

(d) 3. Small Cell and 5G Update

Smart Cities and Service Improvements Committee

April 1, 2021

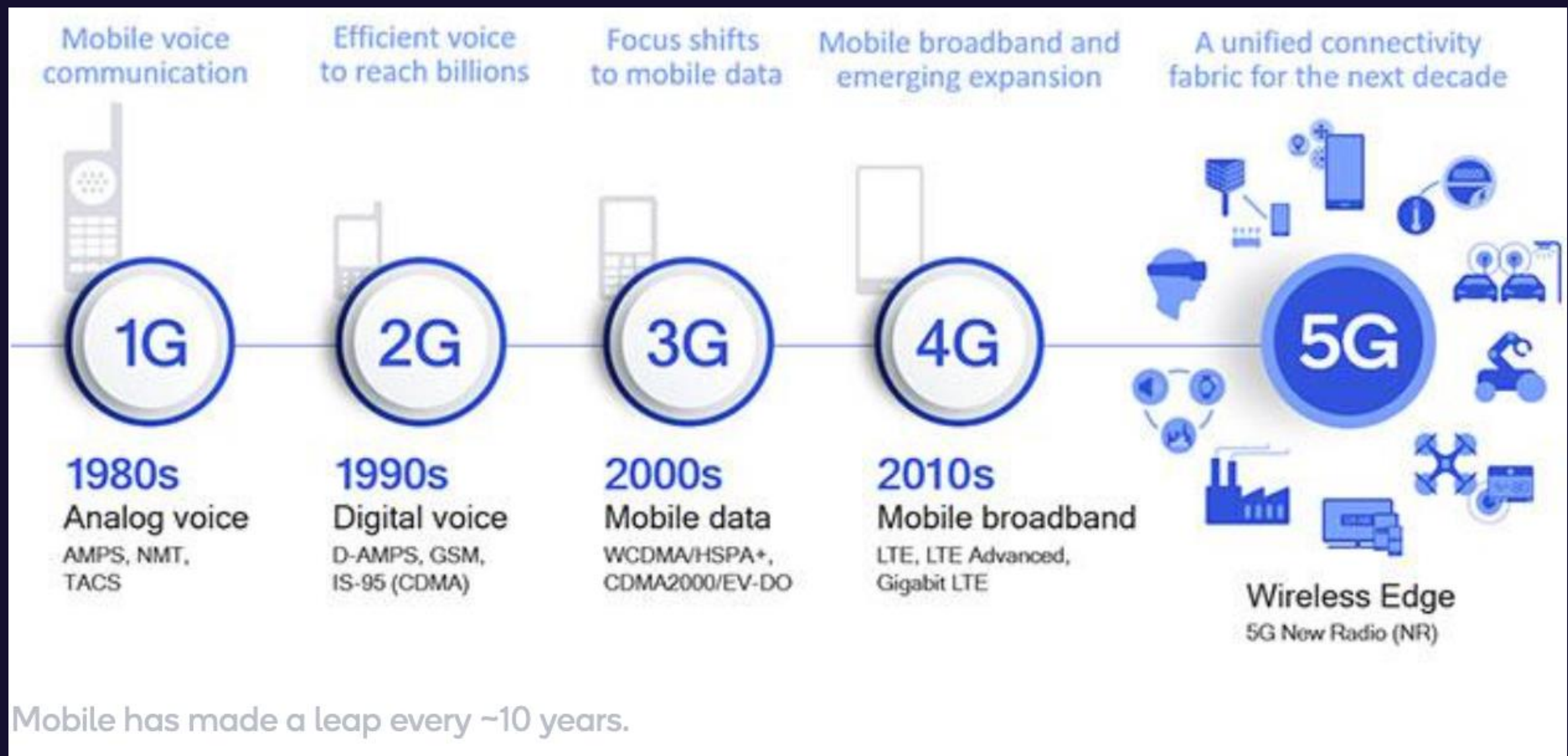
Abigail Shull, Assistant to the City Manager, Civic Innovation

Small Cell and 5G Update

Agenda

- Background
- Partnership Agreements
- Deployment Goals, Timeline, and Progress
- Process Improvements
- Public Engagement
- Next Steps

What is 5G?

