead, New York requires a special use permit for cell towers near schools.

Examples of cell tower/4G/5G small cell setbacks/preferred placements for schools:

- Palo Alto, California: 1,500 feet
- Copake, New York: 1,500 feet
- Los Altos, California: 500 feet
- Walnut City, California: 1,500 feet
- Bar Harbor, Maine: 1,500 feet
- Sallisaw, Oklahoma: 1,500 feet
- Shelbourne, Massachusetts: 1,500 feet
- Stockbridge, Massachusetts: 1,500 feet
- San Diego County California: 1,000 feet
- Encinitas California: 500 feet
- Scarsdale New York: 500 feet
- Ithaca, New York: 250 feet

CELL TOWERS REMOVED FROM SCHOOL GROUNDS

- Milpitas California: School Board asked Crown Castle and T-Mobile to relocate the cell tower to remote location.
- Ripon California: Sprint moved the cell tower at elementary after students and staff developed cancer and parents argued children should not be guinea pigs.
- Alameda California cancelled cell tower contracts.
- Dekalb County Georgia dropped school tower plan.

SCHOOL BOARDS

- Palo Alto Unified School District Cell Tower Resolution supports the City 1,500 setback and opposes cell tower "on or in close proximity to schools to ensure individuals, especially children, are protected from the potential negative effects associated with radiation exposure."
- West Linn-Wilsonville Oregon School Board prohibits cell towers on school property.
- Vancouver School Boards Resolution: 1,000 feet
- Greenbelt Maryland Council opposes school towers.

DID YOU KNOW?

- The International Association of Firefighters passed a Resolution opposing cell towers on its stations in 2004 after a study found neurological damage in firefighters with antennas on their fire stations.

LOS ANGELES UNIFIED CA SCHOOL DISTRICT

- 3 resolutions opposing cell towers on school property.
- The District Office of Health and Safety developed a "cautionary level" for radiofrequency radiation 10,000 times lower than FCC regulations because, "it is believed that a more conservative level is necessary to protect children, who represent a potentially vulnerable and sensitive population."

SCHOOL BOARDS THAT REVERSED COURSE

- Montgomery County Maryland Schools policy does not allow cell towers on elementary schools.
- Prince George's County Maryland School Board decided not to renew a cell tower construction master leasing agreement that had allowed over 60 schools to be marketed as cell tower sites.
- Portland Oregon Schools ended new leases for cell towers.

EXPERT RECOMMENDATIONS

- The New Hampshire State Commission 5G Health and Environment Report recommends a setback of 1640 feet for schools.
- The Collaborative For High Performance Schools (Green building rating program) has LOW EMF Criteria which includes no cell towers on school property.

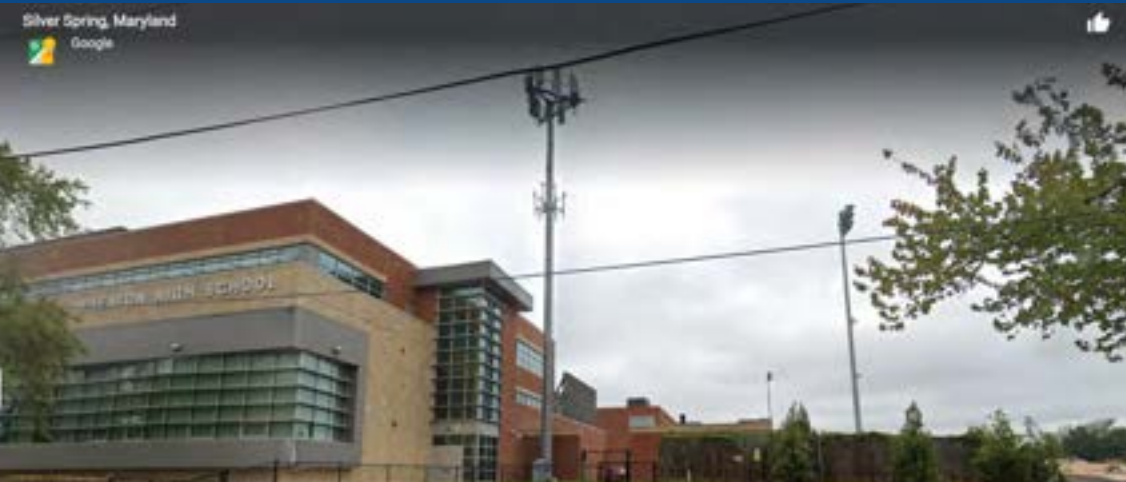
THE EPA SCHOOL SITING GUIDELINES

Lists exposure to electromagnetic fields and the fall distance as "potential hazards" from cell towers. The EPA guidelines recommend schools "identify and evaluate cell towers within ~200 feet of prospective school locations."

PUBLISHED RESEARCH

- 500 meter buffer recommended for schools to reduce liability and minimize risk (Pearce 2019)
- A moratorium on 5G pending safety research (Frank 2020)
- A precautionary approach is better suited to State obligations under international human rights law (Roda and Perry 2014)
- Increased cancer deaths near cell antennas (Rodrigues 2021)
- Studies find: DNA Damage (Zothansiana 2017), Diabetes (Meo 2015), Cognitive effects (Meo 2018), sleep problems and headaches (Abdel-Rassoul 2007, Levitt & Lai 2010, Shahbazi-Gahruei 2013)

PARENT TEACHER ASSOCIATIONS OPPOSE CELL TOWERS



CONEJO PTA WANTS CELL TOWER MOVED Op-ed in Thousand Oaks Acorn Journal

The California PTA advocates on behalf of children and families. They advocate against electromagnetic field radiation your schools.

The Conejo PTA urges the use of the precautionary principle in making decisions regarding public health this means if something cannot be proven to be safe it is best to avoid exposure. Most people don't realize that the 1996 FCC state standards for safe levels of omission was actually based on a level set by the American national standards institute in 1982. Well this standard has not been changed in 30 years it has usurped all local authority."

"For this reason, Conejo Council PTA made up of 9000 parents and teachers has decided to take action. We're calling on our local leaders to put in place policies that would ensure parents are notified when cell towers are propose near schools and then encourage a buffer zone around schools."

-Kim Huber, legislative chair of the Conejo Council PTA.

NEW YORK STATE PTA -Adopted TWO Resolutions 2014

"CELLULAR PHONE TOWERS – 2014 (R-'07, R-'00); Resolved that the New York State Congress of Parents and Teachers, Inc. support legislation that would encourage local communities, including parents and school officials, to regulate the placement of cell towers and cell tower antennas particularly in schools and areas where children congregate,

and be it further Resolved that the New York State PTA support continued research into the long-term effects of radio frequency and microwave frequencies on humans especially as they apply to children, and be it further Resolved that the New York State PTA seek to educate parents and school officials as to the current debate over the placement of cell towers and antennas."

NEELSVILLE MIDDLE SCHOOL PTA (MD)

- Voted to oppose proposed cell tower.
- Hosted parent information session with both the cell tower company and Environmental Health Trust.

HILLSMERE ELEMENTARY SCHOOL PTA (MD)

- Sent letters to the school board in opposition to cell towers near the school.

BRIARLAKE ELEMENTARY (GA)

- Voted to oppose cell tower after board approved towers on schools.

PACIFIC GROVE (CA) PTAs

- Forest Grove Elementary Pacific Grove Middle School and Pacific Grove High School PTAs sent a letter to City Council opposing a high school cell tower.

PARENT TEACHER ASSOCIATIONS

OPPOSE CELL TOWERS

Agenda No. 11A Attachment B
Exhibit A Page 46 of 186

August 6, 2018

Pacific Grove City Council
City Hall
300 Forest Ave.
Pacific Grove, CA 93950

Dear members of Pacific Grove City Council,

I am writing you on behalf of Pacific Grove High School PTA in regard to the Pacific Grove Planning Commission's vote on July 26, 2018, which approved a request by Verizon Wireless to install and maintain a cell tower adjacent to Pacific Grove High School (PGHS). For the reasons described below, the Pacific Grove High School PTA **is strongly opposed** to the location of the Verizon cell tower and is requesting that the City Council consider and support the appeal that is being filed by a group of concerned parents who live in Pacific Grove and send their children to PG schools.

The installment of a cell tower adjacent to PGHS poses significant potential health dangers to both students and staff at PGHS. While some argue that radiation emitted from a cell tower is not a health danger, data from many studies indicate the opposite. Research shows that children and pregnant women are the most vulnerable – two demographics most likely to be on PGHS school grounds on a regular basis. The actual placement of the cell tower – near the back of PGHS and very close to Forest Grove Elementary School – only increases the concerns of the frequency in exposure.

Cell towers also pose a risk to students due to fire hazard. Many cell towers throughout the United States have caught fire and collapsed, posing a significant safety concern, especially in an area with young students walking to and from school every day.

The mission of all PTAs nationwide is to make every child's potential a reality by engaging and empowering families and communities to advocate for all children. Our local PTA is very active in expressing our support for or opposition to issues dealing with the health, safety, education, or general well-being of children and youth in our community.

The members of the Pacific Grove High School PTA strongly urge you to please reconsider the Pacific Grove Planning Commission's previous vote and rescind approval for the Verizon cell tower at Pacific Grove High School.

Sincerely,

Julie Kavanaugh
President, Pacific Grove High School PTA

5G, CELL TOWERS AND WIRELESS LEGAL & LIABILITY ISSUES



When a new cell tower or wireless network is proposed, the first question to ask is: "Do you have insurance for damages from long-term exposure to the radiofrequency radiation (RFR)?" Usually the answer is "No."

An Uninsurable Risk?

- Insurers rank wireless, cell tower, and 5G RFR non-ionizing electromagnetic field (EMF) radiation as a "high" risk, comparing the issue to lead and asbestos.
- Most insurance plans have "electromagnetic field exclusions" and do not insure for long-term RFR damages.
- Additionally, some insurance plans will not provide a defense for any supervision instruction or recommendation given "or which should have been given" in connection to EMFs.
- Wireless RFR and non-ionizing electromagnetic radiation are defined as a type of "pollution" by wireless companies themselves.
- U.S. mobile operators have been unable to get insurance to cover liabilities related to damages from long-term RFR exposure.
- Wireless companies warn their shareholders of RFR risk but do not warn users of their products, nor do the companies warn the people exposed to emissions from their infrastructure.

Example of an EMF Exclusion in an Insurance Plan

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ELECTROMAGNETIC RADIATION EXCLUSION

This endorsement modifies insurance provided under the following:

GENERAL LIABILITY COVERAGE PART
PUBLIC RISK GENERAL LIABILITY RETAINED LIMIT COVERAGE FORM
LAW ENFORCEMENT COVERAGE PART
LAW ENFORCEMENT LIABILITY RETAINED LIMIT COVERAGE FORM
PUBLIC OFFICIALS COVERAGE PART
PUBLIC OFFICIALS LIABILITY RETAINED LIMIT COVERAGE FORM
EMPLOYMENT PRACTICES LIABILITY COVERAGE PART
EMPLOYMENT PRACTICES LIABILITY RETAINED LIMIT COVERAGE FORM

The following **Exclusion** is added:

This policy does not apply to and we will not provide a defense for:

- a. "Bodily injury," "property damage," "personal and advertising injury", "employee benefits wrongful acts", "personal injury", "law enforcement wrongful acts", "public officials wrongful acts", "educator's legal wrongful acts", or "employment practices wrongful acts" arising out of, or which result in, the actual, alleged, threatened, perceived, latent, sudden and accidental or incidental exposure to or contact with electromagnetic radiation in any form, from any source.
- b. The costs of abatement or mitigation of:
 - (1) Electromagnetic radiation; or
 - (2) Exposure to electromagnetic radiation.
- c. Any supervision, instruction, recommendation, warning or advice given or which should have been given in connection with a. or b. above.

Electromagnetic radiation includes but is not limited to, magnetic energy, waves, fields or forces generated, produced, transmitted or maintained by the charges, currents, frequencies, energy or forces of electricity that is generated, flowing or otherwise transmitted through or via the medium, methods and equipment designed to generate, produce, distribute, transport or transmit the electrical charges, currents, frequencies, energy or forces.



Verizon Total Mobile Protection Plan

16. Pollution

The discharge, dispersal, seepage, migration or escape of pollutants. Pollutants means any solid, liquid, gaseous, or thermal irritant or contaminant including smoke, vapor, soot, fumes, acid, alkalis, chemicals, artificially produced electric fields, magnetic field, electromagnetic field, sound waves, microwaves, and all artificially produced ionizing or non-ionizing radiation and/or waste. Waste includes materials to be recycled, reconditioned or reclaimed.

THE NEED FOR ACCOUNTABILITY ON WIRELESS SAFETY

EXPERT VOICES



"The National Toxicology Program studies clearly showed that non-ionizing cell phone radiofrequency radiation radiation can cause cancers and other adverse health effects. An important lesson that should be learned is that we cannot assume any current or future wireless technology such as 5G is safe without adequate testing."

— **Ronald Melnick PhD 28 year scientist at National Institutes of Health**

"I recommend public health organizations raise awareness and educate the public on why and how to reduce our daily exposure to wireless radio frequency radiation. Protective public health policy is needed now. It is time for regulatory bodies to fully evaluate the research and develop science based exposure limits that truly protect the public and the environment."

— **Linda S. Birnbaum, PhD, Former Director, National Institute of Environmental Health Sciences and National Toxicology Program of the National Institutes of Health.**

"Now we have 5G rolling out in massive quantities, without due diligence to determine are these sources of radiation safe not only for humans but for wildlife. And the answer is, no, they are not."

— **Albert M. Manville II, Ph.D. Adjunct Professor, Johns Hopkins University, Wildlife Biologist (17 years), retired from Division of Migratory Bird Management, U.S. Fish & Wildlife Service**

"Given the human, animal and experimental evidence, I assert that, to a reasonable degree of scientific certainty, the probability that RF exposure causes gliomas and neuromas is high."

— **Christopher Portier PhD former Director of the United States National Center for Environmental Health at the CDC, former Director of the U.S. Agency for Toxic Substances and Disease Registry.**

"We should not wait to protect children's brains. The science is now clear and compelling indicating that wireless technology is harmful to health, especially to for children. Wireless radiation is repeating the history of lead, tobacco and DDT."

— **Devra Davis PhD, MPH, President of Environmental Health Trust, founding director of the Board on Environmental Studies and Toxicology of the U.S. National Research Council, National Academy of Sciences, and a member of the team of the Intergovernmental Panel on Climate Change scientists who were awarded the Nobel Peace Prize in 2007**

CITIES AND TOWNS WITH STRONG ORDINANCES

SETBACKS FOR CELL ANTENNAS



Many communities have setbacks for cell towers and small cells.

Shelburne, MA: 3,000 feet for schools and 1,500 feet for homes; no new wireless antennas in residential zones

Copake, NY: 1,500 feet from homes, schools, churches or other buildings containing dwelling units

Sallisaw, OK: No commercial wireless telecommunications towers within 1,500 of homes.

Calabasas, CA: No "Tier 2" wireless telecommunications facilities within 1,000 feet of homes and schools

Bedford, NH: 750 feet from residentially-zoned property

Scarsdale, NY: No wireless facilities within 500 feet from homes, schools, parks, and houses of worship

Walnut City, California: 1,500 feet

Stockbridge, Massachusetts: 1,000 feet

San Diego County California: 1,000 feet (small cells)

Bar Harbor Maine: 1500 setback for schools

School Boards

Palo Alto, California: School Board supports the City of Palo Alto immediately establishing local municipal zoning setback rules of 1,500 feet or more from an operating wireless transmitter and a school site.

