

**21st Annual  
TFI Technology Conference  
Austin, TX  
January 22-23, 2026**



**2026 Broadband  
& Wireless  
Industry Panel**

**Implications for Tax & Valuation**



**Jason Butterworth  
(Moderator)**



Principal, Complex Property Tax  
Ryan



**Gary Hunter**



AVP Tax  
AT&T Inc.



**John Reed**



Sr. Director, Property Tax  
Charter Communications, Inc.



**Brandt Palmer**



Sr. Manager, Property Tax  
T-Mobile

# Agenda

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- I.     Introductions / Kick-Off**
  
- II.    Wireless Network Perspectives**
  
- III.   Broadband Network Perspectives**
  
- IV.    Panel Discussion – Implication for  
          Tax & Valuation**
  
- V.     Q & A**

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## I. Introductions / Kick-Off

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## II. Wireless Network Perspectives

# EchoStar's ( ) Spectrum Sales

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**AT&T:** Mid-band 3.45 GHz and low band 600 MHz spectrum for \$23B

**SpaceX:** AWS-4 and H-block spectrum for \$17B

# Dish is No Longer a Viable National Wireless Network

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**Inside Towers®**  
DIGITAL INFRASTRUCTURE NEWS

Thursday, September 11, 2025  
Volume 13 | Issue 175

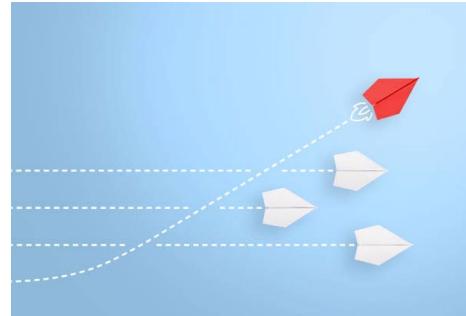
**The U.S. 4th National Wireless Network is Dead**

By John Celentano, *Inside Towers* Business Editor

EchoStar's (NASDAQ: SATS) recent spectrum transactions with AT&T (NYSE: T) and SpaceX have effectively dashed any hope of creating a fourth national mobile operator to compete with the Big Three - AT&T, Verizon (NYSE: VZ) and T-Mobile (NASDAQ: TMUS). As part of the AT&T deal, EchoStar is selling its 600 MHz and 3.45 GHz spectrum licenses, and turning over the RAN portion of Boost Mobile 5G Open RAN network to AT&T, *Inside Towers* reported. Boost Mobile will retain its cloud-based core for managing subscriber traffic and billing, in a so-called "hybrid MNO" arrangement.

Recall that as a condition of approval for the T-Mobile and Sprint merger, the companies were to spin off Boost Mobile, to, then DISH Wireless, to start the process of creating a competitive fourth national wireless network in the U.S. Boost Mobile was operating as a Sprint MVNO and served roughly 9.3 million prepaid subscribers. At the time, the FCC stipulated that DISH must meet certain coverage deadlines to retain its license to operate. For its part, DISH budgeted \$10 billion to complete the buildout that met those deadlines. So how did that turn out?

[Continue Reading](#)



- Big 3 MNO's



# U.S. Wireless Capex Should Be Down Slightly in 2026

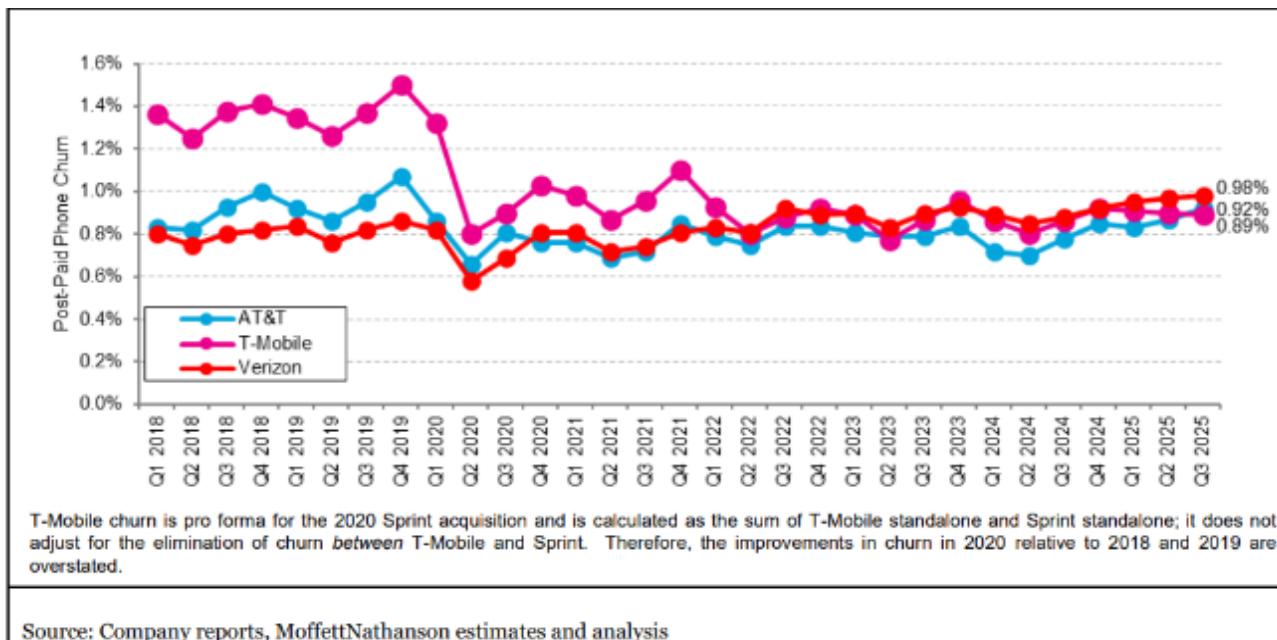
We expect Wireless capital spending of \$29.9B in 2026, down -3% y/y, with a pullback coming from Dish AT&T and Verizon. However, with the upcoming upper C-band auction in late 2027, we think Wireless capex will have a hard time staying down for long.



© 2026 KeyBanc Capital Markets

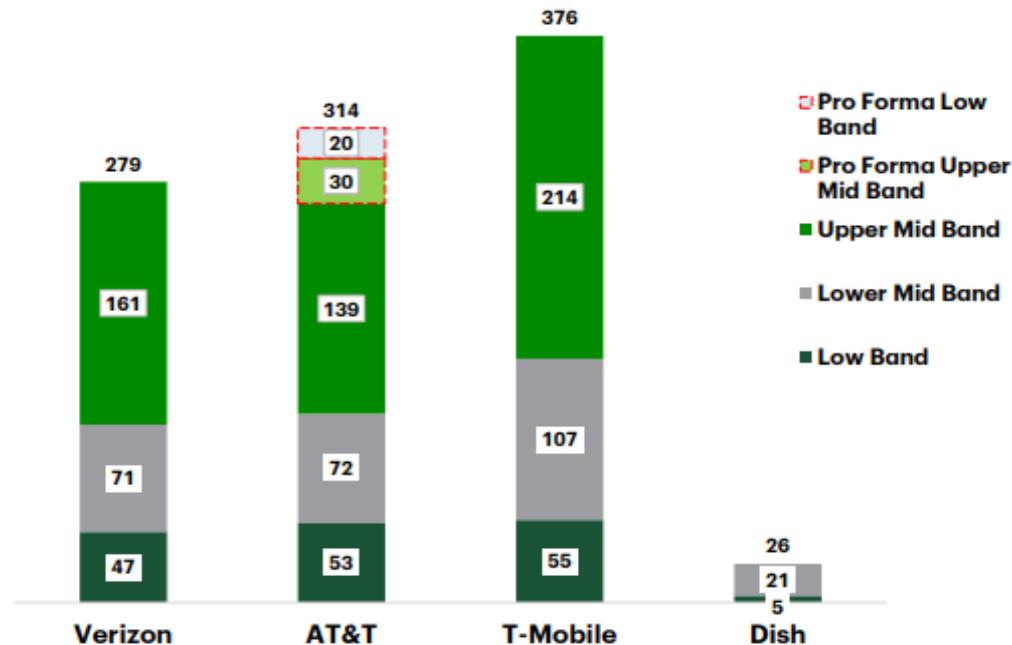
Source: KeyBanc Capital Markets; 2026 Comms/IT Infra. and Services Outlook; January 4, 2026.

