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THE STATE OF **FIXED WIRELESS ACCESS**

Over the last year, fixed wireless has transformed the broadband industry and proven itself as one of 5G's first killer applications. Since the start of the COVID-19 pandemic, reliance on broadband has steadily increased, with data consumption growing by more than 40% since the start of 2020. With this trend, consumers and businesses are on the hunt for alternatives to traditional internet providers, an industry that consistently ranks dead last in customer satisfaction. Millions are turning to 5G fixed wireless. And there's two main reasons. For people stuck with DSL, Satellite, or no option at all, fixed wireless can offer game changing performance and speeds. And for people stuck with cable as their only option, fixed wireless can offer a new alternative, and in many cases a better price.

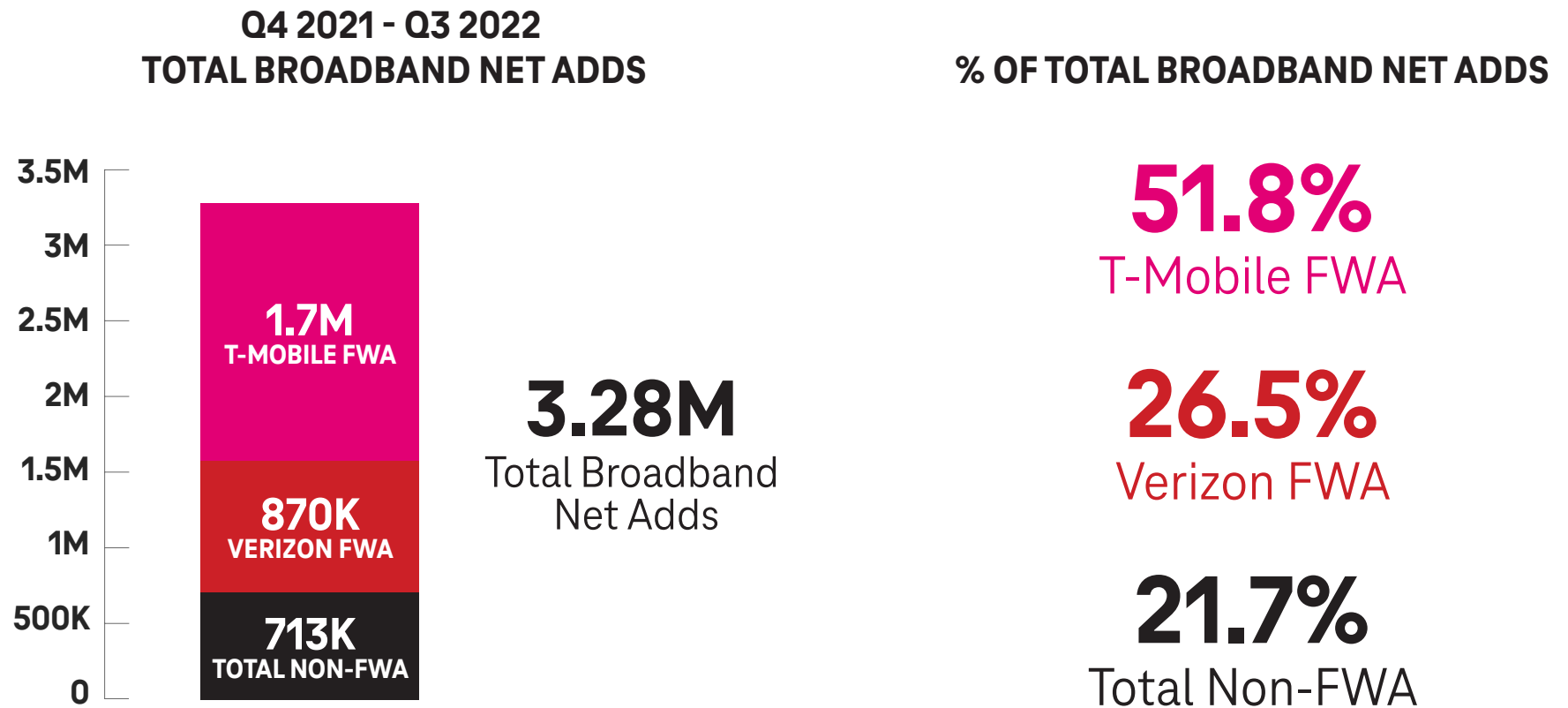
The main players – T-Mobile and Verizon – launched their 5G fixed wireless services in 2021 and have seen significant growth ever since. To better understand who these fixed wireless customers are and how they're using the service, T-Mobile examined data based on its base of 2M+ subscribers.

