Broadband in America Report

Cable's Role in Broadband Expansion

Edition: October 2026



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Executive Summary

Cable Industry Growth Through Balanced Network Strategy: Fiber Expansion and Updated HFC Networks for High-Speeds

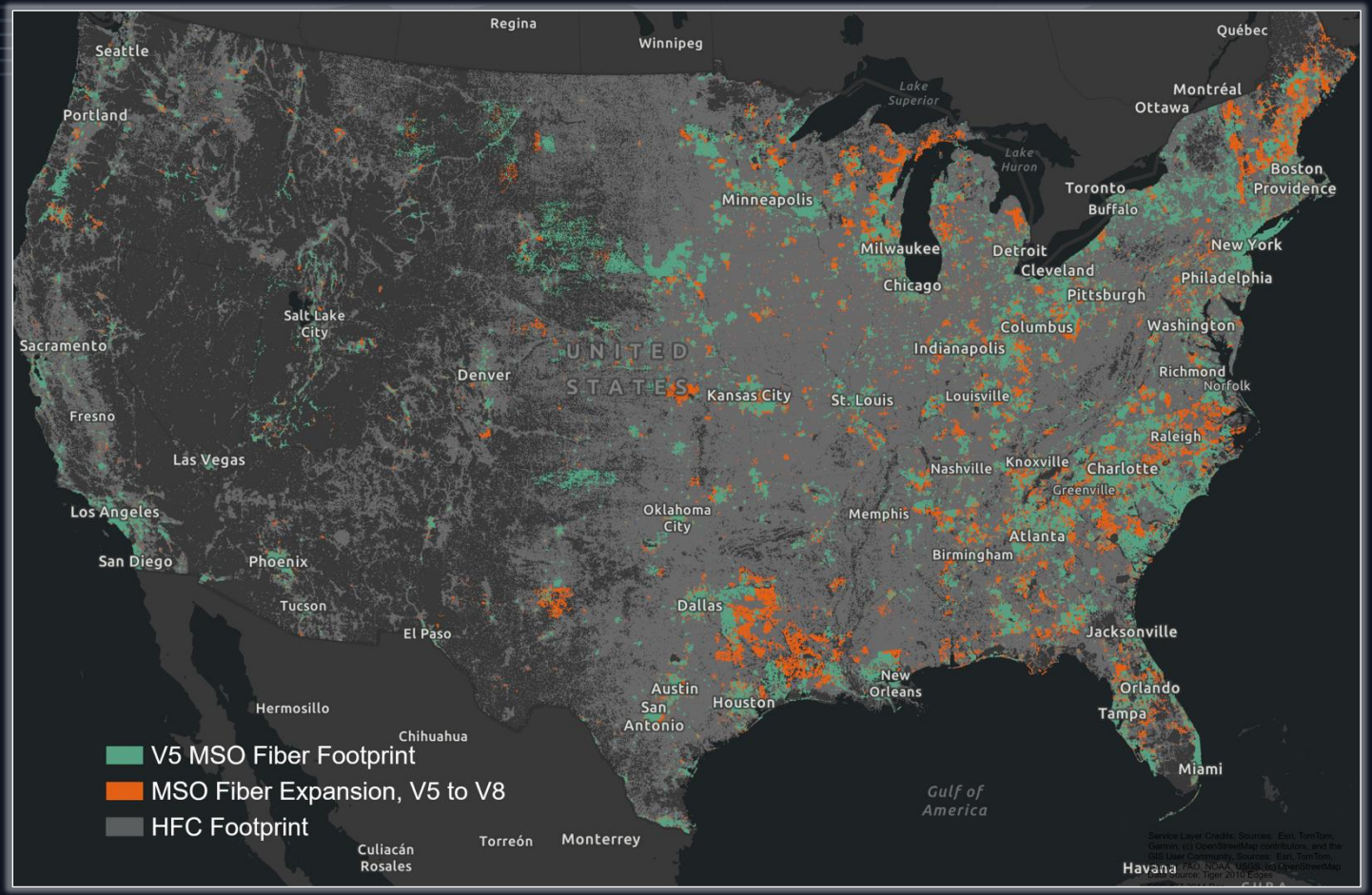
- **Cable Industry's Multiple System Operators (MSOs) serve: 81.4% of Broadband Serviceable Locations (BSLs) with at least 100/20 Mbps** (as of December 2026, FCC BDC & Location Fabric V8).
- **Cable MSOs fiber footprint growth:** focused in new-build areas and with targeted overbuild. From June 2024 (V5) to December 2025 (V8), there was a **44.5% increase in fiber coverage by MSOs**, serving a total of **14.93M BSLs.**
- **Existing Hybrid Fiber Coax (HFCs) networks:** continue to **provide competitive services through DOCSIS[1]** and other software/firmware updates. Cable MSOs can expand fiber—while continuing to deliver high-speed broadband through upgraded HFC networks.
- **Most cable served BSLs:** may not warrant an immediate fiber overbuild.
- **The right network strategy:** depends on local demand, competition, network plant condition and growth opportunity.

