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# How Satellites Can Help Close the Digital Divide

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## TL;DR

**Background:** The digital divide remains a persistent challenge in both the United States and other jurisdictions, limiting the public's access to education, health care, and economic opportunity in an increasingly online world. A new [joint report](#) from the International Center for Law & Economics (ICLE) and New America's Wireless Future Project finds that low-earth-orbit (LEO) satellites now offer a viable broadband solution to close remaining connectivity gaps, connecting unserved and underserved households that traditional networks struggle to reach.

**But...** Fiber has long been regarded as the gold standard for broadband due to its reliability, longevity, and scalability. Federal and state broadband programs have therefore prioritized fiber buildouts as the cornerstone of universal service efforts.

**However...** Fiber deployment is often prohibitively expensive in rural, remote, and geographically complex regions. The report highlights that LEO satellites should be viewed as a complementary element of the national connectivity toolkit, and better integrated into federal and state broadband programs in order to deliver fast, reliable service where fiber is not practical or cost-effective.

the Universal Service Fund (USF) were built using terrestrial-deployment models that assume location-specific infrastructure costs and fixed buildout timelines. LEO systems deliver service through orbiting networks, where deployment costs are largely front-loaded and capacity is shared across wide regions.

Incorporating satellite service would require these legacy program structures to measure dedicated, real-world service capacity, rather than physical construction. This must include clear metrics—such as minimum throughput, latency, uptime, and adoption rates—to verify that providers meet their broadband obligations over time and are fully reimbursed for connecting households. At the same time, policymakers must avoid overly rigid or duplicative reporting requirements that stifle innovation or impose terrestrial-style compliance burdens on space-based networks. The goal should be generating transparent performance data that demonstrate service quality, reliability, and consumer benefit.

Infrastructure subsidies must also reflect the distinctive cost structure of LEO service. Consumer-premises equipment (CPE)—including user terminals and installation—can be a significant barrier for low-income or rural households. To achieve technological neutrality, programs should account for the need to provision this equipment in ways that mirror the support offered for terrestrial last-mile connections.

## KEY TAKEAWAYS

### Integrating Satellite Service into Broadband-Subsidy Programs

U.S. broadband policy must evolve to fully incorporate satellite broadband as a viable deployment option. In the short term, federal and state subsidy programs should make LEO service eligible for broadband access and affordability programs. Current frameworks like the Broadband Equity, Access, and Deployment (BEAD) Program and

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### Long-Term Integration of Broadband Solutions

Broadband policy must employ the full range of available solutions to address the persistent causes of the digital divide. LEO connectivity makes the most technical and economic sense in high-cost, low-density, or geographically challenging regions where fiber deployment remains infeasible. Beyond residential broadband, policymakers should also

assess how satellite networks can complement other sectors, from disaster recovery and precision agriculture to education, logistics, and defense. By treating LEO systems as part of a broader connectivity ecosystem, the United States can achieve more resilient and cost-effective universal coverage.

To sustain progress, future deployment initiatives should recognize that LEO networks are evolving systems that expand capacity and improve performance through continuous software and hardware updates. These upgrades are achieved dynamically through iterative satellite generations, adaptive-modulation techniques, and refined spectrum utilization. Aligning program eligibility with measurable service outcomes like latency, throughput, and reliability will ensure that satellite service competes on efficiency and technological merit, rather than being constrained by legacy classifications.

The benefits of this approach compound as LEO operators increasingly partner with domestic providers to create integrated connectivity options. These collaborations demonstrate how satellite and terrestrial systems can operate as both complements and competitors, filling each other's coverage and capacity gaps. By enabling partnerships between LEO constellations, regional ISPs, and mobile carriers, policymakers can foster a more resilient and efficient broadband ecosystem. Such integration underscores that the future of universal connectivity lies not in a single technology but in a hybrid model that maximizes performance, efficiency, and consumer benefit across all platforms.

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## Affordability and Digital Inclusion

Affordability remains an equally critical component of long-term inclusion. LEO-satellite service should be considered for all current and future affordability programs, so that subscription costs can be brought within reach of low- and middle-income households. Extending support mechanisms like consumer vouchers or portable credits to satellite-broadband subscriptions and equipment can help to ensure that families in remote areas benefit from the same opportunities as those served by terrestrial

networks, without distorting market competition. Programs should focus on empowering consumers to choose among competing technologies, rather than prescribing specific infrastructure types.

Policymakers also must have access to accurate broadband mapping data. The Federal Communications Commission should build on the detailed mapping efforts already underway through the BEAD program, integrating those datasets into a unified national framework that reflects both terrestrial and satellite availability. Importantly, the next generation of maps must include real-world data on performance, congestion, and service capacity. Policymakers should consider ways to incorporate dynamic information—such as beam coverage, terrain impacts, and available bandwidth—that can better identify where additional investment or regulatory action is needed to close remaining connectivity gaps.

As broadband demand continues to grow, the line between terrestrial and satellite services will increasingly blur. Policy must therefore emphasize interoperability and complementarity—allowing fiber, fixed wireless, and LEO systems to function as components of a cohesive national network, rather than as competing silos. Investing in backhaul integration, standardized interfaces, and shared performance metrics would allow these technologies to reinforce one another, maximizing efficiency and resilience. In doing so, the United States can move beyond one-size-fits-all connectivity goals toward a dynamic, technology-neutral framework that keeps pace with innovation, while ensuring that every household has access to reliable, high-quality broadband service.

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For more on this issue, see "[Low Earth Orbit Satellites: Policies to Promote Spectrum Sharing, Foster Competition, and Close Digital Divides: A Report of the LEO Policy Working Group.](#)"

### CONTACT US



**Kristian Stout**  
Director of Innovation Policy  
[kstout@laweconcenter.org](mailto:kstout@laweconcenter.org)