Sources: OpenVault Q4 2019 Report; OpenVault Q3 2022 Report, The American Customer Satisfaction Index

SUBSCRIBER GROWTH

Over the last year, most of the broadband industry's net additions have come from fixed wireless, with T-Mobile leading the way. In Q3 alone, fixed wireless added 920K new subscribers, while top cable companies added roughly 40K subscribers.

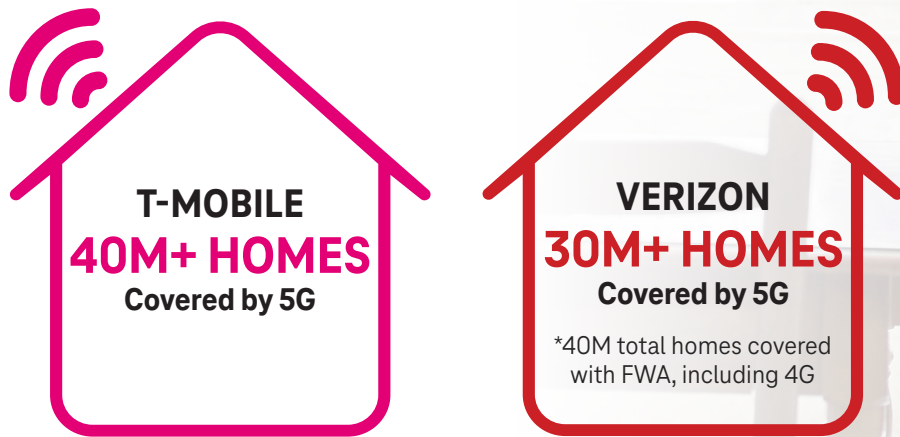
This trend is expected to continue, with T-Mobile and Verizon having 11 to 13 million total FWA customers by 2025.



Sources: T-Mobile, OpenVault, Leichtman Research

ACCESS TO FIXED WIRELESS

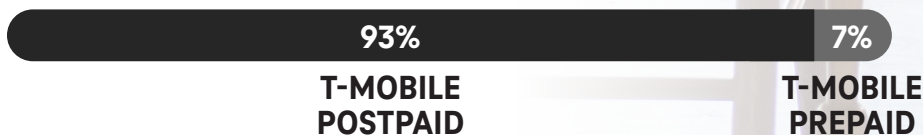
Access to fixed wireless services has increased dramatically since 2021, thanks to the growth of providers' 5G networks. T-Mobile's 5G Home Internet service is available to more than 40M homes across the country and to businesses nationwide. Verizon's service is also available throughout the country, though only about 30M homes have access to their 5G-based FWA service.



Sources: T-Mobile, Verizon Q3 2022 Earnings

SUBSCRIBER MIX

Earlier this year, T-Mobile introduced prepaid Home Internet. Here's the current mix of prepaid and postpaid Home Internet customers.



