

October 4, 2019

To: Mohammed Nuru, Director San Francisco Department of Public Works,
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CC: Mayor London Breed, San Francisco Board of Supervisors

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From: Cindy Lee Russell, MD

Re: San Francisco Personal Wireless Service Facilities Amendment of Department of Public Works Code for Small Cell Towers. Ordinance No. 190-19

Dear Mr. Nuru:

Thank you for your service to San Francisco, a beautiful and dense city that is complex in many ways but especially Public Works. I know you wish to preserve the character and beauty as well as the safety of San Francisco. I am writing to ask that you

- Delay action on the San Francisco Personal Wireless Service Facilities Amendment of Department of Public Works Code for Small Cell Towers. Ordinance No. 190-19
- Bring this back to the Board of Supervisors, instead of passing this amendment, and have a full public hearing of this very complex matter that need much more discussion and attention
- Review other ordinances that local cities have recently passed such as Los Altos that have listened to citizens and have incorporated reasonable setbacks and provisions that they consider legal.

I understand that in July 2019 the City Attorney was approached by telecommunications companies indicating that SF needed to comply with the new FCC Order 18-133 to streamline deployment of small cell towers (4G/5G). Under the recommendation of the City Attorney, the *Personal Wireless Service Facilities Site Permits Ordinance No. 190-19* was then discussed at the SF Land Use Committee chaired by SF Supervisor Peskin. This new ordinance was then brought as an agenda item to the Mayor and Board of Supervisors on the consent calendar August 8, 2019 and passed unanimously. The Board of Supervisors asked that the Department

of Public Works write permitting rules to the amended Ordinance No.190-19. These rules have been written and will be passed very soon by the Department of Public Works.

After reviewing these rules, I and others have major concerns regarding elements of the ordinance relating to land use issue, protections of environment and public health, local control and property values.

Ordinance No. 190-19 states that

- Cell towers can be 7 feet from homes
- Up to 4 Cell Antennas can be placed on a pole
- No setbacks for schools or homes

The FCC Declaratory Ruling and Third Report FCC 18-133

The FCC Declaratory Ruling and Third Report FCC 18-133 which further impacts local regulation of wireless telecommunications facilities siting. This ruling, which accelerates the deployment of small cell antenna in the public right of way, took effect January 14, 2019. The League of Cities and the U.S. Conference of Mayors, among many others, feels this declaratory ruling by the FCC is an overreach of authority. It requires only a ministerial permit to approve small cell towers in the right of way, not the current conditional use permit that is fully vetted. These cell towers can be batched so dozens of these can be automatically approved at once. There is an increasing sentiment that this FCC Ruling should be overturned to give cities back what little authority they do have in the placement of cell towers as per the Telecommunications Act of 1996. This Act requires proof that there is a significant gap in coverage and that the least intrusive methods should be used. These have been removed with the FCC Ruling.

5G and Small Cell Issues

The rollout of 5G has many glitches and hazards that have not been thought through by Federal leadership. These include health effects, privacy, security, surveillance issues, climate change (increase in energy consumption), lower property values, weather forecast interference and liability. Fiberoptic and wired alternatives are safer, more secure and cheaper in the long run than adding cell towers every 300 feet. In addition, many carriers will use these towers and not for just 5G. 4G will be essential in these towers as backhaul. No safety testing has been done for 5G or the mix of frequencies we will be exposed to 24/7, especially for vulnerable populations such as pregnant women and children. <https://mdsafetech.org/2019/02/13/no-research-on-5g-safety-senator-blumenthal-question-answered/>

FCC Lawsuits

I understand that there is a lawsuit from the City of San Jose and dozens of other cities challenging the FCC and the FCC ruling as an overreach of authority. The lawsuit is still pending and will likely not be settled until early 2020. <https://mdsafetech.org/2018/12/31/fcc-5g-fast-plan-provokes-lawsuits/>

U. S. Conference of Mayors Opposes FCC Order

Saratoga is a member of the US conference of mayors, which is in support of the lawsuit brought against the FCC. They feel this is an overreach of authority and it threatens local

democracy. CEO Tom Cochran, noted that this is "an unprecedented federal intrusion into local (and state) government property rights that will have substantial and continuing adverse impacts on cities and their taxpayers, including reduced funding for essential local government services, and needlessly introduce increased risk of right-of-way and other public safety hazards."

