COVID-19 Response Telecommunications Recovery Plan

This document was prepared for Legislators in advance of testimony by Matt Dunne of Rural Innovation Strategies, Inc, and Joanne Hovis of CTC Energy and Technology on Friday, January 15, 2021.

This document contains excerpted materials from the full COVID Emergency Telecom Report (the full report can be found on the Public Service Department's website.)

Specifically, this document contains:

- An abbreviated version of the Executive Summary
- Condensed and abbreviated findings from the online and phone-based surveys conducted of Vermonters and Vermont businesses
- The full text of the Legal Analysis provided by Andrew Montroll, of Montroll, Backus & Oettinger P.C., based in Burlington, Vermont; and Jim Baller and Casey Lide, of Keller and Heckman LLP, based inWashington, D.C .

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Contents

1 Executive Summary

Covid-19 has laid bare the challenges of lack of universal broadband in Vermont. In the midst of a pandemic, inequities in the availability and affordability of broadband create further inequities in areas such as education, telehealth, and the ability to work from home.

To understand and address those challenges on an emergency basis, this Covid-19 Emergency Telecommunication Plan (Report) was commissioned by the Vermont Department of Public Service in October 2020. The Report is intended to meet the requirements of Section 15 of H.966, an act relating to Covid-19 funding and assistance for broadband connectivity, housing, and economic relief, and 30 V.S.A. § 202d. The Report was funded by Vermont's federal CARES Act funds to provide research and recommendations regarding how to address, in the near term, the immediate connectivity crisis created by Covid-19.[1] The Report was prepared in October and November 2020 by a project team led by CTC Technology & Energy and Rural Innovation Strategies, Inc.

1.1 The Scope of This Report

The research undertaken for this Report illuminates and illustrates the short-term connectivity challenges that require immediate effort to repair the harm done to Vermonters during the pandemic. Despite the best efforts of stakeholders, many students are not receiving school instruction, workers are not able to work remotely from home, patients who want telehealth services are struggling to connect, and doctors participating in prudent quarantine practices are unable to engage with hospitals and patients. Even citizens hoping to stay connected to their municipal government's activities are struggling to attend public meetings. With surging cases and cold weather approaching, these challenges are likely only to further exacerbate inequitable access to education, work, healthcare, and the democratic process.

The research for this Report also reinforces the importance of accelerating progress toward the State's 100/100 Mbps broadband goal. For example, surveys conducted as part of this effort found that, even among Vermonters who do have access to broadband, satisfaction with current internet service has decreased during the pandemic; approximately one-third of respondents to an online survey express dissatisfaction with connection speed and reliability during the pandemic.

At the same time, given the immediacy and urgency of this effort, it's important to note what this Report was not intended to accomplish: It does not represent a long-term strategy to meet the State of Vermont's important residential 100/100 Mbps goal.

[1] H.966, https://legislature.vermont.gov/Documents/2020/Docs/BILLS/H-0966/H-0966%20As%20Passed%20by%20Both%20House%20and%20Senate%20Unofficial.p

The consulting team heard from many stakeholders who hoped this Report would offer the Vermont broadband "Marshall Plan" to accelerate the State's path to 100/100 Mbps service by 2024. However, given the scope established for this effort and the source of funding for the work, this Report is focused on short-term efforts, not long-term strategy. Indeed, given the short time horizon for executing any strategy recommended by this Report, it does not incorporate recommendations regarding medium- or long-term strategies or technologies, such as construction of fiber-to-the-premises or use of neutral host infrastructure, however important those strategies are likely to be for Vermont's long-term broadband future.

Stated simply: *This Report should be understood as a complement rather than an alternative to long-term planning* that would address the State's broader internet goals. We strongly recommend that Vermont continue with that longer-term planning once the immediate emergency has been addressed.

In light of the scope of this Report, this analysis follows three key principles:

1. **Addressing Immediate Needs:** Recommendations in this plan are intended to address immediate, urgent needs during the pandemic.

2. **Achieving Long-Term Goals:** Recommendations in this plan should not make achieving the State's long-term goals (universal 100/100 service before 2024) more difficult.

3. **Accelerating Long-Term Goals:** Wherever possible, recommendations for short-term connectivity strategies in this plan should be constructed to accelerate the State's path toward long-term goals.

The Report builds on the State's considerable efforts and achievements to date. The Vermont Department of Public Service has developed more granular and up-to-date data on broadband availability than perhaps any other State. The electric utilities in the State share crucial data regarding utility poles and fiber assets. During the pandemic, Public, Education and Governmental Television (PEG TV) stations and libraries have taken on new and critical roles, disseminating information such as educational content, Covid-19 safety guidelines, and municipal events to the public quickly and efficiently. The State also moved very quickly to deploy centrally located public hotspots and invested in programs to identify people with distinct needs and bring Vermonters online quickly.

This report finds the following:

- Institutional and governmental telecommunications systems have been resilient during the pandemic, and emergency plans and adaptations have successfully minimized gaps in

operations of government services. Most commercial business locations are generally served by adequate broadband.

- Broadband use has increased dramatically since the start of the pandemic, as would be expected. For example, respondents to an online poll report increased use of the internet for telemedicine (an increase from 19 percent to 75 percent) and for civic engagement (an increase from 33 percent to 74 percent). Additionally, 62 percent of respondents use the internet for teleworking on a daily basis, compared with 21 percent of respondents before the pandemic.

- There exist considerable challenges with respect to insufficient residential telecommunications infrastructure. Many Vermonters are struggling with connectivity for remote work, online education, and telehealth (including doctors in quarantine who cannot connect to hospitals and patients from home with video conferencing). For example, four in 10 respondents to a residential survey reported that they have experienced connectivity issues during telehealth appointments. Overall, satisfaction with internet service aspects has decreased during the pandemic, particularly for speed and reliability of service. More than one-half of respondents are not at all satisfied (approximately one-third) or are only slightly satisfied (approximately one-fifth) with connection speed and reliability during the pandemic.

- Low-income Vermonters in particular are facing challenges accessing broadband and getting assistance. For example, a survey of families connected to the internet suggests that more low-income respondents to the survey who currently have service had applications to ISP low-income programs denied than those who were able to enroll.

- Small businesses, remote workers, parents, patients, and civically engaged Vermonters are learning digital skills quickly, but are still struggling to understand how to use connectivity tools during the pandemic.

- Many municipalities have struggled to engage citizens and elected officials via online tools, and few have made plans for larger engagement challenges like Town Meeting Day. In some cases, PEG TV is filling the gap. Sixteen percent of all respondents to a survey report viewing PEG TV content during the Covid-19 pandemic. Among those who viewed PEG programming, the most commonly accessed content was broadcasts of municipal functions, cited by 72 percent of respondents. One-half of PEG viewers accessed information about Covid-19.

1.2 Summary of Recommendations

Given that, for the most part, the immediate challenge for connectivity during the pandemic appears to be on the residential rather than business or institutional fronts, this Report focuses its recommendations on the needs of the following categories of Vermonters:

1. **Served but low-income**: This category is of those Vermonters who have available broadband service of 25/3 or more, but may not be able to afford service

2. **Unserved but able to pay**: This category is of those Vermonters without access to broadband—who could and would pay for service, if the infrastructure was made available

3. **Unserved *and* low-income**: Vermonters without access to broadband who also need assistance paying for monthly service

Addressing the needs of these Vermonters requires work and programming in three categories that are responsive to the needs: First, we recommend infrastructure deployments to enable short-term solutions to address the needs of the unserved. Second, we recommend service subsidies for low-income Vermonters who may struggle to afford broadband service in the current economic crisis. Finally, we recommend execution capacity to reach everyone across the State. The recommendations are based on the assumption that the State can mobilize staff/contract resources to act quickly, and assumes the State will utilize Covid-19 emergency funding sources for implementation wherever possible, whether those are CRF funds or future emergency stimulus.

1.2.1 Recommendation: Provide a Broadband Service Subsidy to Low-Income Vermonters During the Pandemic

The Vermont Department of Public Service has already developed a successful effort to reimburse broadband costs to families that are adversely impacted by the pandemic's economic crisis. We recommend the State complement that effort, and expand it, by also focusing resources on providing free broadband to low-income families that may not already have service to their homes because of the barrier of cost.

Specifically, the State could purchase services in bulk from providers that currently serve communities throughout Vermont, then provide codes for qualified residents to redeem for free service from any participating provider—thus completely eliminating cost as a barrier to adoption.

This approach would enable the State to use its large-scale purchasing power to realize efficiencies and ensure competitive pricing—reducing its costs both in total and on a per-subscriber basis. This is especially true to the extent that the State can leverage carriers'

underutilized low-cost programs such as Comcast internet Essentials and Spectrum Internet Assist. The State could use a quick-turnaround procurement process to engage internet service providers willing to offer low pricing, flexibility, and high-quality customer service.

Given the reality of service availability in Vermont, the program would offer codes for service over fixed networks wherever possible and mobile hotspots everywhere else.

To maximize participation and the overall impact of this approach, the State would need to make the process as simple as possible for residents and would need to commit to providing support and guidance to families as they navigate the program. Ideally, eligible residents would receive communications through multiple channels—both analog and digital—that clearly describe the program's benefits, include a personalized code, and provide instructions for subscribing to service from the participating provider of their choice.

For purpose of equity and ease of program deployment, eligibility should be based on income level and should build on existing mechanisms like a Vermonter's eligibility for Medicaid or the National School Lunch Program. This will require collaboration and data sharing by public school systems or other institutions.

Assuming an average cost per household of $350 for 12 months, representing service, equipment, and installation, and approximately 20,000 eligible households, we estimate the potential cost of a program like this could be $7 million in the first year.

1.2.2 Recommendation: Fund Modest Infrastructure Enhancements Where Feasible in the Short-Run and in Areas Where These Investments Will Not Compromise Long-Term Efforts

After consideration of the Emergency Connectivity Initiative, 61,187 homes, or approximately 20 percent of Vermont households, are not served by wireline service that meets the federal definition of broadband (25 Mbps download and 3 Mbps upload) and thus face difficulty working remotely, learning remotely, or obtaining telemedicine services over broadband.

This Report considers possible approaches for addressing these broadband gaps. While the optimal long-term approach is to connect unserved premises with fiber or other high-speed wireline services, we recommend an emergency approach that accomplishes the following:

1. **Use of Mobile**. Leverages the commercial mobile broadband networks that serve most of Vermont, including areas unserved by wired 25/3 broadband services. Households without fixed broadband service can use a mobile hotspot device to access service. We have identified 44,850 households (73 percent of the 60,511 unserved households) in this category through use of State drive test data, State tower data, and AT&T data regarding planned 2020 FirstNet expansion.

