



# The Future is Now: 5G & Small Cell Deployment

Pennsylvania Senate Communications and Technology Committee

April 28, 2021

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CTIA

# CTIA Represents the Wireless Industry

Members include wireless carriers, device manufacturers, suppliers and app companies



# Wireless Impact in Pennsylvania



**102,600**

WIRELESS-RELATED  
JOBS



**\$16.2B**

ECONOMIC IMPACT  
(GDP)



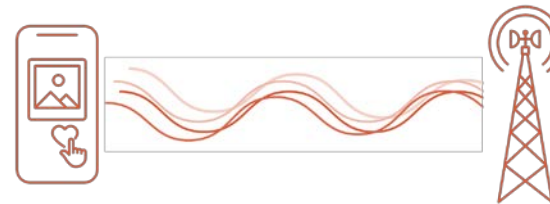
**43%**

ADULTS ARE  
WIRELESS-ONLY



**92%**

HIGHER PAY FOR  
WIRELESS JOBS



**13.6M**

WIRELESS  
SUBSCRIBER  
CONNECTIONS

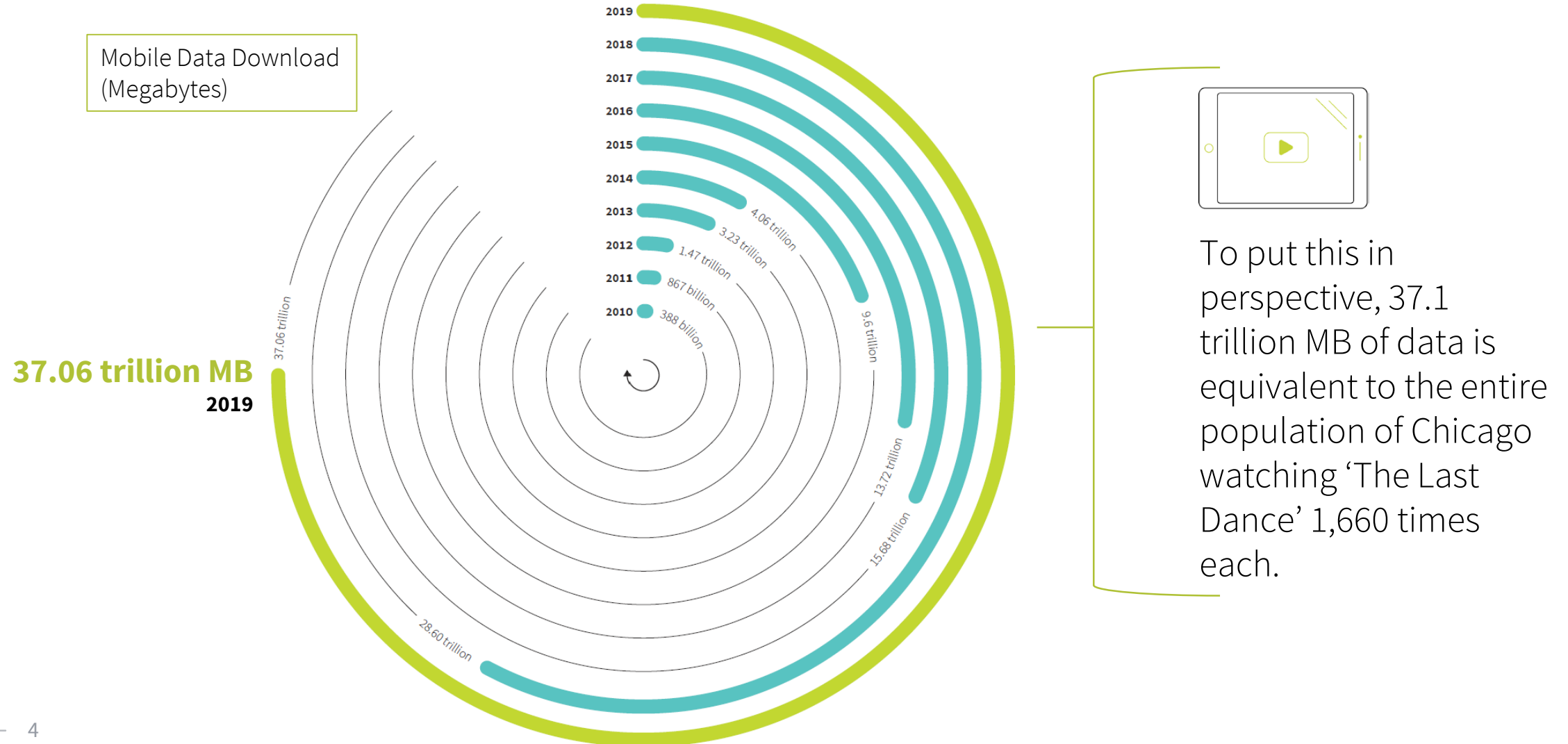