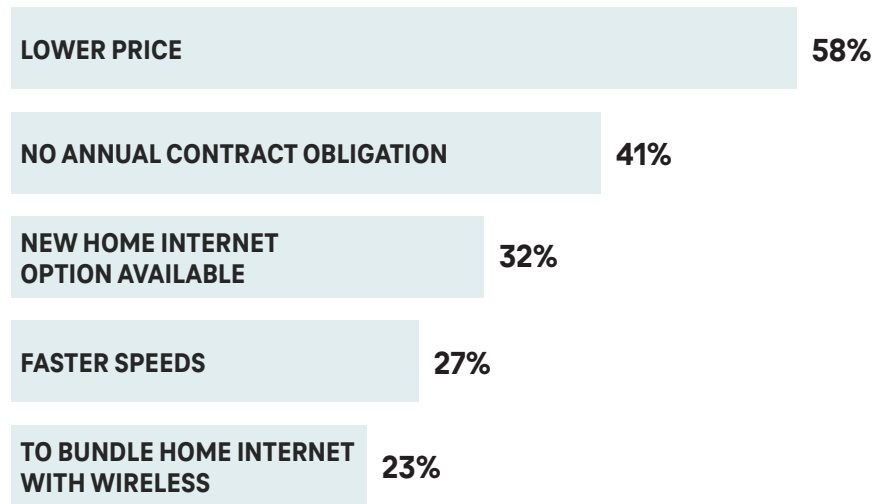
Source: T-Mobile



WHY CUSTOMERS SWITCH

Among the many reasons for switching to 5G Internet, T-Mobile customers list a lower price and no annual contract as leading factors.

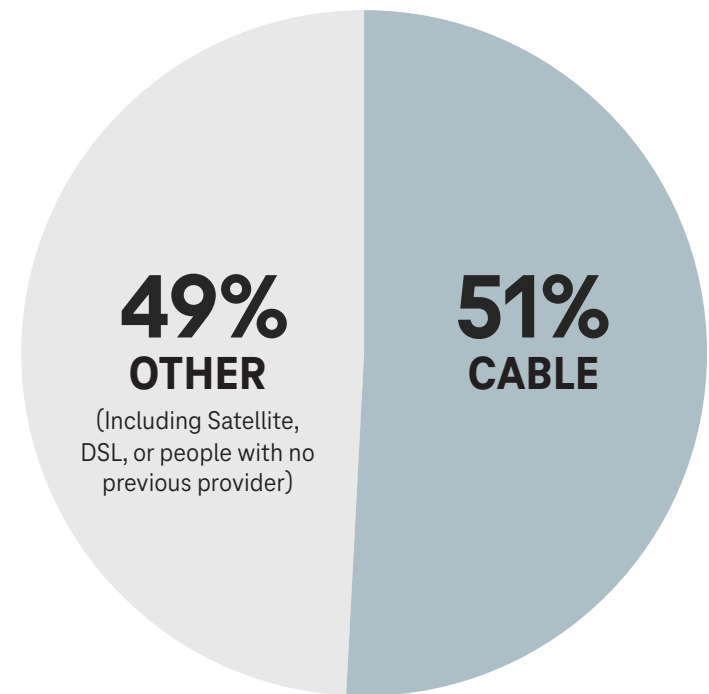
More than a third of customers also listed having a new option as a reason for switching. In 2020, it was reported by the Institute for Local Self-Reliance that more than 80M people only have one choice for home broadband where they live, with more than 45M stuck with Charter or Comcast as their only option. As internet usage continues to increase, fixed wireless services are bringing new choice and competition to these communities.



Sources: T-Mobile, Institute for Local Self-Reliance

WHERE THEY COME FROM

Customers are leaving cable providers for fixed wireless, and it's clear why. FWA services generally don't require annual contracts, monthly fees or complicated installation. Today, more than half of T-Mobile's 2M+ base of customers are coming from cable.

