T··Mobile··

Stronger Networks Make Stronger Communities

MEETING THE GROWING DEMAND FOR WIRELESS

5G AND THE INTERNET OF THINGS

PUBLIC SAFETY AND RADIO EMISSIONS

WIRELESS SITES AND PROPERTY VALUES

BUILDING A NETWORK READY FOR THE FUTURE

Reliance on Wireless Increases Every Day

Mobile technology is essential. In communities across America hundreds of millions of mobile users are browsing the internet every hour, using social media, sending emojis and watching live videos.

Data usage has skyrocketed 40 times year-over-year since 2010* and shows no signs of slowing down.

A strong network fuels economic development and addresses the most pressing challenges facing communities today – from public safety, to health care and transportation, or natural disasters and local emergencies.

95%
of Americans own a cell phone
Source: pewresearch.org

77%
of Americans own smartphones
Source: pewresearch.org

70%
of the time spent on digital media is on a mobile device
Source: cdc.gov

55+%
of U.S. households do not have a landline phone
Source: cdc.gov

*Source: 2018 CTIA State of Wireless report

Planning for the Future
With 100x greater capacity than 4G LTE, the next generation of wireless – 5G, and the smart technologies it will support – will revolutionize the way we live. Meeting this opportunity hinges on network infrastructure that provides coverage and capacity.

Stronger Networks Make Stronger Communities
By working together, we can expand economic opportunity, enhance public safety systems, implement smart city technologies and increase mobile network speed and reliability for all.

This is why T-Mobile relies on reasonable local policies and regulatory practices that allow for new infrastructure to be built.

Learn more about the way we deploy our network and the technologies we use at **HowMobileWorks.com.**

The Next Generation

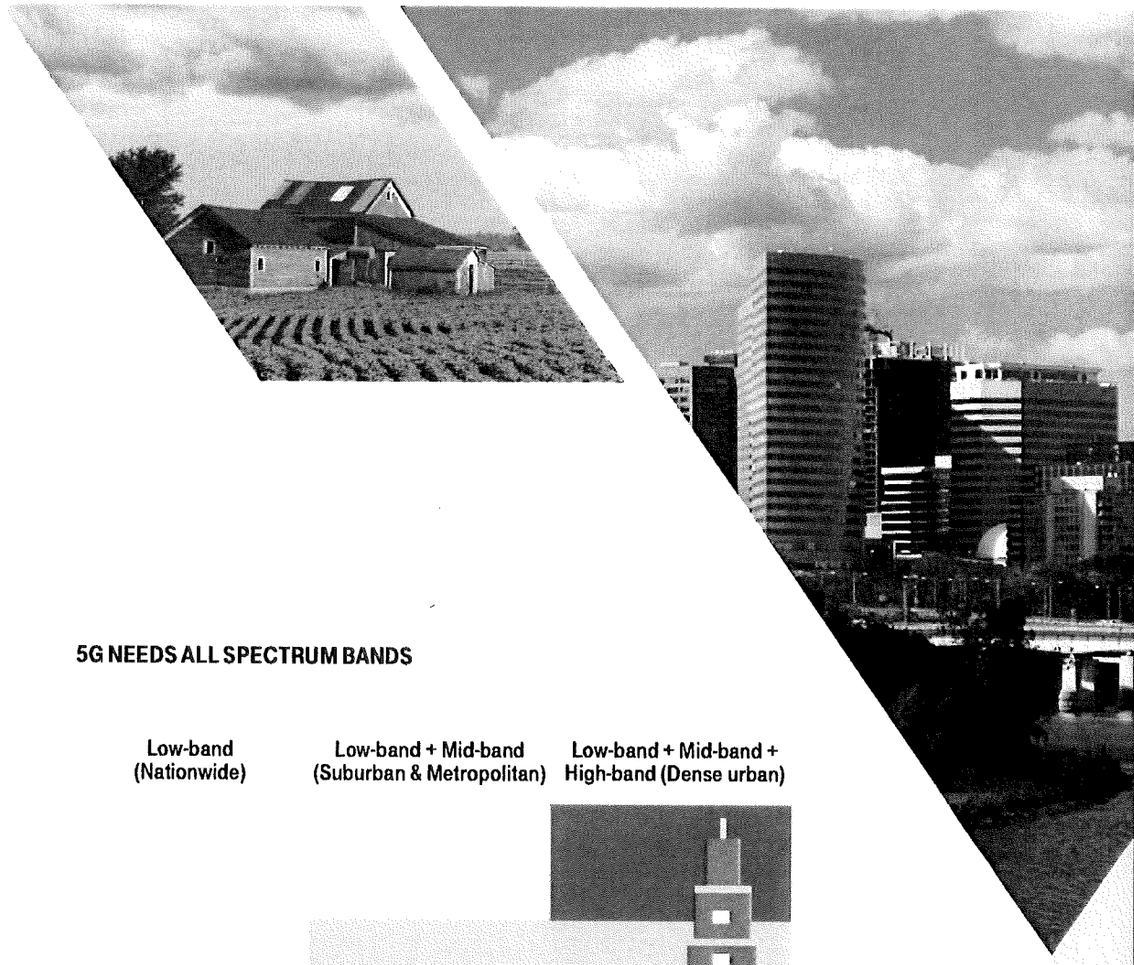
The next standard in wireless technology is called fifth generation, or 5G for short.