**\$5.4 B**

PAY & BENEFITS  
FROM WIRELESS  
INDUSTRY

# Demand for Mobile Data Continues to Grow

96x more mobile data was used in 2019 than in 2010



# 5G is the Answer to Consumers' Growing Data Usage

4G made networks faster and our lives easier; 5G will be a massive leap



**5x**

MORE RESPONSIVE

UP TO  
**100x**

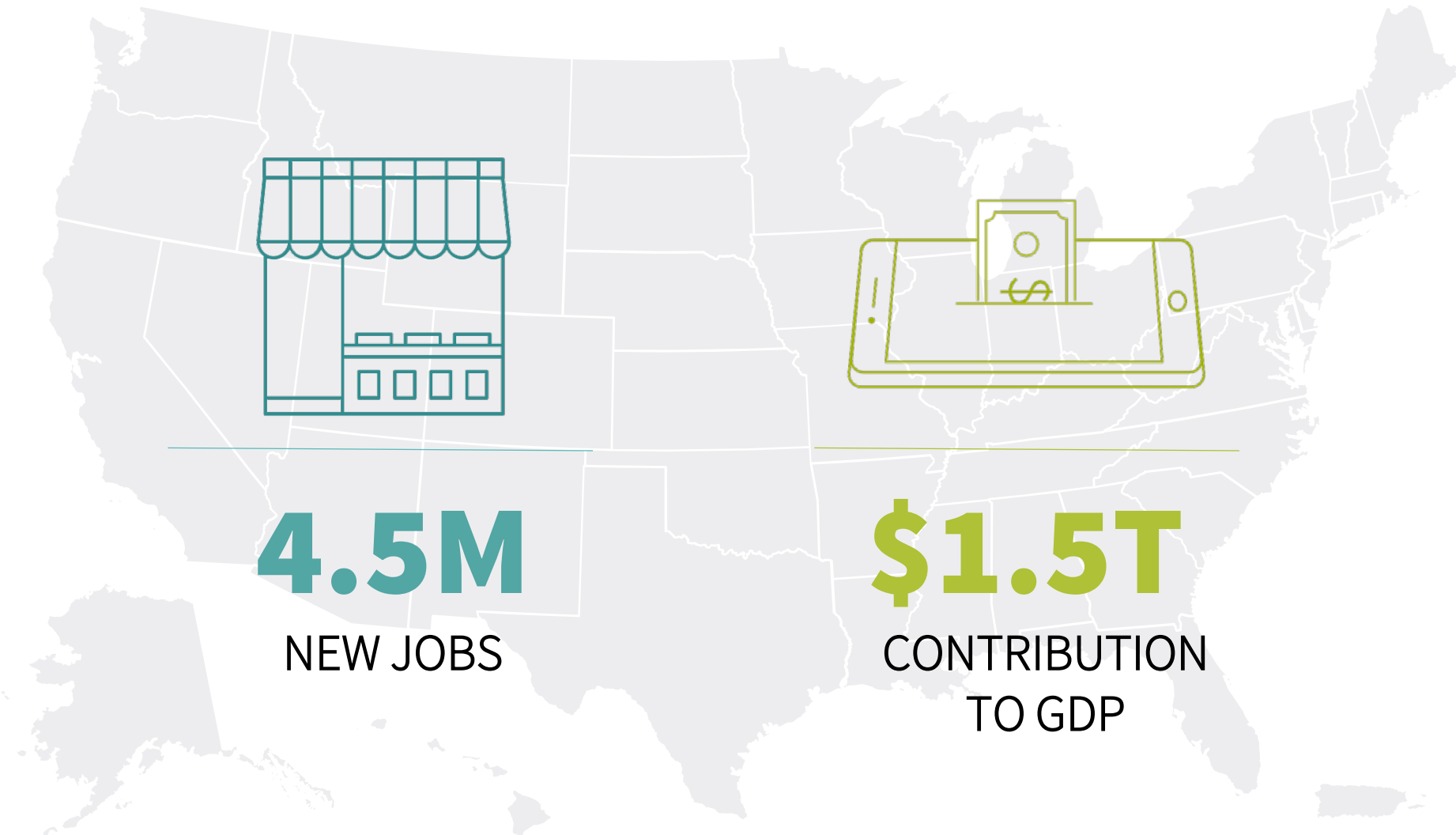
FASTER

**100x**

MORE DEVICES  
CONNECTED

# 5G Economic Benefits

Improving communities across America, from small towns to big cities



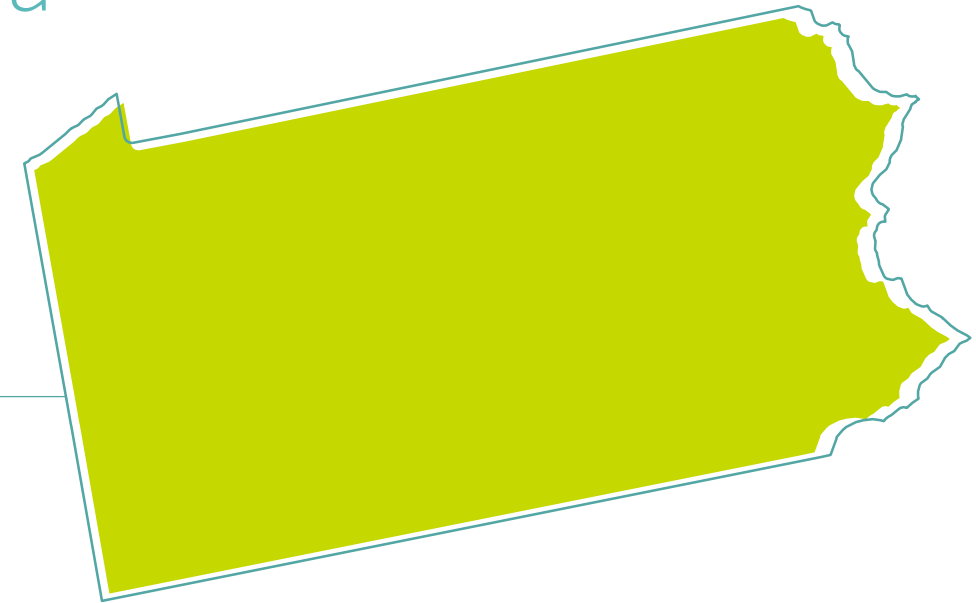
# 5G Economic Benefits: Pennsylvania

**126,500**

**NEW JOBS**

**\$45.1B**

**CONTRIBUTION  
TO GDP**