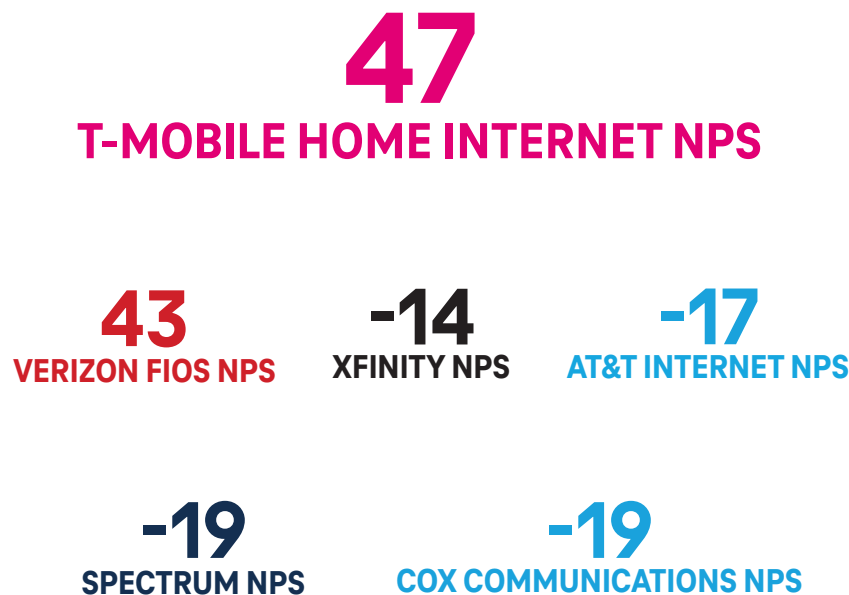


Source: T-Mobile

HOW T-MOBILE HOME INTERNET CUSTOMERS RATE THE FWA EXPERIENCE

Based on PC Mag Readers' Choice 2022, T-Mobile Home Internet has a Net Promoter Score (NPS) of 47, a higher score than any cable provider on the list. NPS is a common measure of overall satisfaction. A positive NPS reflects a higher proportion of customers who are likely to recommend.

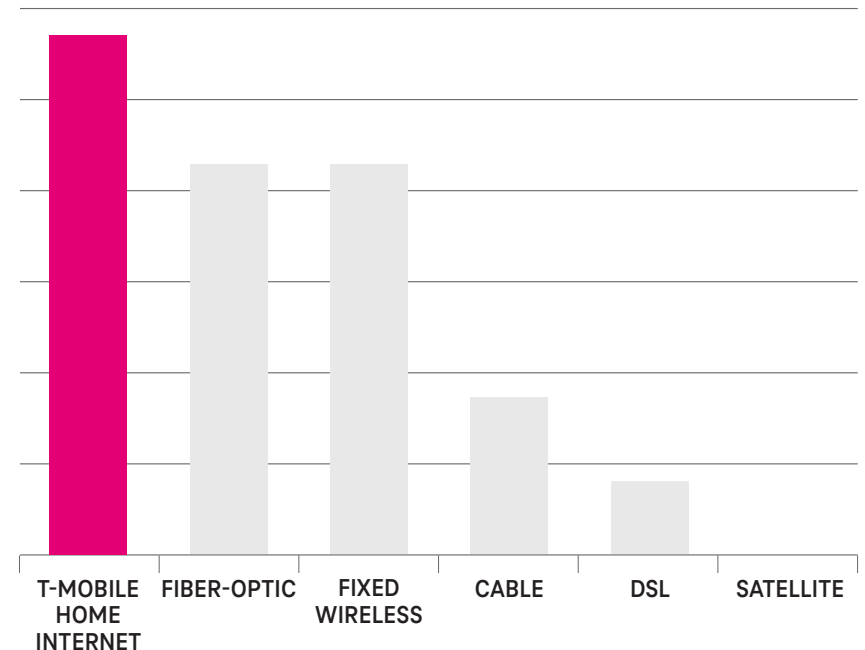
HOME INTERNET NET PROMOTOR SCORES



Source: PC Mag Readers' Choice ISPs 2022

Comparing our NPS with cross-industry data from HarrisX from Q3 2021 through Q3 2022, T-Mobile Home Internet's NPS is at least 30 points higher than DSL, Cable, and Satellite services and 10 points above fiber.