# Big Three: Post-Paid Phone Churn



Source: MoffettNathanson; U.S. Wireless: Wireless 2026; January 6, 2026.

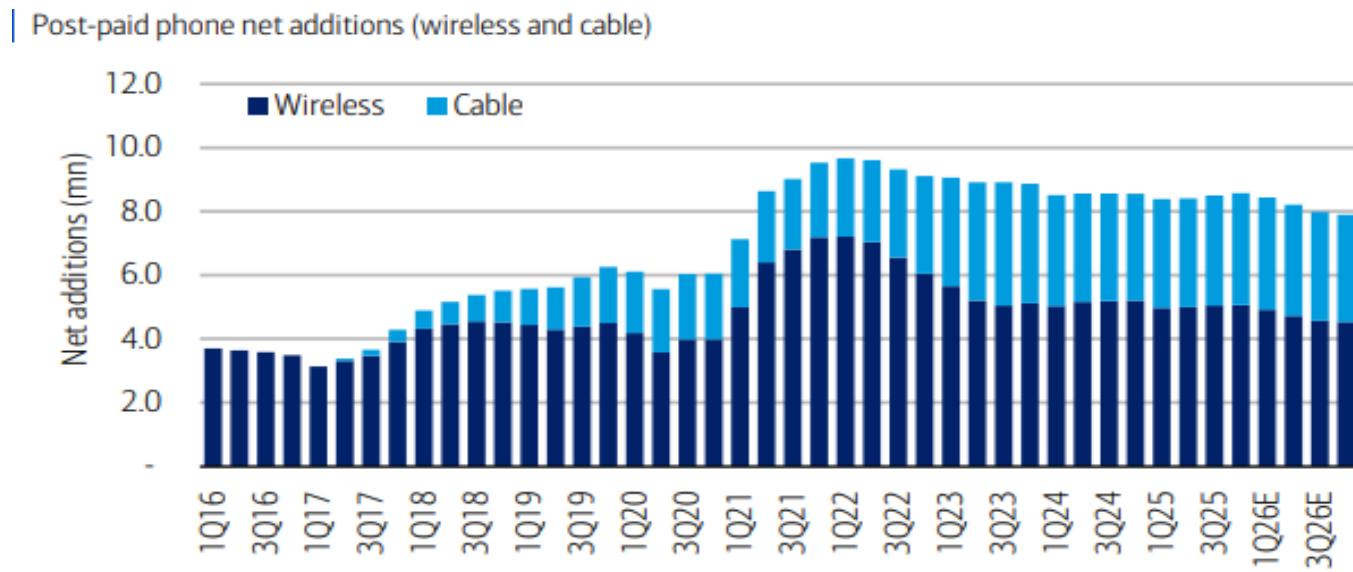
# Wireless Spectrum Holdings



Source: FCC Data, TD Cowen estimates

Source: TD Cowen; U.S. Wireless – State of the Market; November 2025.

# Competition - Cable Continues to Take Share

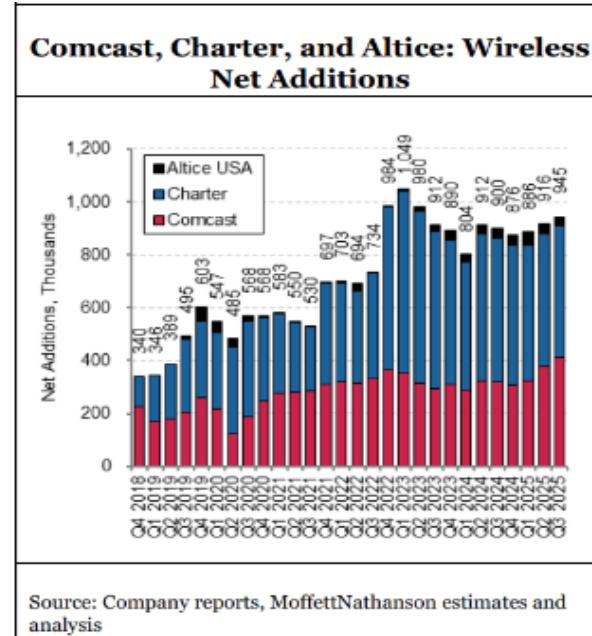
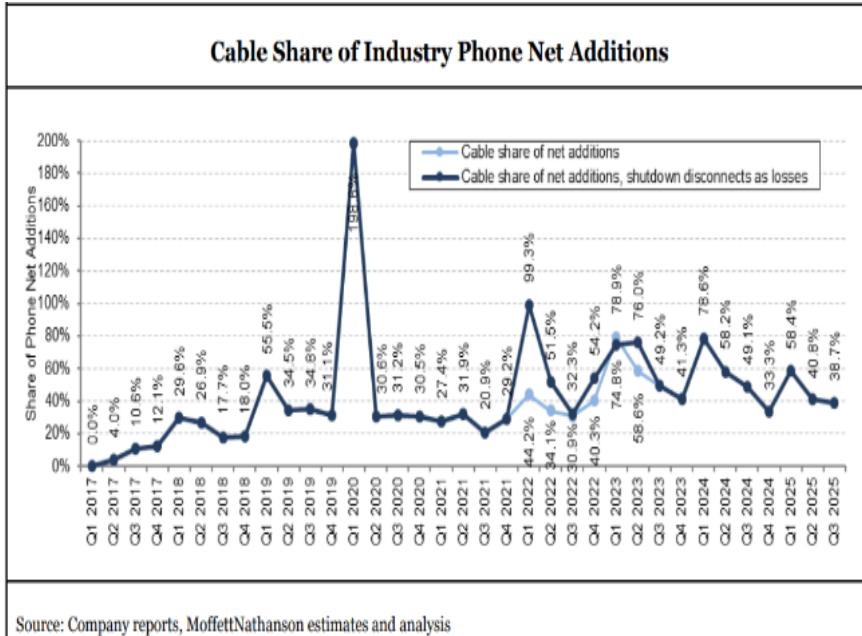