2. **Line Extensions.** Pays to extend cable or fiber service to small unserved pockets within or adjacent to otherwise-served areas. These can be built quickly and will be difficult to serve by a new fiber provider such as a Community Utility District. We identified 1,701 homes in this category using a mapping algorithm that identifies small unserved areas in mostly-served towns—and we estimate this will cost $4.5 million.

3. **Rooftop Boosters.** Identifies where the use of rooftop booster antennas could help households with marginal mobile broadband service attain service at acceptable speeds and provide equipment and installation services, along with the hotspot device. We identify 3,780 additional households in this category by selecting areas with lower signal level thresholds for mobile broadband, but at levels that can be boosted to provide acceptable service.

Many public comments on the draft plan asked why the project team did not recommend new fixed wireless deployments as an emergency response strategy. There are two primary reasons: One, State financial support for the expansion of permanent infrastructure that is not cable or fiber, does not contribute to the long-term goal of 100/100 service, and indeed may impede that goal. Two, between permitting (which takes several months in Vermont), interference testing, manufacturing lead time, and installation work, the deployment of new wireless radios would not be able to happen on a timeline compatible with the emergency scope of our work.

1.2.3 Recommendation: Develop a Broadband Corps

To support Vermonters in their adoption and use of broadband, we recommend development of a Broadband Corps. The Corps would be a statewide team dedicated to supporting CUDs and mobilizing the people power necessary to confirm mobile hotspot options, assist with nontechnical installations, and provide technical support for low income and technology-challenged Vermonters. The Corps would launch before December 30 and would continue over the next 8 to 10 months, transitioning to longer-term data collection (such as pole assessments) in the late spring once emergency connections are completed.

Consistently, during the research for this Report, stakeholders demonstrated need for more hands-on resources to assist with the technical issues that inevitably arise as more Vermonters move online. A Broadband Corps could address these gaps through organizing volunteers through the CUDs and providing direct service to Vermonters to make sure as many as possible are connected quickly.

We recommend the creation of a Broadband Corps in order to: (1) Assist with infrastructure and service deployment; (2) Perform outreach, and direct technical support to Vermonters becoming familiar with their broadband connections and devices; and (3) Provide high touch support to ensure low-income Vermonters take advantage of broadband support programs. If the Corps is

successful in connecting Vermonters rapidly, we recommend in the spring that Corps members spend available time on pole surveys of towns on behalf of CUDs and thereby advance their work toward deploying fiber.

As an illustration of what is possible, this Report describes a Broadband Corps structure that combines regionally assigned Corps members with a statewide installation team. Corps members could be assigned to Regional Planning Commission regions and could work closely with RPCs and/or CUDs if desired, with centralized, statewide management. We recommend at least 22 regional corps members (two for each RPC region), and at least 20 statewide Corps members.

While a Corps could be put together quickly to get started as early as December, it is likely such a team would be focused on executing for a six-month period, for a budget of approximately $1.3 million, including staffing and equipment.

2 Surveys of Vermont Residences and Businesses

The project team—in consultation with key State stakeholders—conducted an online business survey, an online residential survey, and a phone-based residential survey.

2.1 Online Residential Survey Methodology

The online residential survey ultimately secured more than 4,000 responses from Vermonters, 3,046 were deemed "valid" by the statistician analyzing the data. The survey was promoted through organic and paid promotions, including a press release from Vermont's Department of Public Service (PSD); requests made to town administrators, librarians, State legislators and other stakeholders to post the survey on town listservs; social media promotion from a range of entities; paid Front Porch Forum advertisements; outreach via Communications Union Districts (CUD), and more.

The survey were weighted based on the age of the respondent and region. Since older persons are more likely to respond to surveys than younger persons, the age-weighting corrects for the potential bias based on the age of the respondent. Key Findings Include:

Online Residential Survey Findings: Broadband Access Gaps

The survey found very few gaps in acquisition of residential internet access services, but also that relatively few residents are taking advantage of available subsidized programs. The following are key findings:

- **Most residents do have home internet access.** Most (96 percent) reported having internet access, including 79 percent who have both home internet service and a cellular/mobile telephone service with internet (smartphone). The high saturation of internet access would be expected in an online survey.

- **Five percent of all respondents and nine percent of low-income households (earning less than $25,000 per year) only use a smartphone for home internet access.** This may limit their ability to fully utilize online services at home.

- **Comcast Xfinity and Consolidated Communications (CCI) are the leading internet service providers used.** Three in 10 respondents subscribe to Comcast Xfinity, and three in 10 subscribe to CCI. Other ISPs comprise much smaller shares of the market statewide but may represent larger shares in some individual counties. Further detail on companies used by respondents are provided in the body of the report.

- **Residents may be significantly underutilizing existing broadband subsidy programs.** Only one percent of all Comcast subscribers, and 10 percent of low-income subscribers, participate in the Comcast Internet Essentials program. Another 59 percent of low-income subscribers were unaware of the program, and 15 percent attempted to enroll but were declined.

- **Most (99 percent) respondents access the internet from any location, including a range of locations outside the home.** However, use of the internet outside of the home has declined significantly during the Covid-19 pandemic.

- **Most respondents are unaware of the State's emphasis on Communication Union Districts.** Three in 10 respondents said they are aware of CUDs as a way to improve broadband access in unserved areas, while 59 percent are unaware and 11 percent are unsure.

- **Public Wi-Fi access may not be adequate.** Nearly one-half of respondents (45 percent) are aware of public Wi-Fi hotspot locations near their home, but just eight percent said that hotspot access is adequate in the area. Another 43 percent were unsure.

- **Most respondents use search engines to learn about availability of internet service.** Two-thirds named search engines as the leading source of information to learn about available service options, and seven in 10 named search engines as the top source for learning how to use the internet more effectively.

Online Residential Survey Findings: Covid-19 Impacts on Broadband Use

Respondents reported increased use of and demand for broadband services during the Covid-19 pandemic. They are utilizing the internet more at home and less often outside the home, as may be expected, and they are engaged in more online activities for work, school, and entertainment. The following are key findings:

- **Daily use of home internet services at various times has increased during the pandemic**. Prior to the Covid-19 pandemic, just over one-half of respondents made daily use of the internet mid-morning or early afternoon, compared with approximately nine in 10 respondents during the pandemic. Four in 10 households have at least three members online during peak usage times during the Covid-19 pandemic.

- **Use of internet services outside of the home has declined significantly during the Covid-19 pandemic.** Use of the internet in key areas decreased significantly when comparing figures pre-Covid and during-Covid, including in work settings (79 percent vs. 56 percent), private businesses (65 percent vs. 27 percent), schools or colleges (38 percent vs. 20 percent), and public buildings (37 percent vs. 18 percent).

- **Engagement in online activities has increased significantly during the Covid-19 pandemic.** Use of the internet for telemedicine or medical appointments (19 percent vs. 75 percent) and for civic engagement (33 percent vs. 74 percent) increased substantially from pre-pandemic to during-pandemic, although some of the use is at a monthly or less than monthly basis. Additionally, 62 percent of respondents use the internet for teleworking on a daily basis, compared with 21 percent of respondents before the pandemic.

- **Satisfaction with internet service aspects has decreased during the pandemic, particularly for speed and reliability of service.** More than one-half of respondents are not at all satisfied (approximately one-third) or are only slightly satisfied (approximately one-fifth) with connection speed and reliability during the pandemic.

- **Many respondents have experienced some challenge with accessing telehealth or an online medical appointment during the pandemic.** Specifically, four in 10 respondents experienced an issue (e.g. having to switch from video to audio only), while three in 10 have not had a medical appointment and another three in 10 did not respond or had no issue.

- **Most households with children have internet access, but it may not be sufficient for some families.** Most respondents disagreed that their children have to do homework or distance learn at various locations outside the home (although 13 percent agreed or strongly agreed that their children cannot complete their homework or cannot distance learn because they do not have access to the internet at home.) However, four in 10 respondents strongly disagreed that their home internet connection is adequate for their or their children's needs for doing homework or attending classes online.

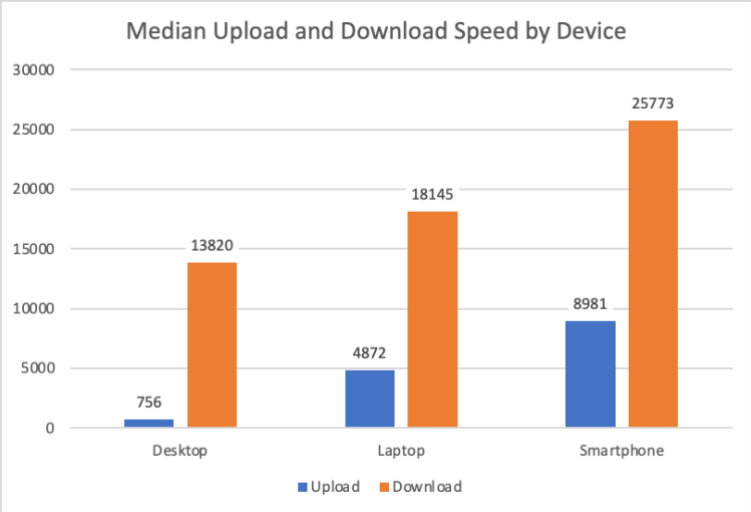
- **Sixteen percent of all respondents consumed public, educational, or governmental (PEG) TV content during the Covid-19 pandemic.** Among those who viewed PEG programming, the most commonly accessed content was broadcasts of municipal functions, cited by 72 percent of respondents. One-half of PEG viewers accessed information about Covid-19.

2.2 Online Speed Survey Findings

In addition to the online residential survey, respondents were asked to submit the results of an online internet speed test. Though only a small portion of online survey respondents completed the speed survey (377), some findings are worth noting.