1 Data Over Cable Service Interface Specification, transmission standards for networks using coaxial cable infrastructure.

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Cable Operators Remain Vital to High-Speed Broadband Expansion



Specific release dates corresponding to data vintages can be referenced on slide 12

FROM V5 to V8

44.5% Growth in Cable MSO's Fiber Footprint → 4.6M net BSLs

Cable operators remain an important part of the broadband ecosystem.

Their established footprints, existing customer relationships and extensive HFC infrastructure allow them to provide high-speed broadband services across millions of BSLs.

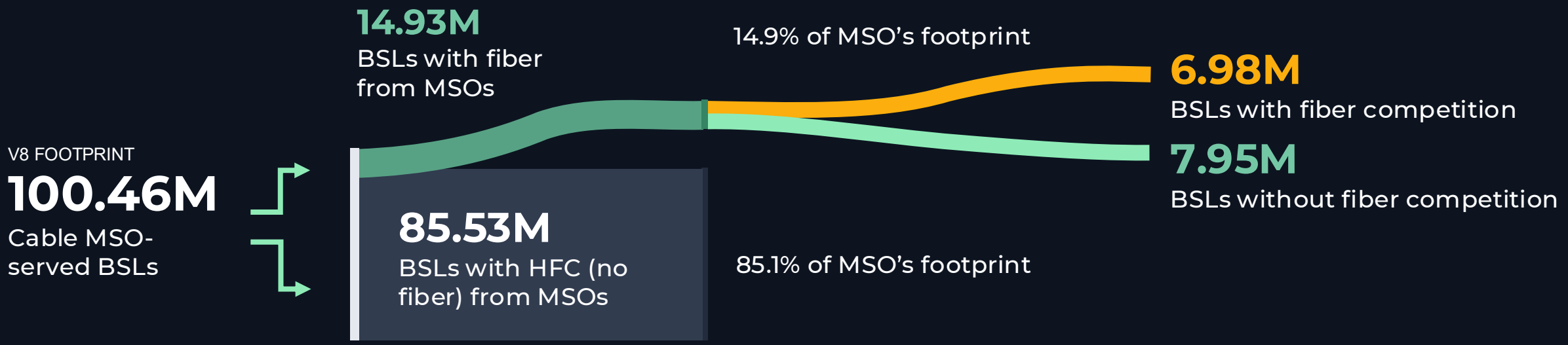
MSOs are leveraging fiber deployments in response to new construction, competitive conditions and long-term network planning needs.

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Cable MSOs Becoming Fiber-Forward: Increasing Number of Fiber-fed BSLs—14.9% of Footprint

Cable operators are incorporating more fiber into their network strategies, but fiber expansion does not eliminate the role HFC plays in providing higher speeds across the broader cable footprint.