Source: BofA Global Research estimates, company report

BofA GLOBAL RESEARCH

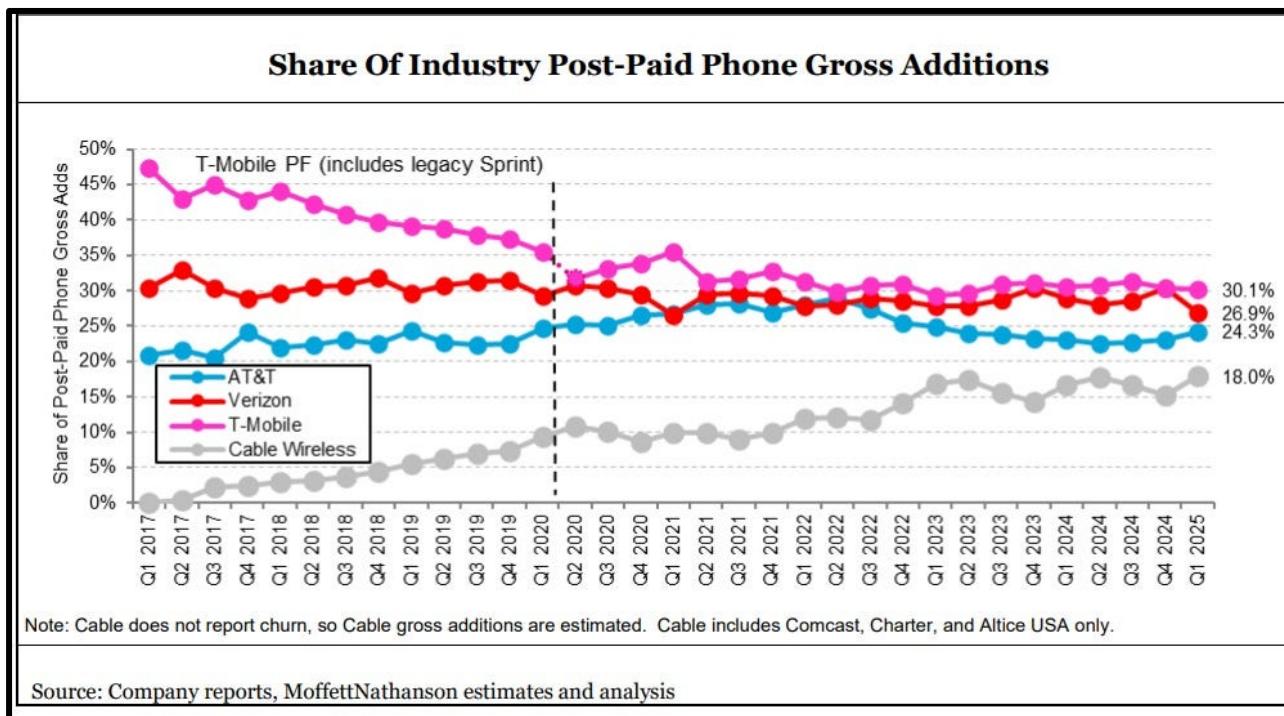
Source: B of A Global Research; Wireline & Wireless Telecom Services; Telecom 2026 Year Ahead; January 8, 2026.

# Cable Accounted for ~ 39% of Phone Net Additions in Q3



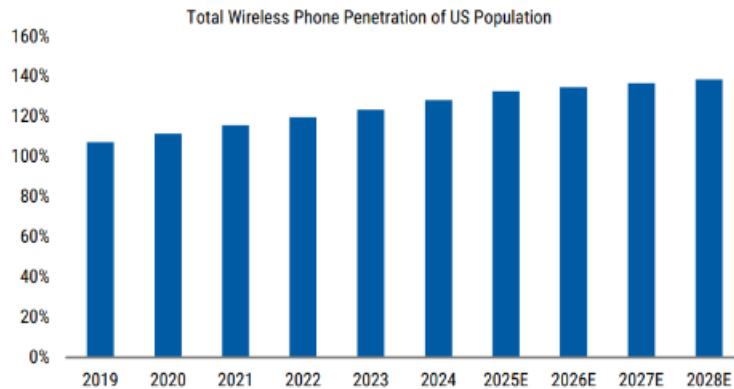
Source: MoffettNathanson; U.S. Wireless: Wireless 2026; January 6, 2026.

# Cable's Share is Approximately the Same of Each of the 3 MNO's

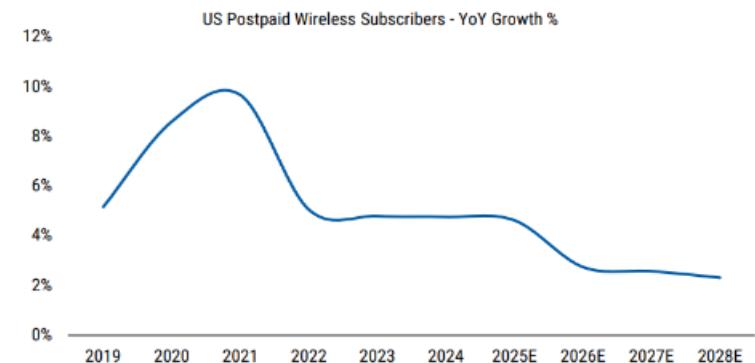


# Expected to lead to slower growth

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Source: Company data, Morgan Stanley Research estimates

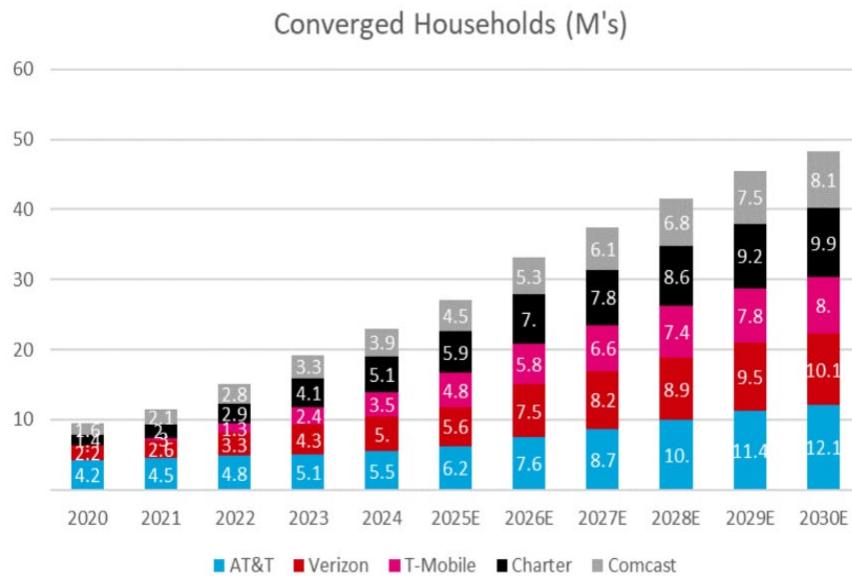


Source: Company data, Morgan Stanley Research estimates

The YoY growth in postpaid wireless subscribers is expected to moderate towards 2% a year long term

Source: Morgan Stanley; Telecom & Cable Services – Still a Big Three. December 10, 2025.

# Key Trends: Converged Customers



Per KeyBank, "... increasingly competitive lines are being drawn at the household vs. the individual service Level"

- ~**1/3 households** (~50M) will purchase their Mobile/Home Broadband service from one provider by 2030, up from ~1/5 (~27M) in 2025.

Source: KeyBanc Capital Markets; 2026 Comms/IT Infra. and Services Outlook; January 4, 2026.



You Stay in Your Area, and  
I'll Stay in Mine



# T-Mobile

- Wireless
  - Sprint (Closed 4/1/2020)
  - Mint Mobile (Closed 5/1/2024)
  - US Cellular (Closed 8/1/2025)
  - SpaceX – Non-Terrestrial Network (Announced 8/25/2022, T-Satellite service launched 7/2025)\*
- Fiber/Internet/FWA
  - Sprint (Closed 4/1/2020)
  - Lumos – JV with EQT (Closed 4/1/2025)
  - Metronet – JV with KKR (Closed 7/24/2025)
  - US Internet (Reported 8/2025)

# T-Mobile

- Advertising
  - Vistar (Closed 2/3/2025)
  - Blis (Closed 3/3/2025)



## No Part of the Sandbox Is Off Limits Now





RESEARCH

## Satcoms + telecom: A match made in the heavens

The satellite industry is evolving at an unprecedented pace. With more than 10,000 satellites now orbiting Earth—and billions of dollars driving innovation—satellite technology is reshaping how the world connects. From eliminating mobile dead zones to powering broadband in remote regions, satellites in geosynchronous (GEO), medium-Earth (MEO), and low-Earth (LEO) orbits are transforming the telecom ecosystem.

This research paper examines the state of the satellite industry and its growing integration with terrestrial networks. You'll gain insights into the unique roles of GEO, MEO, and LEO satellites, how multi-orbit strategies are optimizing performance and reliability, and the partnerships driving next-generation wireless and broadband services.

Key insights you'll gain:

- The characteristics and use cases of each satellite orbit.
- Why multi-orbit triage is critical for flexibility and coverage.
- How satellite operators and telecom providers are collaborating to deliver seamless global connectivity.