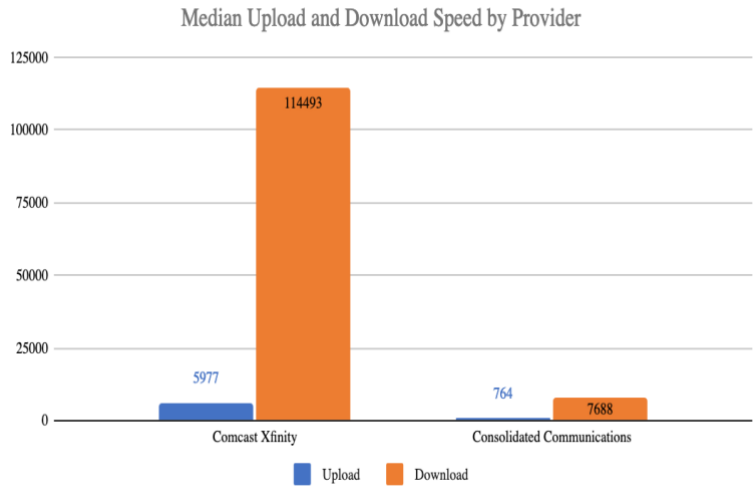
- The fastest average upload and download speeds were recorded on mobile devices. Laptops recorded the mid-range averages, and desktops recorded the slowest speeds. While there is not enough data to differentiate by intersecting elements like service provider, this does indicate that mobile may be providing good service to a portion of Vermonters already, validating that a mobile hot spot program could be used to help Vermonters during the pandemic.

Figure 1: Speed Test Results – Median Upload and Download Speeds



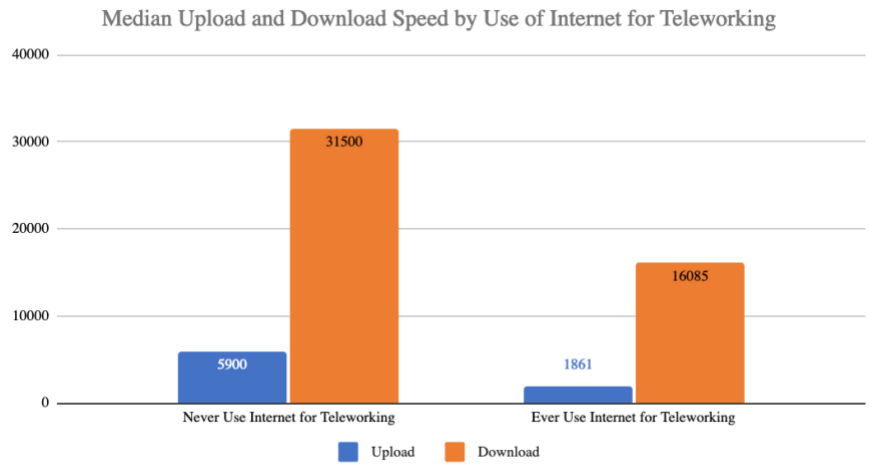
- Comcast and Consolidated Communications were the two most common providers amongst online survey respondents. Amongst those who recorded their speed survey results, Comcast subscribers achieved an average 114 Mbps download and 6 Mbps up; CCI subscribers achieved 7.6 Mbps down and 0.7 Mbps up.

Figure 2: Speed Test Results – Median Upload and Download Speeds by Provider



- There was a slight inverse correlation between internet speeds and participation in teleworking or telemedicine; this suggests unsurprisingly that during the pandemic, teleworking or using telemedicine is often not a choice, and that if you need to engage in those activities, you must do so regardless of the quality of your internet.

Figure 3: Speed Test Results – Median Upload and Download Speeds for Teleworkers



2.3 Phone-Based Residential Survey

A phone-based residential survey was conducted by Goodwin Simon Strategic Research (GSSR) to capture responses of residents identified as having slow internet connections. GSSR matched 20,000 addresses with slower than 25/3 Mbps to telephone numbers, and secured completed surveys from a random sampling of 411 respondents.

The telephone survey confirmed and augmented our understanding of many of the trends seen in the online survey. Unsurprisingly, residents say that having faster internet service would improve their ability to engage in activities, including teleworking, using videoconferencing to communicate with friends and family, and to do schoolwork and engage in remote learning. In general, younger, more educated, and wealthier Vermonters are less satisfied with their current internet, and willing to pay more for increased service. Importantly, this survey also found that the majority of people with slower internet still used the internet every day, even for activities like telehealth, remote school, and remote work.

The following are key findings relating to identifying broadband access gaps and the Covid-19 impact on broadband:

2.3.1 Broadband Access Gaps

- Satisfaction with internet connectivity differs based on location type. Vermont residents expressed more satisfaction with their internet at work (76 percent), inside of coffeeshops and other private businesses (74 percent), and inside of schools, colleges/universities (71 percent) than other locations where they spend time.

- There are regional contrasts when it comes to respondents' internet use at home. Vermont residents living in the Northwest region (91 percent) are significantly more likely to report daily internet use than those in the Central region (82 percent). Those living in the Northeast region (8 percent) are significantly more likely than those living in the Northwest region (1 percent) to report they never use the internet at home.

- The vast majority of residents are interested in switching to faster internet if the cost was comparable to what they currently pay. 82 percent of survey respondents stated that they would likely sign up for faster internet if the cost was the same or if the cost were subsidized by the state of Vermont (76 percent). Notably, nearly half (42 percent) would be likely to sign up for faster internet even if the cost was higher than what they currently pay.

- Residents identified that faster internet would improve their engagement with telework and online school. Sixty-nine percent of Vermont residents say that faster internet service would improve their ability to engage in remote learning and doing homework. Seven out of 10 residents (71 percent) say that having faster internet service would increase their ability to telework either a great deal or fair amount.

- 12 percent of respondents had better internet than the PSD data indicated. This deviation indicates that some respondents had better internet deployed to their house between 2019 when the PSD data was assembled, and today. It also indicates an amount of error in the data; however it should be stated that the project team considers this error rate to be low and quality of the PSD's data exceedingly high, considering the dataset in question and difficulty of obtaining accurate address-level broadband data.

2.3.2 Covid-19 Impacts on Broadband Use

- The telephone survey findings suggest that broadband service is highly correlated with being able to adequately engage in large number of important activities during the pandemic. Two thirds (67 percent) of those with broadband strongly agree that their home internet has been adequate for accessing information related to the pandemic, compared to barely half (51 percent) among residents with non-broadband providers. In addition, relatively few residents overall say their home internet has been adequate for attending school online, but the proportion strongly agreeing with that statement is far higher among those with broadband providers (33 percent) than those without (19 percent).

- Nearly six out of ten respondents say their home internet has been adequate for using the internet to work from home. Women were less likely than men to say their home internet is adequate for working from home. Additionally, respondents with broadband

service at home (45 percent strongly agree and 34 percent somewhat agree) are significantly more likely to say their home internet is sufficient for working from home than those without broadband service (22 percent strongly agree and 33 percent somewhat agree). Satisfaction decreases in households with more than one person using the internet simultaneously.

- Residents connect to the internet outside of their home on a daily basis. 38 percent of residents use the internet at work, 9 percent at the home of a family member or friend, 7 percent inside a school, college or university, or at other locations on a daily basis. 85 percent of Vermont residents say they have been using the internet at home every day since the pandemic began.

- Despite internet access difficulties, the survey reported an increased usage of telehealth. Seventeen percent of residents used the internet very or somewhat often to speak to a healthcare provider prior to the pandemic, but those engaged in telehealth surged to 37 percent during the pandemic. Increases in telehealth usage was particularly pronounced among younger residents. 17 percent of residents ages 18 to 39 used telehealth before COVID, which increased to 48 percent reporting telehealth usage during the pandemic.

2.4 Online Business Survey

The online business survey was promoted through organic and paid promotions, including a press release from the PSD, requests made from town administrators and managers, social media promotion from a range of entities, paid Vermont Business Magazine advertisements, outreach via Regional Planning Commissions and Regional Development Corporations, and other efforts.

The survey received responses from 422 respondents. More than two-thirds (70 percent) of respondents owned a business that employed one to four employees; more than 84 percent of the respondents stated they only operated out of one location.

The survey found that communication services are widely used and that there are very few gaps in acquisition of business internet. The following are key findings:

- **Almost all businesses have internet access.** Leading types of primary internet service include cable modem (35 percent), DSL (27 percent), and fiber (15 percent). One-half (50 percent) of businesses do not have a backup or secondary internet connection, and 32 percent have a cellular/mobile connection as their backup or secondary internet connection.

- **The most utilized connectivity services were internet and telephone.** Most (99 percent) reported having internet access at their primary business location, while 75 percent have

telephone service, 61 percent have cellular data service, and 54 percent have videoconferencing service.

- **Almost all (99 percent) businesses have personal computers.** Specifically, 65 percent of businesses have one to four computers, 21 percent have five to nine computers, and 13 percent have ten or more computers.

- **Price may be a barrier to purchasing carrier-grade internet service.** Nearly two-thirds of respondents (65 percent) are extremely willing to purchase 1 Gbps internet for $75 per month, but willingness drops considerably at higher price points. Just eight percent of businesses would be extremely willing to pay $250 per month for very fast internet service, but 22 percent would be extremely willing to purchase carrier-grade Ethernet transport and internet access service at this price point. Businesses would be not at all likely to slightly likely to pay more than $250 per month for carrier-grade service.

2.4.1 Covid-19 Impacts on Broadband Use

Businesses are relying more on remote work during the pandemic and at the same time are reporting some inadequacies in their broadband internet service, particularly with speed and reliability of service. The following are key findings:

- **Businesses report their internet service being slower during the pandemic**. Before the Covid-19 pandemic, more than four in 10 respondents (42 percent) thought their internet connection speed was fast enough for their needs, dropping to 35 percent during the Covid-19 pandemic. Only 15 percent thought their internet connection speed was very slow and would like to be connected at much higher speeds before the pandemic, while during the pandemic this number increased to 26 percent.

- **Satisfaction with internet connection speed and reliability has dropped somewhat during the pandemic.** Nearly one-half of businesses (47 percent) were very or extremely satisfied with their internet's speed of connection prior to the pandemic, dropping to 38 percent during the pandemic. Similarly, 47 percent of businesses were very or extremely satisfied with their internet's reliability of connection, dropping to 35 percent during the pandemic.

- **Businesses are making more use of online platforms to sell goods or services or to engage in online marketing and promotions during the pandemic.** The percentage of businesses that exclusively use online platforms to sell goods or services or to engage in online marketing and promotions has increased from six percent before the Covid-19 pandemic to 15 percent during the pandemic.

- **The percent of time that employees work remotely has increased during the pandemic.** Specifically, one-third of employees now telework 75-100 percent of the time, compared with 11 percent of employees before the pandemic.

- **The percentage of employees working remotely is expected to increase after the Covid-19 pandemic.** More than four in 10 (42 percent) businesses said they did not have a work remote option prior to the pandemic, while 29 percent said they do not plan to have one after the pandemic and seven percent are undecided. One-fifth of business plan to have a fully remote work option for some or all employees after the pandemic, compared with 13 percent during the pandemic.