West Linn-Wilsonville Oregon School Board prohibits cell towers on school property.

Los Angeles California School District: Resolutions opposing cell towers on school property and a cautionary level for radiofrequency radiation 10,000 times lower than FCC limits.

The 2022 study "**Measurements of radiofrequency electromagnetic fields, including 5G, in the city of Columbia, South Carolina, USA**" published in World Academy of Sciences Journal authored by Tarmo Koppel and Lennart Hardell, MD of the Environment and Cancer Research Foundation found the highest RF exposure readings were registered close to cell phone base station antennas mounted on top of utility poles, street lamps or traffic lights.



Figure 7. Gervais Street: Cell phone base station antenna placed close to street level and causing high exposure to pedestrians and nearby café visitors (exposure scenario illustration). The antenna appears camouflaged and seemingly part of a utility pole. The measurer only discovered the antenna due to the high radiofrequency levels in the vicinity.



Figure 8. Gervais Street: Another cell phone base station antenna close to street level and causing high exposure to pedestrians (exposure scenario illustration). Note the antenna appears undistinguishable from the utility pole an unnoticeable between the trees.

THE URGENT NEED FOR SAFER TECHNOLOGY EXPERT VOICES

"I am calling on my industry to bring safer technology to market. The current implementation of technology is not safe. Take a good look at the science. This is about our children's future. Do not be lulled into believing that 25-year-old standards can protect the youngest and most vulnerable. They simply cannot."

— **Frank Clegg, Former President of Microsoft Canada, CEO of Canadians for Safe Technology**

"A moratorium is urgently needed on the implementation of 5G for wireless communication."

— **Lennart Hardell, MD, PhD , advisory to World Health Organization international Agency for Research on Cancer, Department of Oncology, University Hospital, Örebro, Sweden (retired) , leads the Environment and Cancer Research Foundation**

"The evidence indicating wireless is carcinogenic has increased and can no longer be ignored. If the World Health Organization International Agency for Research on Cancer were to meet to review all of the evidence, we believe the weight of evidence supports a new determination- that wireless radiofrequency radiation is a human carcinogen."

— **Anthony B. Miller MD, Professor Emeritus, Dalla Lana School of Public Health of the University of Toronto. Former Senior Epidemiologist for the International Agency for Research on Cancer and former Director of the Epidemiology Unit of the National Cancer Institute of Canada**

"Most parents believe that cellphones were safety-tested before they came on the market. We assume that our federal health and environmental agencies regularly review the latest research and ensure that these incredible devices are safe. They do not. Children are not little adults. As we sadly learned with early childhood lead exposures leaving long-lasting impairments, the developing brain is particularly susceptible."

— **Jerome Paulson, MD , Professor Emeritus, George Washington University, Milliken School of Public Health, former Chair of American Academy of Pediatrics Committee on Environmental Health**

"The exposure levels of the Federal Communications Commission are totally outdated and do not protect the health of the public, especially of children. I urge you to take strong and active steps to reduce exposure of children and staff to excessive levels of radiofrequency EMFS within your schools."

— **David O. Carpenter, M.D. Director, Institute for Health and the Environment University at Albany**



FCC EXPOSURE LIMITS DO NOT PROTECT OUTDATED FCC REGULATIONS FOR RF RADIATION



FCC human exposure limits were adopted in 1996 after the EPA was defunded from creating safety limits. They have not properly reviewed these limits since 1996.

FCC's human exposure limits for the RF microwaves emitted by 5G, 4G, cell towers, cell phones, Wi-Fi, Bluetooth, smart devices and wireless networks are based on outdated science and faulty assumptions.

The limits are irrelevant to modern-day technologies and do not reflect the way people are exposed to RF and actually use technology in the 21st century.

Reasons Why FCC's 1996 Limits Do Not Protect:

Heating-Based Only

FCC limits are heat-based "thermal" limits. This means they primarily protect against the overheating of tissue from RF. FCC's limits are not based on protecting against non-heating biological effects such as cancer, oxidative stress, headaches, behavioral problems, memory damage, disrupting bee behavior, tree damage etc.

Short-Term Impacts Only

FCC limits are based on protecting against acute effects. No federal report or research review exists regarding safety from chronic, long-term RF exposures from cell towers, Wi-Fi and wireless networks in the home, school and workplace. The FDA nominated the National Toxicology Program (NTP) to perform animal studies designed to mimic a lifetime of human cell phone exposure. Cancer and DNA damage was found. Another large-scale animal study used cell tower level exposures and found the same tumors as the NTP. However, the FDA rejected these findings.

Children Are Not Protected

FCC limits are misleadingly presented as being "designed to protect children. When safety thresholds were developed decades ago, the science investigating RF impacts to children's developing brains did not exist. Current research concludes the limits should be hundreds of times more protective for children because they are more vulnerable.

FCC EXPOSURE LIMITS DO NOT PROTECT **OUTDATED FCC REGULATIONS FOR RF RADIATION**

No Risk Analysis or Review of Totality of Science

No agency has reviewed all of the latest science. Usually the EPA and FDA use risk assessment to characterize the nature and magnitude of risks to human health for various populations such as children and pregnant women. The EPA also estimates ecological risks, including plants, birds, other wildlife and aquatic life. When groundbreaking studies are published, a quantitative risk analysis of the data is performed. This has never been done for RF.

“The FCC and FDA have failed in their obligation to prescribe safe RFR guidelines produced from wireless communication devices to protect the public health and safety. Devices are becoming more sophisticated, and their usage is as common to daily life as brushing your teeth.”

— Pittsburgh Law Review “The FCC Keeps Letting Me Be: Why Radiofrequency Radiation Standards Have Failed to Keep Up With Technology” by Hala Mouzaffar

“The wireless industry reaction features stonewalling public relations and hyper aggressive legal action. It can also involve undermining the credibility and cutting off the funding for researchers who do not endorse cellular safety. It is these hardball tactics that look a lot like 20th century Big Tobacco tactics. It is these hardball tactics—along with consistently supportive FCC policies—that heighten suspicion the wireless industry does indeed have something to hide.”

— Norm Alster in the Harvard Press Book “Captured Agency: How the Federal Communications Commission is Dominated by the Industries it Presumably Regulates”



A REGULATORY GAP

No Federal Agency Ensuring Cell Tower Wireless Safety

There is no U.S. government agency with oversight for cell tower radiation health effects: no research reviews, no reports, no environmental monitoring, no risk mitigation and no post market health surveillance for the daily, full body radio-frequency (RF) radiation exposure from cell towers.



"The FDA does not regulate cell towers or cell tower radiation. Therefore, the FDA has no studies or information on cell towers to provide in response to your questions."
— **Ellen Flannery, Director, FDA Policy Center for Devices and Radiological Health to a California mother with a cell tower on her street who asked the FDA about safety, July 11, 2022**



"As a Federal research agency, the NCI is not involved in the regulation of radio frequency telecommunications infrastructure and devices, nor do we make recommendations for policies related to this technology"
— **National Cancer Institute letter to Denise Ricciardi, member of the New Hampshire State Commission on 5G, July 30, 2020**



The ACS does "not have any official position or statement on whether or not radiofrequency radiation from cell phones, cell phones towers, or other sources is a cause of cancer."
— **American Cancer Society Website**



"EPA's last review was in the 1984 document Biological Effects of Radiofrequency Radiation. The EPA does not currently have a funded mandate for radiofrequency matters."
— **Lee Ann B. Veal Director, EPA Radiation Protection Division Office of Radiation and Indoor Air, July 8, 2020 Letter to Theodora Scarato**



Fact: There are no scientific reports by the CDC on cell tower radiation safety, nor does the agency have staff with expertise monitoring the science and evaluating risk. Public information requests found that **several CDC website pages on radio frequency were found to be drafted with a wireless industry consultant.**



"The electromagnetic radiation standards used by the Federal Communications Commission (FCC) continue to be based on thermal heating, a criterion now nearly 30 years out of date and inapplicable today." — **U.S. Department of Interior Letter to FCC, 2014**



Fact: The World Health Organization (WHO) EMF Project has not reviewed the science since 1993. The WHO webpages on cell phones and cell towers are not based on a published scientific review. The WHO EMF Project webpages were written by a scientist who **used wireless industry money** to start the WHO EMF Project and who is now a consultant to industry. **In contrast, the WHO International Agency for Research on Cancer (a separate WHO entity vetted for conflicts of interest) determined RF radiation to be a Class 2 B "possible" carcinogen in 2011.** Many scientists now state **the evidence showing cancer has increased.**

Blue text is hyperlinked to source.

COURT RULING ON FCC'S LACK OF ADEQUATE REVIEW FOR WIRELESS EXPOSURE LIMITS

LANDMARK FEDERAL COURT RULING AGAINST THE FCC

On August 13, 2021 the U.S. Court of Appeals for the D.C. Circuit ruled the Federal Communications Commission (FCC) ignored scientific evidence and failed to provide a reasoned explanation for its determination that its 1996 regulations adequately protect the public against all the harmful effects of wireless radiation.

FCC'S REFUSAL TO UPDATE 1996 LIMITS

The legal case challenged the FCC's 2019 decision not to update its 1996 regulations regarding allowable radiofrequency radiation (RF) exposures from wireless technologies - including 5G, cell phones, cell towers, Wi-Fi, and wireless networks.

EVIDENCE OF HARMFUL EFFECTS BELOW FCC LIMITS

FCC limits are based on the belief that heating is the only proven harm from RF. Over 11,000 pages of evidence - 447 exhibits in 27 Volumes - was submitted to the Court documenting biological effects and illness from wireless radiation exposure below heating levels. Research has found brain damage, headaches, memory problems, reproduction damage, synergistic effects, nervous system impacts, brain cancer, genetic damage, as well as harm to trees, birds, bees, and wildlife.

THE COURT FINDINGS

The ruling stated that the FCC's "arbitrary and capricious" decision to maintain their 25 year old exposure limits did not address evidence indicating "non-cancer" harm such as:

- impacts to children
- testimony of persons injured by wireless radiation
- impacts to the developing brain
- impacts to the reproductive system
- impacts to wildlife and the environment

THE COURT ORDER

The Court ordered the FCC to provide a reasoned determination as to whether the evidence warrants a change to 1996 RF limits especially in regards to:

- children's vulnerability
- long-term exposure
- environmental impacts
- new technological developments and the ubiquity of wireless
- how FCC's cell phone tests only measure heat and allow a space between the phone and body

TIMELINE

1980s: EPA had robust research program and was tasked to develop RF safety limits by U.S. Science Advisory Board.

1995: EPA presents to FCC on the EPA timeline for its development of human exposure RF limits which would include both thermal effects and non thermal effects.

1996: EPA is fully defunded by Congress amid heavy lobbying for Telecom Act and halts all research on RF.

1996: The FCC adopts RF limits developed by industry-tied groups - based on short term heating - thermal- effects from high power exposures (based on studies of small animals exposed to high RF levels for under an hour).

1999: FDA requests the National Toxicology Program (NTP) study RF because of the lack of safety data on long-term exposure.

2008/2009 Congressional Hearings

2011: Wireless RF classified as a "possible" Class 2B Carcinogen by International Agency for Research on Cancer.

2012: GAO Report recommends rules be reassessed to reflect current use patterns and recent science.

2013-2019: FCC opens record on RF limits - gets over 1000 submissions.

2018: NTP/NIH releases \$30M animal study concluding "clear evidence" of cancer. FDA rejects the findings.

2019: FCC closes record, decides not to update its 1996 wireless RF limits.

2020: Cases filed against FCC.

2021: U.S. Court of Appeals, D.C Circuit ruled that the FCC decision not to change human exposure limits and regulations was "arbitrary and capricious." FCC ordered to respond.

2021: No FCC response to Court, so EHT and others filed request to refresh record.

Timeline is hyperlinked to sources.

FCC'S LACK OF ADEQUATE REVIEW FOR WIRELESS RADIATION EXPOSURE LIMITS

FCC Compliance Does Not Ensure Safety

Most of the public assumes that current FCC safety limits for cell phones, cell towers, Wi-Fi, 5G, and wireless networks are based upon an up to date robust review of all relevant research. This assumption of safety is now clearly documented to be erroneous.

Lack of Oversight by Health and Environmental Agencies

The ruling reveals a lack of accountability with our federal health agencies regarding wireless radiation. The EPA, CDC, NIOSH, and NCI did not submit any reports to the Court, revealing that none of these agencies has reviewed the science on health effects to ensure safety for the public. The U.S. has no pre- market safety testing for health effects, no post-market surveillance, no environmental monitoring, and no meaningful interagency coordination.

FDA's Dismissal of Harm Deemed Insufficient

The Court states the FCC improperly relied on the FDA's conclusions that RF limits did not need an update. The FDA's submissions were described by the Court as " cursory" and "insufficient." Although the FDA later released a literature review, it was only focused on cell phones, not cell towers, Wi-Fi nor 5G technology. It also was only focused on cancer, further confirming the fact that U.S. agencies have failed to evaluate the myriad of effects documented in scientific studies, such as brain, immune, fertility and endocrine impacts. A U.S. government review of *the full body of recent science* has simply never been done.

"the Commission's failure to provide a reasoned or even relevant explanation of its position that RF radiation below the current limits does not cause health problems unrelated to cancer renders its explanation as to the effect of RF radiation on children arbitrary and capricious. "

— 2021 EHT et al. v. FCC

The Court Did Not Agree That "Cell Phones Do Not Cause Cancer"

Contrary to the wireless industry's recent claims, the Court *did not make a scientific determination regarding cancer*. The ruling simply stated that in regards to cancer- the FCC passed the minimum legal requirement for adequate review because it (at least) referenced why the FCC dismissed cancer evidence. The FCC cited the rejections of NIH studies by the FDA and of ICNIRP (a small group with no oversight and whose members have a long history of industry ties).

Children's Vulnerability and Effects of Long Term Exposure Ignored by the FCC

The Court states the FCC "dismissed" the American Academy of Pediatrics recommendations to strengthen regs and ensure children and pregnant women are protected. The Court found the FCC failed to explain why it ignored research indicating children's developing brains are more sensitive. Children will have a lifetime of exposure, yet the FCC was found to ignore the issue of impacts *from long term exposure*.

Wildlife Remains Unprotected

FCC's limits were designed in 1996 to protect only humans, not flora or fauna. The Court found that the FCC had "completely failed" to address the "substantive evidence of potential environmental harms" on the record, which included science showing serious impacts to birds, bees, trees, and plants.

PETITIONERS: Environmental Health Trust, Consumers for Safe Cell Phones, Elizabeth Barris, Theodora Scarato, Children's Health Defense, Michelle Hertz, Petra Brokken, Dr. David Carpenter, Dr. Toril Jelter, Dr. Paul Dart, Dr. Ann Lee, Virginia Farver, Jennifer Baran, Paul Stanley M.Ed.

KEY RESOURCES: Court Ruling 8/13/2021, Evidence (11,000 pages), EHT Press Conference

Amicus Briefs

- Amicus of NRDC: Natural Resources Defense Council
- Amicus of Attorney Joe Sandri including declaration of Dr. Linda Birnbaum, former Director of the National Institute of Environmental Health Sciences
- Amicus of Catherine Kleiber
- Amicus of the Building Biology Institute

EHTrust.org for more.

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American Academy of Pediatrics Webpage Excerpts

Electromagnetic Fields: A Hazard to Your Health?