Statement by U.S. Conference of Mayors CEO & Executive Director Tom Cochran on FCC's Order Proposing to Usurp Local Property Rights

<https://www.usmayors.org/2018/09/10/statement-by-u-s-conference-of-mayors-ceo-executive-director-tom-cochran-on-fccs-order-proposing-to-usurp-local-property-rights/>

Eshoo- Speier HR 530 and Feinstein SB 2012

Representative Anna Eshoo Introduced HR 530 to Revoke the FCC Ruling. The bill has 52 co-sponsors now and hundreds of municipalities supporting this bill. Senator Feinstein has introduced a companion bill in the Senate. Your neighbors on all sides including Palo Alto, Mountain View as well as San Jose, Marin County, Santa Cruz County, Los Angeles, New York, San Diego and many other cities all support this effort.

New Ordinance

I urge you to carefully look at options to craft the strongest ordinance that gives you as much authority in placement of cell towers. Several aspects of other city ordinances that would be useful to include are listed below. There are legal requirements but other cities are keeping key provisions. The key elements to require are

- 1) Regular monitoring(yearly) of RF radiation by an independent consultant that is paid by industry along with notification of any changes in cell tower settings
- 2) Require \$5million in general liability insurance.
- 3) Have set backs and separations for antennas- 1500 feet
- 4) Have restrictions (non-favored) or preference list for placement of cell towers to keep them from schools, homes, parks, nursing homes or other sensitive areas where humans or wildlife are vulnerable
- 5) Stipulate that the small cells will be in compliance with the Americans with Disabilities Act

Small Cells

I would like to point out that

- These small cells are not really small and have powerful antennas that radiate 3G and 4G telecommunications frequencies. 5G is proposed and in the pilot stages now.
- These small cell antenna will be densely spaced i.e. 25-30 per square mile
- Small Cells will be close to homes, schools and businesses.
- This will impact the Public Right of Ways far more than it ever has
- Public Right of Ways are valuable real estate
- Cities are asked to give away this real estate without planning for future development and infrastructure which may preclude other communication development i.e. pure fiberoptic which is faster, safer, and more secure

Health and Environmental Effects

I understand that the 1996 Telecommunications Act prevents a decision based on health or environmental effects of radiofrequency radiation that these cell towers emit and we are not supposed to bring this issue up. Some would argue that it is not the correct interpretation. Nevertheless, the unfortunate and inconvenient reality is that a growing body of scientific literature has determined that not only are there human health effects from RF radiation, there are adverse effects on trees, plants, insects and animals. This radiation is absorbed by and passes through all living organisms and affects cellular processes along the way.

There is cumulative damage with RF thus short exposures would not give much evidence of harm. As we are exposed to a mix of other toxins all acting on our immune, endocrine, nervous and metabolic systems, we can rarely determine the cause of any particular chronic illness.

<https://bioinitiative.org> <https://mdsafetech.org/2018/11/03/wireless-silent-spring/>

The recent \$25 million, 10-year study by the National Toxicology Program on Cell Phones and Cancer concluded that cell phone radiation caused DNA damage along with clear evidence of carcinogenicity of the heart, significant findings for brain cancer as well as higher cancer rates above controls for prostate, pituitary, pancreas, liver and lung.

A robust study by Dr. De Kun Li of Kaiser looked at 900 pregnant women and found a 3 fold increase in miscarriage at the high levels of everyday exposures.