- **Many businesses said that most or all of their employees (75-100 percent) experienced issues due to inadequate broadband service during the pandemic**. For example, one-third of businesses said that all or most of their employees experienced delays in uploading or downloading content. More than one-half of businesses said inadequate broadband service is a very significant or extremely significant issue.

- **Many businesses plan to take some action in the next 12 months related to broadband internet service and computers.** Most businesses expect to obtain higher-quality broadband service (57 percent) and to enhance an existing website or online sales effort (56 percent) in the next 12 months. Fewer respondents expect to take other actions; however, 15 percent plan to help employees obtain internet access at home and 11 percent plan to move to an area with better broadband service.

3 Legal Analysis

This legal analysis was prepared by Andrew Montroll, of Montroll, Backus & Oettinger P.C., based in Burlington, Vermont; and Jim Baller and Casey Lide, of Keller and Heckman LLP, based in Washington, D.C.

3.1 Introduction

This section explores the regulatory and legal landscape facing Vermont as it seeks to ensure that broadband connectivity is accessible in every corner of the State.

Required to focus on near-term emergency measures, the Report did not examine in detail other options that the State might have to meet its broadband goals. As the Report also makes clear, however, these emergency measures are intended to complement the other options that the State may consider in the future. Accordingly, the legal analysis begins in Section 9.2 below by addressing the relatively few legal issues that these near-term emergency initiatives may pose. As the State considers them, however, it should be mindful of the legal issues that may lie ahead. To help the State do so, Section 9.3 outlines the federal and State legal framework underlying the key communications services and networks, and Section 9.4 discusses legal issues that may be particularly germane to the State's other options.[2]

3.2 The Report's Strategic Recommendations

In general, the Report's three main near-term recommendations contemplate activities that do not present legal issues that are particularly unusual for the State, or that involve arcane concepts under federal and State communications law and regulation. Taking each of the Report's three main recommendations in turn:

(1) Broadband service subsidy to low-income Vermonters

The Report recommends that the State build upon the Vermont Department of Public Service's effort to reimburse broadband costs of families affected by the pandemic and establish a subsidy program addressing barriers to adoption relating to affordability. As stated in Section 1.4.1:

> We recommend that the State complement that effort, and expand it, by also focusing resources on providing free broadband to low-income families that may not already have service to their homes because of the barrier of cost.

[2] The field of communications law is extraordinarily complicated and rapidly evolving. Outcomes will often depend on the particular facts involved. The discussion in this Section 9 is not intended, and should not be interpreted, as legal advice. It is presented for general informational purposes only.

> Specifically, the State could purchase services in bulk from providers that currently serve communities throughout Vermont, then provide codes for qualified residents to redeem for free service from any participating provider—thus completely eliminating cost as a barrier to adoption.

The two main elements of this proposed initiative present certain legal issues. First, the State would need to "purchase services in bulk" from providers. This will require contract negotiations with service providers and other processes consistent with the State's procurement regulations. We assume that the State is well-versed in its procurement requirements and practices, and we offer no further comment on those issues.

Second, the recommendation calls for the State to qualify certain residents as "low income," and suggests that eligibility determinations "should build on existing mechanisms like Vermonters' eligibility for Medicaid or the National School Lunch Program." It goes on to note "[t]his will require collaboration and data sharing by public school systems or other institutions."[3] Apart from the issue of establishing standards for qualification in fact (on which we do not comment), the State's use of such information to qualify low-income households raises sensitive privacy-related questions relating to (1) how the State obtains the information (assuming the State does so at all), and (2) how the State maintains it.

Again, we assume that the State has substantial experience with Medicaid and the National School Lunch Program, including their privacy-related requirements, and with handling tax, health, and other confidential data under various other programs. If the State seeks to obtain and use such information directly, it will need to identify and navigate any relevant constraints. There may also be other approaches that might work for the State, including third-party verifier programs of the kind that exist under the FCC's Lifeline program. If the State is interested in these alternatives, it should examine them in detail.

However the State obtains information concerning low-income households in Vermont, the State should ensure that the information is protected against disclosure in a manner comparable to other confidential or sensitive information maintained by the State. The State should also consider whether and how to ensure that the program's service providers are also protecting the

[3] Section 1.4.1.

confidential data to which they have access, and it should include appropriate confidentiality provisions in program-related agreements with service providers.

(2) Funding modest infrastructure enhancements.

The Report proposes a near-term recommendation relating to the availability of broadband. It provides in Section 1.4.2: "While the optimal long-term approach is to connect unserved premises with fiber or other high-speed wireline services, we recommend an emergency approach" involving: (1) use of mobile hotspot devices, (2) paying for extensions of cable or fiber service in targeted, unserved pockets, and (3) the use of rooftop antennas to boost marginal mobile broadband service.

In general, these recommended initiatives do not present substantial legal issues for the State. The deployment of additional mobile devices and of rooftop boosters primarily involves obtaining the devices and obtaining permission to mount them on rooftops. These are essentially routine procurement and contract issues. State financial support of line extensions could become somewhat complicated, as it raises potentially significant (but not intractable) questions regarding the qualification of eligible areas and households, and the selection of service providers that may receive or benefit from such funds. The State should also ensure that service providers do not impose unreasonable rates, terms, and conditions on households connected under the program – such as requiring the purchase of cable television service in addition to broadband Internet access service.

(3) Developing a Broadband Corps

The Report's third major strategic recommendation, in Section 1.4.3, calls for the development of a "Broadband Corps," described as "a statewide team dedicated to supporting CUDs and mobilizing the people power necessary to confirm mobile hotspot options, assist with nontechnical installations, and provide technical support for low income and technology challenged Vermonters." While the establishment of such a program would involve staffing and equipment procurement matters, it does not appear to present any significant legal issues.

3.3 Legal and Regulatory Framework for Particular Communications Services and Networks

As the discussion to this point indicates, the Report's three main recommendations do not present significant legal issues. As noted above, the State is likely to encounter more significant legal and regulatory issues as it considers its other strategic objectives related to broadband, and it should be aware of such issues as it establishes its short-term emergency programs. To help the State do this, we begin below by providing an overview of the federal and State legal and

regulatory framework for the major types of communications services and networks. Then, in Section 9.4, we turn to some key legal issues that the State's long-term options may pose.

3.3.1 Telecommunications Service

Federal law. While many may think of "telecommunications service" as simple telephone service, that term has a much broader meaning as a legal and regulatory matter. In fact, when Congress enacted the Telecommunications Act of 1996 (amending the Communications Act of 1934) to break down monopolies and enhance competition in all communications markets, it used the term "telecommunications service" throughout the Act, allocating various obligations and incentives among incumbent and potential competitive providers to encourage them to act in ways that would advance the pro-competitive goals of the Act.[4]

The term "telecommunications service" covers a broad range of activities. As a carrier moves from providing relatively simple services to providing more complex and extensive services, it will encounter increasingly heavy regulatory obligations and burdens. At the same time, as a provider's income from telecommunications services increases, it will have to shoulder an increasing share of the nation's burden to support universal service.

At the simplest level, all providers of "telecommunications service" are subject to various general duties. They must meet all relevant common carrier requirements of Title II of the Communications Act (which the FCC has relaxed to some extent). They must protect consumer privacy in the manner specified by Section 222. They must comply with the provisions of Section 251(a) that require them to interconnect directly or indirectly with the facilities and equipment of other telecommunications carriers and to refrain from installing network features, facilities or capabilities that may adversely affect disabled persons. They must also file reports and make contributions to the federal universal service program, as required by Section 254 of the Act.

If a provider elects to become a "local exchange carrier" (LEC)—a provider of local telephone service and/or access to long distance service—it will also have to meet the additional interconnection obligations of Section 251(b). These include allowing competing telecommunications carriers to resell the utility's telecommunications services; providing other

[4] In 47 U.S.C. § 153(46), "telecommunications service" is defined as "the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available to the public, regardless of the facilities used." The embedded term "telecommunications" is defined in 47 U.S.C. § 153(43) as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent or received." A "telecommunications carrier" is defined in 47 U.S.C. § 153(44) as "any provider of telecommunications services." Section 153(44) goes on to say that such a carrier "shall be treated as a common carrier under this Act only to the extent that it is engaged in providing telecommunications services."

telecommunications carriers number portability, if technically feasible, in accordance with the FCC's requirements; affording them dialing parity; permitting them to make attachments to poles, ducts, conduits and rights of way at rates, and on terms and conditions, that are consistent with Section 224; and establishing reciprocal compensation arrangements for the transport and termination of telecommunications.

Section 251(c) imposes even greater regulatory duties on "incumbent" local exchange carriers (ILECs), which were the dominant local telephone providers in their service areas on the date of enactment of the Telecommunications Act.[5] The duties of ILECs originally included providing requesting telecommunications carriers interconnection and physical or virtual collocation; offering non-discriminatory access to unbundled network elements (UNEs); making any telecommunications services that the ILEC offers at retail available to competing telecommunications carriers on a wholesale basis for resale; providing physical or virtual collocation on just, reasonable and non-discriminatory terms and conditions; to support competitors' interconnection and access to UNE's; giving advance public notice of important changes to their networks; and negotiating in good faith to fulfill these obligations. However, over the last two decades, the FCC has eliminated or substantially reduced these requirements.

As indicated, the Act also provides numerous incentives to encourage persons to provide "telecommunications service." For example, new providers of such services are the beneficiaries of the pole attachment requirements of Section 224 and of the interconnection requirements of Section 251. Section 253 protects them from state and local barriers to entry, and Section 254 offers them subsidies for providing services covered by the federal universal service program.

Vermont law. The federal Telecommunications Act of 1996 allows Vermont to regulate telecommunications within the state as long as such regulations are not inconsistent with federal law.[6] Accordingly, the Vermont Legislature has granted broad authority to the Vermont Public Utility Commission (PUC) to oversee and regulate any "person or company offering telecommunications services to the public on a common carrier basis."[7] The Legislature likewise has broadly defined "telecommunications services" that are subject to PUC jurisdiction as:

> [T]he transmission of any interactive two-way electromagnetic communications, including voice, image, data, and information. Transmission of electromagnetic communications includes the use of any media such as wires, cables, television

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5 The FCC can also treat a new entrant as an ILEC, but only if the FCC declares, by rule, that the entrant has acquired or displaced an existing ILEC and that treating the entrant as an ILEC is in the public interest.

6 *In re Verizon New England*, 173 Vt. 327, 332, 795 A.2d 1196, 1200-01 (2002).