In recent years, concern has increased about exposure to radio frequency electromagnetic radiation emitted from cell phones and phone station antennae. An Egyptian study confirmed concerns that living nearby mobile phone base stations increased the risk for developing:

- Headaches
- Memory problems
- Dizziness
- Depression
- Sleep problems

Short-term exposure to these fields in experimental studies have not always shown negative effects, but this does not rule out cumulative damage from these fields, so larger studies over longer periods are needed to help understand who is at risk. In large studies, an association has been observed between symptoms and exposure to these fields in the everyday environment.

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Thermal and non-thermal health effects of low intensity non-ionizing radiation: An international perspective^{*}



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ABSTRACT

Exposure to low frequency and radiofrequency electromagnetic fields at low intensities poses a significant health hazard that has not been adequately addressed by national and international organizations such as the World Health Organization. There is strong evidence that excessive exposure to mobile phone-frequencies over long periods of time increases the risk of brain cancer both in humans and animals. The mechanism(s) responsible include induction of reactive oxygen species, gene expression alteration and DNA damage through both epigenetic and genetic processes. *In vivo* and *in vitro* studies demonstrate adverse effects on male and female reproduction, almost certainly due to generation of reactive oxygen species. There is increasing evidence the exposures can result in neurobehavioral decrements and that some individuals develop a syndrome of "electro-hypersensitivity" or "microwave illness", which is one of several syndromes commonly categorized as "idiopathic environmental intolerance". While the symptoms are non-specific, new biochemical indicators and imaging techniques allow diagnosis that excludes the symptoms as being only psychosomatic. Unfortunately standards set by most national and international bodies are not protective of human health. This is a particular concern in children, given the rapid expansion of use of wireless technologies, the greater susceptibility of the developing nervous system, the hyperconductivity of their brain tissue, the greater penetration of radiofrequency radiation relative to head size and their potential for a longer lifetime exposure.

Biological effects from exposure to electromagnetic radiation emitted by cell tower base stations and other antenna arrays

B. Blake Levitt and Henry Lai

Abstract: The siting of cellular phone base stations and other cellular infrastructure such as roof-mounted antenna arrays, especially in residential neighborhoods, is a contentious subject in land-use regulation. Local resistance from nearby residents and landowners is often based on fears of adverse health effects despite reassurances from telecommunications service providers that international exposure standards will be followed. Both anecdotal reports and some epidemiology studies have found headaches, skin rashes, sleep disturbances, depression, decreased libido, increased rates of suicide, concentration problems, dizziness, memory changes, increased risk of cancer, tremors, and other neurophysiological effects in populations near base stations. The objective of this paper is to review the existing studies of people living or working near cellular infrastructure and other pertinent studies that could apply to long-term, low-level radiofrequency radiation (RFR) exposures. While specific epidemiological research in this area is sparse and contradictory, and such exposures are difficult to quantify given the increasing background levels of RFR from myriad personal consumer products, some research does exist to warrant caution in infrastructure siting. Further epidemiology research that takes total ambient RFR exposures into consideration is warranted. Symptoms reported today may be classic microwave sickness, first described in 1978. Non-ionizing electromagnetic fields are among the fastest growing forms of environmental pollution. Some extrapolations can be made from research other than epidemiology regarding biological effects from exposures at levels far below current exposure guidelines.



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Case Report

How does long term exposure to base stations and mobile phones affect human hormone profiles?

Emad F. Eskander , Selim F. Estefan, Ahmed A. Abd-Rabou

Objectives

This study is concerned with assessing the role of exposure to radio frequency radiation (RFR) emitted either from mobiles or base stations and its relations v human's hormone profiles.

Results

This study showed significant decrease in volunteers' ACTH, cortisol, thyroid hormones, prolactin for young females, and testosterone levels.



Very high radiofrequency radiation at Skeppsbron in Stockholm, Sweden from mobile phone base station antennas positioned close to pedestrians' heads

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Fig. 3. Street view on the Skeppsbron street with some of the mobile phone base station antennas pointed out with a circle; note the low placement of the antennas, where microwaves irradiate the pedestrian at close range.

ABSTRACT

In urban environment there is a constant increase of public exposure to radiofrequency electromagnetic fields from mobile phone base stations. With the placement of mobile phone base station antennas radiofrequency hotspots emerge. This study investigates an area at Skeppsbron street in Stockholm, Sweden with an aggregation of base station antennas placed at low level close to pedestrians' heads. Detailed spatial distribution measurements were performed with 1) a radiofrequency broadband analyzer and 2) a portable exposimeter. The results display a greatly uneven distribution of the radiofrequency field with hotspots. The highest spatial average across all quadrat cells was 12.1 V m^{-1} (388 mW m^{-2}), whereas the maximum recorded reading from the entire area was 31.6 V m^{-1} (2648 mW m^{-2}). Exposimeter measurements show that the majority of exposure is due to mobile phone downlink bands. Most dominant are 2600 and 2100 MHz bands used by 4G and 3G mobile phone services, respectively. The average radiofrequency radiation values from the earlier studies show that the level of ambient RF radiation exposure in Stockholm is increasing. This study concluded that mobile phone base station antennas at Skeppsbron, Stockholm are examples of poor radiofrequency infrastructure design which brings upon highly elevated exposure levels to popular seaside promenade and a busy traffic street.

Studies from recent decades have shown elevated health risk under long term exposure to such highly elevated radiofrequency fields.

A review by [Kihurana et al. \(2010\)](#) found in 80% of the available studies neurobehavioral symptoms or cancer in populations living at distances <500 m from base stations ([Kihurana et al., 2010](#)). In another review exposure from base stations and other antenna arrays showed changes in immunological and reproductive systems as well as DNA double strand breaks, influence on calcium movement in the heart and increased proliferation rates in human astrocytoma cancer cells ([Levitt and Lai, 2010](#)).

When a GSM 900 MHz base station was installed in the village Rimbach in Germany it had an influence on the neurotransmitters adrenaline, noradrenaline, dopamine and phenylethylamine ([Buchner and Eger, 2011](#)). Influence on cortisol and thyroid hormones in people living near base stations was shown in other studies ([Augner et al., 2010](#); [Eskander et al., 2012](#)).

[Dode et al. \(2011\)](#) compared base station (BS) clusters and cases of deaths by neoplasia in the Belo Horizonte municipality, Minas Gerais state, Brazil, from 1996 to 2006. In their study largest electric field was 12.4 V m^{-1} and the smallest was 0.4 V m^{-1} . They found cancer-related death rates be higher close to base stations. This finding confirmed earlier findings by [Eger \(2004\)](#).

In a study from India, genetic damage using the single cell gel electrophoresis (comet) assay was assessed in peripheral blood leukocytes of individuals residing in the vicinity of a mobile phone base station and comparing it to that in healthy controls. Genetic damage parameters of DNA migration length, damage frequency, and damage index were significantly ($p < 0.001$) elevated in the sample group compared to respective values in healthy controls ([Gandhi et al., 2014](#)).

The effect of RF radiation among 20 subjects living close to mobile phone base station compared with 20 subjects living with a distance of about 1 km was studied ([Singh et al., 2016](#)). The authors concluded that: "It was unveiled that a majority of the subjects who were residing near the mobile base station complained of sleep disturbances, headache, dizziness, irritability, concentration difficulties, and hypertension. A majority of the study subjects had significantly lesser stimulated salivary secretion ($p < 0.01$) as compared to the control subjects."

[Zotiansianu et al. \(2017\)](#) in India inspected DNA damage and antioxidant status in cultured human peripheral blood lymphocytes (HPBLs) of individuals residing in the vicinity of mobile phone base stations and compared it with healthy controls living further away. Analyses of data from the exposed group ($n = 40$), residing within perimeter of 80 m of mobile base stations, showed statistically significantly ($p < 0.0001$) higher frequency of micronuclei when compared to the control group, residing 300 m away from the mobile base station.

The Ramazzini Institute findings ([Falcioni et al., 2018](#)) are supported by the results in the USNTP study on rats and mice exposed to RF radiation ([National Toxicology Program, 2018a, 2018b](#)). A clear evidence of increased incidence of heart Schwannoma and some evidence glioma and tumours in the adreanal medulla in male rats was found according to the expert panel, for further discussion see [Hardell and Carlberg \(2019\)](#).

The study concluded that Skeppsbron street mobile phone base station antennas are examples of a poor radiofrequency infrastructure design with mobile phone base station antennas positioned into close range to the general public which brings upon high exposure levels. Given the low placement of the antennas (height from the street floor), the highest exposure was often registered at pedestrian head level. Given that head is one of most vulnerable parts of the body, these placements by mobile telephony service providers put pedestrians into unnecessary risk. Position of these antennas, can pose a health risk to people at close range. This is especially critical for people at particular risk, including persons with medical implants, pregnant women or chronically ill persons.

Based on the latest scientific literature regarding RF exposure and adverse health effects, this study recommends repositioning such base station antennas to areas away from the nearby inhabitants, workers and the general public. Alternatively, very low power antennas may also be considered to reduce the exposure. Occupational exposure of people

Low Intensity Electromagnetic Fields Act *via* Voltage-Gated Calcium Channel (VGCC) Activation to Cause Very Early Onset Alzheimer's Disease: 18 Distinct Types of Evidence

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Abstract: Electronically generated electromagnetic fields (EMFs), including those used in wireless communication such as cell phones, Wi-Fi and smart meters, are coherent, producing very high electric and magnetic forces, which act on the voltage sensor of voltage-gated calcium channels to produce increases in intracellular calcium $[Ca^{2+}]_i$. The calcium hypothesis of Alzheimer's disease (AD) has shown that each of the important AD-specific and nonspecific causal elements is produced by excessive $[Ca^{2+}]_i$. $[Ca^{2+}]_i$ acts in AD *via* excessive calcium signaling and the peroxynitrite/oxidative stress/inflammation pathway, which are each elevated by EMFs. An apparent vicious cycle in AD involves amyloid-beta protein (A β) and $[Ca^{2+}]_i$. Three types of epidemiology suggest EMF causation of AD, including early onset AD. Extensive animal model studies show that low intensity EMFs cause neurodegeneration, including AD, with AD animals having elevated levels of A β , amyloid precursor protein and BACE1. Rats exposed to pulsed EMFs every day are reported to develop universal or near universal very early onset neurodegeneration, including AD; these findings are superficially similar to humans with digital dementia. EMFs producing modest increases in $[Ca^{2+}]_i$ can also produce protective, therapeutic effects. The therapeutic pathway and peroxynitrite pathway inhibit each other. A summary of 18 different findings is provided, which collectively provide powerful evidence for EMF causation of AD. The author is concerned that smarter, more highly pulsed "smart" wireless communication may cause widespread very, very early onset AD in human populations.

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The roles of intensity, exposure duration, and modulation on the biological effects of radiofrequency radiation and exposure guidelines

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ABSTRACT

In this paper, we review the literature on three important exposure metrics that are inadequately represented in most major radiofrequency radiation (RFR) exposure guidelines today: intensity, exposure duration, and signal modulation. Exposure intensity produces unpredictable effects as demonstrated by nonlinear effects. This is most likely caused by the biological system's ability to adjust and compensate but could lead to eventual biomic breakdown after prolonged exposure. A review of 112 low-intensity studies reveals that biological effects of RFR could occur at a median specific absorption rate of 0.0165 W/kg. Intensity and exposure duration interact since the dose of energy absorbed is the product of intensity and time. The result is that RFR behaves like a biological "stressor" capable of affecting numerous living systems. In addition to intensity and duration, man-made RFR is generally modulated to allow information to be encrypted. The effects of modulation on biological functions are not well understood. Four types of modulation outcomes are discussed. In addition, it is invalid to make direct comparisons between thermal energy and radiofrequency electromagnetic energy. Research data indicate that electromagnetic energy is more biologically potent in causing effects than thermal changes. The two likely function through different mechanisms. As such, any current RFR exposure guidelines based on acute continuous-wave exposure are inadequate for health protection.

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Low Intensity Electromagnetic Fields Act *via* Voltage-Gated Calcium Channel (VGCC) Activation to Cause Very Early Onset Alzheimer's Disease: 18 Distinct Types of Evidence

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Abstract: Electronically generated electromagnetic fields (EMFs), including those used in wireless communication such as cell phones, Wi-Fi and smart meters, are coherent, producing very high electric and magnetic forces, which act on the voltage sensor of voltage-gated calcium channels to produce increases in intracellular calcium $[Ca^{2+}]_i$. The calcium hypothesis of Alzheimer's disease (AD) has shown that each of the important AD-specific and nonspecific causal elements is produced by excessive $[Ca^{2+}]_i$. $[Ca^{2+}]_i$ acts in AD *via* excessive calcium signaling and the peroxynitrite/oxidative stress/inflammation pathway, which are each elevated by EMFs. An apparent vicious cycle in AD involves amyloid-beta protein (A β) and $[Ca^{2+}]_i$. Three types of epidemiology suggest EMF causation of AD, including early onset AD. Extensive animal model studies show that low intensity EMFs cause neurodegeneration, including AD, with AD animals having elevated levels of A β , amyloid precursor protein and BACE1. Rats exposed to pulsed EMFs every day are reported to develop universal or near universal very early onset neurodegeneration, including AD; these findings are superficially similar to humans with digital dementia. EMFs producing modest increases in $[Ca^{2+}]_i$ can also produce protective, therapeutic effects. The therapeutic pathway and peroxynitrite pathway inhibit each other. A summary of 18 different findings is provided, which collectively provide powerful evidence for EMF causation of AD. The author is concerned that smarter, more highly pulsed "smart" wireless communication may cause widespread very, very early onset AD in human populations.

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REVIEW

Genetic effects of non-ionizing electromagnetic fields

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Department of Bioengineering, University of Washington, Seattle, WA, USA

ABSTRACT

This is a review of the research on the genetic effects of non-ionizing electromagnetic field (EMF), mainly on radiofrequency radiation (RFR) and static and extremely low frequency EMF (ELF-EMF). The majority of the studies are on genotoxicity (e.g., DNA damage, chromatin conformation changes, etc.) and gene expression. Genetic effects of EMF depend on various factors, including field parameters and characteristics (frequency, intensity, wave-shape), cell type, and exposure duration. The types of gene expression affected (e.g., genes involved in cell cycle arrest, apoptosis and stress responses, heat-shock proteins) are consistent with the findings that EMF causes genetic damages. Many studies reported effects in cells and animals after exposure to EMF at intensities similar to those in the public and occupational environments. The mechanisms by which effects are induced by EMF are basically unknown. Involvement of free radicals is a likely possibility. EMF also interacts synergistically with different entities on genetic functions. Interactions, particularly with chemotherapeutic compounds, raise the possibility of using EMF as an adjuvant for cancer treatment to increase the efficacy and decrease side effects of traditional chemotherapeutic drugs. Other data, such as adaptive effects and mitotic spindle aberrations after EMF exposure, further support the notion that EMF causes genetic effects in living organisms.