This radiation acts like a toxic exposure similar to chemicals, acting through a process of free radical formation or oxidation. <https://mdsafetech.org/ntp-study-2016/>

Congressmembers Blumenthal and Eshoo Ask for Evidence of Safety for 5G

The evidence of harm from 2,3 and 4G radiofrequencies is contrasted with the lack of safety testing for 5G telecommunications. Congressmembers Blumenthal and our own Representative Anna Eshoo have asked the FCC for scientific proof of safety prior to the rollout of this novel technology. <https://mdsafetech.org/2019/02/13/no-research-on-5g-safety-senator-blumenthal-question-answered/>

They stated in their letter that *“the current regulations were adopted in 1996 and have not been updated for next generation equipment and devices”* and *“The FCC’s Specific Absorption Rate (SAR) limits do not apply to devices operating above 6 GHz.”* 5G frequencies will be from 6 GHz to 100 GHz and above. They highlight that the FCC has acknowledged that ***“The SAR probe calibration, measurement accuracy, tissue dielectric parameters and other SAR measurement procedures required for testing recent generation wireless devices need further examination.”*** A response was requested by Dec 17, 2018. There has been no response.

In a press conference with Senator Blumenthal author Blake Levitt, noted that thin skinned amphibians and insects will be most affected by this technology with potentially disastrous results. She warns that it is not the power density or tissue absorption but the signaling characteristics that are harmful with damage even at low power levels. In addition, she emphasizes that there are inadequate protective regulations for chronic human exposures for current wireless frequencies and no oversight for wildlife or the environment. She concluded that ***“The FCC is completely unprepared, unable and possibly unwilling to oversee 5G for safety, even at it barrels toward us.”***

Although we should be reevaluating the FCC safety guidelines and amending the 1996 Telecommunications Act we are now faced with trying to have the strongest possible ordinance to protect the character, safety and health of the city.

Boulder Colorado Legal Expert Report

A wonderful reference and good summary is from Boulder Colorado, who hired an attorney to look at how to maintain as much authority as possible. **Boulder Colorado Has Expert Legal Opinion to Maintain Local Control of Small Cell Towers.** [Policy Report: Small Cell Facilities in Boulder, Colorado- June 2019](#)

City Ordinances that are strong

I have looked at several different urgency ordinances in California including Los Altos, Mill Valley, Sonoma City, Palo Verdes, Glendora and Belvedere. They have taken the opportunity to craft emergency ordinances that reflect the current law with regards to siting of wireless communications facilities including small cells, maintaining as much control and oversight as possible. Here are additions I have found in these other ordinances that would be important to consider. Sonoma City has a very strong ordinance. Los Altos just passed an ordinance in keeping with the wishes of the community. It is a strong ordinance and I would advise modeling your ordinance after that of Los Altos., and includes a robust noise clause.

The links and summaries to other City ordinances are listed at <https://mdsafetech.org/cell-tower-and-city-ordinances/> and below and at Physicians for Safe Technology website <https://mdsafetech.org>

Other Information: You can visit other parts of this website for scientific information regarding the

- **Science of 5G-** <https://mdsafetech.org/5g-telecommunications-science/>
- **Cell Tower Health Effects-** <https://mdsafetech.org/cell-tower-health-effects/>
- **Executive Summary of Wireless Technology and Public Health-** <https://mdsafetech.org/pst-summary-wireless-technology-and-public-health/>
- **Environment and Wildlife Effects of Wireless Radiation- Scientific Literature-** <https://mdsafetech.org/environmental-and-wildlife-effects/>
- **First Report of 5G Injury in Switzerland-** <https://mdsafetech.org/2019/07/20/the-first-report-of-5g-injury-from-switzerland/>
- **Firemen Fighting Fires and Now Cell Towers -** <https://mdsafetech.org/2019/09/28/firefighters-fighting-fires-and-now-cell-towers/>