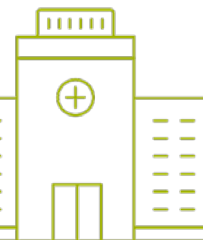
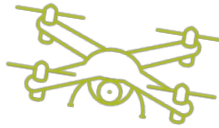
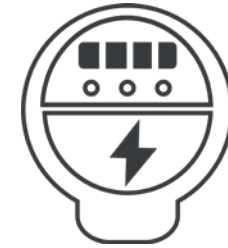
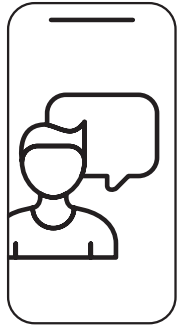


Metro Areas	New Jobs	GDP Growth
Allentown-Bethlehem-Easton, PA-NJ	7,800	\$2.8 B
Harrisburg-Carlisle, PA	6,900	\$2.2 B
Lancaster, PA	6,100	\$1.8 B
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	76,200	\$32.4 B
Pittsburgh, PA	25,800	\$8.9 B

# 5G Connecting Everything

## SMART COMMUNITIES

### CONSUMER IoT



### AUTONOMOUS VEHICLES

### INDUSTRIAL IoT



# The Infrastructure of 5G

Enhanced coverage, growing demand for wireless, and new 5G networks require all types of wireless infrastructure.