7 30 V.S.A. § 203(5).

> cables, microwaves, radio waves, light waves, or any combination of those or similar media.
>
> Telecommunications service does not include value-added nonvoice services in which computer processing applications are used to act on the form, content, code, and protocol of the information to be transmitted unless those services are provided under tariff approved by the Public Utility Commission.[8]

The PUC uses a number of tools to regulate telecommunications services. First and foremost, Sections 102 and 231 of Title 30 of Vermont Statutes require that the PUC issue a Certificate of Public Good (CPG) to a company before it can offer telecommunications services to the public in Vermont. One of the primary purposes of this requirement is "to protect consumers against incompetent or dishonest businesses."[9] Likewise, the PUC has the authority to require telecommunications companies to issue tariffs for their services, which are subject to PUC approval.

While the PUC historically engaged in heavy regulatory oversight of telecommunications companies, it has taken a lighter approach, particularly for non-dominant or competitive telecommunications carriers, since the 1996 Act.[10] For example, under PUC rules, only dominant local exchange carriers are subject to corporate organization and financial reviews by the PUC, and non-dominant or competitive carriers are no longer required to file tariffs.[11]

Likewise, the process for non-dominant/competitive telecommunications companies to apply for a CPG from the PUC has been greatly simplified. To that end, the PUC has created a streamlined registration form that requires only basic information about the company and the services to be provided, along with a commitment from the company to comply with and follow all of the applicable rules and regulations regarding the provision of telecommunication services in Vermont.

3.3.2 Cable TV Service

Federal law. While telecommunications service is regulated through a mix of state regulation and federal regulation under Title II of the Communications Act, cable TV service has since 1984

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8 30 V.S.A. § 203(5).

9 *Investigation into New England Telephone and Telegraph Company's tariff filings re: Open Network Architecture*, Docket 5713, Order of 2/4/99 at 59.

10 *See* 30 V.S.A. § 227c.

11 PUC Rule 7.500.

been regulated primarily through a franchising process at the local level (or in some places, such as Vermont, at the state level). The Cable Communications Policy Act of 1984, codified at 47 U.S.C. § 521 *et seq*., ("Cable Act") requires cable operators[12] to obtain a cable franchise from a state or local franchising authority.[13] The Cable Act permits franchising authorities to impose various requirements as a condition of receiving a franchise, and imposes certain statutory limitations.[14] A franchising authority cannot "unreasonably refuse" to grant a franchise to a cable operator, for example, and franchises cannot be exclusive.[15] A franchising authority is permitted to require payment of a franchise fee, but the fee cannot exceed 5 percent of the cable operator's gross annual revenues from the provision of cable service.[16] The Cable Act also requires cable operators to support local public, educational and government access (PEG) facilities and programming, and prescribes certain customer service obligations.

In an order issued in 2007, the FCC found that local franchising authorities often imposed buildout, PEG, institutional network, non-cable, and other requirements that were overly burdensome to new market entrants.[17] Since then, the FCC has repeatedly acted to restrict local franchising authority discretion on various fronts. For example, local franchising authorities must now make a final decision on franchise applications within particular time frames, and they cannot refuse to grant a franchise based on issues relating to non-cable facilities or services (such as Internet access).[18] Any cable-related, in-kind payments required by a franchising authority are to be counted toward the 5 percent franchise fee cap, including certain specific franchise terms such a requirement to provide free or discounted cable service to public buildings, or to construct

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12 Under federal law, a "cable operator" is an entity that provides "cable service" using a "cable system" that it owns or controls. Each term is defined at 47 U.S.C. § 153.

13 47 U.S.C. § 541.

14 47 U.S.C. § 541(a)-(b).

15 47 U.S.C. § 541(a)(1).

16 47 U.S.C. § 542.

17 *In the Matter of Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as amended by the Cable Television Consumer Protection and Competition Act of 1992*, FCC 06-180, 2007 FCC LEXIS 1867 (rel. March 5, 2007).

18 *In the Matter of Implementation of Section 621(A)(1) of the Cable Communications Policy Act of 1984,* MB 05-311, Report and Order and Further Notice of Proposed Rulemaking, FCC 06-180, released March 5, 2007 ("*First Order*"); *Alliance for Community Media v. FCC,* 529 F.3d 763 (6th Cir. 2008).

I-Nets.[19] In addition, while a franchising authority may require a franchisee to contribute toward PEG capital costs – which do not count toward the 5 percent franchise fee cap – the FCC has tended to view this exception more restrictively (although the issue remains in flux).[20]

With regard to "mixed-use networks" – cable systems that also provide Internet access or other non-cable services –the FCC has maintained that franchising authorities may not, through their authority under the Cable Act, regulate *non*-cable services that a cable operator may provide over a cable network, such as broadband Internet access service:

> 1. 121. We clarify that [local franchising authorities] LFAs' jurisdiction applies only to the provision of cable services over cable systems. … an LFA has no authority to insist on an entity obtaining a separate cable franchise in order to upgrade non-cable facilities. For example, assuming an entity (*e.g.*, a LEC) already possesses authority to access the public rights-of-way, an LFA may not require the LEC to obtain a franchise solely for the purpose of upgrading its network. So long as there is a non-cable purpose associated with the network upgrade, the LEC is not required to obtain a franchise until and unless it proposes to offer cable services. For example, if a LEC deploys fiber optic cable that can be used for cable and non-cable services, this deployment alone does not trigger the obligation to obtain a cable franchise. … 122. We further clarify that an LFA may not use its video franchising authority to attempt to regulate a LEC's entire network beyond the provision of cable services.[21]

The precise boundaries of this principle have been the subject of multiple orders and litigation since 2007. Most recently, the FCC sought to clarify that any state or local cable franchising regulation – and also generally applicable regulations and ordinances – that regulate non-cable services provided by cable operators (whether incumbent or a new entrant) would be preempted.[22]

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19 *Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984*, MB Docket No. 05-311, FCC 19-80, 2019 WL 3605129 ("*Third Order*") (adopted Aug. 1, 2019).

20 *Third Order*; *City of Eugene v. FCC,* No. 19-72219 (9th Cir. Aug. 30, 2019); *City of Eugene v. FCC,* No. 19-4161 (6th Cir.).

21 *First Order,* at para. 121; *see Montgomery County v. FCC,* 863 F.3d 485 (6th Cir. 2017).

22 *Third Order,* paras. 81-82.

Vermont law. As with traditional telecommunications services, cable TV is also regulated in Vermont.[23] As set out in the federal Cable Act, the primary scheme for regulating cable TV on the state or local level is through the franchising authority. In Vermont, the Legislature designated the Public Utility Commission to be the statewide franchising authority "empowered to grant, renew, and revoke certificates of public good for all cable television systems and shall have all other authority to regulate cable television systems."[24]

Unlike the light touch that the State has adopted for the provision of competitive telecommunications services, the state statutes along with PUC rules continue to impose heavy regulatory oversight over cable TV providers and services in Vermont. For example, before being granted a CPG to own and operate a cable TV system in Vermont, the cable operator must establish that they meet ten different criteria set out in state statute,[25] along with nine different criteria, known as the EMCO criteria, set out in the PUC rules.[26]

Likewise, while CPGs for competitive telecommunications services are granted on a statewide basis, cable TV CPGs by state statute can only grant a company the authority to build and operate the cable TV system to serve customers only within specified geographic boundaries.[27]

3.3.3 Broadband Internet Access Service

Federal law. In contrast to the relatively well-established regulatory regimes governing telecommunications and cable TV service networks, the advent of broadband Internet access service has created regulatory challenges on many fronts.

In 2002, the FCC found that "cable modem service" – the cable industry's primary vehicle for providing broadband Internet access – was offered to consumers as a combination of two

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23 A "cable television system" is defined in Vermont by state statute as "facilities by which television signals are received at a central location and for consideration are transmitted to customers or subscribers by means of cables of wires." 30 V.S.A. § 501(2).

24 30 V.S.A. § 502(b).

25 *See* 30 V.S.A. § 504. The criteria set out in section 504 requires that the Cable TV operator show for example, that they will have sufficient staff to provide adequate and prompt service, that they will provide a reasonably broad range of public, educational and governmental programing, and that the provider will have adequate signal quality, among other criteria.

26 *See* PUC Rule 8.000. The criteria set out in Rule 8.000 requires that the Cable TV operator, for example, show that they have financial soundness and stability, provide an eleven-year pro-forma balance sheet and income statement, demonstrate that they are committed to a construction and in-service schedule, and show that they will have a logical fit with neighboring cable TV systems, among other criteria.

27 30 V.S.A. § 540(d).

inextricably intertwined services: "information services" (which are largely unregulated) and "telecommunications" as defined in the Communications Act (see above). The FCC found that, when offered as a single service, the transmission component loses its identity, and the combination becomes an unregulated "information service." In a 2005 case commonly known as *Brand X*, the Supreme Court upheld the FCC's 2002 decision, stressing that the FCC's decision applied only to services in which "information services" and "telecommunications" are inseparably bound together.[28]

The *Brand X* analysis remained the critical factor in determining whether an offering was a "telecommunications service" or an "information service" until the FCC's 2015 *Open Internet Order*, which reclassified broadband Internet access service as a Title II "telecommunications service."[29] With that authority, the FCC issued several so-called "network neutrality" rules, including prohibitions on blocking or throttling of information destined for the Internet, a ban on paid prioritization, and extensive transparency requirements. To avoid subjecting Internet Service Providers (ISPs) to burdensome common carrier regulation, the FCC exercised its forbearance authority under 47 U.S.C. § 160(a) to exempt ISPs from most Title II requirements. This had several potentially significant implications, including giving ISPs the federal pole attachment and other benefits that telecommunications carriers enjoy without subjecting ISPs to most of the burdens of that classification.

In December 2017, in its *Restoring Internet Freedom Order*, the FCC reinstated its classification of broadband Internet access service as an "information service" and found that the FCC did not have authority in 2015 to issue its network neutrality rules.[30] The FCC also found that network neutrality rules were harmful as a factual matter and that states – including Vermont – were preempted from enacting or enforcing them.

On appeal, the United States Court of Appeals for the DC Circuit upheld the *Restoring Internet Freedom Order* in most respects and took issue with the Order only on a few discrete issues.[31] One is of potential significance here: the court ruled that the FCC cannot maintain that it lacks authority over broadband Internet access service and, at the same time, insist that it has

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28 *Nat'l Cable & Telecom. Ass'n v. Brand X Internet Services*, 545 U.S. 967 (2005) ("*Brand X*").