INTERNET NPS



Note: Data is based on HarrisX's Total Communications Survey (TCS) from Q3 2021 – Q3 2022 using a calculation from the subscriber's self-reported likelihood to recommend their home internet provider. TCS is a recontact of HarrisX's Mobile Insights survey and asked to ~7,500 18+ household decision makers per month. The MoE for T-Mobile Home Internet's NPS is +/- 7%.

AUDIENCE DEMOGRAPHICS

Today, T-Mobile Home Internet is available to more than 40M homes across the country, with more than a third of those in rural areas. Almost half of all T-Mobile customers live in suburban areas.



43%
Suburban



35%
Rural



22%
Urban

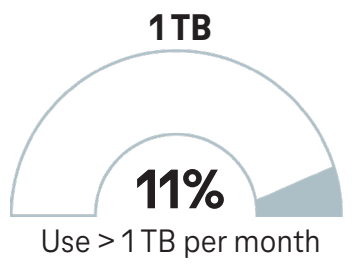
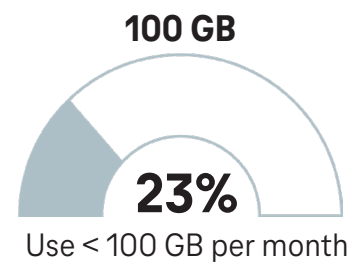
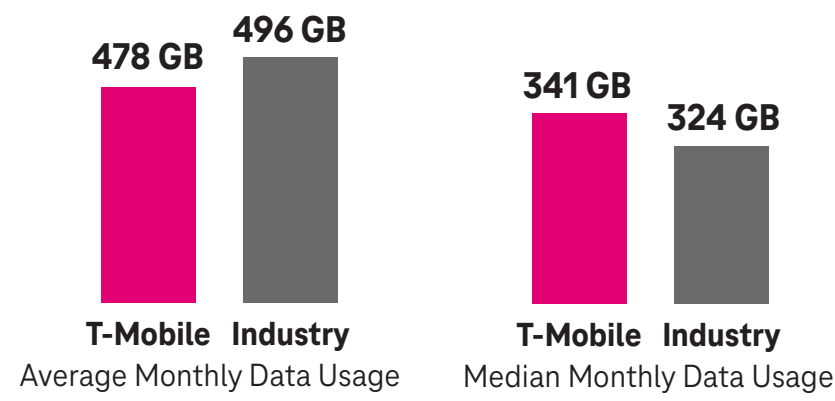
Source: T-Mobile

Note: Demographic categories for location are based on population density. The top 20% of locations in terms of population density are considered urban, the middle 40% are considered suburban, and the bottom 40% are considered rural.



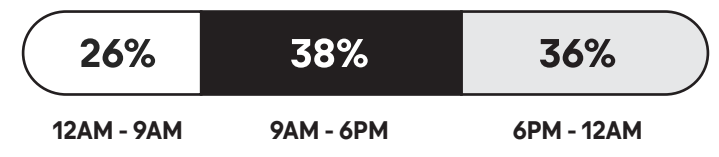
USAGE TRENDS

The average monthly data usage for T-Mobile Home Internet customers is 478 GB, with median usage at 341 GB.