NOTES

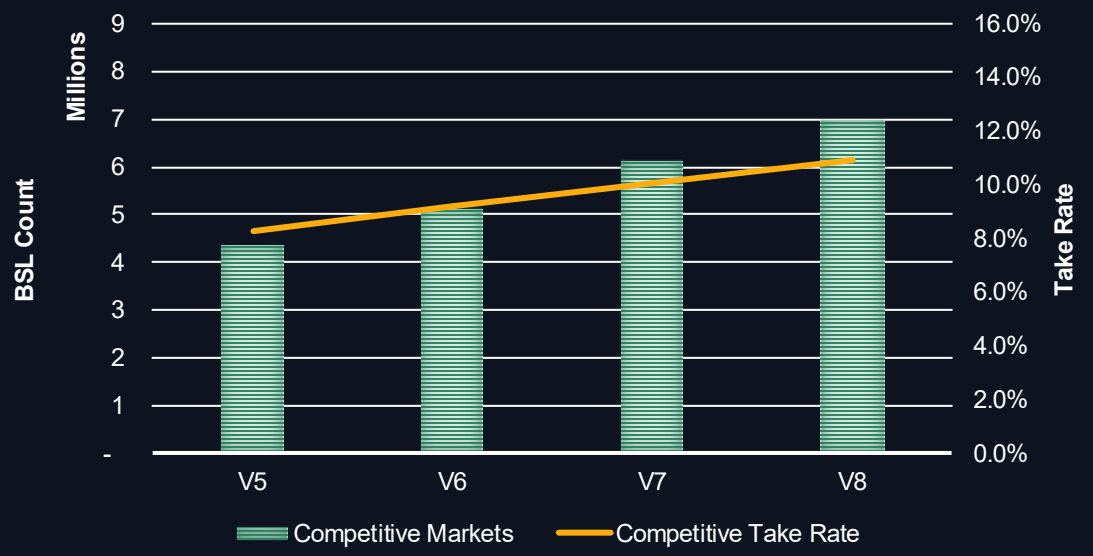
- Unique locations (BSLs), not units.
- V8 snapshot ribbons do not represent conversions.
- Other fiber excludes cable-classified MSOs. Fiber coverage can coexist with HFC.

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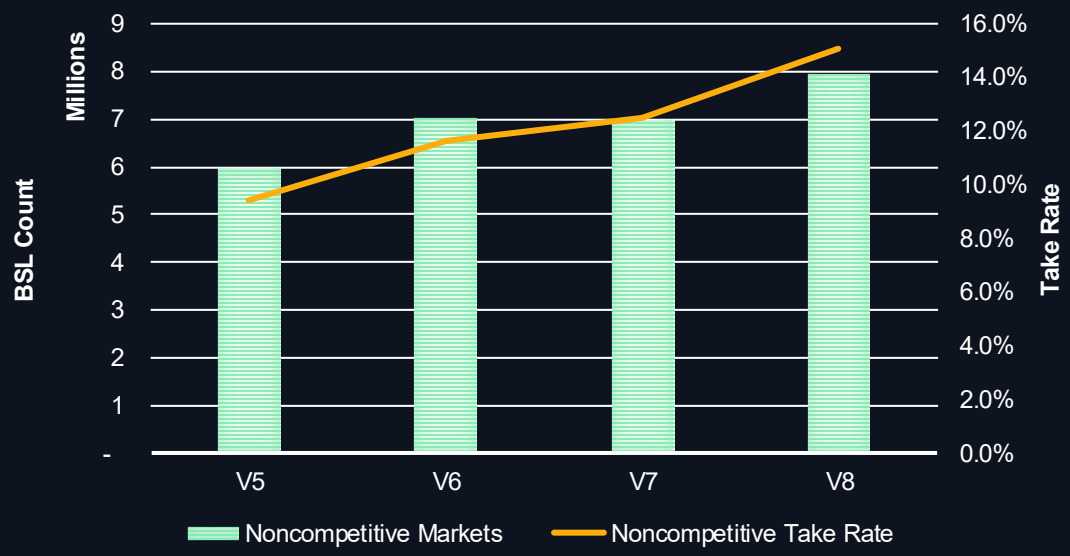
Faster MSO Fiber Growth in Competitive Markets, Higher Take Rate in Noncompetitive Areas

Cable MSO Fiber Growth & Take Rate Comparison by Competitive Landscape

MSO Fiber BSLs in Markets with Fiber Competition



MSO Fiber BSLs in Markets with No Fiber Competition



Specific release dates corresponding to data vintages can be referenced on slide 12

NOTES

- MSO fiber is growing significantly faster in competitive markets where another fiber provider is also present.
- Take rates, however, are higher where there is no competition.
- Overall, competition appears to support scale, while markets without competition support efficiency.