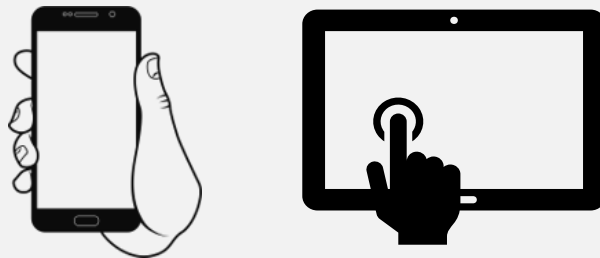


SOURCE: [Qualcomm](#)

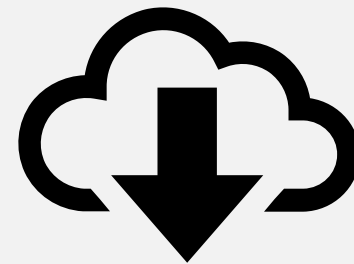
Why is 5G necessary?

40%

U.S. internet traffic is now
from mobile devices¹

**50%**

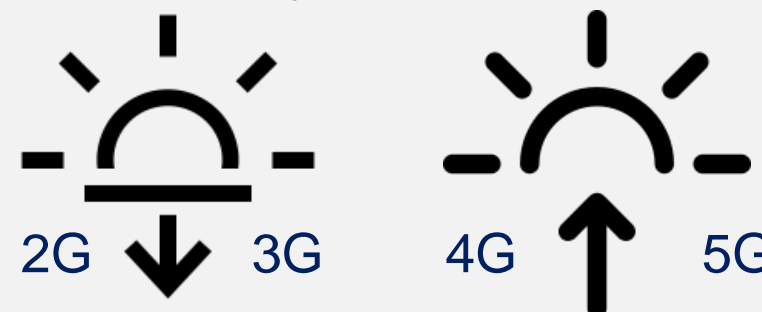
Mobile data traffic growth
from 2019 to 2020¹

**10+**

Connected devices per U.S.
home in 2020 (average)²

**2G and 3G**

Networks expected to
sunset by end of 2022³



¹SOURCE: firstsiteguide.com/mobile-traffic-stats/

²SOURCE: [Statista](https://www.statista.com/)

³SOURCE: [Lightreading.com](https://www.lightreading.com/) [1](#), [2](#)