Download the full report to understand how the convergence of satellite and telecom technologies is shaping the future of global communications—and what it means for businesses, consumers, and the industry at large.

# Terrestrial + Non-Terrestrial





## T | Investors

T-Mobile has added a new press release to its website:

### **T-Mobile Makes Text to 911 Available Off-Grid to Any Wireless User with a Compatible Smartphone — even Verizon and AT&T Customers**

*T-Satellite with Starlink brings wireless users 911 access to places where voice calls aren't possible*

BELLEVUE, Wash.--(BUSINESS WIRE)-- Because emergencies don't care who your wireless provider is, T-Mobile (NASDAQ: TMUS) is making sure 911 access is available to as many people as possible. Starting today, anyone with a compatible phone can sign up to use T-Mobile Text to 911 through satellite in the 500,000 square miles of the U.S. not reached by traditional cell towers. Now, along with Text to 911 services available via terrestrial cell towers, wireless users in remote areas without traditional coverage can now reach emergency services nearly anywhere with a view of the sky.

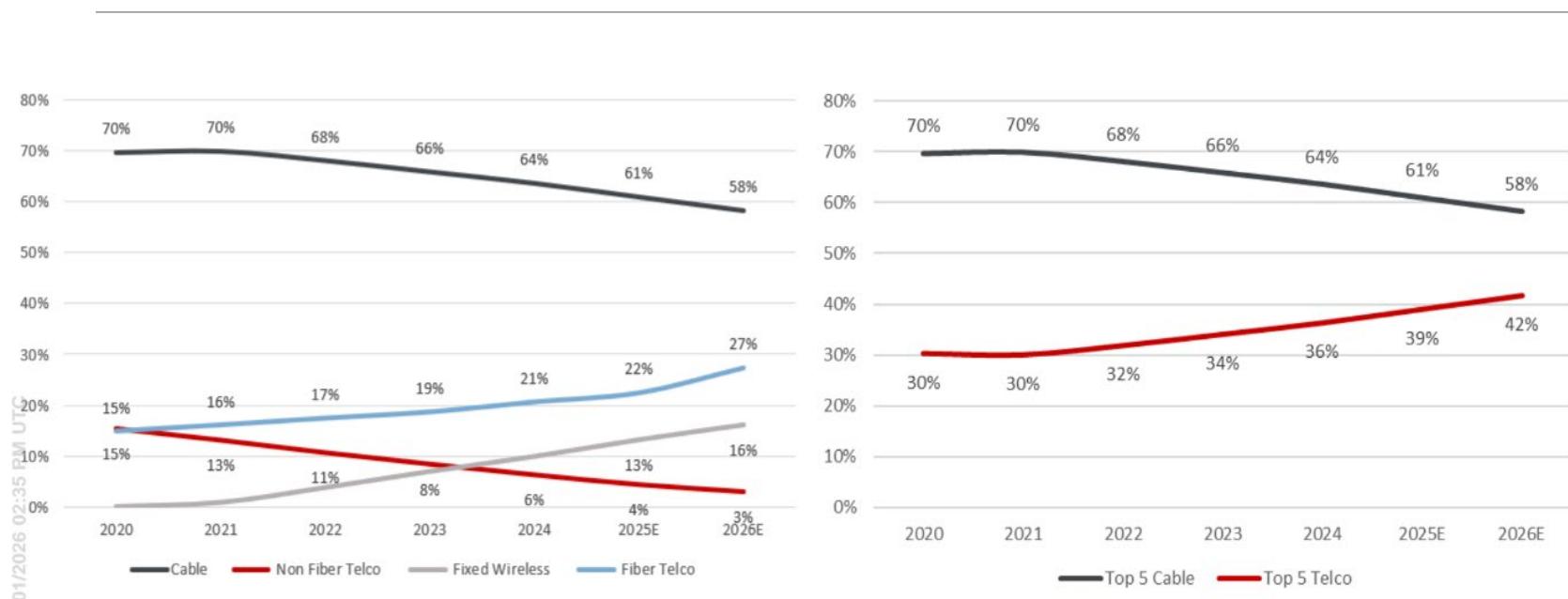


*T-Satellite with Starlink brings wireless users 911 access to places where voice calls aren't possible*

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### III. Broadband Network Perspectives

# Key Trends: Broadband Market Share



Source: KeyBanc Capital Markets; 2026 Comms/IT Infra. and Services Outlook; January 4, 2026.

# Broadband Subscribers

	2020	2021	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E
<b>Total Broadband Subscribers</b>											
Major Cable	69,318	71,913	72,326	72,281	71,152	70,010	68,915	67,890	66,940	66,060	65,235
% Y/Y Change	7.3%	3.7%	0.6%	(0.1%)	(1.6%)	(1.6%)	(1.6%)	(1.5%)	(1.4%)	(1.3%)	(1.2%)
Telco & Other Wired Broadband	27,123	27,299	27,142	26,986	26,781	26,986	27,876	29,091	30,061	31,056	32,601
% Y/Y Change	(2.2%)	0.6%	(0.6%)	(0.6%)	(0.8%)	0.8%	3.3%	4.4%	3.3%	3.3%	5.0%
Fixed Wireless	2,903	4,029	7,648	11,708	15,572	19,729	23,554	26,904	29,929	32,429	34,329
% Y/Y Change	21.7%	38.8%	89.8%	53.1%	33.0%	26.7%	19.4%	14.2%	11.2%	8.4%	5.9%
Satellite Broadband	0	0	1,500	2,000	3,000	4,000	5,000	6,000	7,500	9,000	10,500
% Y/Y Change			NM	33%	50%	33%	25.0%	20.0%	25.0%	20.0%	16.7%
<b>Total Broadband Subscribers</b>	<b>99,344</b>	<b>103,241</b>	<b>108,616</b>	<b>112,975</b>	<b>116,605</b>	<b>120,725</b>	<b>125,345</b>	<b>129,885</b>	<b>134,430</b>	<b>138,645</b>	<b>142,665</b>
% Y/Y Change	4.9%	3.9%	5.2%	4.0%	3.1%	3.6%	3.8%	3.6%	3.5%	3.1%	3.0%
<b>Potential Subscribers</b>	<b>138,640</b>	<b>139,667</b>	<b>140,694</b>	<b>141,722</b>	<b>142,749</b>	<b>146,986</b>	<b>150,261</b>	<b>151,371</b>	<b>152,481</b>	<b>153,591</b>	<b>154,701</b>
<b>Broadband Penetration</b>	<b>71.7%</b>	<b>73.9%</b>	<b>77.2%</b>	<b>79.7%</b>	<b>81.6%</b>	<b>82.1%</b>	<b>83.4%</b>	<b>85.8%</b>	<b>88.2%</b>	<b>90.2%</b>	<b>92.2%</b>
<b>Market Share</b>											
Major Cable	69.8%	69.7%	66.6%	64.0%	61.1%	58.0%	55.0%	52.3%	49.8%	47.7%	45.7%
Telco & Other Wired Broadband	27.3%	26.4%	25.0%	23.9%	23.0%	22.4%	22.2%	22.4%	22.4%	22.4%	22.9%
Fixed Wireless	2.9%	3.9%	7.0%	10.4%	13.4%	16.3%	18.8%	20.7%	22.3%	23.4%	24.1%
Satellite	0.0%	0.0%	1.4%	1.8%	2.6%	3.3%	4.0%	4.6%	5.6%	6.5%	7.4%
<b>Total</b>	<b>100.0%</b>										
<b>Total Net Adds (000)</b>											
Major Cable	4,736	2,594	414	(45)	(1,129)	(1,142)	(1,095)	(1,025)	(950)	(880)	(825)
Telco & Other Wired Broadband	(602)	176	(157)	(156)	(205)	205	890	1,215	970	995	1,545
Fixed Wireless	518	1,126	3,619	4,060	3,864	4,157	3,825	3,350	3,025	2,500	1,900
Satellite	-	-	1,500	500	1,000	1,000	1,000	1,000	1,500	1,500	1,500
<b>Total Net Adds</b>	<b>4,682</b>	<b>3,896</b>	<b>5,376</b>	<b>4,359</b>	<b>3,530</b>	<b>4,220</b>	<b>4,620</b>	<b>4,540</b>	<b>4,545</b>	<b>4,115</b>	<b>4,120</b>
<b>Flowshare</b>											
Major Cable	102%	67%	8%	(1%)	(32%)	(27%)	(24%)	(23%)	(21%)	(21%)	(20%)
Telco & Other Wired Broadband	(13%)	5%	(3%)	(4%)	(6%)	5%	19%	27%	21%	24%	38%
Fixed Wireless	11%	29%	67%	93%	109%	99%	83%	74%	67%	61%	46%
Satellite	0%	0%	28%	11%	28%	24%	22%	22%	33%	36%	36%