## Cell Tower

Common along highways



## Rooftop Cell Site

Common in urban areas



## Monopole Cell Site

Common in suburban areas



## Small Cells

Typically placed on existing structures

# Small Cell Benefits

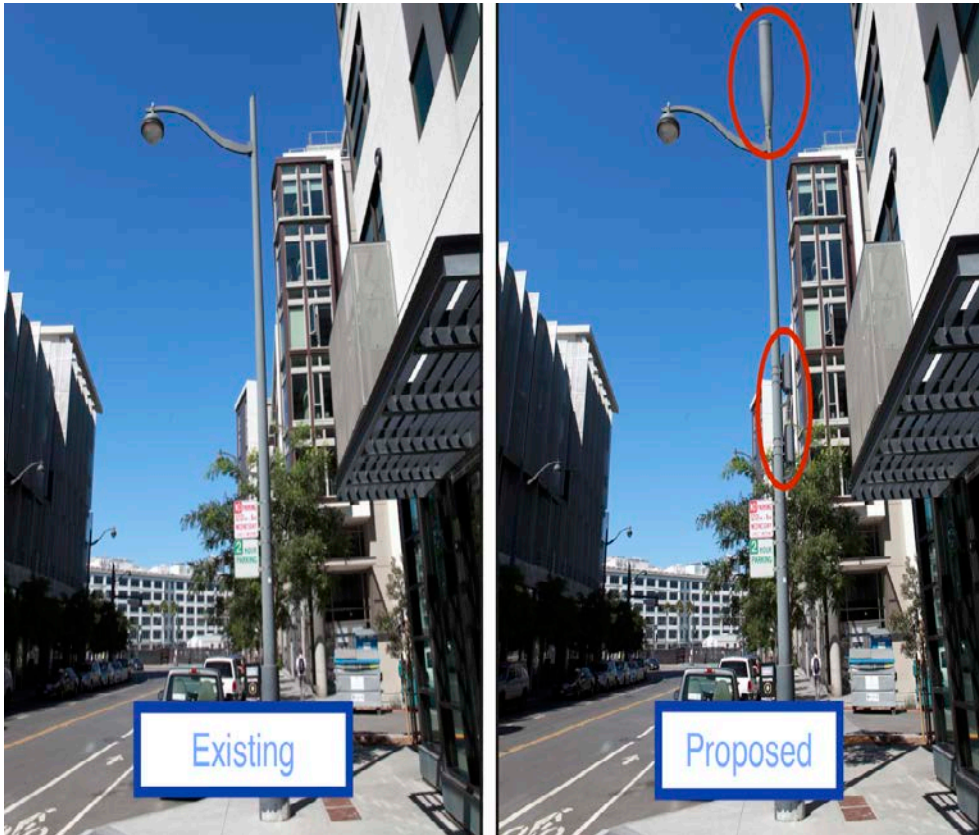
Increased capacity and reduced congestion



Today, small cells are being deployed that enhance existing cell towers by densifying wireless networks. This deployment provides the additional capacity and reduces congestion to accommodate the growing demand for mobile data.