Citywide 5G approach

Public-Private Partnerships

Small Cell

September 2018

AT&T and Verizon
4000 sites

Fiber Optic Lines

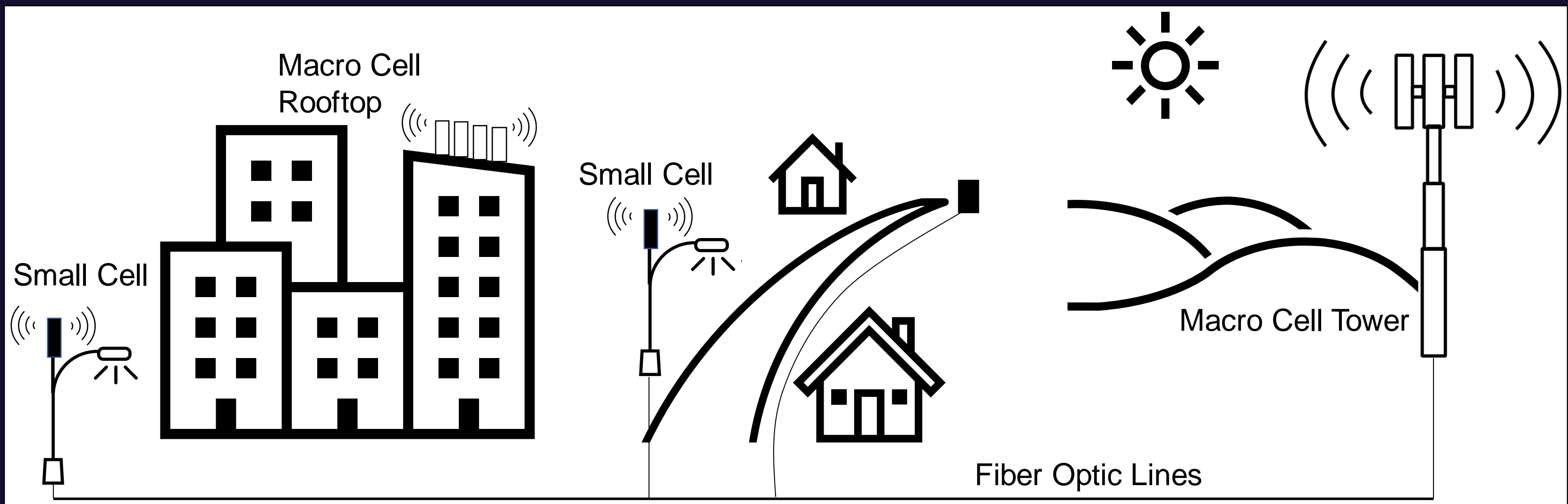
September 2018 and October 2019

AT&T, Verizon, and Comcast

Macro Cell

December 2020

T-Mobile
240 sites



What are Small Cells and Macro Cells?



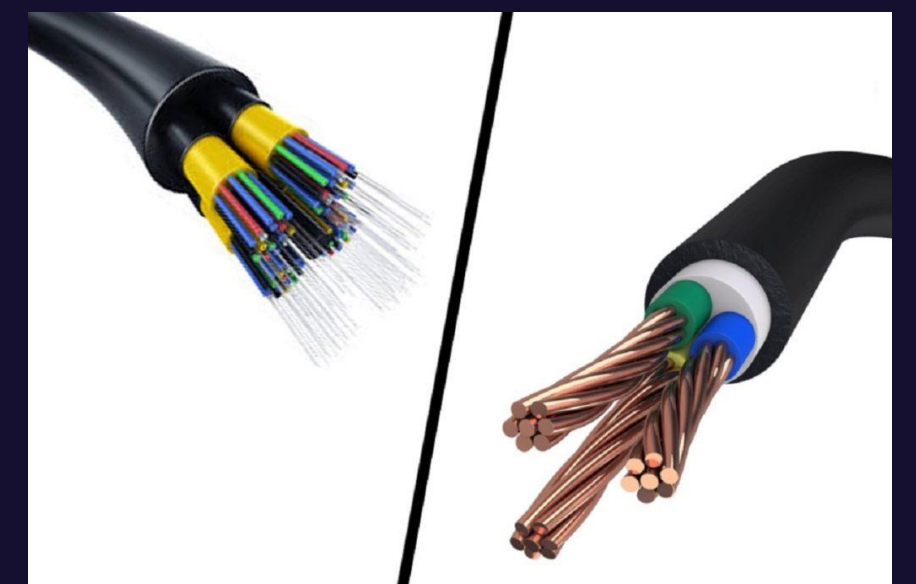
Small Cell installed on a streetlight



Macro Cell tower and concealed tower

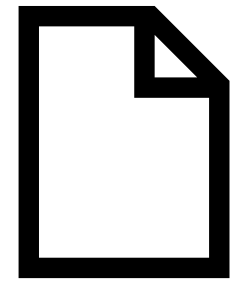


Macro Cell installed on a rooftop



Fiber optic cable vs. copper cable

Partnership Benefits



**Fast &
Predictable
Permitting**



**Over \$1B
Private
Investment**



**Smart
Cities
Initiatives**



**21st Century
Broadband
Network**



**Digital
Inclusion**

Small Cell Deployment

Goal: 4000 Permits by 2028

Permit Review (days)



Permits Issued per week



5

15

25

30

Progress: 1,850 Permits Issued – 46%

Permit Review (days)



