

Small Cells - Frequently asked Questions

What is a small cell facility?

A small cell is a single small antenna placed on existing utility poles or street lights along with small pole-mounted radios and other accessory equipment. Small cells on utility poles will typically consist of one 4-foot tall by 14-inch diameter antenna mounted on top of the pole and a number of small boxes consisting of radios, electric meter, a disconnect switch and a fiber box. Small cells on street lights will typically consist of an antenna, similar to that of utility poles, mounted on top of the pole. Two small radio boxes may be placed on the pole further down, or within the base of the pole. Other equipment may also be placed within the base of the pole.

Small cell facilities will help wireless service providers in meeting the continuously increasing demand for wireless services. The increased use of smart phones, tablets, health monitors and other wireless devices in every-day life relies on a robust wireless network. A small cell network will add capacity and improve in-building coverage in Santa Rosa neighborhoods. Small cell networks will improve voice quality, reliability and data speeds for Santa Rosa residents, businesses, first responders and visitors using the wireless networks.

What is the range of these systems?

A number of factors dictate the range of small cells, including objects that can potentially block the signals such as trees or buildings. On average, these systems have an approximate range of 150 to 500 feet, due to their low mounting height and low power output (either 66, 100, or 174 watts). For comparison purposes, a typical "macro" facility, with higher power usage (e.g. 10,000+ watts), and a higher mounting location; can have a range of a mile or two.

Can the City prohibit the installation of wireless facilities on poles?

No. Under State law, telecommunications carriers have a right to install wireless facilities on wood poles in the public right-of-way. The City, however, can regulate certain aspects of the design, location, and placement of those facilities, and is proposing an ordinance to do so.

Who owns the poles?

The majority of wood utility poles in Santa Rosa are owned and managed by Pacific Gas & Electric (PG&E). The steel streetlight poles are typically owned and managed by the City of Santa Rosa.

Does the City receive revenue from the use of wooden utility poles?

No. But the City of Santa Rosa is working to allow the installation of wireless facilities on its (steel) streetlight poles. If installations on streetlights are permitted by the City, the City will receive annual revenues for the use of its poles.

Can these cells be used for 5G service?

No. The proposed facilities do not support "5G" services. The technical standards for 5G services are still in development and testing phases. Although Verizon announced earlier last year that it would test 5G in 11 U.S. cities by mid-2017.

If these locations were to be used for 5G in the future, the facilities would need to be almost entirely replaced, which would require a separate application and review process.

Small Cells - Frequently asked Questions

What safety standards do small cells meet?

The Federal Communications Commission (FCC), in consultation with numerous other federal agencies, including the Environmental Protection Agency, the Food and Drug Administration, and the Occupational Safety and Health Administration, has developed safety standards. The standards were developed by expert scientists and engineers after extensive reviews of the scientific literature related to radio frequency (RF) and biological effects. The FCC explains that its standards “incorporate prudent margins of safety.” It explains further that “radio frequency emissions from antennas used for cellular and PCS transmissions result in exposure levels on the ground that are typically thousands of times below safety limits.”

The FCC provides information about the safety of RF emissions from cellular base stations on its website at: <http://www.fcc.gov/oet/rfsafety/rf-faqs.html>.

In general, due to their small size, low wattage and limited coverage area, emissions from small cells are a small fraction of FCC-permitted levels in any publicly-accessible area.

The Radio-Frequency (RF) report indicates the maximum RF exposure level at ground level. Does the RF report take into account the RF exposure level on upper stories of residences closer to the antenna?

When an RF report is prepared it takes into account the location, orientation, and output of the antenna, relative to the nearest publicly-accessible areas, such as balconies, roof decks, and nearby dwellings (including upper stories). The RF emissions at any publicly-accessible area must also comply with the standards set by the Federal Communications Commission (FCC). Field testing can be arranged at no charge for residents, including from within their dwelling.

Antennas are typically placed either midway up the wooden pole (side-arm configuration) or on top of a pole (top-mount). When antennas are placed in a side arm configuration and the placement is also parallel and close to a building, the antennas are typically setup in such a manner where the RF emissions are focused (“sectorized pattern”) up and down streets, and not directly toward the building behind the antenna. In other words, this means that while the antenna enclosure may be round in shape, the RF emissions are not necessarily sent in all directions for antennas next to a building.

How does the radio-frequency (RF) exposure from these antennas compare to the RF output from a mobile phone, baby monitor, or Wi-Fi router in a person’s home?

RF exposure is highly dependent on factors like distance and orientation from the antenna. Generally, any person within their home (even if on an upper story dwelling unit at the same level as the antenna), or at ground level would be subject to higher RF exposure levels from a cell phone in their hand than the RF exposure typically seen from these antennas.

How can I get more information about my health concerns?

A copy of the field test report for each small cell wireless facility can be obtained from the Public Works Department. In addition, general information about the safety of wireless facilities can be found on the FCC’s web site: <https://www.fcc.gov/general/tower-and-antenna-siting>.

Small Cells - Frequently asked Questions

Who do these facilities serve and what companies operate them?

The wireless facilities installed on utility poles are primarily intended to serve customers of wireless carriers licensed by the FCC to operate in California, including AT&T Mobility, Sprint, T-Mobile, and Verizon Wireless. You might see signs on the utility poles that identify companies such as Crown Castle (NextG), ExteNet Systems, and Mobilitie as the owner of the facilities. These companies are authorized by the California Public Utilities Commission (CPUC) to install and operate the wireless facilities on wooden poles on behalf of their wireless carrier customers, but they still must obtain permits. The CPUC is a distinct State agency which regulates various utilities throughout California.

Do the antennas generate noise?

No. Some, but not all wireless facilities feature cooling fans within the equipment enclosures, in order to regulate the temperature for the computers inside.

Once the City has issued a wireless permit, can other carriers install additional facilities on the same pole?

Generally, there will only be one wireless facility on each pole. CPUC regulations generally prohibit installing enough equipment on a utility pole to accommodate two separate wireless facilities. It is possible, however, that a pole could serve more than one carrier.

Can carriers install new poles on my street to support their wireless facilities?

No. DPW will generally only allow new poles to replace existing poles. Pole replacements are sometimes needed to ensure the pole can handle the load of the equipment or for wider vertical separation between various utility facilities on the pole. City staff continues to work with carriers and PG&E to seek less intrusive pole height replacements.

How long would construction take for a small cell facility?

Generally, the installation of the antennas and equipment on the pole, and painting (if needed to match equipment to the pole) can be accomplished in a few days. Additional work may be required at sidewalk level to connect power and fiber-optic cables (used to transmit signals) to the pole-mounted equipment and antennas.

Can carriers change the equipment they installed on a permitted wireless facility?

Yes. Consistent with federal law, carriers are generally allowed to modify permitted wireless facilities, provided those modifications are within certain limits.

Who should I speak with regarding my concerns over the proposed installation of a wireless facility on my block?

If you have received notice that a wireless facility is proposed to be installed on your block it means the City has tentatively approved the application. City staff reviews each application and works with the service providers to situate antennae in a location that provides the necessary services but poses as minimal a visual intrusion as possible. If you have concerns regarding the facility, you are encouraged to discuss your concerns with the Planning and Economic Development Department: Gabe Osburn, Deputy Director – Development Services, gosburn@srcity.org or 707-543-3853.