# Small Cells



# Small Cells



# New Networks, New Rules

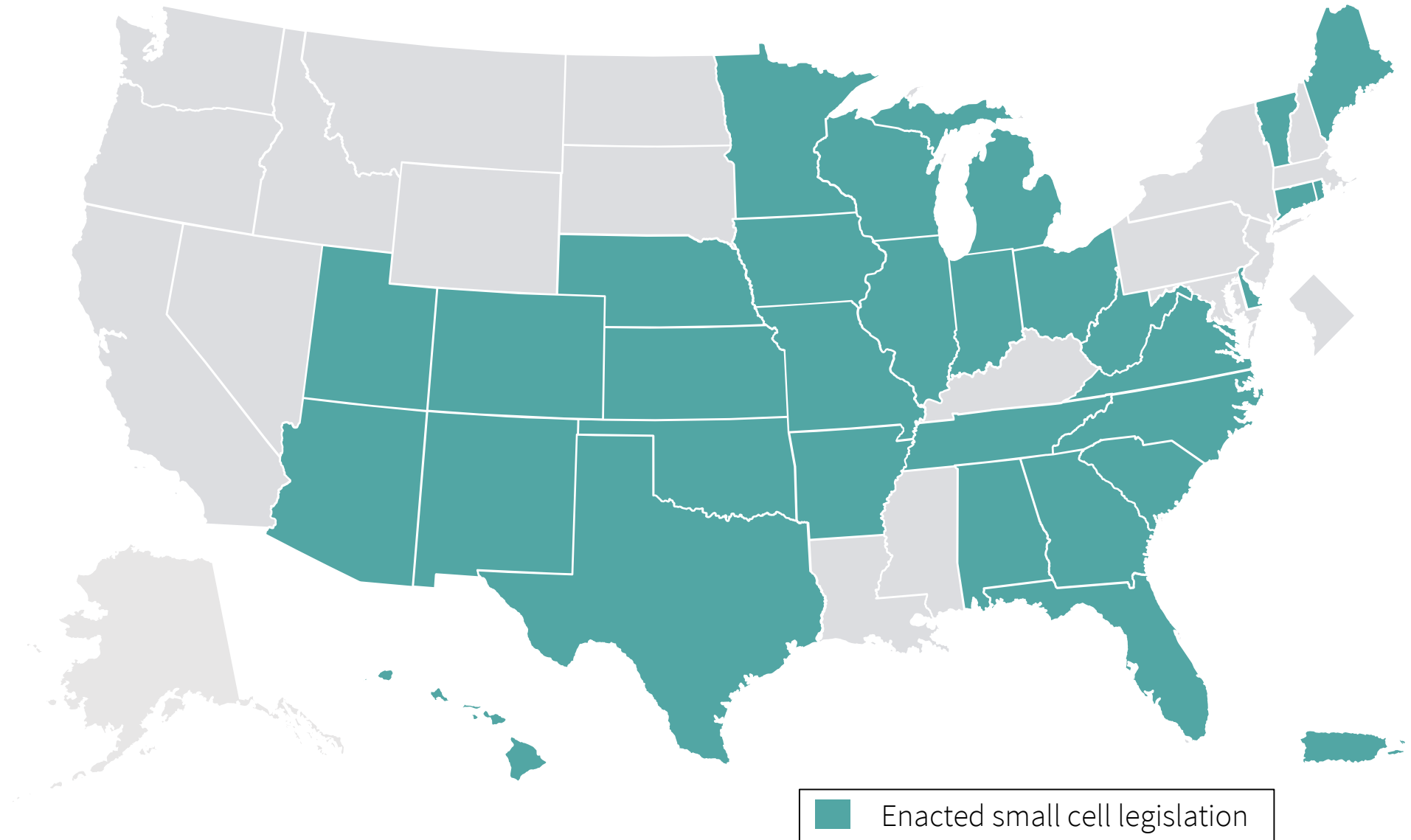
- **Reasonable Access.** Improved access to municipal facilities and rights of way
- **Reduced Costs.** Reasonable cost-based fees for new 5G deployments
- **Modernized Procedures.** Improved timelines and more uniform standards

“5G will unlock economic benefits across the U.S., broadly reaching into big cities and smaller communities. In order to bring robust economic and job benefits to fruition, government at the federal, state, and local levels must work to keep 5G’s rollout moving ahead.”

— Boston Consulting Group  
February 2021



# State Small Cell Legislative Activity



# Pennsylvania Small Cell Legislation

Legislation is needed in Pennsylvania, as has been demonstrated in 31 states & Puerto Rico

- Streamline the approval process for small wireless facilities/small cells in the public rights-of-way
- Establish predictability and certainty through shot clocks and reasonable fee levels for use of municipal infrastructure
- Industry agreement with the four Municipal Associations in PA
- This agreement builds on federal law/FCC rulings on this subject
- As with any negotiation, industry did not get everything asked for but agreement but meets core points



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