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Fiber in New Builds; HFC Augmentation in Legacy Areas

Cable Network Strategy is Becoming More Location-Specific

Cable operators are increasingly using **different network strategies for different types of markets:**

- **New-build areas:** Fiber is often the preferred architecture because it supports long-term scalability and can avoid future rebuild costs.
- **Expansion areas:** FTTP may be favored where deployment economics, customer density or competitive positioning support the investment.
- **Legacy cable areas:** HFC remains viable where plant condition is strong, existing capacity is sufficient and DOCSIS upgrades can meet expected demand.
- **High-risk or high-value legacy areas:** Targeted fiber overbuilds may be appropriate where competition, customer churn, plant condition or premium demand changes the financial case.

NOTES	The industry is moving toward a hybrid, fiber-forward model rather than a one-size-fits-all network conversion.

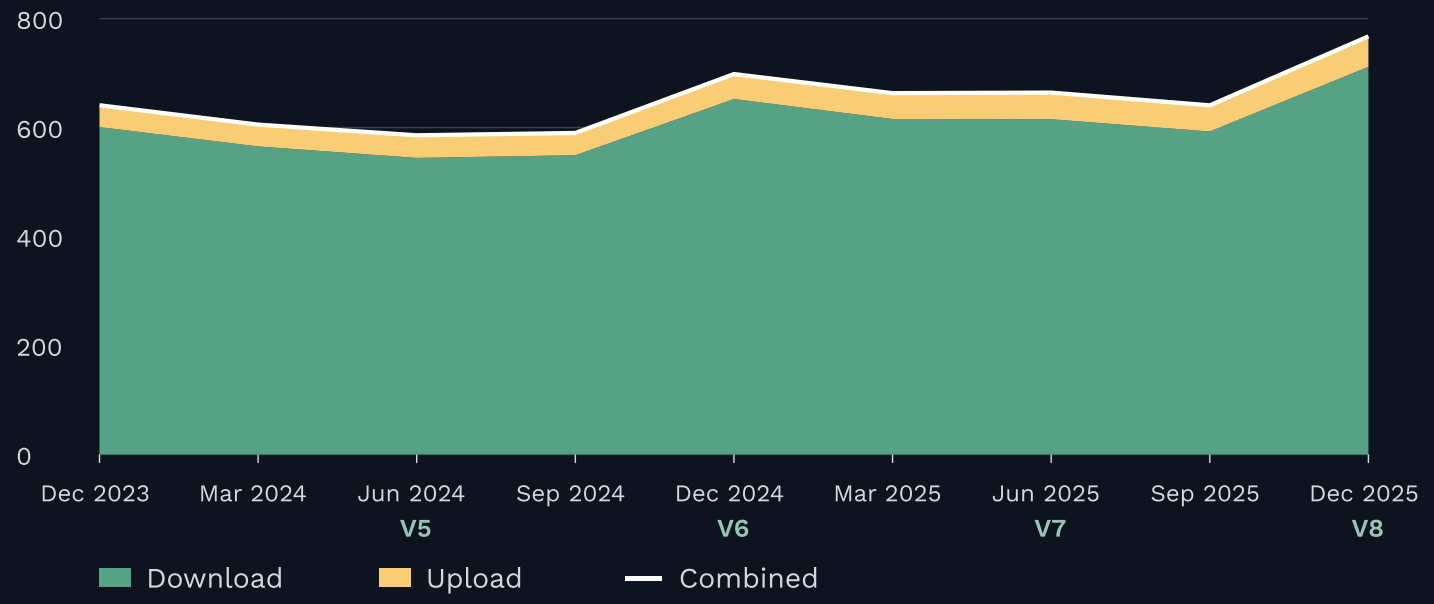
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HFC Modernization Helps Cable Keep Pace with Peak Speed Demand

December 2023–December 2025 consumption and modeled average busy-hour bandwidth per location.