Permits Issued per week



5

15

25

35

40

Macro Cell Deployment – Ramp-up Phase

Overall Goal: 240 Permits by June 2022

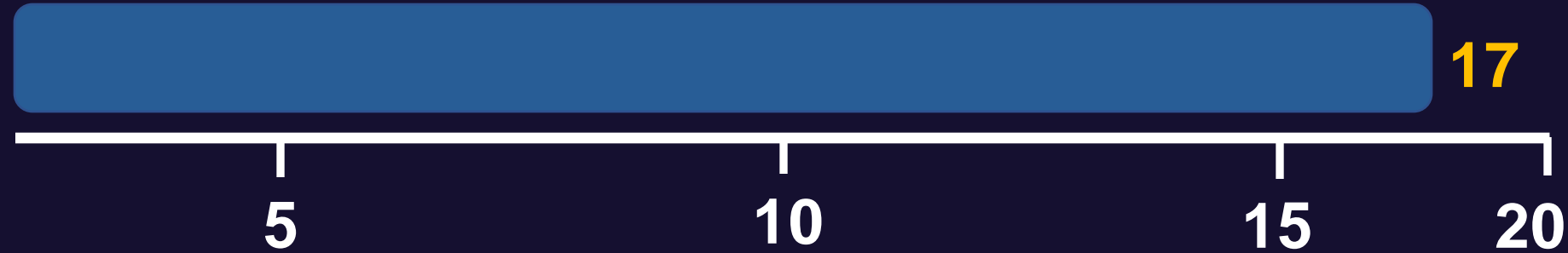
Goal: 200 Existing Site Upgrade Permits

Permit Review (days)



5

Permits Issued per week



17

5

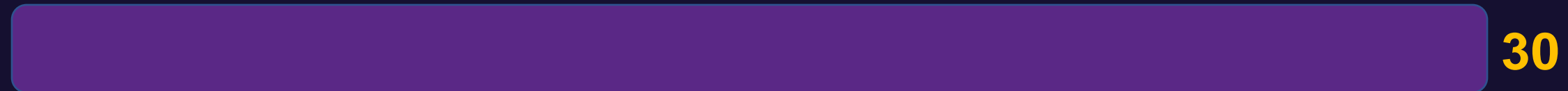
10

15

20

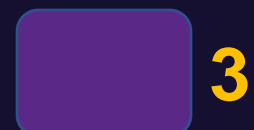
Goal: 40 New Site Permits

Permit Review (days)