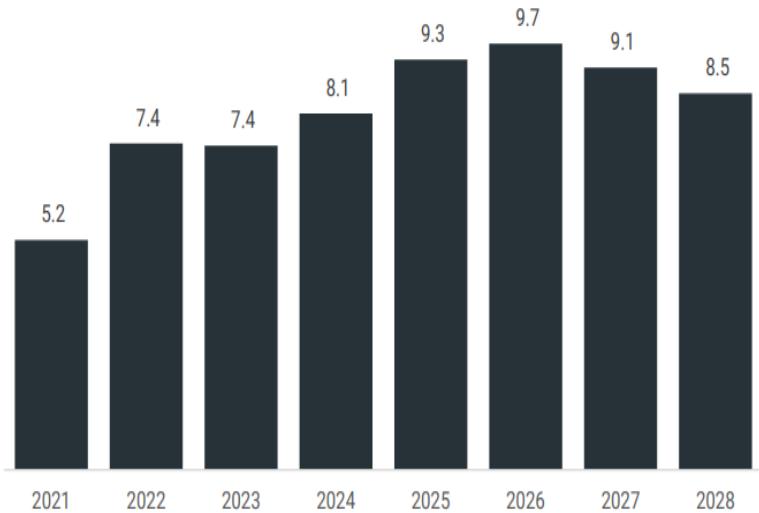
Source: Oppenheimer; Digital Infrastructure, Satellite, and Communications; 2026 Outlook; December 23, 2025.

## We expect an acceleration in fiber builds and net adds in 2025 and 2026

We expect fiber deployment to accelerate in 2025 and 2026, driven mostly by AT&T. This will drive a slight acceleration in fiber net adds in 2025, with adds reaching peak levels in 2026. We expect fiber adds to slow thereafter.

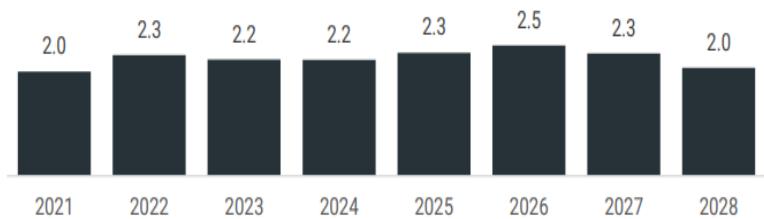
**New residential locations passed by fiber**

*Locations in millions*



**Residential fiber net adds**

*Subscribers in millions*

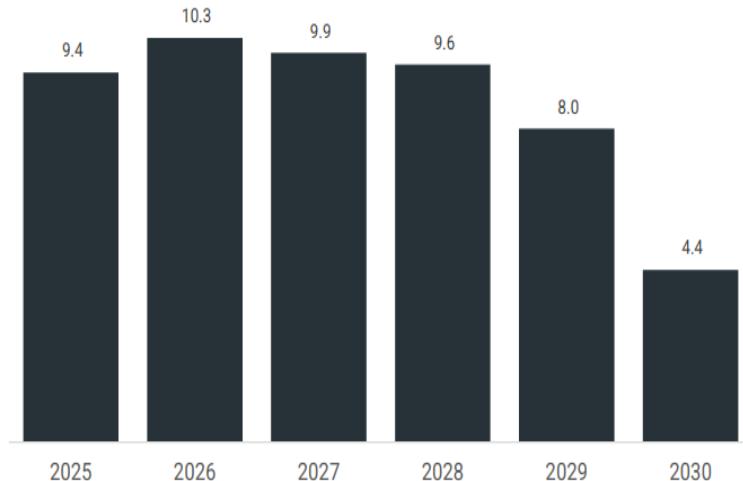


## Based on current plans, they will get to 137MM locations by 2030

Based on planned deployments, we estimate that the industry will reach 137MM fiber locations by 2030. All operators will reach their deployment targets. Based on their current plan, Verizon will reach 30MM by 2028 and 32MM by 2030. We assume they will accelerate the build pace, otherwise it would take them another 5-10 years after 2030 to get to their long-term target of 35-40MM.

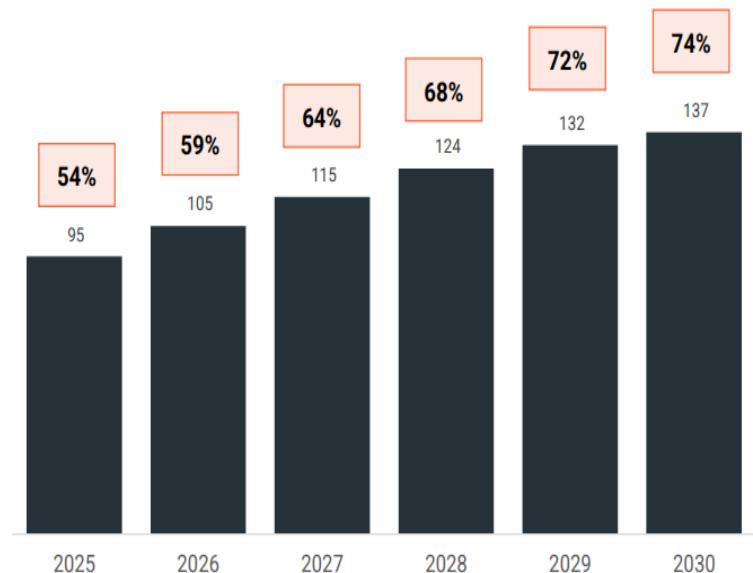
### New fiber locations passed by year

Locations in millions



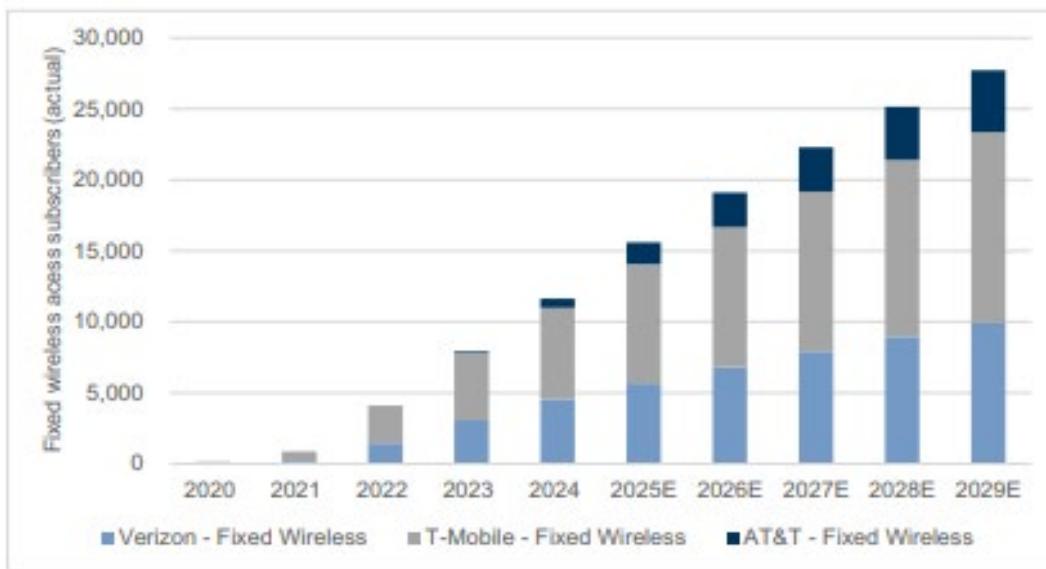
### Total fiber locations passed by year<sup>1</sup>