5G Technology Will Impact Everything
Live remote classrooms, remote surgery and doctor visits will be enabled by 5G. It will present new possibilities for public safety, agribusiness and transportation, while unlocking the full commercial potential of delivery drones and self-driving cars.

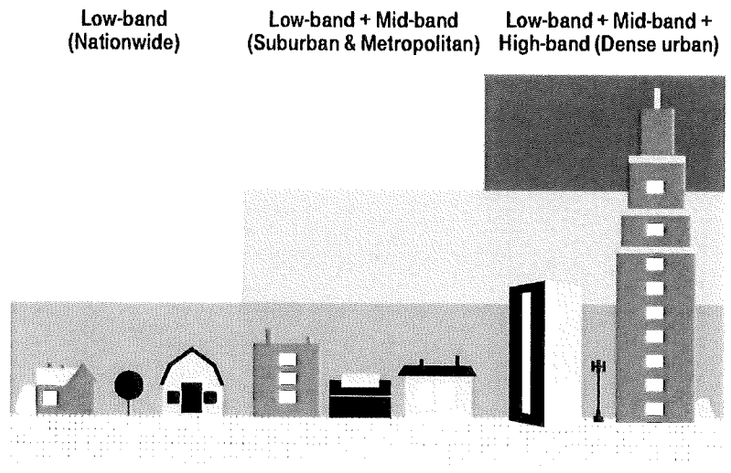
5G and the Internet of Things (IoT) will unleash millions of ideas and products for commerce and life. For it to succeed, it needs a denser network and robust wireless infrastructure in every community.

Ensuring 5G for All
5G networks are designed to work in conjunction with 4G networks using a range of standard cell sites, small cells and dedicated in-building systems. T-Mobile is building the infrastructure necessary to deploy 5G using multiple spectrum bands as service is launched across thousands of communities.

One Network – Multiple Spectrum Bands
T-Mobile's multi-spectrum strategy is unlike any other carrier. It is designed to provide a true nationwide 5G experience – whether customers are using their mobile device in a city, in suburbia or on the rural backroads of America.



5G NEEDS ALL SPECTRUM BANDS



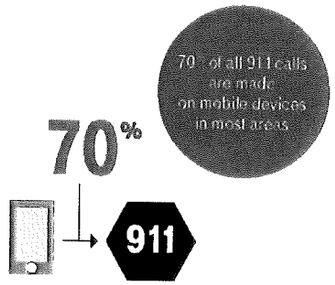
Enhancing Public Safety

A strong network can support the public services that help us feel safe at home and in our communities.

Mobile Connectivity and Enhanced 911 Service

Mobile connectivity is used by first responders and people in distress whenever emergencies or man-made disasters occur. Enhanced 911 systems (E911) provide dispatchers with the location data they need to find wireless callers in need of help.

Precision is vital. The Federal Communications Commission (FCC) requires horizontal location accuracy to be within 50m (162 ft) for 50% of mobile 911 calls.



Source: fcc.gov

BEYOND 911

Messaging apps, social media and geolocation services allow educators to alert parents in emergency situations, search and rescue teams to pinpoint missing hikers, and emergency alert networks to find missing children and seniors, or connect families during natural disasters.