30

Permits Issued per week



3

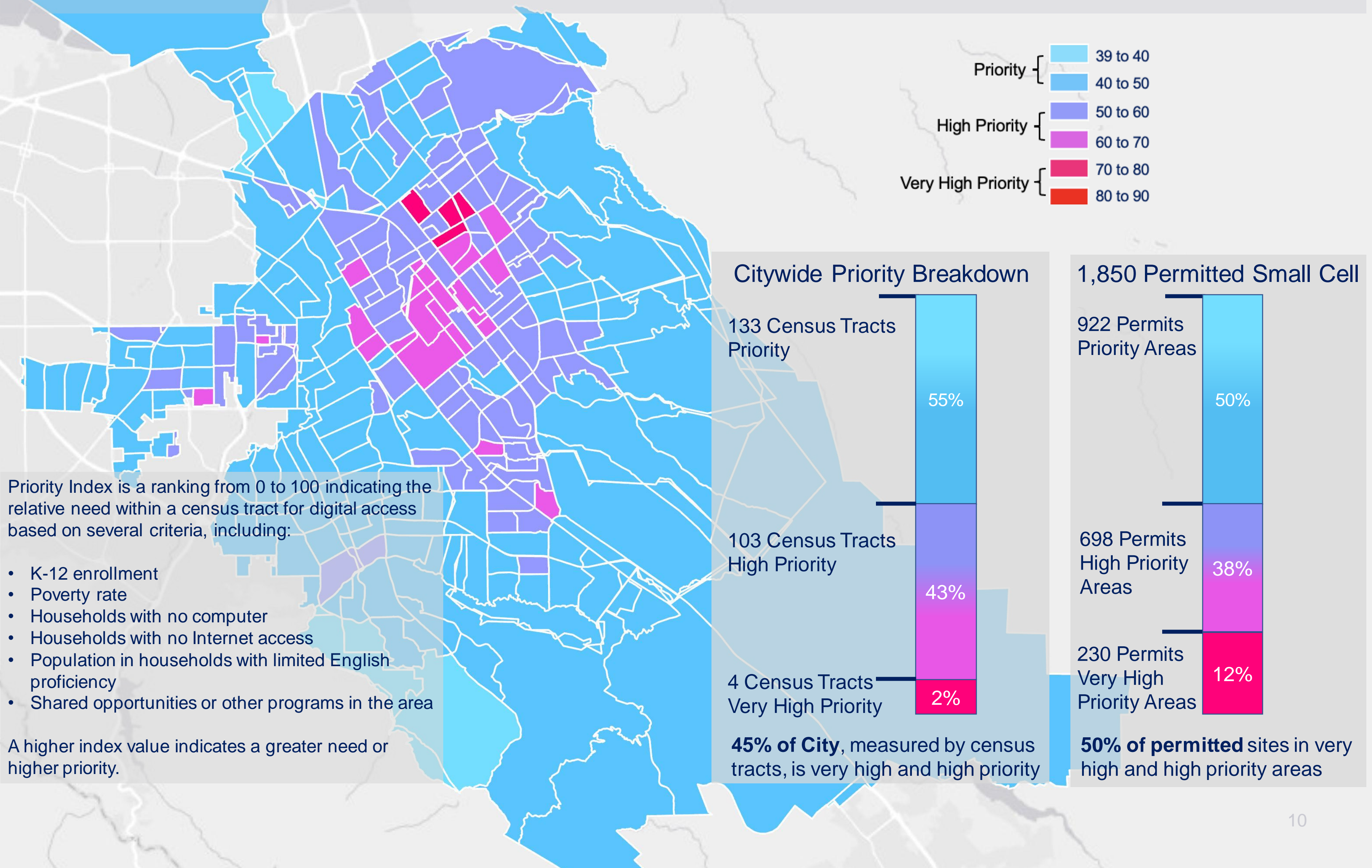
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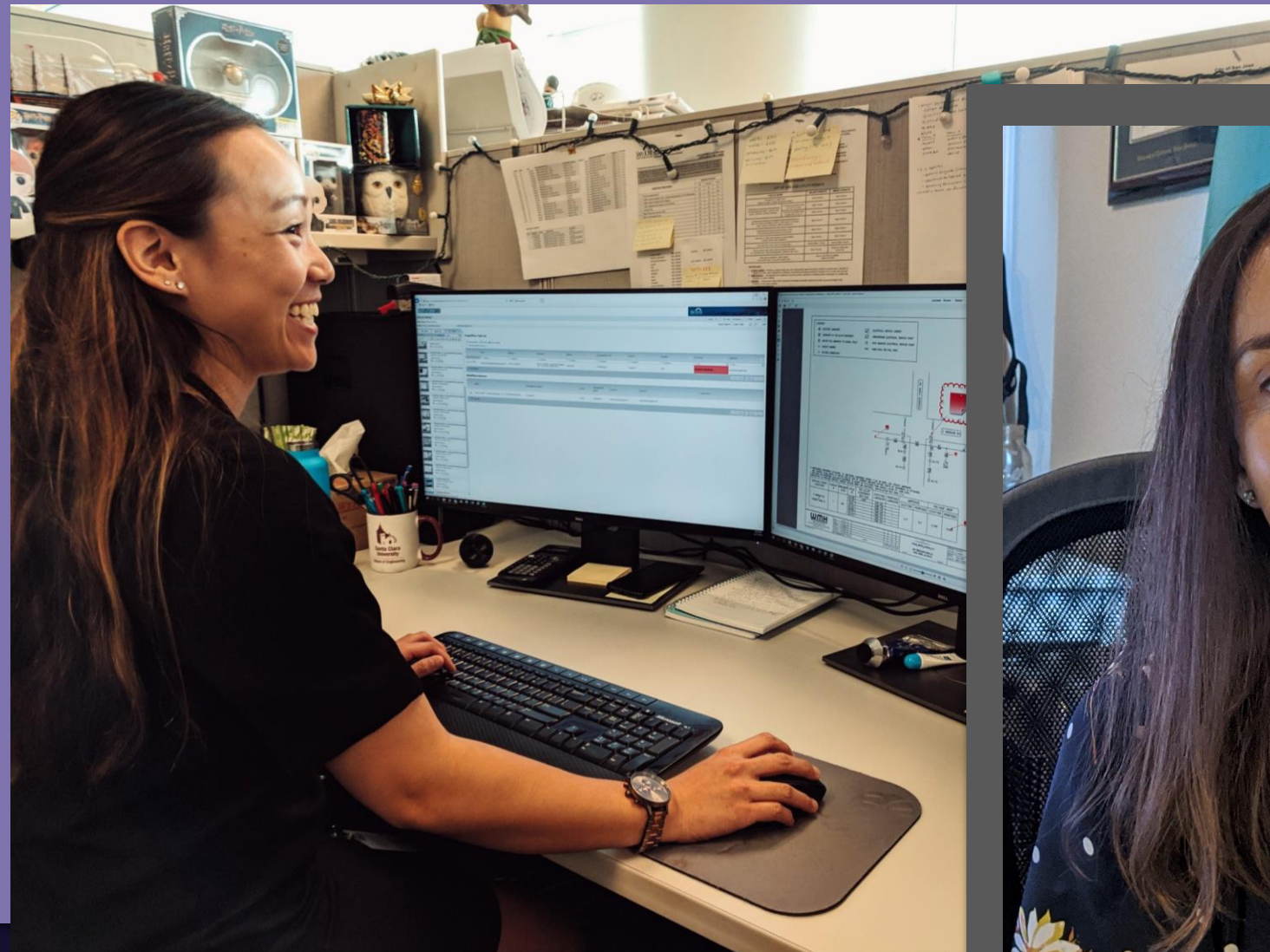
30