29 *In the Matter of Protecting and Promoting the Open Internet,* GN Docket No. 14-28, Declaratory Ruling and Order, FCC 15-24, released March 12, 2015 ("*Open Internet Order"*).

30 *In the Matter of Restoring Internet Freedom,* WC Docket No. 17-108, Declaratory Ruling, Report and Order, FCC 17-166, released January 4, 2018 ("*Restoring Internet Freedom Order"*).

31 *Mozilla Corp. v. FCC*, 940 F.3d 1 (D.C. Cir. 2019).

authority to preempt states from filling the FCC's acknowledged gap in its authority. We discuss this further in the following section on Vermont law.

Vermont law. This distinction between "information services" and "telecommunications services" has been playing out in Vermont as well. Unlike telecommunications service providers or cable TV operators, both of which are regulated by the PUC and are statutorily required to obtain CPGs to operate in Vermont, broadband Internet service providers are subject to only limited regulation in Vermont and are not required to obtain CPGs in order to build or operate their systems.

Although it may be simpler to provide broadband Internet access service in the absence of state regulation, many of the regulations in fact bestow benefits and rights on holders of a CPG. For example, a CPG was historically required before an entity was permitted to attach its cables to existing utility poles or to use the public right of way for its equipment. Such regulations would prevent a broadband service provider who is not required to have a CPG from being able to install their wires or cables on poles or within the public right of way. However, the Legislature and the PUC have created exceptions for broadband service providers. For example, the PUC rules allow a broadband service provider that does not hold a CPG to attach to poles, provided that it agrees to be bound by the PUC pole attachment rules.[32]

Additionally, if a broadband Internet access provider also seeks to offer telecommunications services and/or cable TV services, it must thereby comply with the regulatory requirements of those services. As such, even though broadband Internet access service may only be subject to limited regulatory oversight in Vermont, any provider that offers a broader array of services such as telephone or cable TV services may nonetheless find itself subject to more intensive statutory and regulatory schemes, and CPG requirements, as a result of providing these other services.

In 2018, the Vermont Legislature also addressed the issue of net neutrality and found that "Without net neutrality, [Internet service providers] will have the power to decide which websites you can access and at what speed each will load. In other words, they'll be able to decide which companies succeed online, which voices are heard—and which are silenced.'"[33] The Legislature further concluded that "The State has a compelling interest in promoting Internet consumer protection and net neutrality standards."[34]

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32 PUC Rule 3.702.

33 See Sec. 1 (7) S.289 (January 3, 2018) (quoting Tim Berners-Lee, founder of the World Wide Web, December 13, 2017).

34 See Sec. 1 (21) S.289 (January 3, 2018).

Through the legislation enacted in 2018, the State established a variety of net neutrality standards.[35] The primary way in which the State sought to enforce these standards to promote net neutrality in Vermont is through its contracting powers. Specifically, any Internet access service provider that seeks to provide broadband internet services to State agencies must certify that it is in compliance with the State's net neutrality standards.[36]

No party to the *Mozilla* net neutrality case petitioned the Supreme Court for certiorari, so the portion of the D.C. Circuit's decision dealing with state network neutrality laws became final. At that point, attention shifted to California, where the U.S. Department of Justice and several other parties were challenging California's network neutrality law. The Attorney General of Vermont has agreed to stay enforcement of Vermont's network neutrality law and litigation concerning that law until the California litigation is resolved.[37]

3.3.4 Mobile Wireless Service (CMRS)

Federal law. Providers of cellular telephone service – officially known as "cellular commercial mobile radio service" (CMRS)[38] – are largely regulated at the federal level under Title III of the Communications Act of 1934 (as amended).[39] Providers of CMRS, such as AT&T, Verizon and T-Mobile, rely upon spectrum rights licensed and administered by the FCC. The FCC is also exclusively responsible for radiofrequency (RF) emission standards and notices about them, and it will preempt any attempt by a state or local government to do more than require wireless companies to demonstrate that their facilities comply with FCC standards. In addition, the Act preempts state and local governments from regulating "the entry of or the rates charged by

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35 3. V.S.A. § 348(b)(1).

36 *See, e.g.* 3 V.S.A. § 349 (contracts with the executive branch); 2 V.S.A. § 754 (contacts with the legislative branch); 4 V.S.A. § 27a (contracts with the judicial branch).

37 Gary Arlen, "Back to Court in California," *Multichannel News* (August 7, 2020), https://www.nexttv.com/news/doj-associations-seek-net-neutrality-injunction-in-california; Julia Arciga, "Vt. Agrees to Halt Enforcement of Net Neutrality Law," *Law360* (September 25, 2020), https://www.law360.com/articles/1313606/vt-agrees-to-halt-enforcement-of-state-net-neutrality-law

38 "Commercial mobile radio service" is a mobile service that is provided for profit, is interconnected with the public-switched telephone network (i.e., users can make and receive phone calls), is available to the public. *See* 47 CFR § 20.3.

39 47 U.S.C. § 301 *et seq.*

any commercial mobile service or any private mobile service, except that this paragraph shall not prohibit a State from regulating the other terms and conditions of commercial mobile services."[40]

The Act treats CMRS providers as common carriers and subjects them to a variety of service-related requirements and consumer protection obligations, including, for example, E-911 service requirements.[41] FCC regulations also require CMRS providers to permit resale of services and to permit manual and automatic roaming "on commercially reasonable terms and conditions."

Given that federal law specifically addresses carriers' obligations relating to "roaming," an attempt by the State to impose additional roaming requirements would probably be preempted.

Within the scope of their limited authority over CMRS providers, states may require them to contribute to state-managed universal service programs. State or local governments generally may also assess sales tax on wireless service receipts (as they may with telecommunications services generally).[42]

Vermont law. In Vermont, CMRS providers are subject to the jurisdiction of the PUC, from which they must obtain a CPG before providing cellular services in the state.[43] Recognizing that federal law substantially limits the State's authority over cell services, the PUC has adopted a simple CPG registration process that imposes minimal requirements on the CMRS providers. Likewise, CMRS providers need not file tariffs for their services, but they must file up-to-date contract forms to keep the PUC informed of the company's terms and conditions of services.

3.3.5 Wireless Infrastructure Siting

As discussed above, state and local governments have little regulatory authority over the provision of wireless services. They still have significant influence over the wireless industry's access to public rights of way (PROW) and public facilities within the PROW. Through the zoning process, they can also influence the siting of towers and other wireless support structures on private property. In recent years, however, the FCC has been working hard to diminish that influence.

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40 47 U.S.C. § 332(c)(3).

41 *See* 47 U.S.C. § 332(c); 47 CFR Part 20.

42 47 U.S.C. § 332(c)(3).

43 30 V.S.A. § 102 and 231.

Federal law: 47 U.S.C. §§ 332(c)(7) and 253. State and local authority over wireless siting decisions is directly addressed in Section 332 of the Telecommunications Act of 1996 and more generally in Section 253.

Section 332(c)(7)(A) begins by reaffirming and preserving local authority over the siting of wireless infrastructure:

> Except as provided in this paragraph, nothing in this chapter shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of personal wireless service facilities.[44]

Section 332 then proceeds to establish several fundamental limits on such authority:

> The regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof— (I) *shall not unreasonably discriminate* among providers of functionally equivalent services; and (II) *shall not prohibit or have the effect of prohibiting* the provision of personal wireless services.[45]

Two points are worth noting with respect to this subsection. First, subclause (I) does not prohibit *any* discrimination whatsoever, but only "unreasonable" discrimination among providers of functionally equivalent services. Second, subclause (II) effectively mirrors the more general barrier-to-entry language applicable to telecommunications market entrants set forth in Section 253(a) of the Telecommunications Act. As under Section 253(a), courts and the FCC have interpreted Section 332(c)(7)(B) to prohibit any legal requirement that "materially inhibits" the provision of wireless services. Under that standard, a state or local requirement can be found unlawful even if it does not explicitly or effectively preclude a provider from providing service altogether. For example, as applied to small wireless facilities supporting 5G technology, which, according to the FCC and the Ninth Circuit, requires more rapid, widespread deployment of more facilities than previous generations of wireless technology, "even fees that might seem small in

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44 47 U.S.C. § 332(c)(7)(A).

45 47 U.S.C. § 332(c)(7)(B) (emphasis added). *See In the Matter of Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment,* Declaratory Ruling and Third Report and Order, WT Docket No. 17-79, WC Docket No. 17-84, FCC-18-133, released September 27, 2018 ("*Small Cell Order*").

isolation have material and prohibitive effects on deployment, particularly when considered in the aggregate given the nature and volume of anticipated Small Wireless Facility deployment."[46]

Another provision of Section 332 limits the time period within which state and local governments must act on wireless siting applications:

> A State or local government or instrumentality thereof shall act on any request for authorization to place, construct, or modify personal wireless service facilities *within a reasonable period of time* after the request is duly filed with such government or instrumentality, taking into account the nature and scope of such request.[47]

FCC regulations have further refined this obligation. In 2009, the Commission opted to employ "shot clocks" "to define a presumptive 'reasonable period of time' beyond which state or local inaction on wireless infrastructure siting applications would constitute a 'failure to act' within the meaning of Section 332."[48] The Commission adopted "a 90-day clock for reviewing collocation applications and a 150-day clock for reviewing siting applications other than collocations."[49] The shot clocks would begin to run when an application is first submitted, and can be paused—not reset—if the government entity notifies the applicant within 30 days that the application is incomplete.

Finally, as noted above, state and local governments have no authority to regulate RF emissions or notices about them, and this limitation extends to wireless facility siting decisions as well: state and local governments may not regulate or deny an application for "the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [FCC's] regulations governing such emissions."[50]

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46 *City of Portland v. FCC*, 969 F.3d 1020, 1035 (9th Cir. 2020), quoting *Small Cell Order*, ¶ 53.

47 47 U.S.C. § 332(c)(7)(B)(ii)(emphasis added).

48 *Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7) to Ensure Timely Siting Review,* Declaratory Ruling, 24 FCC Rcd 13994 (2009), *aff'd, City of Arlington v. FCC,* 668 F.3d 229, (5th Cir. 2012), *aff'd,* 133 S. Ct. 1863, 569 U.S. 290 (2013).

49 *Id.,* at para. 100. In 2009, the term "collocation" meant an installation on a structure that already had a wireless facility attached to it. In its 2018 *Third Report and Order* focusing on small cell facilities, the FCC revised the definition of "collocation" to mean an attachment to any preexisting structure, regardless of whether it includes a preexisting wireless facility.

