

The Economic Impact of Satellite Broadband Technology on Mountain Communities

I. Introduction

II. Current Internet Availability and Challenges in Mountain Communities

- a. Statistics of Internet Speeds in Mountain Communities
- b. Current Internet Technologies (Fiber, Broadband, 4G, 5G, satellite internet) and the challenges of each
 - i. Fiber (Not Available)
 - ii. Broadband (Not Available)
 - iii. 4G
 1. Verizon Mobile (16.4 MBPS for \$50/mo.)
 2. Verizon Hotspot (up to 25 MBPS for \$69/mo.)
 - iv. 5G (Not Available)
 - v. Satellite Internet
 1. HughesNet (up to 25 MBPS \$60-150/mo.)
 2. Viasat (up to 12 MBPS \$100/mo.)
- c. Rural Broadband Initiatives
 - i. ARC
 - ii. USDA

III. Satellite Broadband Technology, Capacity, Providers, and Timelines

- a. Satellite Broadband and Low-Earth Orbit (LEO) Technology
 - i. Definition
- b. Potential Speed (1 GBPS \$?/mo)
- c. Starlink, OneWeb, Amazon's Kuiper Project, etc.
 - i. Starlink
 1. Plan 12,000 satellites
 2. Initial Service to North America
 3. Services offered Mid-2020
 - ii. OneWeb
 1. Plan 2,000 satellites
 2. Initial Service to the Arctic, and then Africa
 3. Services offered by 2021
 - iii. Kuiper Project
 1. Plan 3236 satellites
 2. Services required to begin by 2026

IV. Shifting Economies in Mountain Communities

- a. Real Estate
 - i. Remote Mountain Beauty will result in Remote Workforce Immigration
 - ii. Property Value increases
- b. Education
 - i. Online learning alternatives
 - ii. Online learning initiatives
- c. Distribution
 - i. Retailers and Distribution centers would need closer locations
 - ii. Additional jobs to local communities
- d. Services
 - i. Skilled tradesmen needed for new residences (electricians, plumbers, landscapers, as well as initial construction workers)
 - ii. Delivery services will be paramount such as Amazon Prime, utilities, food delivery options, garbage collection, and recycling services with all-terrain vehicles

V. Projected Economic Impact of Satellite Internet Technology on Mountain Communities

- a. Tax revenues
 - i. Property taxes
 - ii. Sales Tax revenue
- b. Higher Education Levels
 - i. Online learning for high school
 - ii. Online college degrees
 - iii. Global learning environments
- c. Skilled Workforce
 - i. Most remote workers are skilled
 - ii. Require a wider range of product and service availability
- d. Entrepreneurship
 - i. Entrepreneurship increases from the remote work in the region
 - ii. A proliferation of new customers will place upward pressure for more services and business opportunities
 - iii. Many entrepreneurs in a geographic region will spur incubators, accelerators, startups, venture capital funds, angel funds, and a culture of innovation

VI. Conclusion