**Respectfully submitted,
Cindy Russell, MD**

Cell Towers and City Ordinances

<https://mdsafetech.org/cell-tower-and-city-ordinances/>

Examples of City Small Cell Wireless Facilities Emergency Ordinances

- City of Belvedere, California <https://www.cityofbelvedere.org/DocumentCenter/View/5641/Item-11>
- Calabasas, California (very strong) https://www.cityofcalabasas.com/pdf/wireless/Wireless_Facility_Ordinance-w_CC_Changes052312.pdf
- Fairfax, California. [Fairfax Emergency Wireless Ordinance 2018](#)
- Los Altos, California (very strong) passed Aug 5, 2019
 - Ordinance Wireless Facilities https://www.losaltosca.gov/sites/default/files/fileattachments/city_council/page/48421/2019-08-05_19-460_1.pdf
 - Resolution No. 2019-35 of the City of Los Altos Adopting Design and Siting Guidelines and Standards for Wireless Facilities. https://www.losaltosca.gov/sites/default/files/fileattachments/city_council/page/48421/resolution_no.2019-35.pdf
 - Fee Chart for Wireless Facilities in Los Altos, California. Resolution 2019-36. https://www.losaltosca.gov/sites/default/files/fileattachments/city_council/page/48421/resolution_no.2019-36.pdf
- City of Mill Valley, California (strong) http://cityofmillvalley.granicus.com/Viewer.php?view_id=2&clip_id=1290&meta_id=59943
- Palos Verdes, California (Medium) **New Ordinance 2019 -** <https://www.rpvca.gov/DocumentCenter/View/13741/RPV—ROW-Wireless-Telecommunications-Urgency-Ordinance-April-2-2019>. **Old Ordinance 2016-** <https://www.rpvca.gov/DocumentCenter/View/7952/RPV—ROW-Wireless-Telecommunications-Urgency-Ordinance>
- Petaluma, California (setbacks good) <https://www.codepublishing.com/CA/Petaluma/html/Petaluma14/Petaluma1444.html>
- Sonoma City, California (strong) <https://sonomacity.civicweb.net/document/17797>
- Suisun, California (medium) <https://www.suisun.com/small-cells/>

Key Points of Local Ordinances

1. **FCC Clause:** Have a clause voiding the agreement or requiring its modification in the event of a regulatory change (overturning the FCC Order), according to a report by [Next Century Cities](#)

2. **Maintain that all wireless facilities both small cells and cell towers require a Conditional Use Permit** by the planning department followed by an encroachment permit. (remove Minor wireless permit section 18.41.050 and add all wireless communications facilities to section 18.41.060) which is reopened every 3 to 5 years- [Sonoma City, California](#)
3. **Significant Gap in coverage:** Maintain requirement for significant gap in coverage to be identified for approval of both small cells and cell towers
4. **Least Intrusive Methods:** Maintain requirement for the least intrusive methods to fill the gap for both small cells and cell towers. A justification study which includes the rationale for selecting the proposed use; if applicable, a detailed explanation of the coverage gap that the proposed use would serve; and how the proposed use is the least intrusive means for the applicant to provide wireless service. Said study shall include all existing structures and/or alternative sites evaluated for potential installation of the proposed facility and why said alternatives are not a viable option. (Old-Palos Verdes)
5. **1500 Foot Setback** from other small cell installations: Every effort shall be made to locate small cell installations no less than 1500 feet away from the Permittee's or any Lessee's nearest other small cell installation, or within _____ feet of any permanent residential dwelling. (ART Ordinance) Setbacks Between Small Cells: Calabasas, Petaluma, Fairfax, Mill Valley, and San Ramon (all California) require 1,500 feet between SCFs. (Boulder, CO Recommendation- [Boulder Colorado Small Cell Ordinance Legal Opinion Policy Report](#))
6. **Radiofrequency Data Report Requirement:** Have a thorough radiofrequency data requirement as part of the submittal for consultants. For all applications require that both an **RF Compliance Report** signed by a registered Professional Engineer, and a supporting RF Data Request Form as Attachment A as provided is mandatory. RF DATA SHEET (can be an attached form to be filled out and submitted with application).
7. **Preferred or Disfavored Locations:** In addition to residential areas, designate areas where cell towers are **disfavored** and not permitted, i.e. near schools, residential areas, city buildings, sensitive habitats, on ridge lines, public parks, Historic Overlay Districts, in open spaces or where they are **favored** i.e. commercial zoning areas, industrial zoning areas. (Boulder, CO Report- [Boulder Colorado Small Cell Ordinance Legal Opinion Policy Report](#))
8. **Disfavored Location:** Every effort should be made to avoid placement of small cell installations in close proximity to residences, particularly from sleeping and living areas. Viable and defensible setbacks will vary based on zoning. (ART ordinance)
9. **Prohibited Zones for Small Cells:** Prohibits small cell telecommunication facilities in residential zones and multi-family zoning districts (Mill Valley)
10. **Require Mock-up:** Require full-size mock-up of proposed SCFs and other pertinent information in order to adequately consider the same potential impacts. It also may want to adopt Larkspur's approach to require construction drawings, a site survey, and photo simulations. (Boulder, CO Report)
11. **Public notifications** of planning commission hearings; Either in newspaper, website no less than 14 days prior to the date of the hearing.
12. **Notification of all property owners** within 500 feet of the proposed installation within X timeframe
13. **Drip line of tree/heritage trees:** No facility shall be permitted to be installed in the drip line of any tree in the right-of-way.... (Old-Palos Verdes)
14. **Speculative Equipment Prohibited.** The city finds that the practice of "pre- approving" wireless equipment or other improvements that the applicant does not presently intend to install but may wish to install at some undetermined future time does not serve the public's best interest. The city shall not approve any equipment or other improvements in connection with a Wireless Telecommunications Facility (Old-Palos Verdes)
15. **Americans with Disabilities Act (ADA) Compliance.** All facilities shall be in compliance with the Americans with Disabilities Act (ADA). (New Palos Verdes)