50 47 U.S.C. § 332(c)(7)(B)(iv).

It is worth emphasizing at this point that, despite the attention in recent years concerning small cell wireless facilities (on which we now focus in greater detail), Section 332(c)(7) applies more broadly, encompassing *any* wireless facility used for the provision of personal wireless services.[51]

FCC Small Cell Order. Beginning in about 2015, the FCC began to take note of the wireless industry's burgeoning demand for relatively small wireless support facilities, primarily in cities. This "densification" of wireless equipment coincided with the development of certain types of advanced wireless technology, characterized by high bandwidth over relatively small distances. As a result, providers have increasingly sought to install small wireless facilities around and within cities, close to their users, and only a few hundred feet apart, as opposed to much longer-range traditional wireless facilities mounted high up on existing tower structures.

According to the wireless industry and the FCC, local governments have been impeding the deployment of small cell facilities by dragging their feet in processing applications, imposing high costs for attachment and franchise rights, and erecting various other obstacles. In 2018, the FCC issued a declaratory ruling and order to address such issues ("*Small Cell Order")*.[52]

The *Small Cell Order* prescribed a number of new rules applicable to state and local treatment of "small wireless facilities," against the backdrop of statutory requirements set forth in Sections 332(c)(7) and 253:

- Adopted a specific definition of the term "small wireless facilities."[53]

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51 "[T]he term 'personal wireless services' means commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services; (ii) the term 'personal wireless service facilities' means facilities for the provision of personal wireless services; and (iii) the term 'unlicensed wireless service' means the offering of telecommunications services using duly authorized devices which do not require individual licenses," 47 U.S.C. § 332(c)(7)(C). It is not clear that a Wi-Fi device would be subject to Section 332(c)(7).

52 *In the Matter of Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment,* Declaratory Ruling and Third Report and Order, WT Docket No. 17-79, WC Docket No. 17-84, FCC-18-133, released September 27, 2018 ("*Third Report and Order*").

53 A "small wireless facility" must meet the following definition:

(1) "The structure on which antenna facilities are mounted
(i) is 50 feet or less in height including antennae, or
(ii) is no more than 10 percent taller than other adjacent structures, or
(iii) is not extended to a height of more than 50 feet or by more than 10 percent above its preexisting height as a result of the collocation of new antenna facilities, whichever is greater; and

- Adopted a broad interpretation of "effective prohibition" under Sections 253 and 332(c)(7).[54]
- Rejected, for preemption purposes, any distinction between government entities acting in a "regulatory" capacity as opposed to a "proprietary" capacity, when providing access to the PROW or authorizing attachments to government-owned property.[55]
- Determined that state and local fees and charges – including all PROW access fees and attachment fees – must be limited to a "reasonable approximation" of the government entity's "objectively reasonable costs."[56]
- Suggested that "in-kind" compensation arrangements that do not "meaningfully advance any recognized public-interest objective" would not be permitted.[57]
- Held that aesthetic determinations must be reasonable, non-discriminatory, and published in advance.[58]

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(1) Each antenna associated with the deployment (excluding the associated equipment) is no more than three cubic feet in volume; and
(2) All antenna equipment associated with the facility (excluding antennas) is cumulatively no more than 28 cubic feet in volume; and
(3) The facility does not require antenna registration under part 17 of this chapter; and
(4) The facility is not located on Tribal lands, as defined under 36 CFR 800.16(x); and
(5) The facility does not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in Rule 1.1307(b)."

54 *Small Cell Order,* at para. 16.

55 *Id.,* at n.253.

56 *Id.,* at para. 50. The *Small Cell Order* specified certain amounts that would be "presumptively reasonable": $500 for a single up-front application that includes up to five SWFs, with an additional $100 for each Small Wireless Facility beyond five, or $1,000 for a new pole to support a SWF; and $270 per SWF, per year, for all recurring fees (including "any possible ROW access fee or fee for attachment to municipally-owned structures in the ROW"). Again, a government entity may exceed these charges if it can demonstrate that such amounts are a reasonable approximation of its actual costs.

57 *Id.,* at n.252.

58 *Id.*

In addition, the *Small Cell Order* adopted new, shortened deadlines – popularly known as "shot clocks" – for approval of applications for permits to site small wireless facilities: requests to site small wireless facilities on preexisting structures ("collocation") must be acted upon within 60 days, and requests that involve construction of new structures must be processed within 90 days. Note that a violation of these time periods does not result in a "deemed granted" remedy, rather, the time limits operate as a "presumption of reasonableness," with a violation enabling a wireless provider to seek redress in court under Section 332(c)(7)(B).

City of Portland v. FCC. Not surprisingly, the new rules adopted in the *Small Cell Order* were challenged by local government entities and others. Ultimately, the case came before the Court of Appeals for the Ninth Circuit, which issued an opinion in *City of Portland v. FCC* in August 2020.[59]

In short, *City of Portland* was a significant victory for the FCC and the wireless industry. With two exceptions related to aesthetics, it upheld virtually all of the FCC's rules set forth in the *Small Cell Order.*[60] The two exceptions, as summarized by the court, were the following:

> In sum, the requirement that aesthetic regulations be "no more burdensome" than those imposed on other technologies is not consistent with the more lenient statutory standard that regulations not "unreasonably discriminate." The requirement that local aesthetic regulations be "objective" is neither adequately defined nor its purpose adequately explained. On its face, it preempts too broadly. We therefore hold those provisions of Paragraph 86 of the Small Cell Order must be vacated.[61]

Vermont law. In general, land use in Vermont is regulated on the local and regional level.[62] However, the Legislature has specifically limited the ability of municipalities to regulate the citing

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59 *City of Portland v. FCC,* 969 F.3d 1020 (9th Cir. 2020).

60 *City of Portland* also considered two other FCC orders issued in 2018 not discussed here, relating to moratoria and "one touch make-ready" rules. *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Inv.*, 33 FCC Rcd. 7705, 7775–91 (2018)("*Moratoria Order*"); *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Inv*., 33 FCC Rcd. 7705, 7705–91 (2018) ("One Touch Make-Ready Order").

61 *City of Portland*, at 1042-43.

62 24 V.S.A. ch. 117. *See also* Act 250.

of cell towers and related facilities, and it has generally exempted wireless facility providers from the municipal zoning process.[63]

Instead, through 30 V.S.A. § 248a, the Legislature has conferred regulatory authority over the siting, construction, and operation of wireless communications facilities upon the Public Utility Commission, and the PUC primarily exercises this authority through the CPG process under Section 248a.

There are three categories of Section 248a projects: *de minimis* modifications to existing structures or facilities; smaller projects of limited size and scope; and larger projects. A *de minimis* modification project is defined in Section 248a as the addition, modification or replacement of telecommunications equipment, antennas, or ancillary improvements on existing facilities, or the reconstruction of existing facilities and support structures, provided there are only minor changes in the overall dimensions of the facility and/or structure.

Projects of limited size and scope include new facilities that do not exceed 140 feet in height, or the modification of an existing facility that would result in a total height of less than 200 feet, would not increase the width of the support structures by more than 20 feet, and for either new or modified facilities, would not disturb more than 10,000 square feet of earth.

Larger projects, which are the most heavily regulated under Section 248a, are new facilities and structures, or modifications that exceed either *de minimis* modifications or projects of limited size and scope.

Section 248a also imposes certain land use restrictions on the siting of cell towers. For example, proposed facilities should not have "an undue adverse effect on aesthetics, historic sites, air and water purity, and the public health and safety."[64] Moreover, while cell towers are generally exempt from local regulations, the PUC is required to give "substantial deference" to town and regional land use plans as well as local zoning when deciding whether to grant a CPG for the project.[65]

For most projects, prior to submitting an application to the PUC, applicants are also required under Section 248a to provide 60-day advance notice to the legislative bodies and municipal and regional planning commissions in the communities where the project will be located, certain

63 30 V.S.A. § 4412(8)

64 30 V.S.A. § 248a(c)(1).

65 30 V.S.A. § 248a(c)(2); 24 V.S.A. § 4412(8)(C).

state agencies, and adjoining landowners. This advance notice provides these parties with the opportunity to learn about the project before the application has been submitted to the PUC and provides them with an opportunity to file comments regarding the project to the PUC for consideration in the application process.

3.4 Legal Issues and Recommendations Relating to Vermont's Potential Other Broadband Strategies

In the previous section, we described the basic legal and regulatory foundations underlying the provirsion of various communications services and networks as a general matter. In this section, we focus on targeted issues that are particularly germane to Vermont's future broadband initiatives, again describing each in terms of federal law and Vermont law.

3.4.1 Right of Way Access and Compensation

Overview. Prompt and efficient access to the public right-of-way (PROW) is fundamentally important for the development of new broadband infrastructure. At the same time, local governments and state agencies must manage the PROW in a responsible and non-discriminatory fashion and ensure that users of the PROW provide appropriate compensation in exchange for such use. Navigating these competing objectives can present a significant challenge for state and local governments.

The underlying regulatory environment relating to PROW use by communications companies is complicated and, in some ways, counterintuitive. For historical and other reasons, the applicable regulations may differ significantly depending on a service provider's home industry. For example, a provider of "cable service" operates under a different set of rights and obligations concerning PROW access than does a provider of "telecommunications service" or a provider of broadband Internet access service.

As to wireless facilities, the recent development of "small cell" wireless equipment has led service providers to employ structures within the PROW – such as electric utility poles, street lights, and traffic signals – as potential antenna sites. Wireless companies are seeking to rapidly deploy facilities in much greater numbers, creating tension and conflict with local authorities who seek to manage the PROW responsibly to preserve and protect public safety, aesthetics, and property values and to obtain fair and reasonable compensation for various uses of the PROW. Over the past several years, regulatory developments have tended to favor the wireless companies at the expense of local PROW authority.

Federal law. Administration of the PROW historically has been a matter of local, and sometimes state, authority. For the installation of communications facilities in the PROW, federal law now plays an increasingly significant role, depending on the nature of the service in question.