Deployment in Digital Inclusion Priority Areas



Small Cell Team and Macro Cell Team

Process Improvements



Liz Koki, Small Cell Team



Stefanie Farmer, Macro Cell Team



Leslie Domondon, Macro Cell Team

Small Cell Process Improvements

- ✓ Develop Spatial platform to share information
- ✓ Commit Resources to Field Verification & Records Research
- ✓ Digital Construction Plan Reviews
- ✓ Templatized Designs
- ✓ Monthly engineering meetings
- ✓ Coordinate construction with street paving projects
- ✓ Remote Inspections in response to COVID-19
 - Site License Agreement Signature Processing

Macro Cell Process Improvements

- ✓ Established cross departmental Macro Site Team
- ✓ Conducted workshop meetings to identify process improvements
- ✓ Dedicated permit review team in Planning
- ✓ Single Point of Contact coordinating cross departmental reviews
- ✓ Weekly permit coordination and Quarterly goal meetings
- ✓ Digital Construction Plan Reviews
 - Ramp-up to 20 permits issued per week
 - Coordinate resources to support inspections
 - Develop platform to share and track information
 - Templatize Designs
 - Iterate to improve permitting speed and predictability

Small Cell Public Outreach

www.sanjoseca.gov/smallcell

- Frequently Asked Questions
- 20-Day Notice Requirement
- Design Guidelines
- FCC pre-empts cities from denying permits due to health concerns
- FCC and FDA reassert radio frequency protections are strong enough across 3G, 4G, and 5G



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 - Digital Inclusion and Broadband Strategy
 - Broadband Strategy and Small Cell Deployment**
- + User Experience (UX) Guide

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BROADBAND STRATEGY AND SMALL CELL DEPLOYMENT

To successfully implement the City's Digital Inclusion and Broadband Strategy, a robust citywide public and private sector digital infrastructure is required. The City currently partners with telecommunication companies that maintain antennas across the City, many of which are installed on City property, such as streetlights, traffic lights, and rooftops. These antennas are known as "small cells". The City seeks to leverage small cell technology, which will offer enhanced voice and data capacity citywide, improve emergency communication capability, and pave the way for the equitable deployment of 5G broadband technology. As of September 2018, the City has agreements with AT&T, Mobilitie, and Verizon.

Frequently Asked Questions (FAQ)

Q: What are small cells?

A: Small cells are small radio antenna equipment installed on streetlights, rooftops, and other locations as a primary way to deliver 5G (Fifth Generation) mobile technology. The City of San José Small Cell Deployment relies upon installing small cell equipment on city-owned streetlights to meet the network design needs of this latest version of mobile technology.



Q: What are the benefits of small cell technology?

A: Small cell technology offers enhanced voice and data capacity citywide, improves emergency communication capability, and paves the way for the equitable deployment of 5G broadband technology. Additionally, allowing small cells generates revenue for the San José Digital Inclusion Partnership to support efforts to close the digital divide for the residents of San José, with a focus on low-income youth as well as other vulnerable populations, such as the elderly and disabled, providing affordable broadband service, devices, and digital literacy to underserved communities. All income received from small cell usage fee revenue is to be allocated to the Digital Inclusion Program Fund.

Next Steps

Small Cell

- Sustain permit reviews and plan ramp-up in volume
- Support construction focus with inspection resources
- Coordinate maintenance permits as sites are built

Macro Cell

- Seek process improvements to increase speed and predictability
- Ramp-up to 20 permits issued per week

Overall

- Recruit and hire Broadband Permitting Project Manager

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Questions & Feedback