AVERAGE MONTHLY CONSUMPTION

GB per location · Fabric versions shown at matching dates



DEC 2025 (V8) | USAGE + DEMAND

DOWNLOAD

712 GB/month +9% YoY

DEC 2025 → DEC 2028 · PROJECTED

5 Mbps/location → 6 Mbps/location

UPLOAD

56 GB/month +22% YoY

DEC 2025 → DEC 2028 · PROJECTED

<1 Mbps/location → <1 Mbps/location

COMBINED

767 GB/month +10% YoY

DEC 2025 → DEC 2028 · PROJECTED

6 Mbps/location → 7 Mbps/location

Modeled busy-hour demand: 7% annual growth compounded over 3 years (+23%); values rounded.

Source: CostQuest Internal Analysis across date ranges corresponding to FCC V5 through V8.

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DOCSIS Technology Roadmap

A path to 25 Gbps aggregate capacity, with research exploring up to 50 Gbps.

ESTABLISHED FOUNDATION

DOCSIS 3.1

NETWORK PROFILE

Downstream-heavy

high downstream, limited upstream

Mid / high splits expand upstream spectrum and room for uploads.

Build on existing HFC

→

PUBLISHED SPECIFICATIONS

DOCSIS 4.0

NETWORK PROFILE

Near-symmetrical

multi-gigabit service potential

Full Duplex or Extended Spectrum enables much stronger upstream.

Close the upstream gap

→

ANNEX PUBLISHED · SEP 2026

3 GHz Extension

UP TO

25 Gbps

aggregate network capacity

Optional DOCSIS 4.0 annex extends downstream spectrum to 3 GHz.

Unlock more HFC capacity

⇢

LONGER-TERM RESEARCH

6 GHz Research

POTENTIAL UP TO

50 Gbps

aggregate network capacity

Feasibility under evaluation; further specification work depends on validation.

Explore the next horizon

TARGETED FTTP

Complementary investment

Deploy fiber to premises where demand, competition and development support the investment. Upgrade HFC while phasing fiber investment to local needs.

More capacity from existing coax — with equipment and plant upgrades as needed.

Network capacity is shared, not a household speed promise. Published specifications do not imply deployment; 50 Gbps is research potential.

Sources: CableLabs DOCSIS comparison; 3 GHz annex announcement (Sep 2026); DOCSIS technology update (2026).

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HFC Modernization Can Preserve Capital Flexibility

Targeted Upgrades Can Be More Efficient Than Blanket Fiber Overbuilds

- HFC modernization preserves much of the existing coaxial last-mile infrastructure while improving network capacity.
- Mid-Split & High-Split augments allow for higher upload speeds.
- A full FTTP overbuild requires replacement of a substantially larger portion of the access network and should be prioritized where local economics support the investment.
- Targeted FTTP deployment is most appropriate in new-build areas, high-growth markets and BSLs facing significant fiber competition.

HFC Modernization	FTTP Overbuild
Retains most existing coaxial infrastructure	Replaces much of the existing last-mile network with fiber
Targeted investment in DOCSIS upgrades, plant maintenance and capacity improvements	Higher upfront construction investment
Faster path for many established service areas	Best suited for new builds, high-growth areas and strong competitive cases
Preserves capital flexibility	Provides maximum long-term capacity and symmetrical-service flexibility

NOTES

- A typical HFC network's composition: approximately 25% fiber / 75% coaxial.
- A full fiber overbuild would require replacing a large share of the existing coaxial access network.

