T··Mobile·

# Current Issues in Wireless Policy

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# Overview



- About the Un-carrier
- Efforts to Combat Robocalling
- 5G: why we need it and what we need to make it happen
- Infrastructure Rules for the Modern World

# Un-carrier Facts



## Our Company

- 3rd largest national wireless carrier
- Headquartered in Bellevue, WA
- Employs approximately 50,000 nationally
- 62% of workforce is ethnically diverse and 42% are women
- Two major brands: T-Mobile and Metro by T-Mobile
- Launched 13 Un-carrier initiatives aimed at eliminating customer pain points

## Our Customers

- 81.3 million nationally (33.4 million at the end of 2012)
- 24 consecutive quarters of over 1 million customers added each quarter
- 0.88% postpaid phone churn in 1Q19 – an all-time record low

## Our Network

- 99% of Americans covered with our 4G LTE network
- Nearly 3,500 cities and towns live with 600 MHz
- On track to have the first nationwide 5G network available in 2020

# Robocalling: STIR/SHAKEN



- It is estimated that **50%** of U.S. mobile traffic will be scam calls this year.
- The Un-carrier has led the industry in call protection. Since launching Scam ID and Scam Block services in 2017, T-Mobile has flagged over **10 billion** calls as Scam Likely and blocked more than **a billion** scam calls.
- **STIR** (Secure Telephony Identity Revisited) and **SHAKEN** (Secure Handling of Asserted Information using toKENs) are industry-developed and FCC-recommended standards for the cryptographic signing of telephone calls. It is intended to eliminate the use of illegitimate spoofed numbers from the telephone system.
- When adopted industry-wide, these standards will allow customers to know the calls they are receiving are verified as authentic and not spoofed or hijacked.

# Robocalling: Industry-leading Protections



- **January 2019**, T-Mobile launched its **Caller Verified** technology on certain handsets, becoming the first in the industry to launch caller verification using the STIR/SHAKEN standards.

Customers see "Caller Verified" on the incoming call screen when T-Mobile has verified that the call is authentic and not intercepted by scammers/spammers.

- **April 2019**, T-Mobile and Comcast launched an industry first, **cross-network robocalling protection** built on STIR/SHAKEN standards, giving consumers confidence that the call they're getting is from a person, not a robocaller or scammer. **This is the first step towards industry-wide call verification.**

# 5G Advantages

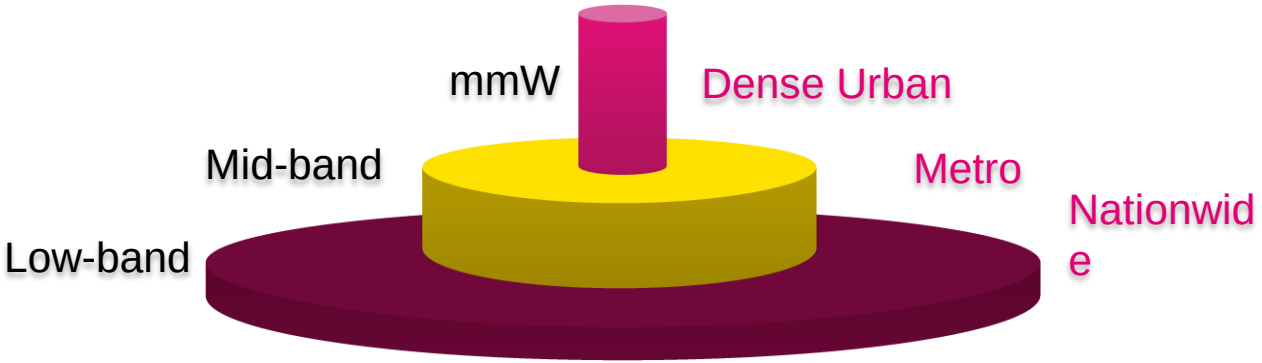


| | | |
|---|---|---|
| UNPRECEDENTED CONNECTIONS | 100X | 5G will handle 100X more devices |
| UNMATCHED SPEED | 100X | 5G will reach peak theoretical speeds of 10 Gbps |
| EXTRAORDINARY RESPONSE TIME | 10X | Projected reductions in latency (from 10 – 20 ms today |

