



# 2024 Vermont 10-Year Telecommunications Plan

## *Summary Findings and Recommendations*



# Selection of Findings

# Fiber coverage is expanding rapidly, but stakeholders identified small challenges

- **Households with access to 100 Mbps symmetrical more than doubled between 2021 and 2023; Vermont is on track to pass all on-grid premises by 2029**
- **Vermont needs to grow its broadband construction workforce**
  - Between 2018 and 2022, Vermont's broadband deployment workforce shrank by 12%
  - Building \$700M of fiber deployments will require growing the workforce by ~750 workers
- **Fiber infrastructure owners may need to bury portions of network in next 10-15 years as part of utility hardening, but costs and responsibilities are unclear**
- **The Agency of Transportation no longer assesses zero-cost fees in unserved areas, decreasing overall efficiency of deployment in VT**

# Mobile wireless service is critical, but little coverage expansion had occurred

- **80% of surveyed businesses indicated Vermont's mobile wireless coverage is "inadequate for their business needs"**
- **64% of surveyed residents agreed that the state should use public funds to improve mobile wireless coverage**
- **Mobile download speeds have increased by sixfold since 2018, but coverage areas have seen almost no expansion**
  - Approximately 412 miles of road do not have mobile broadband coverage from any provider
- **Engineering analysis shows strategically placed small wireless facilities (under 50 feet tall) can make efficient progress toward closing the first 50% of gaps**

# A mobile wireless engineering analysis estimated costs to expand coverage

- Assumes ubiquitous fiber along roadways will reduce cost of mobile deployments
- Certified PE estimated \$240,000 per 140-foot AGL traditional macro tower
  - Includes design, backhaul, power, and installation
  - Requires more significant landscape changes to maximize signal reach
- Certified PE estimated \$97,000 per 50-foot AGL pole-based radio deployment
  - Often considered less aesthetically obtrusive and are well suited to VT terrain and foliage
  - Over 50% savings in capital expenditures compared to 140-foot towers
  - In many locations, lower height does not sacrifice range due to VT topography and curvature of earth
- Closing *easiest* 50% of mobile wireless coverage gaps would have required:
  - 98 macro towers that are 140 feet tall at total estimated cost of \$25,520,000
  - 107 wireless facilities that are 50 feet tall at total estimated cost of \$10,379,000

# Affordability of services remains a challenge

- **ACP expired in May 2024, causing 24,000 Vermont households to lose \$30/month subsidy**
  - 16% of survey respondents under the age of 45 reported that the cost of their mobile cell bill often or always affects what essential items they can afford
  - 12% of persons with a disability and 37% of income-based government assistance recipients participate
- **Although stakeholders strongly noted that both fixed and mobile connectivity are important, the federal Affordable Connectivity Program (ACP) subsidy only covered one service**
- **Healthcare workers noted that without continuous mobile coverage and access to devices, unhoused Vermonters struggled to access care**

# Public safety systems will continue to evolve; mobile coverage remained an issue

- **Public Safety Communications Task Force was established in February 2024 to evaluate a possible consolidation of public safety answering points (PSAP)**
- **Over 50 FirstNet sites (new towers and tower upgrades) have been deployed; however, only 5.6% of public safety survey respondents report never losing mobile service on the job**
- **Some goals of the Statewide Communication Interoperability Plan (SCIP) may only be addressed with additional state funding**

# Statutes could be more specific and better aligned with state strategy

- **Broadband speed definitions and deployment parameters are not cohesive across statutes**
- **Statutorily mandated end date for the VCBB (July 1, 2029) is before all BEAD Program activities are likely to happen**
- **Statutory goals, first drafted 40 years ago, contain some overlapping and nonspecific language**





# Selection of Recommendations

# VT can take actions to make wireline deployment more efficient

- **AOT should continue issuing zero-cost fees in unserved areas until state achieves universal 100/100 Mbps broadband**
- **Scale training programs to indicated levels to ensure workforce is skilled, qualified, and sufficient to execute necessary construction**
- **Lead a study among infrastructure owners of process and costs of burying infrastructure, impact to ISP and fiber-owner financials, and opportunities for savings and alignment**

*Performance Expectations: Agency of Transportation, Vermont Community Broadband Board in collaboration with the Department of Labor, and Public Service Department during late 2024 and early 2025.*

# Encourage small-facilities wireless deployments via a pilot grant program

- **Pilot a small-facilities (<50 ft) mobile wireless grant program to address coverage gaps while preserving landscape aesthetic**
  - Dedicate \$2 to \$3 million to the pilot and collect data to adjust future iterations
- **Update data collection practices to strengthen planning and measure mobile coverage progress**
  - Repeat the 2022 mobile broadband drive test every two years
  - Establish a crowdsourced drive-test practice to collect data on Class 2 and 3 roads
  - Request that 248a permit recipients notify PSD of completion of tower builds

*Performance Expectations: Public Service Department with funding allocated by the Vermont Legislature during the 2024-25 biennial.*

# Ensure affordability of both wireline and wireless service for low-income residents

- Define affordable as 2% of monthly income for fixed and mobile broadband spending for low-income Vermonters
- Provide a subsidy of \$67/month to low-income Vermonters for *both* wireline and wireless broadband subscriptions
- Provide fully subsidized mobile devices and mobile subscriptions to unhoused Vermonters to ensure continuous access to services

*Performance Expectations: Agency of Human Services with funding allocated by the Vermont Legislature during the 2024-25 biennial.*

# Strengthen the state's emergency communications systems

- Use the PSAP consolidation analysis to inform the Public Safety Communications Task Force's charge
- When federal grants are unavailable, dedicate sufficient funding to execute the SCIP
- Use grantmaking leverage to ensure resiliency measures are built into new deployments

*Performance Expectations: Department of Public Service, Department of Public Safety, and the Public Safety Communications Task Force in 2024 and early 2025.*

# Modernize statutes to better guide practices and align with state strategies

- Ensure statutory goals in 30 V.S.A. § 202c and 30 V.S.A. § 202d are specific and aligned with Act 71
- Extend the VCBB's sunset date to provide adequate oversight and monitoring of BEAD deployments
- Consider aligning statutory goals with ongoing deployment strategies
  - E.g., set goals that address the benefits that competition may (but doesn't always) bring — better speeds, lower costs, better customer service — rather (or in addition to) goals of competition for competitions' sake

*Performance Expectations: Vermont Legislature during the 2024-25 biennial.*



**Thank you**