

**Development Services Department Staff Report
May 21, 2019 Planning Commission Regular Meeting
Prepared By: Pierre Rivas, Development Services Director**



Item 5: Presentation: “Small Cell 4G and 5G Network Upgrade” by Cris Villegas, Verizon Wireless

Background: On September 26, 2018, The Federal Communications Commission (FCC) adopted rules (47 CFR Part 1) for “Accelerating Wireless and Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment.” These rules were in the form of a Declaratory Ruling and Third Report & Order (FCC 18-133) becoming effective on January 14, 2019 with local jurisdiction having until April 15, 2019 to “establish and publish” standards regarding aesthetics.

On February 12, 2019, the City Council adopted a Resolution of Intent (ROI 19-02) to direct staff to proceed with amending the City Code to bring its ordinance into compliance with the new FCC final rule regarding small cell wireless facility siting review and process.

Discussion: The FCC adopted “Declaratory Ruling and Third Report and Order” interprets provisions of the Telecommunications Act of 1996 to preempt local regulations that effectively prohibit the deployment of small cell wireless infrastructure in local communities. The FCC Ruling includes broad definitions of the types of local regulations that would be presumed to constitute an impermissible effective prohibition of wireless services; allowance of locating small cell facilities within public rights-of-way and on municipally owned light poles, traffic lights, utility poles, and other similar property suitable to hosting such facilities; and establishes the applicable “shot clock” timelines by which local agencies must take action on small cell facility installation applications.

Specifically, the rules address the following:

- **Rule Violations:** Municipal regulations that would constitute an unlawful “Effective Prohibition” of small cell service deployment and, thus, be preempted by the Telecommunications Act of 1996.
- **Fees and Charges:** Standards for determining whether a municipal fee or charge imposed on small cell infrastructure providers would be permissible based on the FCC's interpretations of the Telecommunications Act, what local fees are covered by the new interpretation, and what fees are presumptively compliant local fees.
- **Non-Fee Requirements:** What non-fee provisions in a local regulation, such as aesthetics, undergrounding, and minimum spacing requirements, could operate as an effective prohibition of service.

- **Shot Clocks:** The new “shot clocks” or time lines applicable to local review of applications for wireless infrastructure installation and deployment, and the potential consequences if a municipality fails to act on the application during the specified time frame.
- **Grandfathering:** The FCC interpretation affect on previous agreements between a municipality and a carrier or other third party involved in small cell infrastructure deployment.

Code changes are needed to add code regulations that are consistent with the final rules established by the FCC which are intended to streamline the wireless infrastructure siting review process by local agencies. Staff will be bringing draft regulations to the Planning Commission for consideration and to make recommendation to the City Council at a future noticed public hearing.

Staff has been working with both AT&T and Verizon regarding the proposed ordinance. Verizon has prepared this presentation to introduce the background and necessity for expansion of the wireless network and design options with respect to locating small cell facilities on light standards and utility poles located within City rights-of-way.

Recommendation: Receive Verizon’s presentation and open public comment.

Attachment: Verizon PowerPoint Presentation: “Small Cell 4G and 5G Network Upgrade

Verizon

Small Cell 4G and 5G Network Upgrade

Prepared for the City of Placerville



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Community Benefits

Enhanced Wireless Services:

Accelerated benefits of Voice, Video & Data

Reliability:

Emergency Services for Citizens, Law Enforcement and other First Responders

Economic Benefit:

Jobs, New Commerce, Conventions & Tourism, Property Values

Resiliency:

Redundancy, Smart Community & Next Generation Wireless Services Foundation

Significant Verizon Capital Investment

in your Community

Why are we expanding the wireless network?

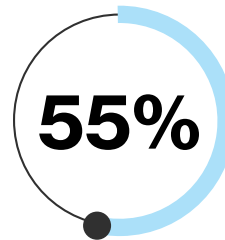
More people than ever before rely on wireless connections to manage their lives and businesses.

Verizon is expanding its wireless network to meet the growing demands of today and tomorrow.

But it takes time.



The average North American smartphone user will consume 48 GB of data per month in 2023, up from just 5.2 GB per month in 2016 and 7.1 GB per month in 2017 .¹



Of American homes are wireless only.²



In North America, the average household has 13 connected devices with smartphones outnumbering tablets 6 to 1.³

1. Ericsson Mobility Report, November 2017

2. CDC's 2018 Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January-July, 2018

3. IHS Market Connected Device Market Monitor: Q1 2016 , June 7, 2016

Staying ahead of demand.

A wireless network is like a highway system...



More wireless traffic needs more wireless facilities just like more vehicle traffic needs more lanes.

- Many wireless users share each cell site and congestion may result when too many try to use it at the same time.
- Wireless coverage may already exist in an area, but with data usage growth increasing exponentially each year, more capacity is needed.
- To meet capacity demands, we need to add more wireless antennas closer to users and closer to other cell sites to provide the reliable service customers have come to expect from Verizon.

In the US, mobile data traffic was 1.3 Exabytes per month in 2016, the equivalent of 334 million DVDs each month or 3,687 million text messages each second.*

*Cisco VNI Mobile Forecast Highlights, 2016-2021, February 2017

Different locations require different solutions.