Locations in millions



# FWA has seen strong linear growth since 1Q'22

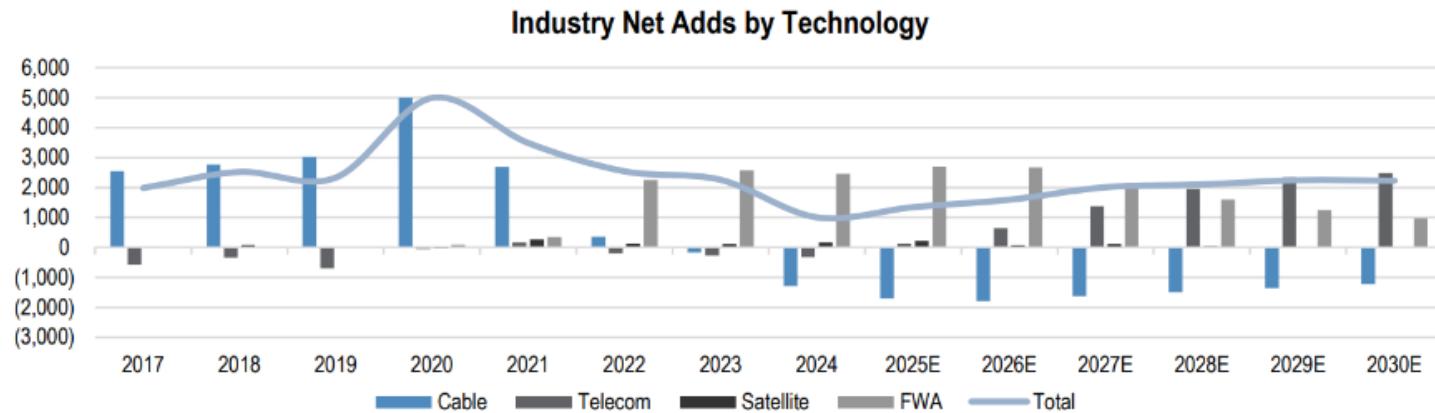
FWA subscribers (000s)



Source: Company data, Goldman Sachs Global Investment Research

Source: Goldman Sachs; 2026 outlook: 10 potential catalysts for the upcoming year; December 18, 2025.

Cable Companies continue to lose broadband subs whereas FWA and Fiber net adds remain strong



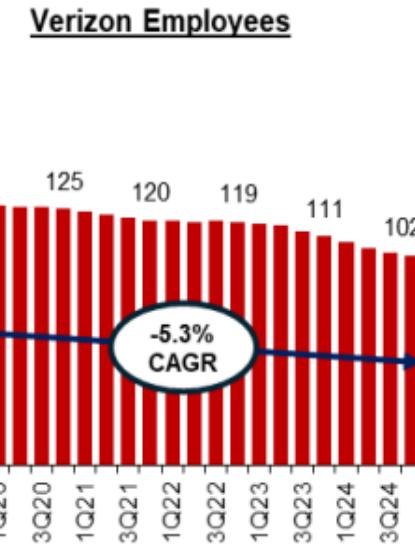
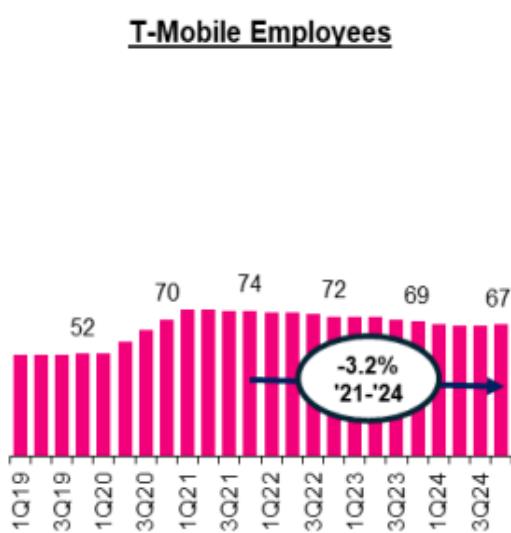
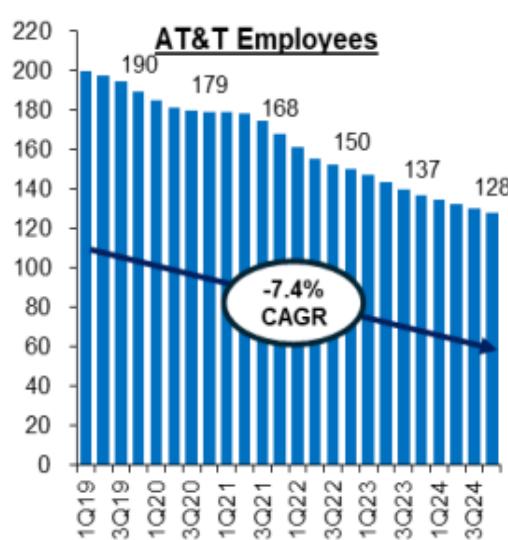
**Industry Net Add Share by Technology**

	2022	2023	2024	2025E	2026E	2027E	2028E	2029E	2030E
<b>Cable</b>	14%	-7%	-129%	-126%	-112%	-81%	-71%	-60%	-55%
<b>Telecom</b>	-8%	-12%	-32%	9%	41%	68%	93%	105%	111%
<b>Satellite</b>	5%	5%	17%	16%	4%	6%	2%	0%	0%
<b>Big-3 FWA</b>	97%	123%	267%	219%	180%	117%	86%	65%	53%

Source: JP Morgan; Telecom Services, Cable & Satellite; 2026 Outlook; December 2025.

# Unfortunately, the other trend is ....

(Figures in 000s of employees)



Source: Company filings, Wolfe Research, LLC.

Since 2018, the Big 3 have collectively reduced their TTM avg. connectivity workforce by -25%

Source: Wolf Research; Telecom - T, TMUS, VZ: Productivity - Digesting Last Year's Dinner; June 2, 2025.