About Radio Emissions

Radio waves are created by harnessing naturally occurring electromagnetic fields. All wireless communications travel via different bands of radio waves – also referred to as radio frequencies or spectrum.

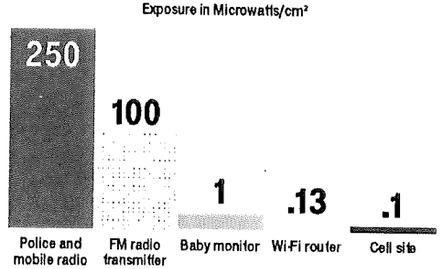
Radio waves let us send and receive voice, text, photos and videos on our phones. They are also used by common home electronics.

5G and Health

Misleading or confusing reports on potential links between 5G and adverse health effects often spread across the internet. T-Mobile's 5G cellphones will operate on low-, medium-, and high-band radio frequencies. These frequencies are in a completely different area of spectrum than DNA-damaging frequencies used for tanning beds, x-rays and gamma rays.

Typical RF exposure from common devices

Exposure in Microwatts/cm²



AMERICAN CANCER SOCIETY

"Public exposure to radio waves from cell phone tower antennas is slight for several reasons. The power levels are relatively low, the antennas are mounted high above ground level, and the signals are transmitted intermittently, rather than constantly."

WORLD HEALTH ORGANIZATION

"Studies to date provide no indication that environmental exposure to RF fields, such as from base stations, increases the risk of cancer or any other disease."

U.S. FOOD & DRUG ADMINISTRATION

"Available scientific evidence ... shows no increased health risk due to radio frequency (RF) energy ..."

Customer Satisfaction Drives Cell Site Locations

Providing reliable service to millions of customers means our network performance is continuously optimized across tens of thousands of cell sites. But optimizing existing sites is not enough.

We must have wireless technology in proximity to where people use their phones. New infrastructure and technologies - including electric power and fiber optic cables, radios that send-and-receive data, antennas and more - are indispensable. More customer devices on our network require a denser network - which comes from deployment of additional wireless infrastructure.

When it comes to site selection, our process is more than thorough, it's exhaustive. Here are just a few of the factors we consider before designing and installing a cell site:

NETWORK USAGE NEEDS
When data demand on a cell site is too high, capacity gets maxed out. The growing demand for capacity is why we need to densify infrastructure in certain areas.

NATURAL AND MAN-MADE OBSTACLES
Wireless networks depend on radio waves that travel through the air. Topography and other obstacles like buildings and trees can get in the way of those radio signals.

REGULATORY REQUIREMENTS
T-Mobile must meet strict regulations of the FCC - as well as tens of thousands of local, state and federal regulatory agencies and laws.

SIGNAL HANDOFF
For wireless calls to maintain connectivity as a customer drives or walks down a street, the signals from one cell site must overlap with the signals of the next cell site.

AVAILABLE SITE LOCATIONS
T-Mobile must find property owners willing to have antenna facilities placed on their property.

Enhancing Property Values

Homebuyers and renters weigh many factors when deciding where to live, including how strong their signal is on their mobile device. With 80% of mobile traffic starting and ending in buildings, poor wireless connectivity, dropped calls, and slow speeds are unacceptable - especially at home.

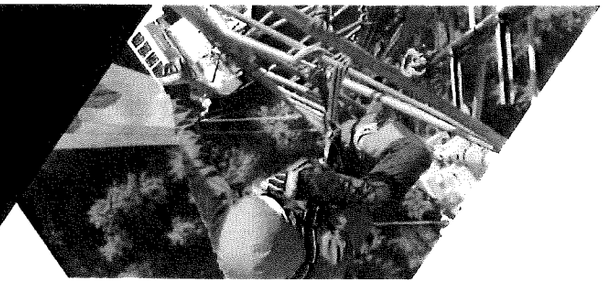
A recent study* of four metropolitan regions of the U.S. concluded that wireless communication facilities have no measurable impact on residential property values.