ARTICLE HISTORY

Received 22 September 2020
Accepted 13 December 2020

KEYWORDS

Radiofrequency radiation; static/extremely low frequency EMF; genetic effects; genotoxicity; gene expression

Article

The Effect of Continuous Low-Intensity Exposure to Electromagnetic Fields from Radio Base Stations to Cancer Mortality in Brazil

Nádia Cristina Pinheiro Rodrigues ^{1,2,*}, Adilza Condessa Dode ³, Mônica Kramer de Noronha Andrade ¹, Gisele O'Dwyer ¹, Denise Leite Maia Monteiro ⁴, Inês Nascimento Carvalho Reis ¹, Roberto Pinheiro Rodrigues ^{5,6}, Vera Cecília Frossard ¹ and Valéria Teresa Saraiva Lino ¹

Abstract: Background: this study aims to estimate the rate of death by cancer as a result of Radio Base Station (RBS) radiofrequency exposure, especially for breast, cervix, lung, and esophagus cancers. Methods: we collected information on the number of deaths by cancer, gender, age group, gross domestic product per capita, death year, and the amount of exposure over a lifetime. We investigated all cancer types and some specific types (breast, cervix, lung, and esophagus cancers). Results: in capitals where RBS radiofrequency exposure was higher than 2000/antennas-year, the average mortality rate was 112/100,000 for all cancers. The adjusted analysis showed that, the higher the exposure to RBS radiofrequency, the higher cancer mortality was. The highest adjusted risk was observed for cervix cancer (rate ratio = 2.18). The spatial analysis showed that the highest RBS radiofrequency exposure was observed in a city in southern Brazil that also showed the highest mortality rate for all types of cancer and specifically for lung and breast cancer. Conclusion: the balance of our results indicates that exposure to radiofrequency electromagnetic fields from RBS increases the rate of death for all types of cancer.



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Report of final results regarding brain and heart tumors in Sprague-Dawley rats exposed from prenatal life until natural death to mobile phone radiofrequency field representative of a 1.8 GHz GSM base station environmental emission

ABSTRACT

Background: In 2011, IARC classified radiofrequency radiation (RFR) as possible human carcinogen (Group 2B). According to IARC, animals studies, as well as epidemiological ones, showed limited evidence of carcinogenicity. In 2016, the NTP published the first results of its long-term bioassays on near field RFR, reporting increased incidence of malignant glial tumors of the brain and heart Schwannoma in rats exposed to GSM – and CDMA – modulated cell phone RFR. The tumors observed in the NTP study are of the type similar to the ones observed in some epidemiological studies of cell phone users.

Objectives: The Ramazzini Institute (RI) performed a life-span carcinogenic study on Sprague-Dawley rats to evaluate the carcinogenic effects of RFR in the situation of far field, reproducing the environmental exposure to RFR generated by 1.8 GHz GSM antenna of the radio base stations of mobile phone. This is the largest long-term study ever performed in rats on the health effects of RFR, including 2448 animals. In this article, we reported the final results regarding brain and heart tumors.

Methods: Male and female Sprague-Dawley rats were exposed from prenatal life until natural death to a 1.8 GHz GSM far field of 0, 5, 25, 50 V/m with a whole-body exposure for 19 h/day.

Results: A statistically significant increase in the incidence of heart Schwannomas was observed in treated male rats at the highest dose (50 V/m). Furthermore, an increase in the incidence of heart Schwann cells hyperplasia was observed in treated male and female rats at the highest dose (50 V/m), although this was not statistically significant. An increase in the incidence of malignant glial tumors was observed in treated female rats at the highest dose (50 V/m), although not statistically significant.

Conclusions: The RI findings on far field exposure to RFR are consistent with and reinforce the results of the NTP study on near field exposure, as both reported an increase in the incidence of tumors of the brain and heart in RFR-exposed Sprague-Dawley rats. These tumors are of the same histotype of those observed in some epidemiological studies on cell phone users. These experimental studies provide sufficient evidence to call for the re-evaluation of IARC conclusions regarding the carcinogenic potential of RFR in humans.

From: [Liang Chao](#)
To: [City Clerk](#)
Cc: [Ying Dillaha](#)
Subject: Fw: Questions regarding environmental degradation at Vista Heights
Date: Wednesday, November 27, 2024 4:43:16 PM

Dear Resident,

Thank you for reaching out with your comments.

Due to a change in the implementation of how written communication is collected for the upcoming council meeting, your email will not be included in the official record unless a councilmember forwards it to the City Clerk.

Dear City Clerk,

Please enter the enclosed communication as written communication for the upcoming council meeting from a councilmember, per CMC 2.08.100.

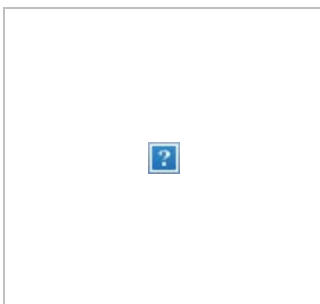
I am submitting this comment at the request of my constituents to ensure that community voices are included in written communications of council meetings as requested, rather than at the discretion of councilmembers, which might inadvertently leave out some minority voices.

Thank you for your attention to this matter.

Regards,

Liang

~ Cupertino City Council (elected in 2018, re-elected in 2022)



Liang Chao
Council Member
City Council
LiangChao@cupertino.org
408-777-3192



From: Ying Dillaha <ydillaha@yahoo.com>

Sent: Wednesday, November 27, 2024 3:38 PM

To: City Clerk <cityclerk@cupertino.gov>; Sheila Mohan <smohan@cupertino.gov>; Liang Chao <lchao@cupertino.gov>; J.R. Fruen <jrfruen@cupertino.gov>; Kitty Moore <kmoore@cupertino.gov>; Hung Wei <hwei@cupertino.gov>

Cc: Shani Kleinhaus <shani@scvas.org>

Subject: Fw: Questions regarding environmental degradation at Vista Heights

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Clerk:

Please include this email in the written communications for items not on the agenda. Thank you.

Dear Mayor Mohan and Cupertino Council Members,

I am a concerned citizen of Cupertino and a resident in the Linda Vista neighborhood. I am deeply concerned with the substantial earthwork that has occurred prior to permitting at the site of the proposed Vista Heights Project (Santa Clara County APNs 356-05-007, 356-05-008, 356-27-026) and may continue to occur without City permits and without CEQA review or Government Agencies issuing permits - please see photo below.

We understand that Code enforcement has issued violations, and required slope stabilization and sediment control. We hope Staff can provide a full picture to clarify what has happened, what is currently happening, and what we can expect in the future. Transparency is urgently needed.

Please ask staff:

1. What is the status of the Vista Heights Project application?
2. Are there any pending code violations related to the Vista Heights Project (APNs 356-05-007, 356-05-008, 356-27-026)?
3. Does work continue on the property at this time? If so, what does it entail?
4. Has staff seen/travelled the entire extent of construction work on the site? How often does staff visit the site? When was the last visit?
5. What is the scope/extent of unauthorized grading, road building and earthwork on the site (including roads, trenches) in miles? How steep are the roads and trenches? Are any of the new roads steeper than 30 degrees slope?
6. What is the scope/extent of vegetation removal (how many trees were removed? How much vegetation was cleared, in acres?)
7. Does staff have a full description and a map of all the new roads, trenches, trails and vegetation clearings areas?
8. Has there been any work on the Project site that is within a creek bed or crosses tributaries of Stevens Creek, or impacts wetlands? If so, have the California Department of Fish and Wildlife and the California State Water Resources Control Board been notified?
9. What remediations are required of the applicant, and what is the status of these remediations?

10. Will staff require that the land be restored to its original contours (all trenches and roadwork be eliminated) and the vegetation restored? If not, why not?
11. Will staff require CEQA review and state agency permitting for remediation work? If not, why not?
12. Can staff issue a Cease and Desist order immediately?
13. Can the city stop any further processing of any applications for the Vista Heights Project until the violations have been remedied?



Thank you, we hope staff responds to these questions as soon as possible,

Regards,

Ying Susic
Cupertino resident

From: [Liang Chao](#)
To: [City Clerk; n.r.v@live.com](#)
Subject: Fw: Requesting agendaization of procedures that are not in residents' interests
Date: Tuesday, December 3, 2024 10:47:52 AM

Dear City Clerk,

Please enter the enclosed communication and attachments as written communication for the upcoming council meeting from a councilmember, per CMC 2.08.100.

I am submitting this comment at the request of my constituents.

Thank you for your attention to this matter.

Regards,

Liang

~ Cupertino City Council (elected in 2018, re-elected in 2022)

=====

Dear Resident,

Thank you for reaching out with your comments.

Due to a change in the implementation of how written communication is collected for the upcoming council meeting, your email will not be included in the official record unless a councilmember forwards it to the City Clerk.

Dear City Clerk,

Please enter the enclosed communication as written communication for the upcoming council meeting from a councilmember, per CMC 2.08.100.

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Thank you for your attention to this matter.

Regards,

Liang

~ Cupertino City Council (elected in 2018, re-elected in 2022)

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 **Liang Chao**
Councilmember
City Council
LChao@cupertino.gov
408-777-3192

A row of seven small square icons, each containing a question mark, representing social media links.

From: Venkat Ranganathan <n.r.v@live.com>
Sent: Tuesday, December 3, 2024 9:27 AM
To: City Council <citycouncil@cupertino.gov>; City Clerk <cityclerk@cupertino.gov>
Subject: Requesting agendaization of procedures that are not in residents' interests

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Mayor and Council

I am Venkat Ranganathan, a long time resident of Cupertino.

I am writing to express my concerns regarding the conduct and performance of city management and staff, whose actions during 2023-2024 have largely reduced public transparency and hindered residents' ability to participate in local government.

Specifically, I object to the following changes:

- **Reduced Public Input:** Limiting oral communication time, restricting speaking opportunities, and eliminating hybrid meetings.
- **Lack of Transparency:** Removing written reports, eliminating informational items, and overloading consent calendars.
- **Disbanding Committees:** Eliminating crucial committees like Economic Development and Environmental Review.
- **Political Bias:** Politicizing agenda setting to favor specific interests.

These changes undermine public trust and erode effective governance. I urge the council to **immediately reverse these policies** and restore procedures that prioritize transparency, accountability, and public participation.

I request that the council **agendaize an update to council and commission procedures for the 12/17/24 meeting** to address these critical issues. As residents of Cupertino, we deserve a city management that upholds the principles of open and accessible government.

Thanks

Venkat

From: [Liang Chao](#)
To: [City Clerk](#); yuvaraj.a.r@gmail.com
Subject: Fw: Agendaize reversal of below council and commission procedures in the 12/17/24 council meeting
Date: Tuesday, December 3, 2024 8:26:44 AM

Dear Resident,

Thank you for reaching out with your comments.

Due to a change in the implementation of how written communication is collected for the upcoming council meeting, your email will not be included in the official record unless a councilmember forwards it to the City Clerk.

Dear City Clerk,

Please enter the enclosed communication as written communication for the upcoming council meeting from a councilmember, per CMC 2.08.100.

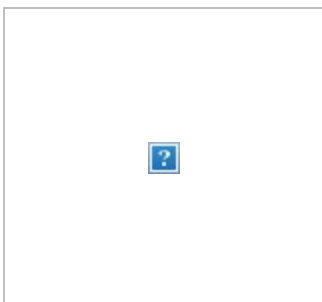





I am submitting this comment at the request of my constituents to ensure that community voices are included in written communications of council meetings as requested, rather than at the discretion of councilmembers, which might inadvertently leave out some minority voices.

Thank you for your attention to this matter.

Regards,

Liang

~ Cupertino City Council (elected in 2018, re-elected in 2022)

	Liang Chao						
	Councilmember City Council LChao@cupertino.gov 408-777-3192						
							

From: Yuvaraj Athur Raghuvir <yuvaraj.a.r@gmail.com>

chitrasv@yahoo.com

Sent: Tuesday, December 3, 2024 7:09 AM

To: City Council <citycouncil@cupertino.gov>; City Clerk <cityclerk@cupertino.gov>

Subject: Agendaize reversal of below council and commission procedures in the 12/17/24 council meeting

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Clerk,

Please include the below as written communications for items on agenda for the upcoming city council meeting on December 3rd, 2024.

Mayor Sheila Mohan
Council Members
City of Cupertino
10300 Torre Avenue
Cupertino, CA 95014

Subject: Concerns Regarding City Manager Pamela Wu's Performance and request to agendaize reversal of below council and commission procedures in the 12/17/24 council meeting

Dear Mayor Mohan and Cupertino City Council Members,

I am writing to express my deep dissatisfaction with the conduct and performance of City Manager Pamela Wu during 2023-2024. Her actions, often unilateral and without council direction, have severely damaged public trust, undermined transparency, restricted stakeholder engagement, and eroded residents' ability to communicate effectively with their elected representatives. Below, I outline critical issues that demand immediate rectification.

I implore you to agendaize an update to city council meeting procedures for the 12/17/24 council meeting to immediately and urgently undo and reverse the below changes brought about during 2023-24 by city manager Pamela Wu.

1. Unilateral Removal of Written Communications for Oral

Communications: Without council approval, the City Manager removed written communications for items not on agenda even though oral communications is on agenda, depriving residents of the opportunity to view and respond to others' concerns. Transparent discourse is essential; this policy must be reversed immediately.

2. Arbitrary Limits on Oral Comments: Capping oral comments at 30 minutes at the start of meetings, with the remainder relegated to the end, is both arrogant and dismissive of residents. When residents take the time to speak, their voices deserve to be heard fully, not constrained by an arbitrary time limit.

3. Restrictions on Yielding Speaking Time : Requiring five individuals to yield time for

an additional three minutes is an affront to the public's ability to organize and express themselves. This demeaning rule undervalues the collective voice of residents and must be abolished.

4. **Elimination of Hybrid Meetings:** Discontinuing hybrid meetings under the pretense of cost-saving is indefensible. A webcast is not a substitute for public participation. If the City Manager can justify taxpayer-funded trips to Taiwan and India, she can fund hybrid meetings for all commissions, including Parks and Recreation, Audit, and Public Safety. Also consider enabling hybrid meetings for the public safety commission and audit committee.
5. **Abandonment of Written City Manager Reports:** Replacing substantive written reports with superficial video presentations is a disservice to transparency. These reports must be reinstated immediately to provide residents and council members with detailed updates on city affairs. Written reports are official narratives that can be searched and referenced for future communications.
6. **Disbanding Critical Committees:** The elimination of the Economic Development and Environmental Review Committees, among others, has crippled the ability of residents and council to influence policy. These committees must be reinstated without delay.
7. **Curtailing Residents' Ability to Pull Consent Calendar Items:** The new requirement for providing reasons to pull consent items diminishes the symbolic and practical input of residents. Council and the City Manager work for the public, not the other way around. This policy must be reversed.
8. **Elimination of Informational Agenda Items:** Informational items, once a critical component of transparency, have been eliminated, further eroding public trust. Reinstatement of this section to restore proper civic discourse.
9. **Overloaded Consent Calendars:** Stacking consent calendars with over 15 items, including \$24M contracts, signals a lack of respect of public and council input. This practice must be reversed immediately.
10. **Absence of Directors at Commission Meetings:** The absence of directors at commission meetings weakens the integrity of the civic process. Directors must resume attendance to provide the necessary expertise and accountability.
11. **Disruptive Use of Cell Phones During Meetings:** The City Manager's frequent use of her cell phone or laptop during meetings raises concerns of focus, including questions of whether potential Brown Act violations could be a concern. Council should prohibit cell phone use on the dais to ensure full focus on city business.
12. **Political Bias in Agenda Setting:** The City Manager has politicized agenda-setting to delay or suppress items unfavorable to her or her political allies. Residents' demands, such as improving the sign ordinance, not eliminating lanes on DeAnza Blvd have been ignored indefinitely. This overt partisanship is a betrayal of her duty to serve the entire city impartially. Council needs to have strong directional oversight on agenda setting and prioritization effective the inauguration of the new council.