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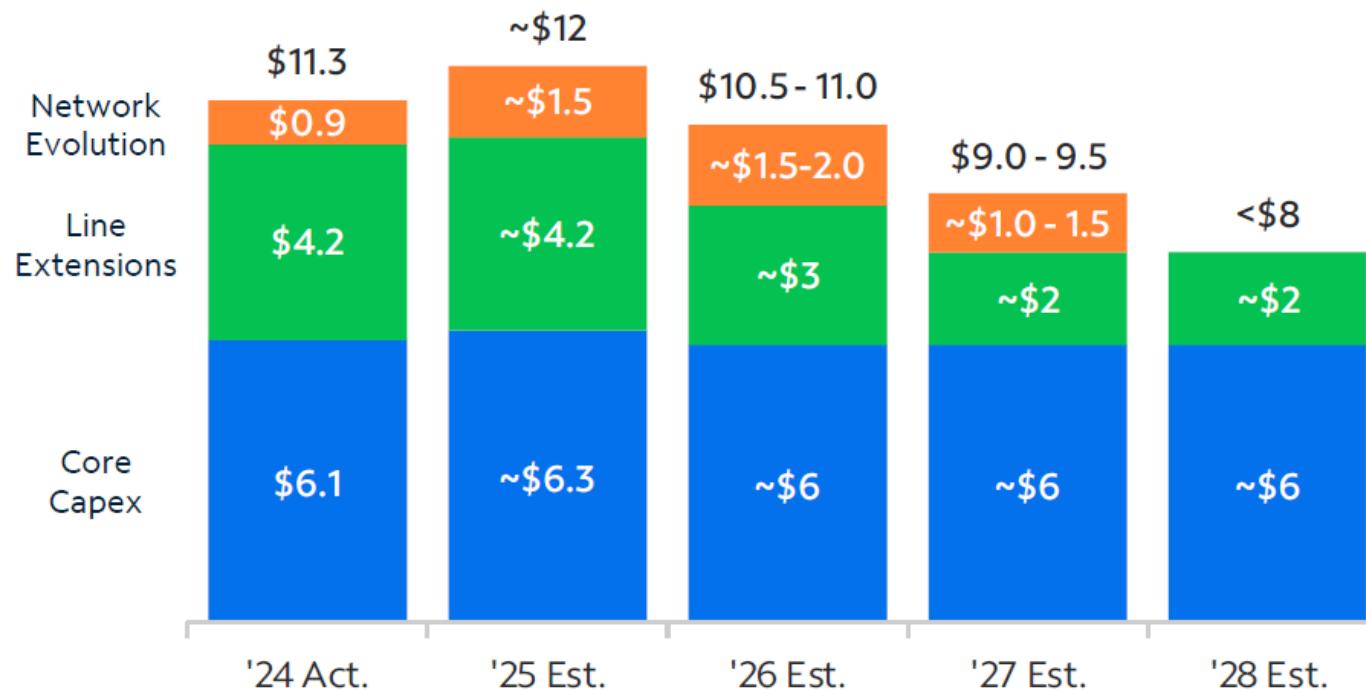
**Spectrum**►

# Network Expansion & Evolution



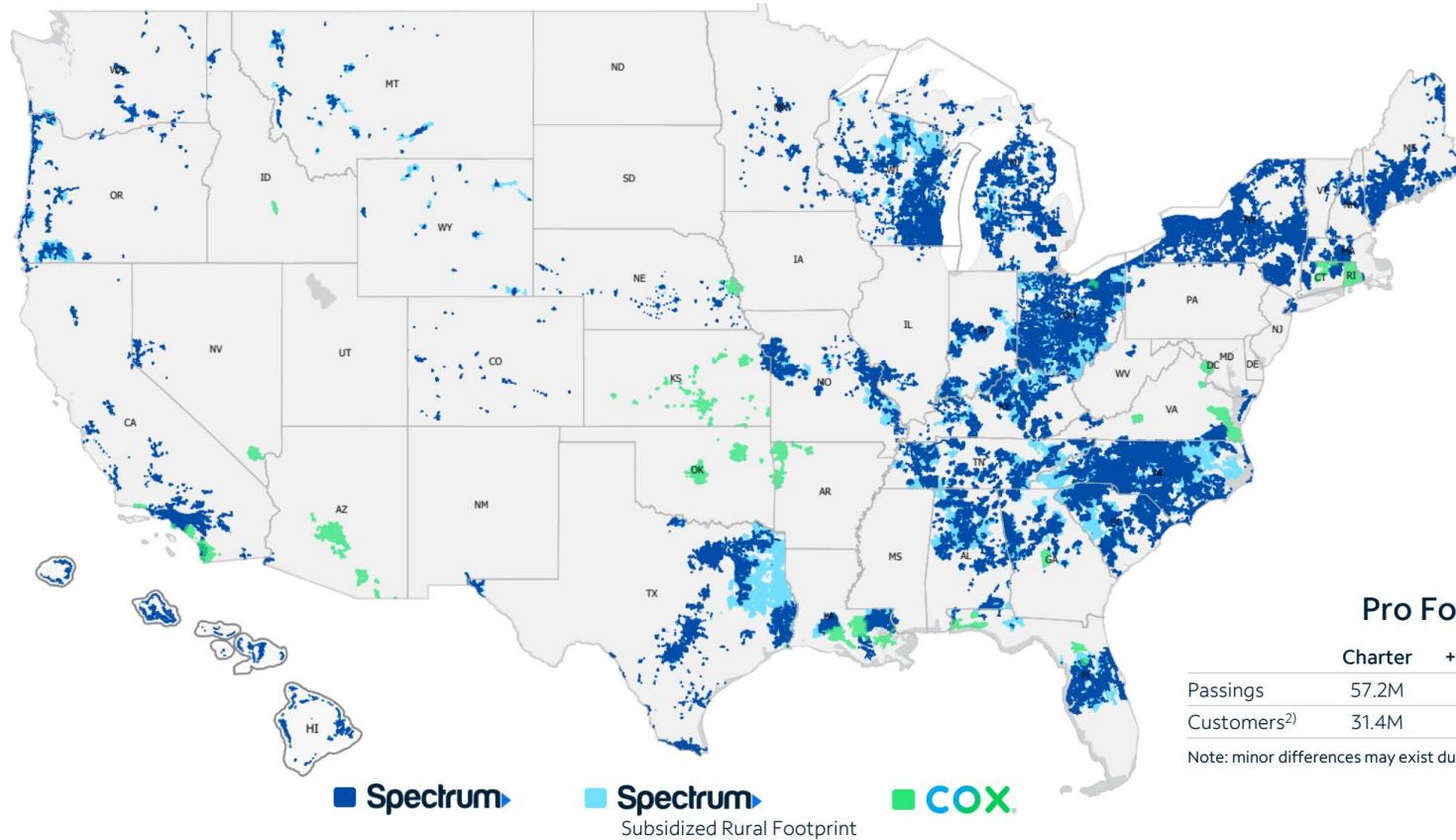
- Expanded services into unserved and underserved communities in footprint with high-speed broadband connectivity
- Added >1.5 million passings of homes and small businesses, including 450k subsidized rural passings
- All RDOF construction is anticipated to be completed in 2026 – two years ahead of schedule
- Average monthly data per household usage increased from 780GB at the end of 2024 to 825GB at the end of Q3 2025