# 5G Spectrum



- The FCC has committed to help ensure the United States wins the global race to 5G to the benefit of all Americans.
- Real, game-changing, innovative 5G requires a combination of spectrum




- Mid-band spectrum is key to providing an ideal mix of coverage and capacity for 5G networks.
- Making spectrum available must be a top U.S. priority in order to win the race to 5G.

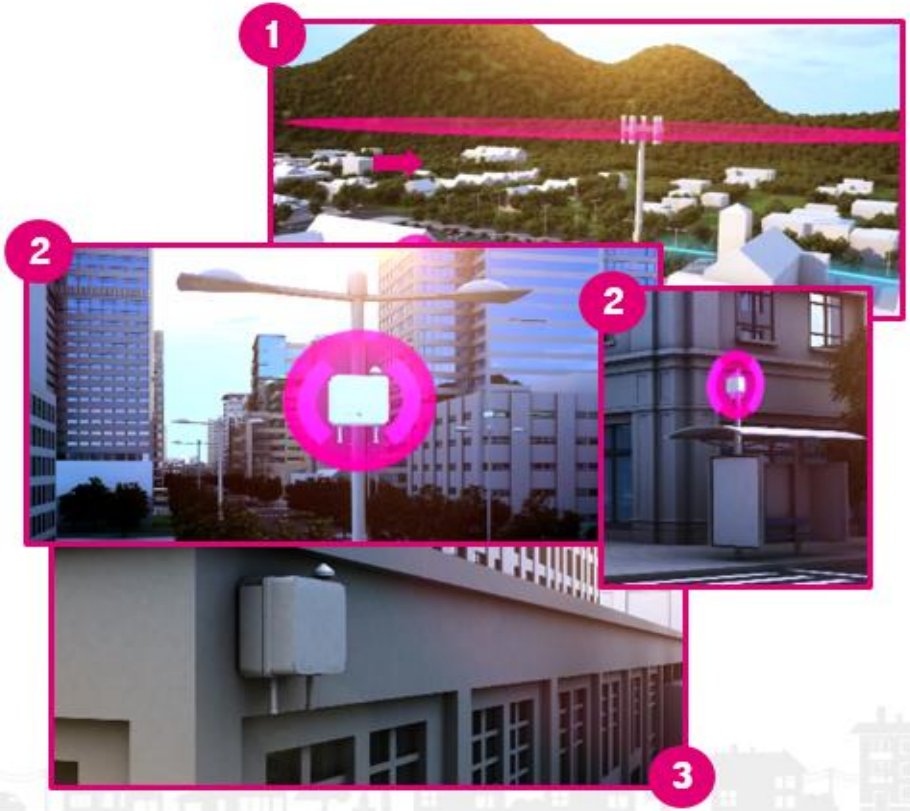
# Infrastructure



- Rules governing wireless infrastructure need to be modernized to reflect evolving wireless infrastructure.
- FCC is focused on removing regulatory barriers that would unlawfully inhibit the deployment of infrastructure necessary to support 5G services.
- In 2018, the FCC enacted reforms to remove many of these barriers by:
  - Exempting small cells from historic and environmental reviews, while streamlining these review processes for all wireless deployments.
  - Clarifying that while localities have the right to deny a siting application, state and local moratoria on wireless deployments are prohibited.
  - Building on the efforts of many states around the country (24 and counting) that have already passed small cell legislation and providing guardrails for a national framework for siting practices, while respecting the important role that states and localities play in the siting process.

# Antenna Placement






1) Monopole with antenna array at the top
2) Small cell antennas on light poles, can also be mounted on utility poles, bus stops, billboards, etc.
3) Building facades can be used for small cell deployments

# Questions?



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