71%
of adults aged 25-34 live in households with only wireless phones
Source: cdc.gov

76%
of Americans ranked access to mobile service as essential as access to a hospital when buying a home
Source: Rootmetrics.com

*Source: The Impact of Wireless Communication Towers on Property Values, a study conducted by Valbridge Property Advisors

How a Strong Network Is Built



Addressing the network issues created by demand for increased coverage and capacity requires multiple solutions and sound network planning. This includes:

Standard Antenna Facilities Provide Coverage and Add Capacity
Traditional macro sites are installed on rooftops, building facades, monopoles and other steel structures. These traditional deployments provide coverage over a broad area while handling demands from many customers.

Low-Band Spectrum Travels Further, Offers Stronger Connectivity
In 2017, T-Mobile paid the federal government $8 billion for 600 MHz low-band spectrum. This spectrum, which covers America's rural towns and communities as well as cities, travels further and provides stronger connectivity inside offices and homes.

Small Cells in the Public Right-of-Way Add Capacity
Small cell antennas placed strategically along transportation corridors and busy sidewalks increase network capacity in densely populated areas. Small cells are low-power, cover a small geographic footprint, and have a small form factor when mounted to light and utility poles.

COVERAGE AND CAPACITY ARE CRITICAL FOR WIRELESS NETWORKS

Ever had what looks like five bars of coverage on your mobile phone, yet can't send a text message or photo?

This is because there is a finite amount of network capacity. It's just like a traffic jam during rush hour.

T-Mobile is Ready to Partner

As the Un-carrier, we changed the wireless game by removing pain points and putting our customers first. And when it comes to building a stronger network, we have the same approach – we put communities first by developing the most effective solutions to meet coverage and capacity demands.

Contact Us
T-Mobile's local teams are wireless experts with knowledge of the unique network needs in each community. We work with jurisdictions of all sizes to find solutions that will support public safety, economic development, and provide faster, more reliable service for all.

Learn more: **HowMobileWorks.com**
Email: **SitingRelations@T-Mobile.com**

T-Mobile

Since 2012, T-Mobile's customer base has more than doubled. We are the nation's third largest wireless company with 83+ million customers.

metro by T-Mobile

One of our flagship brands, Metro by T-Mobile is part of T-Mobile's nationwide network. For populations that rely on wireless rather than home anchored broadband – including rural, low-income and migrant communities – Metro by T-Mobile provides national connectivity to family, work and the internet.

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12920 SE 38th Street
Bellevue WA 98006

For the 11th straight year, T-Mobile has been recognized by Ethisphere as one of the World's Most Ethical Companies. The program honors companies that excel in three primary areas: 1) Promoting ethical business standards, 2) enabling managers and employees to make good choices, and 3) shaping future industry standards by forging tomorrow's best practices today.

2019 WORLD'S MOST ETHICAL COMPANIES™
WWW.ETHISPHERE.COM

Learn more: **HowMobileWorks.com**

Tillman Infrastructure

LLW LEWIS LONGMAN WALKER

FACT SHEET

- Tillman Infrastructure submitted Conditional Use and Site Plan applications to construct a new wireless communications tower.
- Proposed location: 1601 N. 25th Street, Fort Pierce, Florida.
- Proposed tower is required to close a substantial coverage gap.
- Tillman Infrastructure is proposing to build a160 ft. monopole tower.
- Proposed tower will occupy 5.49% of the site (60 x 60 Lease Area).
- Given the small footprint of the proposed tower, this will allow for future development on remaining portion of the property.
- Proposed tower will meet ALL of the City's Code requirements.
- Proposed tower will NOT emit smoke, gas, dust or other air contaminants, noise, odors or vibrations.
- Proposed tower will be designed to support at least three carriers, one of which will be T-Mobile.
- T-Mobile will be rolling out 5G service.
- 5G will be 10x faster than 4G and support 100x more internet enabled devices.
- 5G network uses the same frequencies as baby monitors, microwaves, Wi-Fi routers.
- Proposed tower meets ALL safety and environmental guidelines for the National Federal Communications Commission (FCC) and the Federal Aviation Authority (FAA).
- Proposed tower will be designed to withstand Basic Wind Speed of 158 mph.
- Proposed tower will be designed to buckle upon itself if wind speed is exceeded and result in a portion of the tower leaning over and remaining in a permanently deformed condition.

PROPOSED WIRELESS COMMUNICATION FACILITY

Fort Pierce, Florida

T-Mobile

Tillman Infrastructure

Cotleur & Hearing

CONCEPTUAL VIEW 3 - AERIAL

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