



“What Does the 5G / Small Cell Rollout and Recent Legislation Mean for Counties?”

Telecommunications Industry Presentation
Florida Association of County Managers Annual Workshop
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The Evolution of 5G

1G delivered analog voice

2G introduced digital voice and text messaging

3G brought mobile data

4G ushered in the era of mobile internet

5G versus 4G: speed, latency, connections

20X

1gb/sec

Speeds that are as much as 20x faster than 4G, delivering data rates as high as 1 gigabit per second.

10,000X

capacity/efficiency

Speeds support a 10,000x increase in traffic capacity and network efficiency.

10X

decrease

10x decrease in end-to-end latency—down to 1 millisecond—delivering more instantaneous and real-time access.

5G: A platform for innovation

Enhance mobile
broadband services

Open new possibilities for
wearables, machine-to-
machine communications,
and internet of things
technologies

Enable the ecosystem of
connected objects—cars,
machines, sensors, etc.

Expand mobile
networks to
support a vast
diversity of devices
and services

Empower new user
experiences like virtual
and augmented reality
(VR/AR)

Provide industries with
improved performance,
operational efficiency,
safety, and costs

5G will drive economic growth

3m

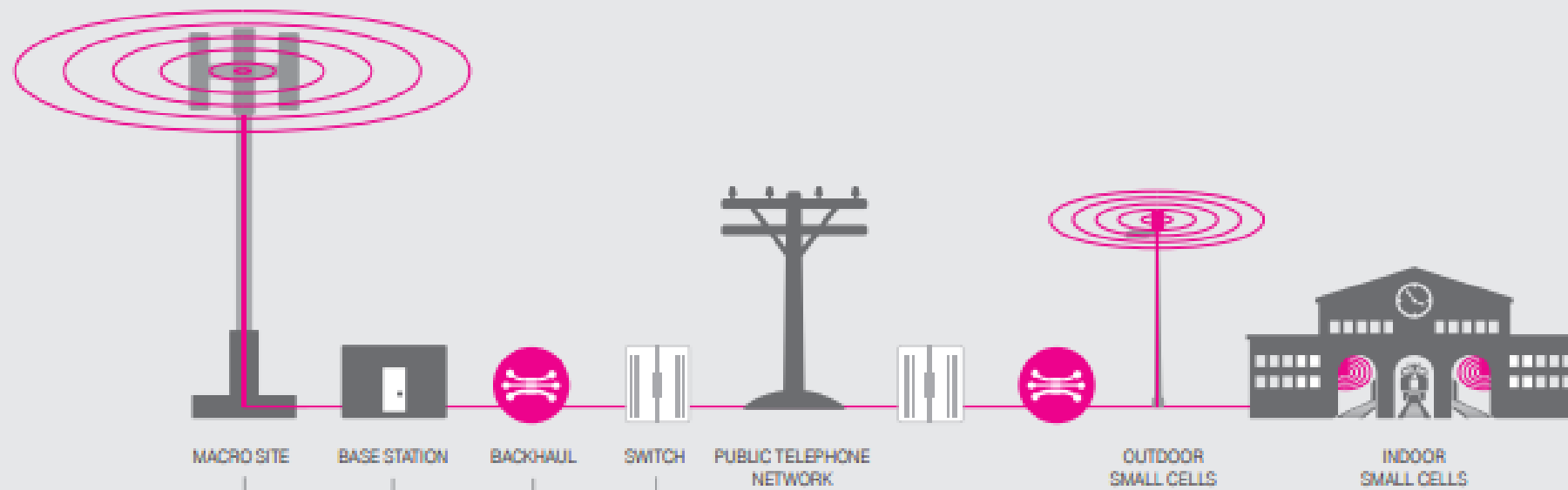
3 million new jobs

\$500b

\$500 billion in new GDP

\$275b

\$275 billion in infrastructure investments



MACRO ANTENNA SITES

A traditional macro cell site (usually 50' to 175' tall) is a support structure with multiple antennas connected to low powered radio transmitters and receivers.

BACKHAUL

High-speed connectivity, usually via fiber optic cable, is built from cell sites back to the core telecommunications network.

BASE STATION

Base stations house radio transceivers and amplifiers that connect the antennas and a high-speed link (usually fiber optic cable) back to the legacy telephone network.

SWITCH

Switches channel incoming data from multiple locations and send the information to its intended destination anywhere in the world.

OUTDOOR SMALL CELLS

Outdoor small cells are typically placed in the public right-of-way — like street light standards or utility poles. Small cells handle greater capacity demands resulting from more users requiring more data through the network.

INDOOR SMALL CELLS

Small cell networks and distributed antenna systems are deployed to meet capacity needs in large venues like stadiums, offices, airports, train stations, university campuses and shopping malls.