The City Manager's pattern of above changes in 2023-24 reflects a troubling lack of accountability, professionalism, and respect for stakeholders such as residents and council members which are the city manager's chain of command. I urge the council to agendaize an item to update council and commission procedures in the 12/17/24 council agenda so that the above changes may be reversed immediately.

The residents of Cupertino deserve better governance and a City Manager who upholds transparency, accountability, and respect for the public and council input without imposing

mechanisms to curb such input.

Sincerely,
Yuvaraj
Cupertino Citizen & Resident.

From: [Liang Chao](#)
To: [City Clerk](#); chitrasv@yahoo.com
Subject: Fw: Request to agendaize reversal of below council and commission procedures in the 12/17/24 council meeting
Date: Tuesday, December 3, 2024 8:22:52 AM

Dear Resident,

Thank you for reaching out with your comments.

Due to a change in the implementation of how written communication is collected for the upcoming council meeting, your email will not be included in the official record unless a councilmember forwards it to the City Clerk.

Dear City Clerk,

Please enter the enclosed communication as written communication for the upcoming council meeting from a councilmember, per CMC 2.08.100.

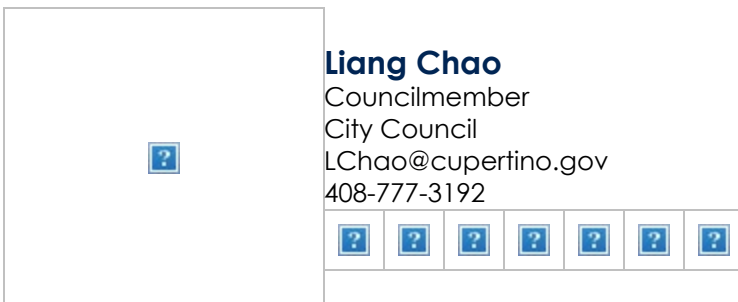
I am submitting this comment at the request of my constituents to ensure that community voices are included in written communications of council meetings as requested, rather than at the discretion of councilmembers, which might inadvertently leave out some minority voices.

Thank you for your attention to this matter.

Regards,

Liang

~ Cupertino City Council (elected in 2018, re-elected in 2022)



From: chitrasv@yahoo.com <chitrasv@yahoo.com>
Sent: Tuesday, December 3, 2024 8:19 AM
To: City Council <citycouncil@cupertino.gov>; City Clerk <cityclerk@cupertino.gov>
Subject: Request to agendaize reversal of below council and commission procedures in the

12/17/24 council meeting

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Clerk,

Please include the below as written communications for items on agenda for the upcoming city council meeting on December 3rd, 2024.

Mayor Sheila Mohan
Council Members
City of Cupertino
10300 Torre Avenue
Cupertino, CA 95014

Subject: Concerns Regarding City Manager Pamela Wu's Performance and request to agendaize reversal of below council and commission procedures in the 12/17/24 council meeting

Dear Mayor Mohan and Cupertino City Council Members,

I am writing to express my deep dissatisfaction with the conduct and performance of City Manager Pamela Wu during 2023-2024. Her actions, often unilateral and without council direction, have severely damaged public trust, undermined transparency, restricted stakeholder engagement, and eroded residents' ability to communicate effectively with their elected representatives. Below, I outline critical issues that demand immediate rectification.

I implore you to agendaize an update to city council meeting procedures for the 12/17/24 council meeting to immediately and urgently undo and reverse the below changes brought about during 2023-24 by city manager Pamela Wu.

1. Unilateral Removal of Written Communications for Oral Communications

Without council approval, the City Manager removed written communications for items not on agenda even though oral communications is on agenda, depriving residents of the opportunity to view and respond to others' concerns. Transparent discourse is essential; this policy must be reversed immediately.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

2. Arbitrary Limits on Oral Comments

Capping oral comments at 30 minutes at the start of meetings, with the remainder relegated to the end, is both arrogant and dismissive of residents. When residents take the time to speak, their voices deserve to be heard fully, not constrained by an arbitrary time limit.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

3. Restrictions on Yielding Speaking Time

Requiring five individuals to yield time for an additional three minutes is an affront to the public's ability to organize and express themselves. This demeaning rule undervalues the collective voice of residents and must be abolished.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

4. Elimination of Hybrid Meetings

Discontinuing hybrid meetings under the pretense of cost-saving is indefensible. A webcast is not a substitute for public participation. If the City Manager can justify taxpayer-funded trips to Taiwan and India, she can fund hybrid meetings for all commissions, including Parks and Recreation, Audit, and Public Safety.

Please agendaize an update to commission procedures for 12/17/24 meeting to reverse this change and immediately restore hybrid meetings for parks and recreation commission and consider enabling hybrid meetings for public safety commission and audit committee.

5. Abandonment of Written City Manager Reports

Replacing substantive written reports with superficial video presentations is a disservice to transparency. These reports must be reinstated immediately to provide residents and council members with detailed updates on city affairs.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

6. Disbanding Critical Committees

The elimination of the Economic Development and Environmental Review Committees, among others, has crippled the ability of residents and council to influence policy. These committees must be reinstated without delay.

Please agendaize an update to council and commission procedures for 12/17/24 meeting to reverse this change effective 2025.

7. Curtailing Residents' Ability to Pull Consent Calendar Items

The new requirement for providing reasons to pull consent items diminishes the symbolic and practical input of residents. Council and the City Manager work for the public, not the other way around. This policy must be reversed.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

8. Elimination of Informational Agenda Items

Informational items, once a critical component of transparency, have been eliminated, further eroding public trust. Reinstatement of this section is necessary to restore proper civic discourse.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

9. Overloaded Consent Calendars

Stacking consent calendars with over 15 items, including \$24M contracts, signals a lack of respect for public and council input. This practice must be reversed immediately.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change and require that no more than 8 items can be put on consent calendar per council meeting.

10. Absence of Directors at Commission Meetings

The absence of directors at commission meetings weakens the integrity of the civic process. Directors must resume attendance to provide the necessary expertise and accountability.

11. Disruptive Use of Cell Phones During Meetings

The City Manager's frequent use of her cell phone or laptop during meetings raises concerns of focus, including questions of whether potential Brown Act violations could be a concern. Council should prohibit cell phone use on the dais to ensure full focus on city business.

Please agendaize an update to council procedures for 12/17/24 meeting to prohibit use of cell phones and laptop based messaging apps while on-Dias during council and commission meetings.

12. Political Bias in Agenda Setting

The City Manager has politicized agenda-setting to delay or suppress items unfavorable to her or her political allies. Residents' demands, such as improving the sign ordinance, not eliminating lanes on DeAnza Blvd have been ignored indefinitely. This overt partisanship is a betrayal of her duty to serve the entire city impartially.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change and bring back old procedures for agenda setting for future council meetings. Council majority needs to have strong directional oversight on agenda setting and prioritization effective the inauguration of the new council.

13. Eliminate time limits on council member deliberations on-Dias

Please agendaize an update to council procedures on 12/17/24 to immediately eliminate the 5 minute

time limit on council member deliberations on-Dias. Council members must have no limit on deliberation time on matters critical to the city and to residents.

The City Manager's pattern of above changes in 2023-24 reflects a troubling lack of accountability, professionalism, and respect for stakeholders such as residents and council members which are the city manager's chain of command. I urge the council to agendaize an item to update council and commission procedures in the 12/17/24 council agenda so that the above changes may be reversed immediately.

The residents of Cupertino deserve better governance and a City Manager who upholds transparency, accountability, and respect for the public and council input without imposing mechanisms to curb such input.

Sincerely,
Chitra Iyer
Cupertino Resident

From: [Liang Chao](#)
To: [City Clerk](#); [Deepa Mahendrakar](#)
Subject: Fw: Concerns Regarding City Manager Pamela Wu's Performance and request to agendaize reversal of below council and commission procedures in the 12/17/24 council meeting
Date: Tuesday, December 3, 2024 8:21:46 AM

Dear Resident,

Thank you for reaching out with your comments.

Due to a change in the implementation of how written communication is collected for the upcoming council meeting, your email will not be included in the official record unless a councilmember forwards it to the City Clerk.

Dear City Clerk,

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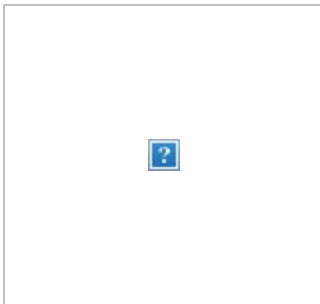
Thank you for your attention to this matter.

Regards,

Liang

~ Cupertino City Council (elected in 2018, re-elected in 2022)

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Liang Chao

Councilmember

City Council

LChao@cupertino.gov

408-777-3192



From: Deepa Mahendrakar <deepam@yahoo.com>

Sent: Tuesday, December 3, 2024 8:17 AM

To: City Council <citycouncil@cupertino.gov>; City Clerk <cityclerk@cupertino.gov>

Subject: Concerns Regarding City Manager Pamela Wu's Performance and request to agendaize reversal of below council and commission procedures in the 12/17/24 council meeting

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Clerk,

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Mayor Sheila Mohan
Council Members
City of Cupertino
10300 Torre Avenue
Cupertino, CA 95014

Subject: Concerns Regarding City Manager Pamela Wu's Performance and request to agendaize reversal of below council and commission procedures in the 12/17/24 council meeting

Dear Mayor Mohan and Cupertino City Council Members,

I am writing to express my deep dissatisfaction with the conduct and performance of City Manager Pamela Wu during 2023-2024. Her actions, often unilateral and without council direction, have severely damaged public trust, undermined transparency, restricted stakeholder engagement, and eroded residents' ability to communicate effectively with their elected representatives. Below, I outline critical issues that demand immediate rectification.

I implore you to agendaize an update to city council meeting procedures for the 12/17/24 council meeting to immediately and urgently undo and reverse the below changes brought about during 2023-24 by city manager Pamela Wu.

1. Unilateral Removal of Written Communications for Oral Communications

Without council approval, the City Manager removed written communications for items not on agenda even though oral communications is on agenda, depriving residents of the opportunity to view and respond to others' concerns. Transparent discourse is essential; this

policy must be reversed immediately.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

2. Arbitrary Limits on Oral Comments

Capping oral comments at 30 minutes at the start of meetings, with the remainder relegated to the end, is both arrogant and dismissive of residents. When residents take the time to speak, their voices deserve to be heard fully, not constrained by an arbitrary time limit.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

3. Restrictions on Yielding Speaking Time

Requiring five individuals to yield time for an additional three minutes is an affront to the public's ability to organize and express themselves. This demeaning rule undervalues the collective voice of residents and must be abolished.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

4. Elimination of Hybrid Meetings

Discontinuing hybrid meetings under the pretense of cost-saving is indefensible. A webcast is not a substitute for public participation. If the City Manager can justify taxpayer-funded trips to Taiwan and India, she can fund hybrid meetings for all commissions, including Parks and Recreation, Audit, and Public Safety.

Please agendaize an update to commission procedures for 12/17/24 meeting to reverse this change and immediately restore hybrid meetings for parks and recreation commission and consider enabling hybrid meetings for public safety commission and audit committee.

5. Abandonment of Written City Manager Reports

Replacing substantive written reports with superficial video presentations is a disservice to transparency. These reports must be reinstated immediately to provide residents and council members with detailed updates on city affairs.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

6. Disbanding Critical Committees

The elimination of the Economic Development and Environmental Review Committees, among others, has crippled the ability of residents and council to influence policy. These committees must be reinstated without delay.

Please agendaize an update to council and commission procedures for 12/17/24 meeting to reverse this change effective 2025.

7. Curtailing Residents' Ability to Pull Consent Calendar Items

The new requirement for providing reasons to pull consent items diminishes the symbolic and practical input of residents. Council and the City Manager work for the public, not the other way around. This policy must be reversed.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

8. Elimination of Informational Agenda Items

Informational items, once a critical component of transparency, have been eliminated, further eroding public trust. Reinstatement of this section is necessary to restore proper civic discourse.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

9. Overloaded Consent Calendars

Stacking consent calendars with over 15 items, including \$24M contracts, signals a lack of respect for public and council input. This practice must be reversed immediately.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change and require that no more than 8 items can be put on consent calendar per council meeting.

10. Absence of Directors at Commission Meetings

The absence of directors at commission meetings weakens the integrity of the civic process. Directors must resume attendance to provide the necessary expertise and accountability.

11. Disruptive Use of Cell Phones During Meetings

The City Manager's frequent use of her cell phone or laptop during meetings raises concerns of focus, including questions of whether potential Brown Act violations could be a concern. Council should prohibit cell phone use on the dais to ensure full focus on city business.

Please agendaize an update to council procedures for 12/17/24 meeting to prohibit use of cell phones and laptop based messaging apps while on-dais during council and commission meetings.

12. Political Bias in Agenda Setting

The City Manager has politicized agenda-setting to delay or suppress items unfavorable to her

or her political allies. Residents' demands, such as improving the sign ordinance, not eliminating lanes on DeAnza Blvd have been ignored indefinitely. This overt partisanship is a betrayal of her duty to serve the entire city impartially.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change and bring back old procedures for agenda setting for future council meetings. Council majority needs to have strong directional oversight on agenda setting and prioritization effective the inauguration of the new council.

13. Eliminate time limits on council member deliberations on-Dias

Please agendaize an update to council procedures on 12/17/24 to immediately eliminate the 5 minute time limit on council member deliberations on-Dias. Council members must have no limit on deliberation time on matters critical to the city and to residents.

The City Manager's pattern of above changes in 2023-24 reflects a troubling lack of accountability, professionalism, and respect for stakeholders such as residents and council members which are the city manager's chain of command. I urge the council to agendaize an item to update council and commission procedures in the 12/17/24 council agenda so that the above changes may be reversed immediately.

The residents of Cupertino deserve better governance and a City Manager who upholds transparency, accountability, and respect for the public and council input without imposing mechanisms to curb such input.

Sincerely,
Deepa Mahendraker

From: [Liang Chao](#)
To: [City Clerk](#); [Santosh Rao](#)
Subject: Fw: Concerns Regarding City Manager Pamela Wu's Performance and request to agendaize reversal of below council and commission procedures in the 12/17/24 council meeting
Date: Monday, December 2, 2024 11:47:17 PM

Please include this in the written communication for the 12/3 council meeting.

Thanks!

Get [Outlook for iOS](#)



From: Santosh Rao <santo_a_rao@yahoo.com>
Sent: Monday, December 2, 2024 11:26 PM
To: City Council <citycouncil@cupertino.org>; City Clerk <cityclerk@cupertino.org>
Subject: Concerns Regarding City Manager Pamela Wu's Performance and request to agendaize reversal of below council and commission procedures in the 12/17/24 council meeting

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Clerk,

Please include the below as written communications for items on agenda for the upcoming city council meeting on December 3rd, 2024.

Mayor Sheila Mohan
Council Members
City of Cupertino
10300 Torre Avenue
Cupertino, CA 95014

Subject: Concerns Regarding City Manager Pamela Wu's Performance and request to agendaize reversal of below council and commission procedures in the 12/17/24 council meeting

Dear Mayor Mohan and Cupertino City Council Members,

I am writing to express my deep dissatisfaction with the conduct and performance of City Manager Pamela Wu during 2023-2024. Her actions, often unilateral and without council direction, have severely damaged public trust, undermined transparency, restricted stakeholder engagement, and eroded residents' ability to communicate effectively with their elected representatives. Below, I outline critical issues that demand immediate rectification.

I implore you to agendaize an update to city council meeting procedures for the 12/17/24 council meeting to immediately and urgently undo and reverse the below changes brought about during 2023-24 by city manager Pamela Wu.