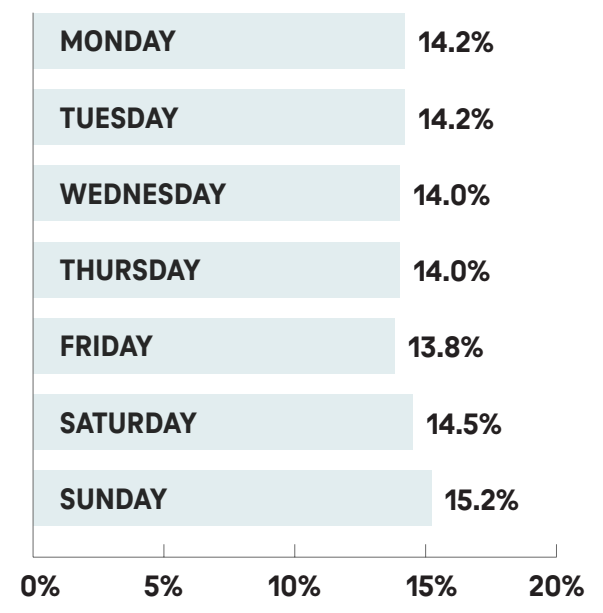


Sources: T-Mobile, OpenVault Q3 2022 Report

T-Mobile Home Internet users are most active between 9AM and 6PM, with usage peaking around 9PM. The lowest usage occurs overnight and through the early morning.



T-MOBILE HOME INTERNET TRAFFIC % EACH DAY:

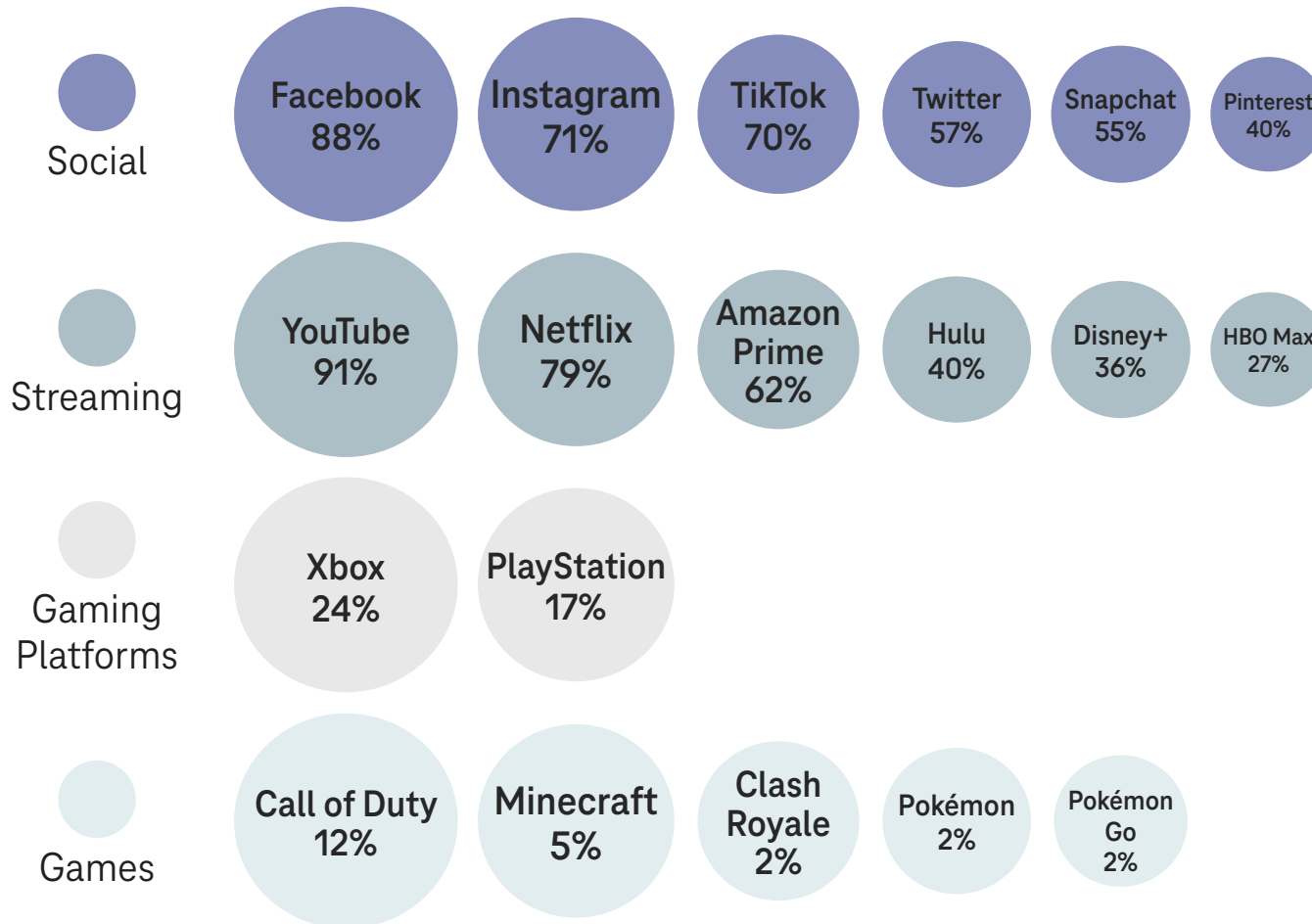


Source: T-Mobile

USAGE BY ACTIVITY

T-Mobile's fixed wireless customers use their home broadband for all the connected activities you'd expect, with streaming and social being the most popular. In the streaming category, YouTube takes the lead, followed by Netflix. Facebook is the top social platform, with Instagram a close second.

% OF HOME INTERNET CUSTOMERS



Source: T-Mobile

TYPICAL SPEEDS

T-Mobile delivers average speeds of 145 Mbps and peak speeds over 1 Gbps in some areas. Typical (median) speeds for this service is 100 Mbps. These speeds are comparable to what cable customers choose. The most recent Ookla Speedtest report lists most major cable operators as having average speeds below 200 Mbps.

145 Mbps
Average Speed

100 Mbps
Median Speed

1 Gbps
Peak Speeds

Sources: T-Mobile, Ookla Speedtest Q3 Market Analysis

Note: Fixed wireless speeds can vary depending on location, signal strength and availability, time of day, and other factors. See [T-Mobile.com/OpenInternet](https://www.t-mobile.com/openinternet) for more information.

DID YOU KNOW?

The FCC defines “broadband” as a minimum of 25 Mbps download and 3 Mbps upload speeds. Many households only need about 25 Mbps speeds, which supports activities like HD streaming, gaming, browsing social media and checking email all at the same time.



HD Streaming Requires
5–8 Mbps



Standard Video Gaming Requires
3 Mbps



Web or Social Browsing Requires
1 Mbps



Video Calls Require
1 Mbps

Sources: Tom's Guide, Federal Communications Commission

LOOKING AHEAD — THE FUTURE OF FWA

The future of fixed wireless is incredibly promising. What was “initially dismissed as impractical, or inferior to wired alternatives, FWA has enjoyed a dramatic resurgence, in both reputation and subscriber net additions,” wrote equity analyst Craig Moffett.

Wells Fargo recently noted that “fixed wireless is a viable competitive threat, particularly in rural areas, and the biggest disruptor in the broadband marketplace in the near term, capturing a full 60% of broadband net adds or new subscribers through 2024.” What’s more, Wells Fargo predicts that fixed wireless access “permanently slows gross adds and depresses valuations” of cable operators. And analysts at Juniper Research estimate that 5G fixed wireless access will generate \$2.5B globally in operator revenue by 2023, growing 480% in 12 months.

In the years ahead, fixed wireless will continue to see massive growth:

- T-Mobile expects to have **7M to 8M** FWA subscribers by the end of 2025
- Verizon expects to have **4M to 5M** FWA subscribers by the end of 2025

Just one year after 5G fixed wireless entered the broadband scene, the signs are clear: it’s not only here to stay, but it’s also forcing Big Internet to reimagine the home broadband experience.

Sources: T-Mobile, Forbes, Juniper Research, Fierce Wireless