16. **Authorization from Property Owner:** If the facility will be located on or in the property of someone other than the owner of the facility (such as a street light pole, street signal pole, utility pole, utility cabinet, vault, or cable conduit), the applicant shall provide a duly executed written authorization from the property owner(s) authorizing the placement of the facility on or in the property owner's property. (Palos Verdes)
17. **Community Meeting:** The applicant would be **required to hold a community meeting** at least two weeks prior to the planning commission hearing on the use permit. (San Anselmo)
18. **Noise Complaints:** If a nearby property owner registers a noise complaint, the city shall forward the same to the permittee. Said complaint shall be reviewed and evaluated by the applicant. The permittee shall have ten (10) business days to file a written response regarding the complaint which shall include any applicable remedial measures. If the city determines the complaint is valid and the applicant has not taken any steps to minimize the noise, the city may hire a consultant to study, examine and evaluate the noise complaint and the permittee shall pay the fee for the consultant if the site is found in violation of this chapter. The matter shall be reviewed by the director. If the director determines sound proofing or other sound attenuation measures should be required to bring the project into compliance with the Code, the director may impose conditions on the project to achieve said objective. (Old- Palos Verdes)
19. **Transfer of Permit:** The **permittee shall not transfer the permit** to any person prior to the completion of the construction of the facility covered by the permit, unless and until the transferee of the permit has submitted the security instrument required by section 12.18.080(B)(5). (Palos Verdes)
20. **General Liability Insurance \$ 2-5 million to protect the City:** The permittee shall obtain, pay for and maintain, in full force and effect until the facility approved by the permit is removed in its entirety from the public right-of-way, an **insurance policy or policies of commercial general liability insurance**, with minimum limits of **Two Million Dollars (\$2,000,000)** for each occurrence and Four Million Dollars (\$4,000,000) in the aggregate, that fully protects the city from claims and suits for bodily injury and property damage. The insurance must name the city and its elected and appointed council members, boards, commissions, officers, officials, agents, consultants, employees and volunteers as additional named insureds, be issued by an insurer admitted in the State of California with a rating of at least a A:VII in the latest edition of A.M. Best's Insurance Guide, and include an endorsement providing that the policies cannot be canceled or reduced except with thirty (30) days prior written notice to the city, except for cancellation due to nonpayment of premium.... (Old- Palos Verdes)
21. **Endangerment, interference:** No person shall install, use or maintain any facility which in whole or in part rests upon, in or over any public right-of-way, when such installation, use or maintenance endangers or is reasonably likely to endanger the safety of persons or property, or when such site or location is used for public utility purposes, public transportation purposes or other governmental use, or when such facility unreasonably interferes with or unreasonably impedes the flow of pedestrian or vehicular traffic including any legally parked or stopped vehicle, the ingress into or egress from any residence or place of business, the use of poles, posts, traffic signs or signals, hydrants, mailboxes, permitted sidewalk dining, permitted street furniture or other objects permitted at or near said location.
22. **Independent Expert.** The director is authorized to retain on behalf of the city an independent, qualified consultant to review any application for a permit for a wireless telecommunications facility. The review is intended to be a review of technical aspects of the proposed wireless telecommunications facility and shall address any or all of the following: xxxx (Old- Palos Verdes)
23. **Annual Recertification:** Each year, commencing on the first anniversary of the issuance of the permit, the Permittee shall submit to the Town an affidavit which shall list all active small cell wireless installations it owns within the Town by location, certifying that (1) each active small cell installation is covered by liability insurance in the amount of \$2,000,000 per installation, naming the Town as additional insured; and (2) each active installation has been inspected for