1. Unilateral Removal of Written Communications for Oral Communications

Without council approval, the City Manager removed written communications for items not on agenda even though oral communications is on agenda, depriving residents of the opportunity to view and respond to others' concerns. Transparent discourse is essential; this policy must be reversed immediately.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

2. Arbitrary Limits on Oral Comments

Capping oral comments at 30 minutes at the start of meetings, with the remainder relegated to the end, is both arrogant and dismissive of residents. When residents take the time to speak, their voices deserve to be heard fully, not constrained by an arbitrary time limit.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

3. Restrictions on Yielding Speaking Time

Requiring five individuals to yield time for an additional three minutes is an affront to the public's ability to organize and express themselves. This demeaning rule undervalues the collective voice of residents and must be abolished.

Please agendaize an update to council procedures for 12/17/24 meeting to reverse this change.

4. Elimination of Hybrid Meetings

Discontinuing hybrid meetings under the pretense of cost-saving is indefensible. A webcast is not a substitute for public participation. If the City Manager can justify taxpayer-funded trips to Taiwan and India, she can fund hybrid meetings for all commissions, including Parks and Recreation, Audit, and Public Safety.

Please agendaize an update to commission procedures for 12/17/24 meeting to reverse this change and immediately restore hybrid meetings for parks and recreation commission and consider enabling hybrid meetings for public safety commission and audit committee.

5. Abandonment of Written City Manager Reports

Replacing substantive written reports with superficial video presentations is a disservice to transparency. These reports must be reinstated immediately to provide residents and council members with detailed updates on city affairs.

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the public and council input without imposing mechanisms to curb such input.

Sincerely,

San Rao

Cupertino voter and resident

From: [Liang Chao](#)
To: [City Clerk](#); [Peter Friedland](#); [Rose Grymes](#)
Subject: Fw: Vista Heights violations
Date: Tuesday, December 3, 2024 3:02:17 PM

Dear City Clerk,

Please enter the enclosed communication and attachments as written communication for the upcoming council meeting from a councilmember, per CMC 2.08.100.

I am submitting this comment at the request of my constituents.

Thank you for your attention to this matter.

Regards,

Liang

~ Cupertino City Council (elected in 2018, re-elected in 2022)

=====

Dear Resident,

Thank you for reaching out with your comments.

Due to a change in the implementation of how written communication is collected for the upcoming council meeting, your email will not be included in the official record unless a councilmember forwards it to the City Clerk.

Dear City Clerk,

Please enter the enclosed communication as written communication for the upcoming council meeting from a councilmember, per CMC 2.08.100.

I am submitting this comment at the request of my constituents to ensure that community voices are included in written communications of council meetings as requested, rather than at the discretion of councilmembers, which might inadvertently leave out some minority voices.

Thank you for your attention to this matter.

Regards,

Liang

~ Cupertino City Council (elected in 2018, re-elected in 2022)



From: Peter Friedland <peterfriedland@gmail.com>
Sent: Tuesday, December 3, 2024 1:54 PM
To: Rose Grymes <ragrymes@gmail.com>
Cc: City Council <citycouncil@cupertino.org>; City Clerk <cityclerk@cupertino.org>; Connie Cunningham <cunninghamconniel@gmail.com>; Shani Kleinhaus <shani@scvas.org>
Subject: Re: Vista Heights violations

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I agree with all of my wife's eloquent comments. In addition the developer has been creating considerable noise during their initial work with much of it very near or possibly intruding on our property line which is above their project on the hill.

Peter Friedland

On Tue, Dec 3, 2024, 3:27 PM Rose Grymes <ragrymes@gmail.com> wrote:

Dear Council members and concerned citizens,

I, and my husband, have repeatedly expressed concerns over the apparent violations observed on the site of the proposed Vista Heights project. The developer's agents have been observed undertaking work without obtaining appropriate authorization. These actions raise significant questions about their commitment to transparency with adjoining residents (such as ourselves), alignment with planning and safety requirements, and concern for environmental integrity and mitigation interests.

We urge the council to take an active interest in investigating these activities, some of which risk ongoing damage to local terrain and would likely lead to undesired and unforeseen consequences to slope stability, wildlife habitat and potential neighborhood intrusion, fire fighting access, etc.

Rose Grymes
22111 Lindy Lane

Sent from my iPhone

From: [Liang Chao](#)
To: [City Clerk Rhoda Fry](#)
Subject: Fw: Oral Communications 12/3/2024 - is trail-building adjacent to Linda Vista Park Allowed?
Date: Tuesday, December 3, 2024 5:13:18 PM

Dear City Clerk,

Please enter the enclosed communication and attachments as written communication for the upcoming council meeting from a councilmember, per CMC 2.08.100.

I am submitting this comment at the request of my constituents.

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Thank you for your attention to this matter.

Regards,

Liang

~ Cupertino City Council (elected in 2018, re-elected in 2022)



From: Rhoda Fry <rfryhouse@earthlink.net>
Sent: Tuesday, December 3, 2024 4:48 PM
To: City Clerk <CityClerk@cupertino.org>; City Council <CityCouncil@cupertino.gov>; Chad Mosley <chadm@cupertino.org>; Luke Connolly <LukeC@cupertino.gov>; Monica Diaz <monicad@cupertino.gov>
Cc: advocate@scvas.org <advocate@scvas.org>
Subject: Oral Communications 12/3/2024 - is trail-building adjacent to Linda Vista Park Allowed?

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Council and Staff,

Attached please find 2 newsletters from Friends of Stevens Creek Trail that discuss a trail being built on the property adjacent to Linda Vista Park where a builders' remedy project has been proposed. It is my understanding that the property owner has been told by City Staff that the construction of a trail is not permitted.

Previously, work had been done on site that would have required a grading permit that was allegedly intended to be for geotechnical investigations for a proposed housing project.

Is this trail outside of the scope of work for Geotech work?

Note that workers had told some of the neighbors that a trail was being built. So which is it?

Has the property owner received the proper permits from the City and other applicable agencies (such as water board, fish and wildlife)?

Please ensure that this work has been done correctly and is appropriate and if not, require the property owner to restore the property to its natural state.

Thanks,
Rhoda Fry
cc – Shani Kleinhaus - Audubon

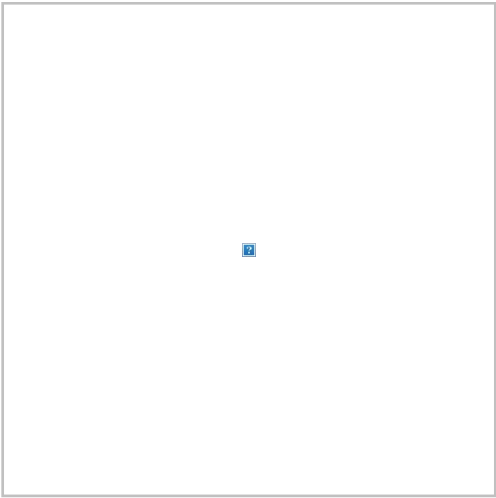
Before the newsletters below, please find photos that were taken from a private property near Lindy Lane:

April 20, 2024



July 29, 2004





[2]

Dear

The Friends of Stevens Creek Trail entered its fourth decade of activity, and already it has been one of great progress!



In 2024, we made the most significant progress toward trail development and expansion since 2021 when the extension to Linda Vista Park was inaugurated. Volunteer driven efforts cleared nearly one mile of dirt track connecting Linda Vista Park to Stevens Creek County Park. We continued to improve the Varian Park Connection with retaining walls bearing native plants. Annual monitoring of the creek restoration and barrier removal site at Deep Cliff Golf Course continues to show positive results.



As ever, we remain focused on our vision: welcoming trails and healthy wildlife corridors that connect people from the Bay to the mountains in the Stevens Creek and Permanente Creek watersheds. We are planning for a State of the Creek Summit in March 2025 - a gathering of Municipal, NGO, and other partners aimed at developing shared goals and an action plan that balances trail and habitat development for the coming decades.



Our mission to bring the community to the trail was highlighted this year with the 30th anniversary of the Trailblazer Race. It was an outstanding event with over 625 race participants, supported by a team of nearly one hundred volunteers. In June, we also co-hosted the first Solstice Ride along the trail to bring a free family-friendly cycling event to our annual calendar.



None of this would have been possible without you. Your contributions make progress like this possible, both this year and into the future. Your support is an endorsement of not only the work we do but also how we do it - being responsible custodians of your funds and the trust you place in us. We have received Candid's platinum seal of transparency again this year.



We thank you for your financial support. Happy Trails!

Rajiv Mathur
Executive Director

Stevens Creek is at the heart of what we consider Silicon Valley, running from its headwaters in our open spaces on Skyline ridge, through the cities of Sunnyvale, Mountain View, Los Altos, and Cupertino to the wetlands of San Francisco Bay for 27 miles. There is one organization that promotes both the walking and biking trails and the biodiversity corridor along the creek and that is the Friends of Stevens Creek Trail. They do a tremendous job for all of us - they deserve our support!

- Yoriko Kishimoto, Director, Midpeninsula Regional Open Space District

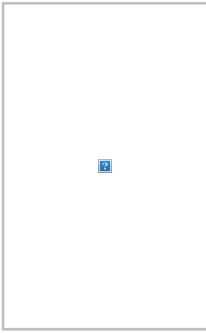


Achievements in 2024 (Made possible by you!)
Almost all of the work that we do is at the hands of volunteers - from our Board members to those who dig new trails, plant native vegetation, pick up trash, or lead our events. Your donations provide us with equipment, supplies and ability to produce communications for our public events enabling these volunteers to succeed. Please continue to support us in 2025 for another fantastic year along the trail!

Expanding & Enhancing the Trail

Closing gaps in the trail is an objective that supports our vision of welcoming trails that connect our community and bring people to nature. The development of the 1mi "Chen Arroyo" segment connecting Linda Vista Park to Stevens Creek County Park is a significant move forward toward that vision. Developing this segment through the basin of an old quarry takes hard work and resources. We hosted multiple work days this year to make this segment passable by hiking and mountain bike. But our work is far from done - we need your support to continue this project and close the gap that exists today.

At our tabling events throughout the year, one of the most frequent questions we get is "What are the plans to bridge the gaps and expand the trail?" We are proud of the progress we have made with our first-hand efforts and we are also looking forward to the kickoff of construction for the expansion of the paved trail from its current end point at Dale / Heatherstone south to Fremont Avenue. We are closely monitoring progress with both Sunnyvale and Mountain View to ensure this project moves forward with best results for the community.



Supporting Wildlife Along Our Creeks



In 2020, the Friends took on an ambitious project to remove a barrier to steelhead trout at Deep Cliff Golf Course in Cupertino. The funding you provide, coupled with grants we secured from local authorities, allowed us to complete the project in 2022. Just this month, habitat experts supported by volunteers performed an annual assessment and confirmed that the project site is meeting requirements and provides deep pool shelters for fish. We are evaluating remaining barriers to fish passage along the rest of the Stevens Creek and value your backing to help us achieve this mission to improve the wildlife corridor.

Bringing Community to the Trail

We are overjoyed by the amount of support we received in 2024 from community partners and Corporate groups. Our trail cleanups and volunteer work days provide the opportunity for teambuilding and the satisfaction of working together to improve our environment.

In coordination with the City of Mountain View and Valley Water, the Friends organized both public and private trail cleanups of the trail and creek bed, hosting participants from HP, Google, Kodiak Robotics, Boy Scouts, Girl Scouts, Kol Emeth congregation, the "green teams" from Mountain View High School and Los Altos High Schools, and others. These events were generally run on Friday, Saturday or Sunday mornings, as well as on National River Cleanup Day and California Coastal Cleanup Day. Most of these groups are returning participants who value the experience so much that they collaborate with us every year - we would love to have your organization join this list in 2025.



Thank You

Find more information about our mission, projects, and the trail at stevenscreektrail.org.

For your financial support for the Friends of Stevens Creek Trail, please use any of the following options:
Visit paypal.com/ed@stevenscreektrail.org or use the QR code
Zelle: ed@stevenscreektrail.org
Beneficiary or other giving platform used by your employer (check with your employer for matching donations)
Check payable to Friends of Stevens Creek Trail
Credit card




If you want to be involved in the next Friends trail cleanup, or organize your own cleanup, send us an email at volunteer@stevenscreektrail.org.

We are happy to publicize, facilitate and coordinate activities of all types that support the trail and local wildlife corridor. If you or your organization are interested in such an activity, contact volunteer@stevenscreektrail.org. You can also find us at various Mountain View, Sunnyvale, Cupertino and Los Altos events.

Contact Us

web: stevenscreektrail.org | email: exec-dir@stevenscreektrail.org | phone: 408-255-5780
office: 22221 McClellan Road, Cupertino, CA 95014 | We are a non-profit 501(c)(3) organization. FEIN: 77-0334262

 [Friends of Stevens Creek Trail website](https://stevenscreektrail.org)

 <https://www.facebook.com/stevenscreektrail>

 twitter.com/fosct

 www.instagram.com/fosct

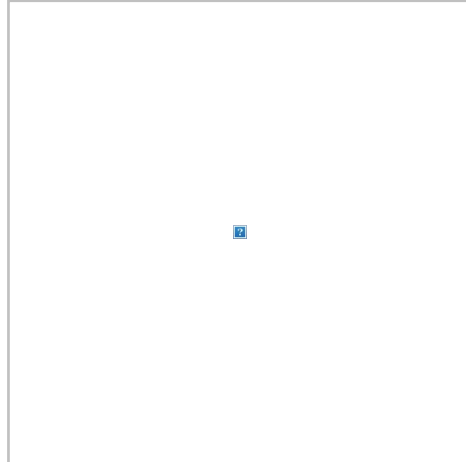
 linkedin.com/company/4540943

 youtube.com/channel/UJCMOQFR3Eh1042F8UqnAAhaD

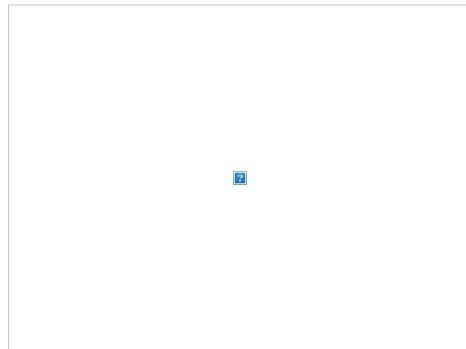
We encourage your feedback on social media. If you have content suggestions or information you would like us to share, please email comms@stevenscreektrail.org.

You can find this and past newsletters at [our archive](#). The newsletter is brought to you by the FoSCT Communications Committee: Jerry Manoukian, Rajiv Mathur, Jim Meyerson, Katherine Preston, and Scott Walker.

We thank our 2024 sponsors!
Please help us thank them with your support.



From: Friends of Stevens Creek Trail <info@stevenscreektrail.org>
Sent: Thursday, November 14, 2024 12:36 PM
Subject: Fall 2024 Newsletter



Fall on the Trail - October 2024

Dear ,

In these waning days of the year, daylight hours on the trail grow scarcer, but those hours could hardly be more beautiful. The low-angled light casts a golden hue on the distant hills while hidden colors emerge from leaves that are preparing to fall. In our climate, however, many trees and shrubs hold on to their green leaves all year long. Both the coast live oak and the cork oak, two of the most common oak species on the trail, are evergreen. The valley oak, also very abundant along the trail, is deciduous, dropping its leaves after they have turned pale yellow- brown. This contrast in leaf habit makes fall a good time to take a closer look at these oak species.

