

Future of Wireless: 5G & Small Cell Deployment

DC Department Of Transportation

September 6, 2018



CTIA Represents the U.S. Wireless Industry

Members Include:

- Wireless carriers
- Device manufacturers
- Suppliers
- App companies



Wireless in D.C.

- **11,800 JOBS:** The number of jobs the industry supports in the District.
- **\$1.7 BILLION:** The amount the industry generates to DC's GDP.
- **1.5 MILLION:** The number of wireless subscriber connections in the District.



For decades, the evolution of communications technology has laid the foundation for broad economic growth across the United States benefitting towns and cities large and small.



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Data-Only Devices (Millions)



5G is the Answer to Consumers' Growing Data Usage

4G MADE 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

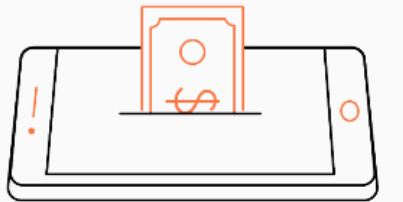
5G Economic Benefits: District of Columbia



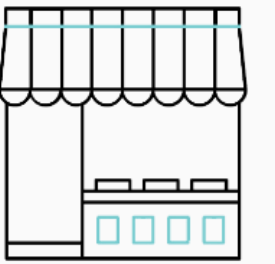
- 6,524 jobs created
- \$575 million in estimated network investment
- \$1.06 billion in estimated GDP growth

Improving Communities Across America,
from small towns to big cities.

✓ \$275B New Wireless Investment



✓ 3 Million New American Jobs



✓ \$500B Contribution to GDP

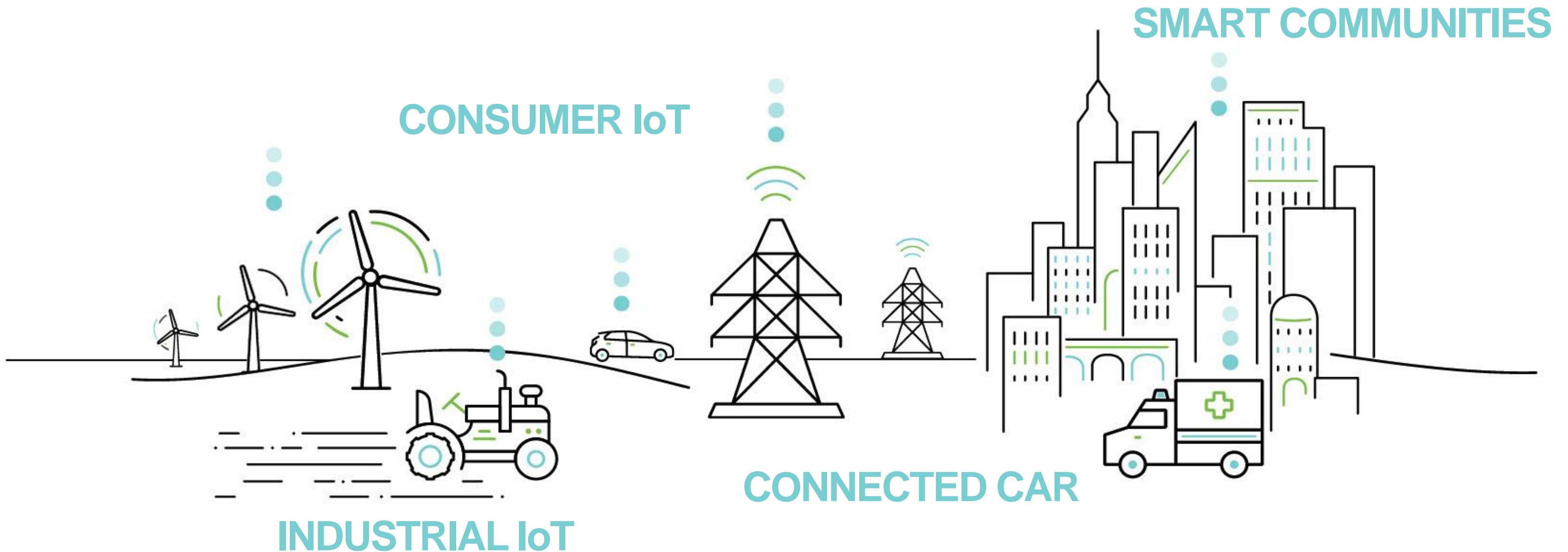


✓ \$160B in Smart Community
Benefits & Savings

by reducing energy usage, decreasing traffic
congestion and reducing fuel costs



| 5G Connecting Everything



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 that can be placed on an existing structure such as a streetlight, rooftop, utility pole.



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

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.



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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





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