safety and found to be in sound working condition and in compliance with all federal safety regulations concerning RF exposure limits. (ART Ordinance)

24. **Random Testing for RF Compliance:** The Town shall have the right to employ a qualified RF engineer to conduct an annual random and unannounced test of the Permittee's small cell wireless installations located within the Town to certify their compliance with all FCC radio-frequency emission limits as they pertain to exposure to the general public. The reasonable cost of such tests shall be paid by the Permittee. (ART Ordinance)
25. **Violation of compliance Notification:** In the event that such independent tests reveal that any small cell installation or installations owned or operated by Permittee or its Lessees, singularly or in the aggregate, is emitting RF radiation in excess of FCC exposure guidelines as they pertain to the general public, the Town shall notify the Permittee and all residents living within 1500 feet of the small cell installation(s) of the violation, and the Permittee shall have forty-eight (48) hours to bring the small cell installation(s) into compliance. Failure to bring the small cell installation(s) into compliance shall result in the forfeiture of all or part of the Compliance Bond, and the Town shall have the right to require the removal of such installation(s), as the Town in its sole discretion may determine is in the public interest. (ART Ordinance)
26. **Non- acceptance of Applications:** Where such annual re-certification has not been properly or timely submitted, or equipment no longer in use has not been removed within the required 30-day period, no further applications for small cell wireless installations will be accepted by the Town until such time as the annual re-certification has been submitted and all fees and fines paid. (ART ordinance)
27. **Order of preference – Location.** The order of preference for the location of small cell installations in the Town, from most preferred to least preferred, is: 1. Industrial zone
2. Commercial zone
3. Mixed commercial and residential zone 4. Residential zone (ART Ordinance and New Palos Verdes)
28. **Fall Zone:** The proposed small cell installation shall have an adequate fall zone to minimize the possibility of damage or injury resulting from pole collapse or failure, ice fall or debris fall, and to avoid or minimize all other impacts upon adjoining property
29. **1500 Foot Setback** from other small cell installations: Every effort shall be made to locate small cell installations no less than 1500 feet away from the Permittee's or any Lessee's nearest other small cell installation, or within ____ feet of any permanent residential dwelling. (ART Ordinance)
30. **1000 Foot Setback From Residencies :** The setback for Calabasas, CA is 1,000 feet (Bolder, CO Report), 500 ft Setback from residencies (Petaluma).
31. **Aesthetics and Undergrounding:** All equipment not to be installed on or inside the pole must be located underground, flush to the ground, within three (3) feet of the utility pole. Each installation is to have its own dedicated power source to be installed and metered separately.
32. **Aesthetic Requirements:** "Law firm Baller Stokes & Lide highlighted the following aesthetic considerations that local governments can consider: "Size of antennas, equipment boxes, and cabling;
 - 1) Painting of attachments to match mounting structures;
 - 2) Use of shrouds, stealth techniques, or other camouflage;
 - 3) Flush-mounting of antennas;
 - 4) Placement of equipment in the pole base rather than on the outside of the pole;
 - 5) Consistency with the character of historic neighborhoods;
 - 6) Minimum spacing between attachments;" and
 - 7) Aesthetic standards for residential neighborhoods, including "any minimum setback from dwellings, parks, or playgrounds and minimum setback from dwellings, parks, or playgrounds; maximum structure heights; or limitations on the use of small, decorative structures as mounting locations." (Boulder, CO Report)