To fall, or not to fall

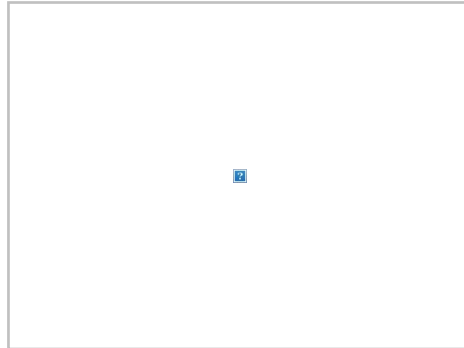
The coast live oak (*Quercus agrifolia*) and the cork oak (*Q. suber*) don't look very different at first glance, especially if you focus on their leaves. That's because they share some adaptations to their very similar home climates: the coast live oak is an iconic California native, while the cork oak comes from the western Mediterranean region, especially Portugal, Spain, and Morocco. Both species have relatively small leaves for an oak, round

or elliptical in shape, with short spines along their margins. When they are growing in the sun, leaves of both species take on a cupped shape, which helps them shed heat and limits how much water they lose to evaporation. Shade-grown leaves are generally larger and flatter and more pliable. There are differences between the species, however. Unlike the coast live oak, the leaves of the cork oak have a bluish cast and their undersides are notably pale. They also tend to be more elongated and have shorter spines.

But what really sets the coast live and the cork oaks apart is their bark. The bark of coast live oaks is highly variable, depending on the age and size of a tree. But the bark of a cork oak is distinctly...corky. Its weathered gray surface is broken by deep vertical fissures that expose young pale bark within. This species is the main source of cork for bottle stoppers, and trees were brought to North America by Europeans for that very purpose. Their presence along the trail, alongside our native coast live oak, is a reminder of our region's complicated history.

One of the most majestic California oaks is the valley oak (*Q. lobata*). Throughout the summer, its leaves are dark green with deep lobes and a leathery texture. These leaves can be much larger than those of the evergreen species described above, and they do not show the same adaptations to hot dry conditions. Their strategy for dealing with long rainless summers is to put down deep roots, especially in valleys or near creeks. The valley oaks along the Stevens Creek Trail are young and modestly sized, but valley oaks are among the largest oak species in North America and reportedly live up to 600 years.

Fortunately for oak watchers, the three species can be found growing close together at many points along the trail. All are abundant between downtown Mountain View and the La Avenida trail entrance, but there are two especially good oak-viewing spots. Several coast live oaks flank the entrance at La Avenida, next to a couple of valley oaks immediately to the south on the Microsoft side and not far from several cork oaks just to the north on both sides of the trail. The species are also intermixed along the short stretch of trail between the Creekside park entrance and the north side of the Middlefield Road underpass. Next time you are out enjoying the trail take a moment to meet the oaks that provide so much shade for us and habitat for our animal friends.



The bark of a cork oak, *Quercus suber*.



Three species of oak: At left, four coast live oak leaves. The fourth leaf has been turned over to show its dark green underside. Center, two cork oak leaves, one showing its pale underside.

At right, one valley oak leaf with its distinctive knobby lobes.

How your financial support makes a difference

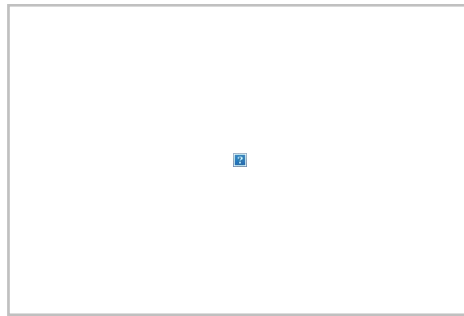
As a supporter and user of the Stevens Creek Trail, you already understand the value that it provides to the local community. At our tabling events throughout the year, one of the most frequent questions we hear is "What are the plans to bridge the gaps and expand the trail?" We not only have plans, but in recent years we have taken direct action to do just that. It can take years for cities to design and construct new trail segments, and we continue our work to keep those efforts on track. But recently two fruitful partnerships with private landowners have allowed us to move quickly to open up tracks that connect parks and existing trail segments.

[Donate](#)

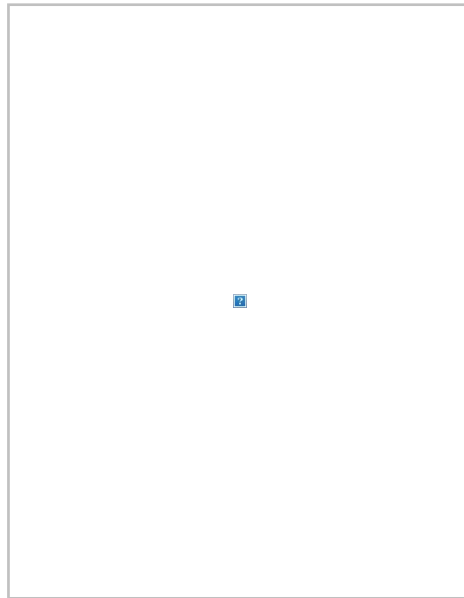
Trailblazer Race Recap

The 30th anniversary Trailblazer Race held on Sunday, September 29th was certainly one for the history books. We had 643 runners and trail walkers check-in for the race, an increase of almost 25% over last year! As everyone milled about before the start, a number of people told us that they were participating for the very first time. Since the Trailblazer Race has become a favorite for many Bay Area runners and walkers, the crowd also included more than a handful of people who were at the very first race. One of our former Board members even brought out his t-shirt from that 1994 race to display at the FoSCT booth.

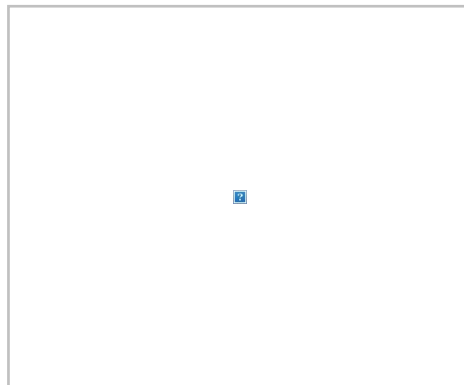
In the 10k race, the top male and female runners were Alex Tait and Beverly Shen, and in the 5k the top finishers were Leo Silberstein and Julie Demers. A full listing of first, second and third place finishers in each age group can be found [at this link](#). Our youngest participant was just 1 year old in the 3mi trail walk (way to go - get them out on the trail early), and the oldest was 84 years old. We had participants come from as far away as Las Vegas for this year's race. We love to see the diversity of participants enjoying the trail and supporting the Friends!



Mountain View Mayor Pat Showalter presenting medals to top finishers



The 5k kicks off with Sunnyvale Mayor Larry Klein in the running.



Thanks to everyone who made this race one to remember!

We thank all of you for the outstanding turnout. Your support allows us to continue our mission to expand the trail, bring the community to this fantastic public resource, and preserve the wildlife habitat along the creek.

As is the case with most of our activities, we could not do it without dedicated volunteers. Nearly 100 people supported us in a variety of roles, and we couldn't have done it without you!

Mark your calendars for the 31st Trailblazer race on Sunday, September 28, 2025.

Summer Trail Cleanups

Many parts of the lower Stevens Creek seasonally dry up. This makes it possible for our volunteers to go safely into the creek bed to clear out trash. And we always seem to find interesting items that have washed down the creek during the previous winter storms.

Friends participated in two such cleanups over the summer. On September 6th, we teamed up with a Google service group to clean the creek stretch between Crittenden Lane and Highway 101. Over 100 pounds of trash, including over a dozen golf balls, were removed.

Then on September 21, over 50 volunteers gathered to clean the creek stretch between Central Avenue and El Camino Real. This cleanup was organized by the Mountain View Fire Dept., as they have done for literally decades now, as part of the California Coastal Cleanup Day celebration. An estimated 600 pounds of trash and an additional 150 pounds of recyclable materials were removed that day. To our knowledge, 50 people represents

the largest turnout of volunteers for this annual cleanup activity. Thank you to everyone who came.

In spring, 2024, Valley Water awarded Friends of Stevens Creek Trail an "Adopt a Creek" segment from Crittenden Lane north to San Francisco Bay. This stretch is not heavily utilized and thus is nearly litter free. But we take this responsibility seriously and have conducted multiple trail cleanups through the year. The most recent cleanup on September 28th netted about 20 pounds of trash, mostly candy wrappers and cigarette boxes.

Finally, on October 26th, 16 hardy and enthusiastic volunteers from the "green teams" at Mountain View High School and Los Altos High School planted native plants at Sleeper Park. The effort was funded and directed by the City of Mountain View Parks Dept. as part of an ongoing effort to refresh the Sleeper Park segment along the trail.



On October 26th, 16 hardy and enthusiastic volunteers from the "green teams" at Mountain View High School and Los Altos High School planted native plants at Sleeper Park. The effort was funded and directed by the City of Mountain View Parks Dept. as part of an ongoing effort to refresh the Sleeper Park segment along the trail.

If you want to be involved in the next Friends trail cleanup, or organize your own cleanup, send us an email at volunteer@stevenscreektrail.org.

Varian Park Extension

Work has steadily progressed on the 0.25 mile Stevens Creek Trail extension from Varian Park south to Stevens Creek Boulevard. The trail is smoothed out and complete, and the grounds surrounding the new segment have been cleared out and improved. It is becoming an increasingly popular spot to walk, and provides a safe conduit for students traveling to/from Stevens Creek Elementary School.

Linda Vista to Stevens Creek County Park (SCCP) Extension

Work continues on a new 1-mile trail segment in Cupertino to connect Linda Vista Park to Stevens Creek County Park (SCCP). It has been named the "Chen Arroyo Segment" of Stevens Creek Trail to acknowledge Leon Chen, the landowner and long-time supporter of FoSCT who has allowed this extension on his personal property. A route has been defined, and various parts of the future trail have been cleared. Additional work will be done in November and through early 2025. There is currently no date for a public dedication, but we hope to make the segment available for informal passage next year.

Sleeper Bridge Construction

The Mountain View Public Works Department completed construction work to repair the Sleeper Avenue Bridge, located at Stevens Creek, adjacent to Sleeper Park and the Stevens Creek Trail. The project improves the structural stability of the bridge foundation on the eastern bank of Stevens Creek. The Stevens Creek Trail and the Sleeper Avenue Bridge remained open during construction with construction areas fenced off to provide safety barriers for trail users. The project area and the adjacent creek bank will be hydroseeded before the rainy season.

Upcoming Events

- Trail expansion work on Linda Vista to SCCC extension with HP Sustainability Team, November 8th (non-HP registration closed)
- Annual cleanup as part of National River Cleanup Day, starting from Whisman Park, in May, 2025

[Donate](#)

[Friends of Stevens Creek Trail website](#)

<https://www.facebook.com/stevenscreektrail>

twitter.com/fosct

www.instagram.com/fosct

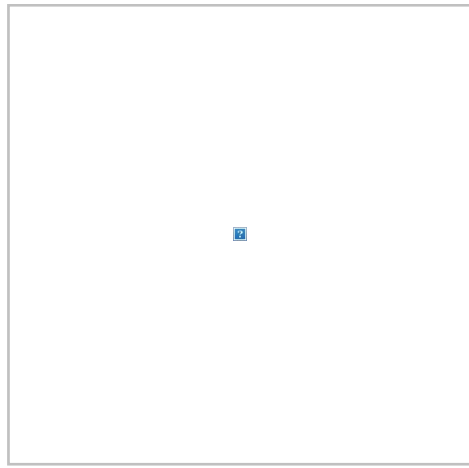
[linkedin.com/company/4540943](https://www.linkedin.com/company/4540943)

[youtube.com/channel/UCMOOFR3Eh1042F8UqnAAhaQ](https://www.youtube.com/channel/UCMOOFR3Eh1042F8UqnAAhaQ)

We encourage your feedback on social media. If you have content suggestions or information you would like us to share, please email comms@stevenscreektrail.org.

You can find this and past newsletters at [our archive](#). The newsletter is brought to you by the FoSCT Communications Committee: Jerry Manoukian, Rajiv Mathur, Jim Meyerson, Katherine Preston, and Scott Walker.

We thank our 2024 sponsors!
Please help us thank them with your support.



CC 12-03-2024

Item No. 7

Receive the FY
2023-24 Annual
Comprehensive
Financial Report

Written Communications

From: [Rhoda Fry](#)
To: [City Clerk](#); [City Council](#)
Subject: agenda Item 7 ACFR
Date: Tuesday, December 3, 2024 4:07:42 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Council,

Please take a look at the ACFR.

Admin and Admin Services costs are going through the roof. Please ask why.

I had some questions at the audit committee meeting and am awaiting a response – there is a line item regarding franchise taxes and I wanted to make sure whether they are actually taxes or fees.

I'd like to see the city services that charge fees for services to be managed as enterprise funds in order to provide greater transparency (e.g. golf, pool/picnic, senior center, sports center).

I have been unable to reconcile the 2020 sales-tax revenue with the reports from the CDTFA and the accounts payable. There's about a \$10M discrepancy. Please explain.

The City lost its tax-exempt status on its debt (certificates of participation – similar to muni bonds) – this has not been mentioned in the report – is it a reportable event?

Thanks,

Rhoda

CC 12-03-2024

Item No. 9

Award a construction
contract for the LED
Streetlight Installation
Project

Written Communications

From: [Rhoda Fry](#)
To: [City Clerk](#); [City Council](#)
Subject: agenda #9 LED lights - was this on the work plan?
Date: Tuesday, December 3, 2024 4:10:09 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Council,
agenda #9 LED lights is a major expense.
It should have been on the regular calendar – not the consent calendar.
Also, was this on the work plan?
Rhoda

CC 12-03-2024

Item No. 10

Approve a contract
services agreement with
Alta Planning +
Design, Inc. in the
amount of \$300,000

Written Communications

From: [Rhoda Fry](#)
To: [City Clerk](#); [City Council](#)
Subject: item 10 design contract
Date: Tuesday, December 3, 2024 4:11:50 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Council,
We are supposed to be in a budget crisis.
Expenses like these do not belong on the consent calendar.
Thanks,
Rhoda

From: [Ishan Khosla](#)
To: [City Clerk](#)
Subject: Fwd: Active Transportation Plan
Date: Tuesday, December 3, 2024 4:14:28 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

----- Forwarded message -----

From: **Ishan Khosla** <ishan0khosla@gmail.com>
Date: Tue, Dec 3, 2024 at 3:34 PM
Subject: Active Transportation Plan
To: <citycouncil@cupertino.org>

Dear Cupertino City Council,

Approving the contract for a new Active Transportation Plan in Cupertino is critical for several reasons.

Our current Bicycle Transportation Plan will be ten years old in 2025, failing to represent our citizens' current needs along with our city's changing commute patterns and infrastructure. Outdated plans such as these not only fail to meet community needs but may also fail to utilize current city budgets cost-effectively. As a student at Cupertino High School who relies on my bike to get all across the city, from school to the library, and to run errands and get meals, an updated transportation plan is key to making Cupertino accessible and safe for all. Plus, the new Active Transportation Plan will be fully covered by grant funding and will have no cost to our city, making it a no-brainer to implement.

