

5G is the Answer to Our Growing Data Needs

4G MADE OUR NETWORKS FASTER AND OUR LIVES EASIER

5G WILL BE A MASSIVE LEAP



5G Benefits And Wireless Network Investment

IMPROVE COMMUNITIES ACROSS AMERICA



3M

NEW JOBS



\$500B

CONTRIBUTION
TO GDP



\$275B

NEW WIRELESS
INVESTMENT



\$160B

SMART CITY BENEFITS
AND SAVINGS

"How 5G Can Help Municipalities Become Vibrant Smart Cities," Accenture Strategy, Jan 12, 2017, available at:
https://newsroom.accenture.com/content/1101/files/Accenture_5G-Municipalities-Become-Smart-Cities.pdf

Small Cells

WHAT'S NEXT

- **NEW OPPORTUNITIES.** Network can now be extended on common structures like municipal street lights and utility poles
- **~300K.** Number of small cells needed in next 3-4 years



Small Cells

Small cells are wireless antennas, typically no more than six cubic feet in volume that can be placed on an existing structure such as a streetlight, rooftop, utility pole.

- Leverages existing structures
- Power typically exists
- Backhaul run inside/along pole

Small Cell Benefits

- **INCREASED CAPACITY.** Small cells are the key way to densify the network and serve growing usage
- **ENABLES 5G.** Future services will require small cells due to the propagation characteristics of 5G spectrum
- **EFFICIENCY & RESILIENCY.** Small cells can be deployed on existing structures; underlay network provides for additional capacity layer

Small Cells



Small Cells

THE CHALLENGES

- **DENIED ACCESS.** Rules do not contemplate small cells
- **DELAY.** 2+ year process to site a single small cell
- **COST.** Fees that do not correspond to actual cost

TwinCities.com
PIONEER PRESS

Supply and demand: City asks T-Mobile for \$7,500 after Verizon paid \$600

by Frederick Melo

February 2017

“T-Mobile is looking to install 40 pole-top antennas in St. Paul, but the city’s consultants are quoting prices that are more than 10 times higher than what Verizon agreed to three years ago.”

New Networks, New Rules

- **GREATER ACCESS.** Improved access to municipal facilities and rights of way
- **REDUCED COSTS.** Reasonable cost-based fees for new 5G deployments
- **MODERNIZED PROCEDURES.** Improved timelines and more uniform standards



Cities and towns which are first to facilitate the wireless infrastructure evolution will see the greatest benefit.



Accenture Strategy

JANUARY 2017

Municipalities' Key Role

- Cities and towns retain **local oversight** over the permitting process, and have the right to deny an application that does not meet objective requirements
- Municipalities **retain requirements** for building, electrical and public way use permits