Verizon uses a balanced
approach to engineering the
best possible network given
the local community's needs.



Macro sites are traditionally towers that provide capacity and coverage to a broad area, up to several miles.



Small cells are short range sites used to complement macro cell towers in a smaller area ranging from a few hundred feet to upwards of 1,000 feet.

Used for capacity in high traffic areas, dense urban areas, suburban neighborhoods.

Small cells use small radios and antennas placed on existing structures including utility poles and street lights.

What is 5G?

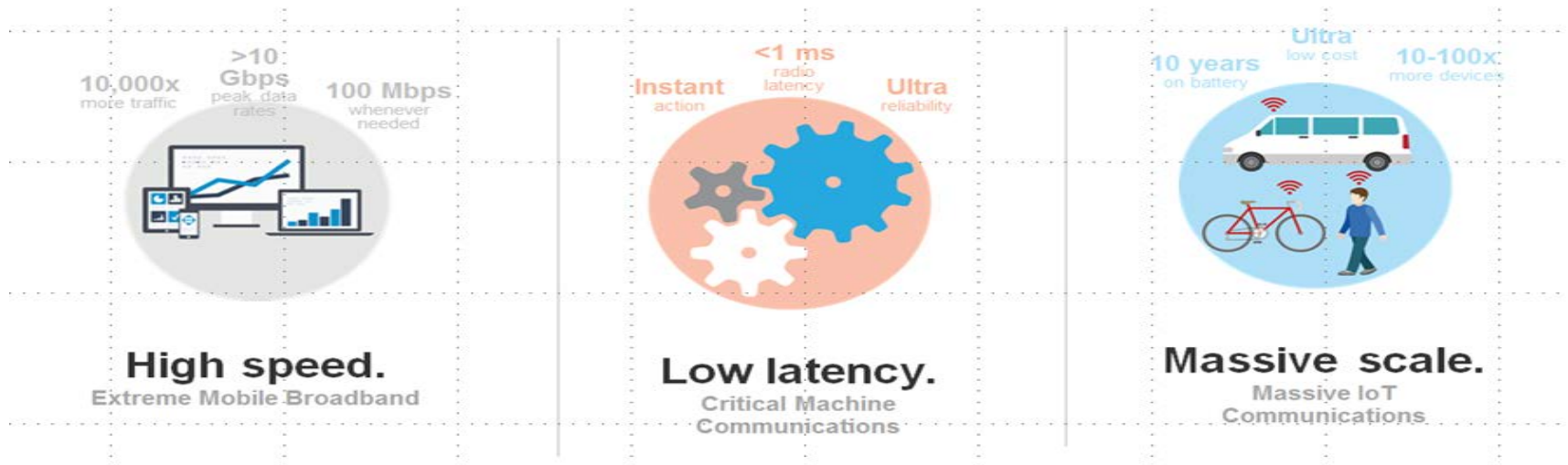
Fifth generation wireless technology, also known as “5G”, will deliver enhanced mobile broadband capabilities that are up to 100 times faster than speeds today with immediate responsiveness.

5G will be transmitted over higher wave frequency spectrum bands.

- Higher frequency bands do not propagate well – they typically require “line-of-sight” and do not pass through obstacles.
- This will require a high level of cell densification via “small cells” in locations such as lampposts, buildings, and utility poles.

5G will:

- Significantly increase speed and provide real-time information.

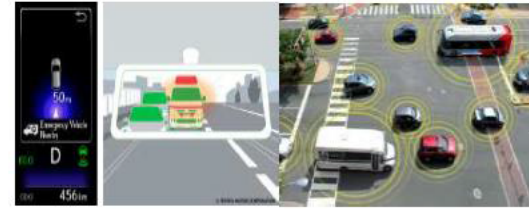


5G Possibilities: Smart Communities and Internet of Things



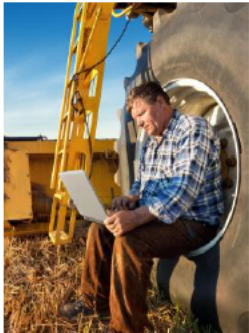
Public Safety

- Collision Avoidance
- Hazard Warnings



Command & Control

- Traffic Management
- Emergency Management



Smart Farming

- Water Management
- Crop Analytics

Connected Homes

- Smart appliances
- Security systems

Movies & Media

- Information kiosks
- Download stations

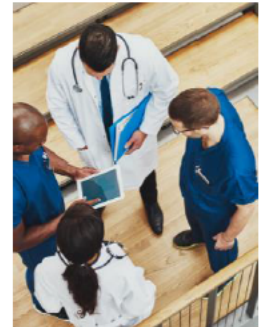
5G

Energy & Environment

- Smart Grid
- Environmental monitoring

Wearable & Tag Devices

- Fitness Monitors
- Location Sensors



Tele-Health

- Robotic Surgery
- Remote Health Care



Smart Infrastructure

- Tolls & Access
- Connected Infrastructure



Future Transportation

- Autonomous Vehicles
- Advanced Driver Assistance

Verizon Street Light Design Options



Sacramento, CA



San Francisco, CA

Verizon Decorative Pole Design Options



Verizon Traffic Signal Pole Design Options



Thank you.

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