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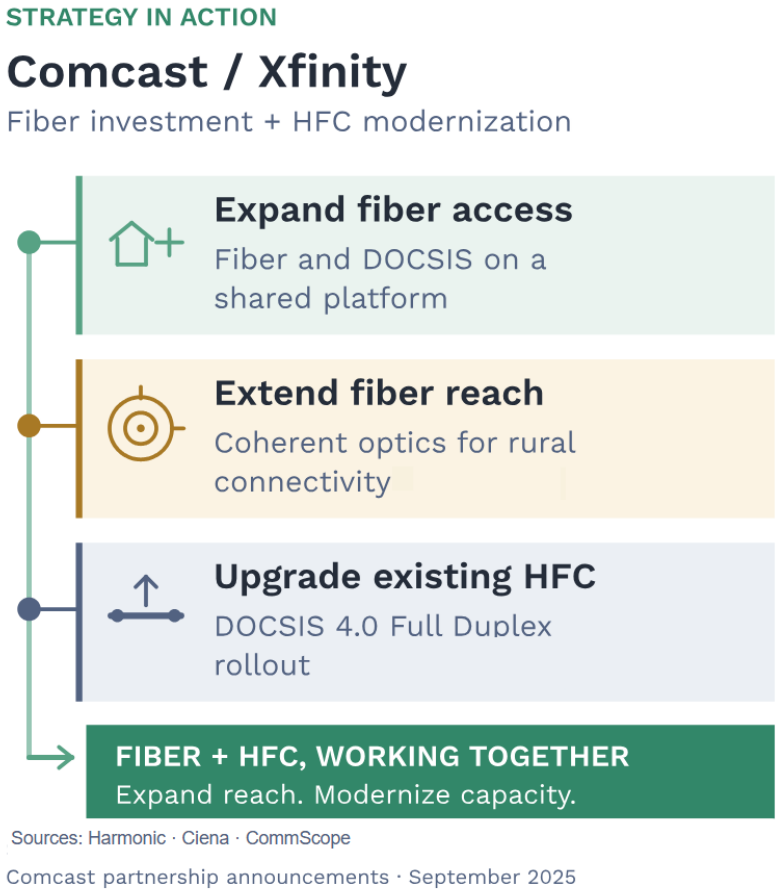
A Long-Term Fiber Strategy Is Still Essential

MSOs that continue to deploy fiber networks should maintain a long-term fiber strategy to address growth, competition and evolving customer expectations.

A durable fiber strategy should consider:

- Fiber deployments in new expanding geographies.
- Targeted fiber overbuilds in high-growth or high-value areas.
    - Remaining HFC BSLs could benefit from improved HFC capacity and create future conversion options.

The industry data indicates that MSOs are pursuing different paths. The common requirement is a long-term network strategy that uses both HFC and fiber intentionally.



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Key Takeaways for Cable Stakeholders

Cable operators remain central to broadband expansion. Cable's future is fiber-forward, but not fiber-only. The strongest broadband strategies use both fiber and modernized HFC intentionally.

- **For policy makers:** district-level data can inform local broadband strategy, collaborating with MSOs can offer insight into where fiber expansion, HFC upgrades, permitting reforms, or public-private partnerships could most effectively improve service.
- **For MSOs and cable operators:** a balanced network strategy matters—focus fiber growth on new builds, high-growth areas and competitive markets, while upgraded HFC can continue delivering strong service across much of the existing footprint.
- **Broadband offices and investors:** draw on local economics, existing infrastructure, and competitive conditions to inform funding decisions. Targeted upgrades can potentially deliver faster impact than blanket fiber overbuilds in many established cable markets.

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Primary References

- CostQuest's Location Fabric of Broadband Serviceable Locations (BSLs), Versions 5, 6, 7 and 8
- FCC Broadband Data Collection (BDC) provider availability data
- MSO investor relations materials and SEC filings
- CostQuest competitive intelligence, network architecture and utilization data

BDC Version	Fabric Data Vintage	FCC Coverage Available
Version 1	June 30, 2022	November 23, 2022
Version 2	December 31, 2022	October 10, 2023
Version 3	June 30, 2023	November 14, 2023
Version 4	December 31, 2023	May 21, 2024
Version 5	June 30, 2024	November 11, 2024
Version 6	December 31, 2024	May 20, 2025
Version 7	June 30, 2025	December 2, 2025
Version 8	December 31, 2025	May 19, 2026

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