# Capex Outlook 2024-2028



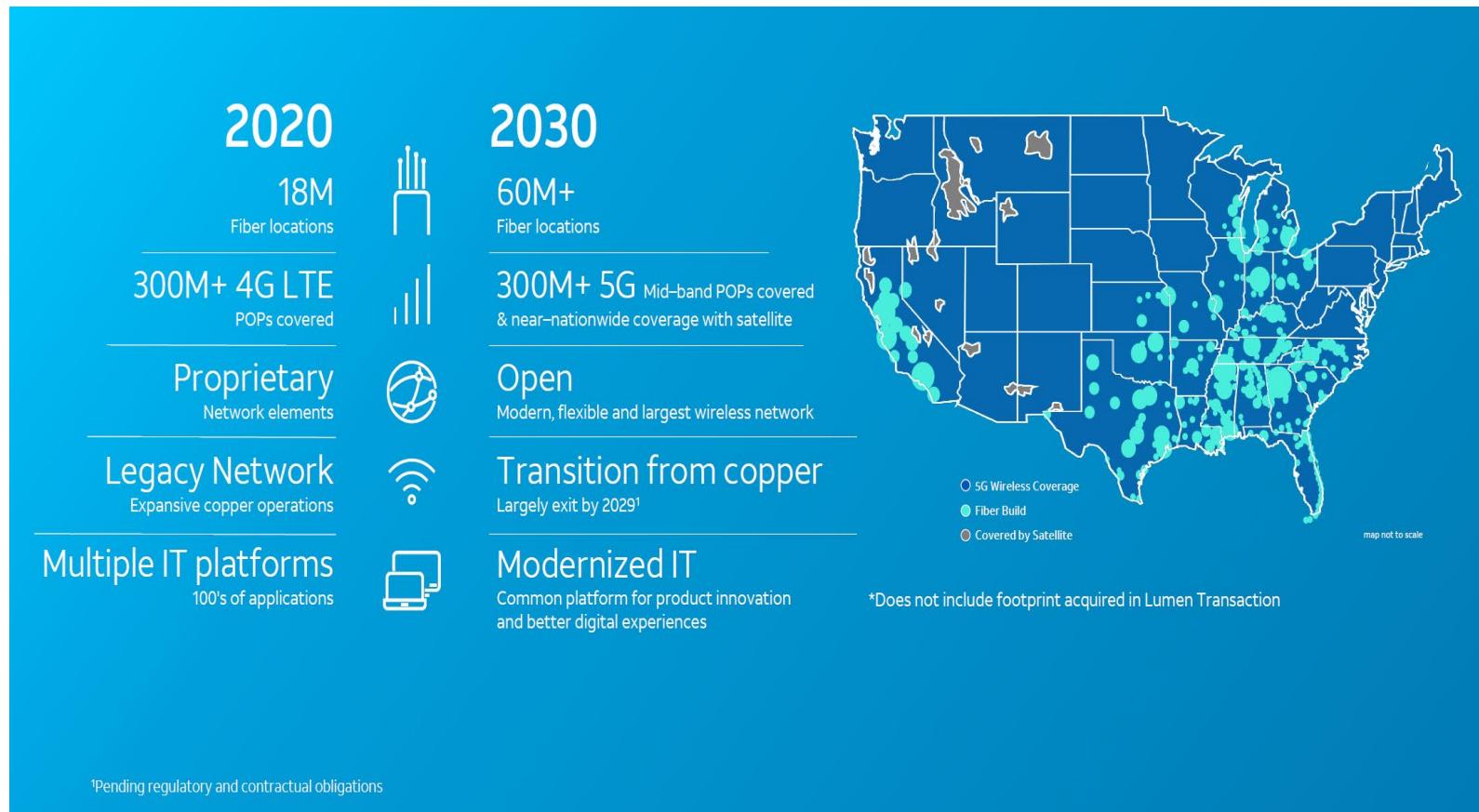
Subsidized Rural Passings Activated (in Thousands)	'24 Act.	'25 Est.	'26 Est.	'27 Est.	'28 Est.
393	~450	~450	<100	n/a	

# Cox & Charter Combination





# AT&T's 5G & Fiber Network in Transition



# Transition of Legacy Copper to 5G and Fiber Services



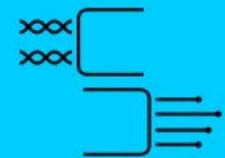
Not meeting customer needs  
Fiber NPS 5x higher

Legacy services today



Low customer demand  
Less than 5% active users

Two wireline networks  
500K square miles



Inefficient & costly



# Our path to transitioning customers from copper

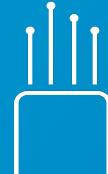


## Wireless First areas

~10% of population  
~50% of land area



**2027 Exit Legacy Services<sup>1</sup>**



## Fiber First areas

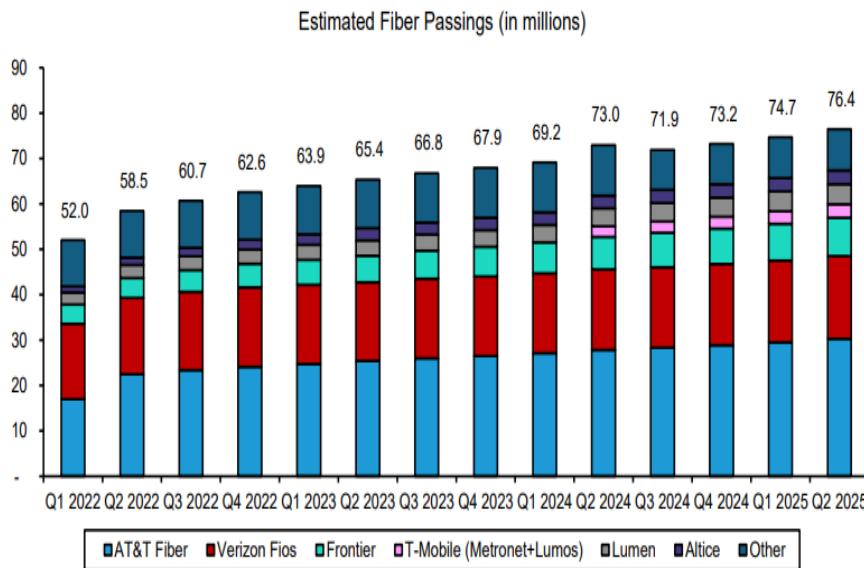
~90% of population  
~50% of land area



**2029 Exit Legacy Services<sup>1</sup>**

<sup>1</sup> Pending regulatory and contractual obligations and excludes California

# Fiber Builds in the US Continue to Ramp Up



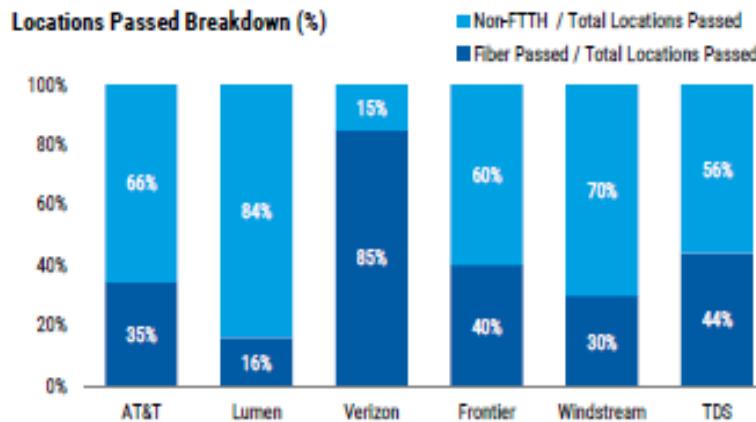
Source: SNL Kagan, Company reports, Bernstein analysis

## AT&T:

- Passed ~31M+ locations as of the end of 2025
- 10.1M+ fiber customers
- Expect to pass 60M+ fiber locations by end of 2030

Source: Goldman Sachs; 2026 outlook: 10 potential catalysts for the upcoming year; December 18, 2025.

# Most of that Fiber is an Overbuild



Source: Company data, Morgan Stanley Research

Notes: TDS Includes ILEC Incumbent and Expansion, excludes CLEC; Fiber locations passed and subscribers reflect consumer only

Overbuild of copper network continues

- *~84% of Fiber build dating back to 2016 is overbuild.*
- *~40% of AT&T served locations have been passed by Fiber.*
- *AT&T is required to operate and maintain the copper network due to regulatory constraints /until customers are migrated to the fiber network.*
- *Results in duplicative*
- *For AT&T, incur additional costs to operate both networks (\$6B annually)*

Source: *Telecom Services & Comm Infrastructure: 5Questions – Question #2: Who Is Winning in Broadband?*, Simon Flannery, Morgan Stanley, January 16, 2024

# The Other Challenge - California

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For over 100 years, the state, the C.P.U.C. and the federal government have promoted the idea that communities need reliable communication,” said Regina Costa of The Utility Reform Network, an Oakland-based consumer group. “AT&T is saying, ‘We don’t want to do that anymore, so goodbye, good luck and good riddance.’”

Source: California Utility Reform Network (“TURN”)

## California bill AB 470 could end AT&T's landline obligations in some areas

by Veonna King | Mon, September 8, 2025 at 6:18 PM  
Updated Mon, September 8, 2025 at 11:35 PM

## California Denies AT&T's Request to End Carrier of Last Resort Obligations

CPUC received over 5,000 public comments in opposition to AT&T's plan to replace landlines with cellular service.



Michael D. Melero  
Jun 24, 2024 — 2 min read

If Assembly Bill 470 passes, the company said it will implement a phased, multi-year approach to eliminate the old copper network, which a spokesperson said less than 5% of customers are currently on

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## IV. Panel Discussion - Tax & Valuation Implications

# V. Q & A?

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