Thank you for your consideration,
Cupertino High School student

CC 12-03-2024

Item No. 12

Capitol
Improvement
Program
Photovoltaic
Systems Design

Written Communications

From: [Srividya Sundaresan](#)
To: [City Clerk](#); [City Council](#); [Pamela Wu](#); [Rachelle Sander](#); [Chad Mosley](#); [Susan Michael](#)
Subject: Urgent Request to Exclude Cupertino Sports Center from PV/EV Project and Reassess Overall Viability
Date: Tuesday, December 3, 2024 3:14:22 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Clerk,

Please include the below in written communications for agenda item 12 (Photovoltaic Systems CIP) for the 12/03/24 city council meeting. Thank you.

Subject: Urgent Request to Exclude Cupertino Sports Center from PV/EV Project and Reassess Overall Viability

Dear Mayor Mohan and Cupertino City Council Members,

I am writing to express my concerns regarding the proposed photovoltaic (PV) and EV charging systems at the Cupertino Sports Center (CSC), as part of the Capital Improvement Program (CIP) Photovoltaic Systems Design and Installation Project. I respectfully request that CSC be removed from the list of selected sites for this project and that the entire PV/EV project be reconsidered.

There are significant concerns regarding the viability and benefit of the project, given the current and likely future federal funding situation. With the expected change in federal administration, the Inflation Reduction Act (IRA) program, which this project relies on for federal grant funding, may soon be terminated. Given that grants under this program are only disbursed upon project completion, the City would need to spend \$11 million before seeing any reimbursement, which creates a substantial financial risk. It is highly probable that by the time these funds could be approved, the federal program will no longer be available, leaving the City without the expected funding.

Furthermore, I urge the City to remove the Cupertino Sports Center from consideration as a PV/EV site for the following reasons:

- Limited Parking Availability:** The parking situation at CSC is already constrained, especially during peak hours, and the addition of EV charging stations could attract non-regular users, further exacerbating the parking problem for CSC members.
- Tennis Court Impact:** The proposed carports for the PV systems would need to include lighting for safety, but these lights would cause glare that would negatively impact tennis players on the nearby courts. Despite suggestions to use screens, the height of the carports and short fencing on the west end would prevent full mitigation of this issue. This is unacceptable for the tennis-playing community.
- Tree Removal:** The proposed project would require the removal of trees in the designated PV area, which we strongly oppose. These trees are part of the natural beauty of CSC, and their removal would detract from the center's environment.
- Disruption to CSC usage:** Past public works maintenance at the CSC has resulted in closure of the facility due to liability reasons as stated by city staff. We CSC users want to see zero disruption and no closure of CSC for this project. We strongly oppose the PV/EV project at CSC

and ask that the CSC site be kindly removed from consideration.

5. SV Hopper parking at CSC: Lastly, I understand that the staff report suggests converting the CSC parking back area into a designated parking lot for the Silicon Valley Hopper, utilizing the EV charging stations. As CSC members, we are strongly against this proposal. Parking is already scarce, and turning the lot into a hub for non-member vehicle parking would severely impact CSC users' access, especially during busy times.

Given these concerns, **I respectfully request that the Council NOT approve the PV and EV systems at Cupertino Sports Center** and consider rejecting the entire PV project. Please prioritize the needs of Cupertino residents and the long-term financial health of our city.

Thank you for your attention to this matter.

Sincerely,

Srividya Sundaresan

From: [Akshaya Padhi](#)
To: [City Council](#); [City Clerk](#); [Rachelle Sander](#); [Chad Mosley](#); [Susan Michael](#)
Subject: Urgent Request to Exclude Cupertino Sports Center from PV/EV Project and Reassess Overall Viability
Date: Tuesday, December 3, 2024 3:03:40 PM

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Dear City Clerk,

Please include the below in written communications for agenda item 12 (Photovoltaic Systems CIP) for the 12/03/24 city council meeting. Thank you.

Subject: Urgent Request to Exclude Cupertino Sports Center from PV/EV Project and Reassess Overall Viability

Dear Mayor Mohan, Cupertino City Council Members, City Manager Wu, Director Sander and Director Mosley,

I am writing to express my concerns regarding the proposed photovoltaic (PV) and EV charging systems at the Cupertino Sports Center (CSC), which is currently part of the Capital Improvement Program (CIP) Photovoltaic Systems Design and Installation Project. I respectfully request that CSC be removed from the list of selected sites for this project and that the entire PV/EV project be reconsidered.

There are significant concerns regarding the viability and benefit of the project, given the current and likely future federal funding situation. With the expected change in federal administration, the Inflation Reduction Act (IRA) program, which this project relies on for federal grant funding, may soon be terminated. Given that grants under this program are only disbursed upon project completion, the City would need to spend \$11 million before seeing any reimbursement, which creates a substantial financial risk. It is highly probable that by the time these funds could be approved, the federal program will no longer be available, leaving the City without the expected funding.

Additionally, the benefits of the Net Energy Metering (NEM) 2.0 program will only apply if all three selected sites are operational by April 2026. PG&E must approve permits for these sites before this deadline to secure the more favorable NEM 2.0 rates, which offer significantly greater savings than NEM 3.0. Given the complexity and risks involved in achieving this timeline, I urge the Council to seriously consider the financial implications of moving forward. If this deadline is missed, the reduced compensation under NEM 3.0 combined with the likely end of IRA funding would diminish the value of the project.

Furthermore, I urge the City to remove the Cupertino Sports Center from consideration as a PV/EV site for the following reasons:

1. **Limited Parking Availability:** The parking situation at CSC is already constrained, especially during peak hours, and the addition of EV charging stations could attract non-regular users, further exacerbating the parking problem for CSC members.
2. **Tennis Court Impact:** The proposed carports for the PV systems would need to include lighting for safety, but these lights would cause glare that would negatively impact tennis players on the nearby courts. Despite suggestions to use screens, the height of the carports and short fencing on the west end would prevent full mitigation of this issue. This is unacceptable for the tennis-playing community.

3. **Tree Removal:** The proposed project would require the removal of trees in the designated PV area, which we strongly oppose. These trees are part of the natural beauty of CSC, and their removal would detract from the center's environment.

4. **Disruption to CSC usage:** Past public works maintenance at the CSC has resulted in closure of the facility due to liability reasons as stated by city staff. We CSC users want to see zero disruption and no closure of CSC for this project. We strongly oppose the PV/EV project at CSC and ask that the CSC site be kindly removed from consideration.

5. **SV Hopper parking at CSC:** Lastly, I understand that the staff report suggests converting the CSC parking back area into a designated parking lot for the Silicon Valley Hopper, utilizing the EV charging stations. As CSC members, we are strongly against this proposal. Parking is already scarce, and turning the lot into a hub for non-member vehicle parking would severely impact CSC users' access, especially during busy times.

Given these concerns, **I respectfully request that the Council NOT approve the PV and EV systems at Cupertino Sports Center** and consider rejecting the entire PV project. The financial risks, combined with the reduced benefit if the project timeline slips beyond April 2026, and the likelihood of federal grant funding disappearing, make this project imprudent. Please prioritize the needs of Cupertino residents and the long-term financial health of our city.

Thank you for your attention to this matter.

Sincerely,

Akshaya Padhi

From: [dongmei.cao](#)
To: [City Clerk](#)
Subject: Urgent Request to Exclude Cupertino Sports Center from PV/EV Project and Reassess Overall Viability
Date: Tuesday, December 3, 2024 2:57:02 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Clerk,

I am writing to express my concerns regarding the proposed photovoltaic (PV) and EV charging systems at the Cupertino Sports Center (CSC), which is currently part of the Capital Improvement Program (CIP) Photovoltaic Systems Design and Installation Project. I respectfully request that CSC be removed from the list of selected sites for this project and that the entire PV/EV project be reconsidered.

There are significant concerns regarding the viability and benefit of the project, given the current and likely future federal funding situation. With the expected change in federal administration, the Inflation Reduction Act (IRA) program, which this project relies on for federal grant funding, may soon be terminated. Given that grants under this program are only disbursed upon project completion, the City would need to spend \$11 million before seeing any reimbursement, which creates a substantial financial risk. It is highly probable that by the time these funds could be approved, the federal program will no longer be available, leaving the City without the expected funding.

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Furthermore, I urge the City to remove the Cupertino Sports Center from consideration as a PV/EV site for the following reasons:

- Limited Parking Availability:** The parking situation at CSC is already constrained, especially during peak hours, and the addition of EV charging stations could attract non-regular users, further exacerbating the parking problem for CSC members.
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CSC parking back area into a designated parking lot for the Silicon Valley Hopper, utilizing the EV charging stations. As CSC members, we are strongly against this proposal. Parking is already scarce, and turning the lot into a hub for non-member vehicle parking would severely impact CSC users' access, especially during busy times.

Given these concerns, **I respectfully request that the Council NOT approve the PV and EV systems at Cupertino Sports Center** and consider rejecting the entire PV project. The financial risks, combined with the reduced benefit if the project timeline slips beyond April 2026, and the likelihood of federal grant funding disappearing, make this project imprudent. Please prioritize the needs of Cupertino residents and the long-term financial health of our city.

Thank you for your attention to this matter.

Sincerely,

Dongmei Cao

From: [Prabhu](#)
To: [City Council](#); [City Clerk](#); [Rachelle Sander](#); [Chad Mosley](#); [Susan Michael](#)
Subject: Against Proposed changes in Cupertino Sports Center from PV/EV project
Date: Tuesday, December 3, 2024 2:53:19 PM

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Dear City Clerk,

Please include the below in written communications for agenda item 12 (Photovoltaic Systems CIP) for the 12/03/24 city council meeting. Thank you.

Subject: Urgent Request to Exclude Cupertino Sports Center from PV/EV Project and Reassess Overall Viability

Dear Mayor Mohan, Cupertino City Council Members, City Manager Wu, Director Sander and Director Mosley,

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Furthermore, I urge the City to remove the Cupertino Sports Center from consideration as a PV/EV site for the following reasons:

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playing community.

3. **Tree Removal:** The proposed project would require the removal of trees in the designated PV area, which we strongly oppose. These trees are part of the natural beauty of CSC, and their removal would detract from the center's environment.

4. **Disruption to CSC usage:** Past public works maintenance at the CSC has resulted in closure of the facility due to liability reasons as stated by city staff. We CSC users want to see zero disruption and no closure of CSC for this project. We strongly oppose the PV/EV project at CSC and ask that the CSC site be kindly removed from consideration.

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Given these concerns, **I respectfully request that the Council NOT approve the PV and EV systems at Cupertino Sports Center** and consider rejecting the entire PV project. The financial risks, combined with the reduced benefit if the project timeline slips beyond April 2026, and the likelihood of federal grant funding disappearing, make this project imprudent. Please prioritize the needs of Cupertino residents and the long-term financial health of our city.

Thank you for your attention to this matter.

Sincerely,

From: [Santosh Rao](#)
To: [City Council](#); [City Clerk](#); [Cupertino City Manager's Office](#); [Chad Mosley](#); [Susan Michael](#); [Rachelle Sander](#); [Jenny Koverman](#); [Colleen Ferris](#)
Subject: Urgent Request to Exclude Cupertino Sports Center from PV/EV Project and Reassess Overall Viability
Date: Tuesday, December 3, 2024 2:18:18 PM

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Dear City Clerk,

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Given these concerns, **I respectfully request that the Council NOT approve the PV and EV systems at Cupertino Sports Center** and consider rejecting the entire PV project. The financial risks, combined with the reduced benefit if the project timeline slips beyond April 2026, and the likelihood of federal grant funding disappearing, make this project imprudent. Please prioritize the needs of Cupertino residents and the long-term financial health of our city.

Thank you for your attention to this matter.

Sincerely,

San Rao

Cupertino voter, CSC member and CSC daily user

From: [Claudia Chang](#)
To: [Rachelle Sander](#); [City Council](#); [Pamela Wu](#); [City Clerk](#)
Subject: Urgent Request to Exclude Cupertino Sports Center from PV/EV Project and Reassess Overall Viability
Date: Tuesday, December 3, 2024 4:59:10 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Clerk,

Please include the below in written communications for agenda item 12 (Photovoltaic Systems CIP) for the 12/03/24 city council meeting. Thank you.

Subject: Urgent Request to Exclude Cupertino Sports Center from PV/EV Project and Reassess Overall Viability

Dear Mayor Mohan, Cupertino City Council Members, City Manager Wu, Director Sander and Director Mosley,

I am writing to express my concerns regarding the proposed photovoltaic (PV) and EV charging systems at the Cupertino Sports Center (CSC), which is currently part of the Capital Improvement Program (CIP) Photovoltaic Systems Design and Installation Project. I respectfully request that CSC be removed from the list of selected sites for this project and that the entire PV/EV project be reconsidered.

Please reconsider this project based on input from other community members:

- There are significant concerns regarding the viability and benefit of the project, given the current and likely future federal funding situation. With the expected change in federal administration, the Inflation Reduction Act (IRA) program, which this project relies on for federal grant funding, may soon be terminated. Given that grants under this program are only disbursed upon project completion, the City would need to spend \$11 million before seeing any reimbursement, which creates a substantial financial risk. It is highly probable that by the time these funds could be approved, the federal program will no longer be available, leaving the City without the expected funding.
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Furthermore, please remove the Cupertino Sports Center from consideration as a PV/EV site for the following reasons:

1. Parking lot modifications will likely affect CSC members

- Installing photovoltaic systems will take up parking spaces. There are many times where members must park near or outside of the rear gate due to tennis courts and classes.
 - Non-members will be using the parking lot to charge their vehicles and may also use it for event parking thinking it's not just for CSC members
 - Random people may possibly use the charging stations at any hour of the day if placed outside the gate. I don't think that would be acceptable for the residents next to the wall.
 - The number of people entering at the rear gate will most likely increase since these folks won't know about the one way direction in the parking lot.
 - An increase in the number of vehicles passing through the lot will increase, this could potentially make it more dangerous to people walking in the parking lot. There are many children at times because of the tennis classes.
2. Lights on PV systems may disrupt the court. It is not acceptable to see bright lights shining into the courts at eye-level. Screens may not resolve the issue.
 3. Tree removal would downgrade the natural beauty of Cupertino. If residents can't randomly remove large trees from their properties in order to protect the trees, then the city shouldn't feel free to do it.
 4. Disruption of CSC usage: closure to install equipment will disrupt the whole community for a long period of time.
 5. SV Hopper parking at CSC: The parking lot is barely able to keep up with the demand for parking during peak hours each day. There is no EXTRA room for SV Hopper cars.
 - Again, non-CSC folks will be in the parking lot to use these cars
 - Traffic in the parking lot will increase
 - Number of parking spaces available for CSC members will be reduced and there is no viable location for overflow parking. We can't be expected to park in the Whole Foods parking lot (which is probably illegal) and walk to the CSC, or park in random street parking (which is few and far between in that area).

Please reconsider using the CSC for this project. We do not have the extra parking spaces to use and because people are coming and going with regularity, the increased traffic will decrease the safety in the parking lot. This parking lot was not designed to accommodate this type of project. This is not a large parking lot at a Target store, nor a parking lot with multiple entry and exit points. This project does not fit with the layout of the CSC parking. Please take the CSC off of the list of sites for this project.

Thank you for considering,

Claudia Lee
Cupertino Resident

CC 12-03-2024

Item No. 13

Approve the third
amendment to the
City Attorney's
employment
contract

Written Communications

From: [Rhoda Fry](#)
To: [City Clerk](#); [City Council](#)
Subject: Item 13 - just say no
Date: Tuesday, December 3, 2024 4:01:33 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear City Council,
Item 13 - just say no
City Attorney position contract should not be changed.
Thanks,
Rhoda