Camouflaged Antenna on
Streetlight with Radios in
Pole-Mounted Shroud



Wood utility pole



Metal pole

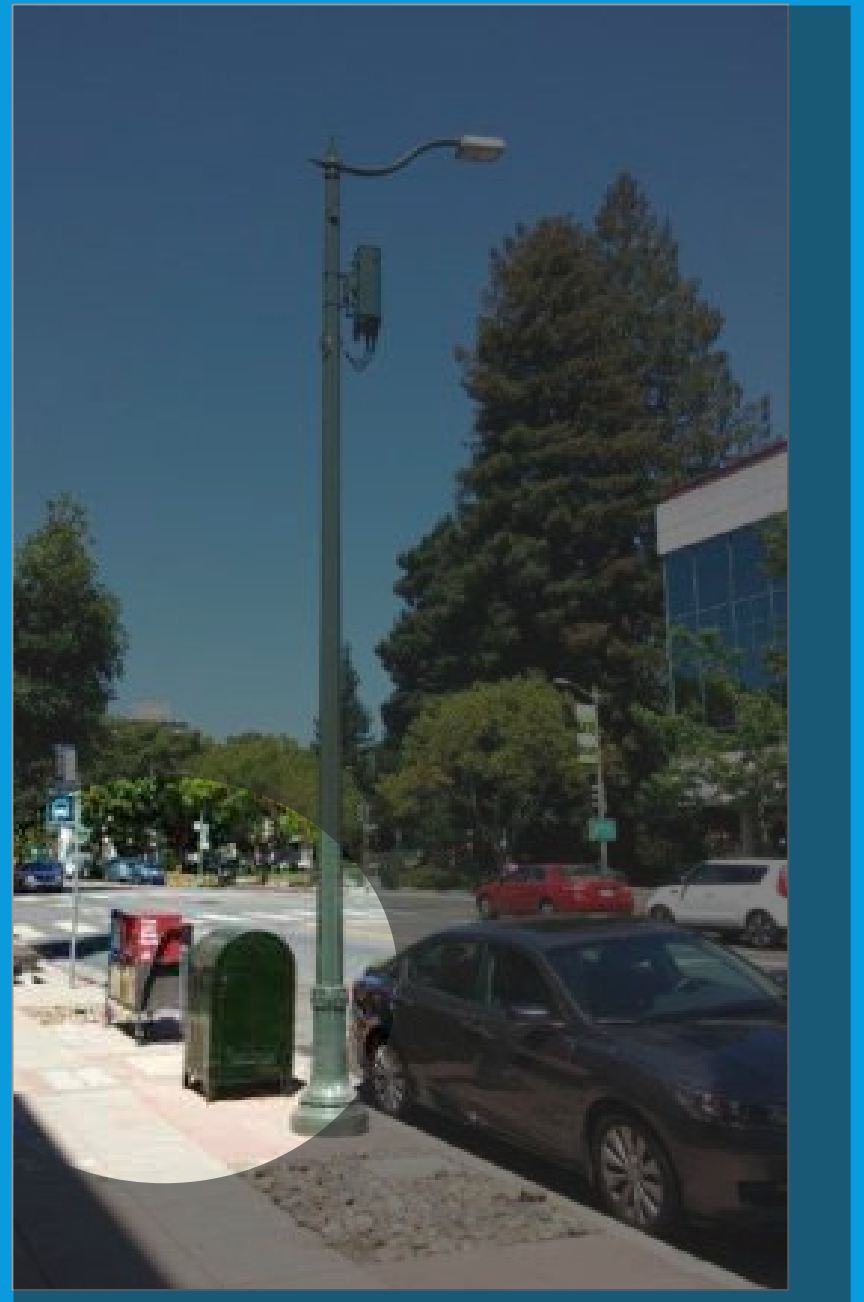


Strand mount on utility cable



Camouflaged Antenna on Streetlight

Camouflage antennae, and other creative design solutions help us provide necessary infrastructure that doesn't distract from local aesthetics



Faux mailbox



Wooden pole with equipment shroud



Equipment on lamp of streetlight

Paint color, antenna coverings, and pole types can be chosen to blend with other adjacent communications equipment and infrastructure.





Real World Experiences / Obstacles So Far

- Equipment size provisions
- New poles vs. utility/government owned poles
- Wireless attachment rates
- Permitting process, review & resubmittals
- Site build complications
- Waivers
- Denial of permits
- Prohibiting new small wireless facilities in the ROW
- Review outside of jurisdiction



Current Law and New Legislation

Permits will no longer be required for:

- Maintenance
- Repair
- Replacement
- Extensions of facilities on private property
- Upgrade of aerial facilities

Permits may still be required for any activity that involves excavation in the ROW, closure of a sidewalk, vehicular or parking lane.

Shot Clocks for permit applications will be applicable to **both** wireless and wireline permit applications.

Local jurisdictions may not apply local permitting requirement to FDOT ROW.

Provisions to reconcile underground utility requirements with permits for small wireless facilities.

Provisions for aesthetics have been expanded and clarified.



Current Law and New Legislation (cont'd)

Registration has been streamlined and simplified and is limited to:

- Name of the Registrant
- Contact information of the Registrant
- Certificates from the Florida PSC (wireline), FCC (wireless), Dept. of State (cable or video)
- Statement of Pass-Through Status
- FEIN
- Proof of Insurance



- CST – Many counties elected to collect Local Communications Services Tax (CST) in lieu of charging permit fees



What to expect moving forward?

- Ask your staff the status of your permit process. Are they current? Do they have a backlog?
- Have staff prioritize their understanding of the effect of the new legislation on your permit program (July 1 is coming!).
- Can you agree with your local providers what permits will be covered under the new legislation?
- “Wireless provider” or “wireless infrastructure provider”
- Certain work will no longer require a permit. Do you and your local providers agree on what exactly will be exempt?
- How will you implement the new law (after July 1) without codifying it in your process (i.e. prior to updating your codes)?
- Determine what/when ordinance changes will be required to implement the new law. Does your County Attorney agree?
- Determine what, if any, process changes will be required.
- Determine what, if any, staffing changes will be required.
- Decide if adopting standards/examples of permit submittals would be helpful to everyone involved.
- Determine how you will handle existing wireline permits (if you have a backlog).
- Face-to-face meetings with industry as you work through issues (e.g. Monthly? Bimonthly?)

Questions?

Mobilizing media
and entertainment



Rich user-generated
content



Congested
environments



High-speed
mobility



5G

5G is essential for
next generation
mobile experiences

- Fiber-like data speeds
- Low latency for real-time interactivity
- More consistent performance
- Massive capacity for unlimited data

Connected cloud
computing



Immersive
experiences



Connected
vehicle



Augmented
reality