Telecommunications service. For PROW access issues in general, Section 253 of the Telecommunications Act of 1996, 47 U.S.C. § 253, establishes the outer boundaries for local regulation of PROW access.[66] Section 253(a) bars state or local governments from adopting a statute, regulation, or other legal requirement that "may prohibit or have the effect of prohibiting the ability of any entity to provide interstate or intrastate telecommunications service." The FCC and courts tend to interpret this provision broadly in favor of telecommunications service providers, finding that a "prohibition" exists under 253(a) if the requirement "materially inhibits" the ability of a company to provide telecommunications service.[67] Section 253(c) amounts to an exception to the general prohibition in Section 253(a), preserving state and local authority "to manage their public rights-of-way" and to "require fair and reasonable compensation from telecommunications providers, on a competitively neutral and non-discriminatory basis, if the compensation required is publicly disclosed by such government."[68]

While Section 253 establishes the broad parameters of permissible PROW regulation, the nuts and bolts of PROW regulation as to telecommunications service is generally left to local governments, under authority granted by state statutes or constitutions. In fact, there is significant variation among the states in their approach to PROW use by telecommunications carriers, and in particular whether a "telecommunications franchise" is permitted or required.[69]

Cable service. As previously explained in detail, the federal Cable Act requires cable operators to obtain a cable franchise in order to use the PROW. Historically, such franchises were granted and administered by local (municipal or county) governments. Since the mid-2000s, however, many states have adopted a form of state-level franchising, enabling providers to more easily obtain cable franchise rights in markets across an entire state, as opposed to negotiating

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66 47 U.S.C. § 253. *See In the Matter of Missouri Network Alliance, LLC Petition for Preemption and Declaratory Ruling,* WC Docket No. 20-46, Declaratory Ruling, released November 9, 2020.

67 *City of Portland*, 969 F.3d at 1035; *California Payphone Association Petition for Preemption of Ordinance No. 576 NS of the City of Huntington Park, California Pursuant to Section 253(d) of the Communications Act of 1934*, CCB Pol 96-26, Memorandum Opinion and Order, 12 FCC Rcd 14191, 14206, para. 31 (1997) (*California Payphone*).

68 47 U.S.C. § 253(c).

69 Some states confer upon state-certified telecommunications carriers a right to occupy the PROW (i.e., no separate franchise is required), subject to applicable local construction / encroachment permits. In other states, localities may require a local telecommunications franchise.

franchises with each individual locality. That is the case in Vermont, where the state Public Utilities Commission serves as the "local franchising authority" for purposes of the Cable Act.

Internet access service. How state and local PROW access and compensation requirements should be applied to Internet access service, if at all, has been the subject of significant regulatory activity and litigation over the past 20 years.[70] As explained in detail above, Internet access service is largely unregulated, and unlike cable service or telecommunications service, it is not subject to a regulatory scheme that authorizes PROW access, subject to specified terms and conditions. As a result, Internet service providers and state or local franchising authorities have often had to look to whether the provider can also qualify as a telecommunications service provider (under federal Title II and/or state utilities regulation) or as a cable system operator (under the federal Cable Act and local franchising authority).

Wireless facilities in PROW. As mentioned, federal law, particularly as the FCC and the Ninth Circuit has interpreted it, confers significant rights on the wireless industry when it comes to siting small wireless facilities in the PROW. For more on this topic, please refer to our prior discussion of wireless infrastructure siting.

Vermont law. In Vermont, "Lines of telegraph, telephone, and electric wires [including for cable TV systems], as well as two-way wireless telecommunications facilities and broadband facilities" may be constructed upon or under a town or state highway so long as it does not interfere with the travel, use or maintenance of the highway.[71] Permits are required before the public right of way along can be used in this way.[72]

Further, permits for use of the state highway right-of-way can be conditioned on the payment of a transportation impact fee.[73] All such impact fees must be spent on specified capital transportation projects.[74] There does not appear to be any provision that would allow the impact fees paid with respect to use of the public highway right-of-way to be used for telecommunications-related projects.

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70 See, e.g., discussion of the battle over Net Neutrality, above at Section 9.3.3.

71 30 V.S.A. § 2502.

72 30 V.S.A. § 2502; 19 V.S.A. § 1111.

73 19 V.S.A. § 1111(a)

74 10 V.S.A. § 6109.

However, the Vermont Supreme Court has noted that section 2502 "does not explicitly prohibit municipalities from charging utilities a fee for placing facilities aboveground."[75] Accordingly, it is somewhat of an open question as to just what fees may be assessed and how those fees may be spent.

Companies subject to the jurisdiction of the PUC may also erect and maintain lines and facilities along the sides of railroad tracks, subject to paying reasonable compensation to the railroad.[76] Companies that are not subject to PUC jurisdiction are also granted similar rights to erect and maintain wireless telecommunications and broadband facilities within the railroad right of ways.[77]

It should be noted that lines that are installed along the highway right of way can be required to be altered or removed as needed.[78]

3.4.2 Pole Attachments

Overview. The ability of a communications network provider to attach its facilities to poles within a reasonable timeframe on reasonable terms and conditions is crucial to the prompt and efficient deployment of communications infrastructure and services. Complications relating to pole attachments can introduce significant delays and additional costs for new deployments.

Federal law. Federal statutory law relating to pole attachments was established in the Pole Attachment Act of 1978, codified at 47 U.S.C. § 224. Importantly, under federal law the term "pole" is defined to mean not just a conventional above-ground utility pole, but also a "duct, conduit or right-of-way owned or controlled by a utility."[79]

Note also that Section 224 applies only to a "utility," defined to mean "any person who is a local exchange carrier or an electric, gas, water, steam, or other public utility, and who owns or controls poles, ducts, conduits, or rights-of-way used, in whole or in part, for any wire communications."[80] The definition goes on exclude from the definition of "utility" (and thus from

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75 *City of Burlington v. Fairpoint Communications, Inc.*, 2009 VT 59 at ¶ 13 (2009).

76 30 V.S.A. § 2513.

77 30 V.S.A. § 2513(b).

78 30 V.S.A. § 2522.

79 47 U.S.C. § 224(a).

80 *Id.*

Section 224 altogether) "any railroad, any person who is cooperatively organized, or any person owned by the Federal Government or any State." "State," in turn, is defined to include "any political subdivision, agency, or instrumentality thereof."[81] Thus Section 224 does not apply to municipally owned utilities, nor to pole owners that are electric cooperatives.

Section 224 empowers the FCC to regulate rates for pole attachments, and to otherwise ensure that rates, terms, and conditions are "just and reasonable."[82]

In general, federal pole attachment regulations relating to communications infrastructure assume that the attaching entity is a provider of "telecommunications service" or "cable service." When the attachment does not clearly involve the provision of telecommunications or cable service (as in the case of a broadband-only service provider, or for the attachment of unactivated or "dark" fiber), questions may emerge concerning the scope of attachment rights and pole owner obligations.

As previously discussed in Section 9.3.3, the D.C. Circuit in the *Mozilla* case upheld most of the FCC's *Restoring Internet Freedom Order* but remanded certain discrete issues to the FCC. One of these issues was whether treating broadband Internet access as an "information service" would adversely affect broadband deployment by depriving broadband-only service providers of federal pole attachment rights. On October 29, 2020, the FCC issued an *Order on Remand* that provided a negative answer to that question.[83] Among other things, the FCC found:

> 73. We find that the vast majority of subscribers are served by ISPs that provide either cable or telecommunications services over their networks and therefore remain able to take advantage of the rights guaranteed by section 224 after the reclassification of broadband Internet access service as an information service. The record overwhelmingly confirms our conclusion.[84]

If the FCC's factual findings are correct and representative of Vermont, then the broadband-only provider issue would be of little consequence as matter of federal law. In any event, Section 224 also contains a provision that enables states to voluntarily opt out of federal pole attachment regulation by certifying their own regulatory authority over rates, terms, and conditions and by

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81 *Id.*

82 47 U.S.C. § 224(b).

83 *In the Matter of Restoring Internet Freedom Bridging the Digital Divide For Low-Income Consumers Lifeline and Link Up Reform and Modernization, Order on Remand*, FCC 20-151, 2020 WL 6391155 (F.C.C.).

84 *Id*., at ¶ 73 (footnote omitted).

adopting regulatory mechanisms to implement this election. Through this "reverse preemption," a state's own pole attachment regulatory and enforcement scheme controls, not Section 224, the FCC's pole attachment regulations, or the FCC's interpretations of them.[85]

The State of Vermont is a state that has opted to reverse preempt and adopt its own pole attachment regulatory scheme. As discussed below, the Legislature has rendered the broadband-only issue moot in Vermont by expressly giving broadband-only Internet Service Providers pole attachment rights.

Vermont law. In Vermont, entities under the jurisdiction of the Vermont PUC that own utility poles are generally required to provide pole attachment rights to other entities under the jurisdiction of the Vermont PUC.[86] The Vermont Legislature likewise tasked the PUC to develop and implement pole attachment rules, which are found in PUC Rule 3.700.

As discussed above, the PUC has limited jurisdiction over companies that provide only broadband services. Even so, the Vermont Legislature has specifically extended pole attachment rights to broadband service providers.[87] The PUC Pole Attachment Rules require that broadband service providers that wish to attach to poles agree that they "will abide by the terms and conditions of this Rule and any applicable pole attachment tariffs."[88]

In some instances, individuals or entities may seek to install dark fiber intended for future use, on an open access basis, without knowing how the fiber will ultimately be used. While the Pole Attachment Rules make clear that fiber optic cables installed by broadband Internet access service providers have pole attachment rights, it is less clear that a provider of dark fiber that does not itself provide telecommunications, cable, or broadband Internet service also falls within such rules. As the State further develops its long-term strategies, it is likely to find that this set of issues requires further exploration.

Under the PUC Pole Attachment Rules, companies seeking to attach their facilities to the poles must pay for the cost of the make ready along with a rental fee. The goal of these fees is to

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8585 Attaching entities who would benefit more from an FCC interpretation than the State's interpretation may argue that the FCC interpretation, while not binding, should be treated as a benchmark of what is fair and reasonable.

86 See, for example, 30 V.S.A. § 8091 that requires gas and electric companies make their plant and equipment, including poles, available for use by communications service providers.

87 30 V.S.A. § 209(i)(1).

88 PUC Rule 3.702(C).

ensure that an entity that attaches to poles should pay the fair cost of the usage of the pole. Pole owners must file pole-attachment tariffs with the PUC that include the rates, terms, and conditions governing the attachment to the poles and the rights of ways.

Although the rules typically require the attaching entity to pay the attachment costs, these costs can be significant for a new broadband service provider such as a newly formed CUD that may have only limited funding in its first few years. The question then becomes whether an electric utility that owns the poles can voluntarily assume all or a portion of the make-ready costs and/or the pole rental rates of the attaching entity during its early years of startup and operation. Under the current rules, electric utilities may not subsidize the pole attachment costs of another entity, but with the PUC's approval, [89] they can enter into contracts concerning the cost, maintenance, and use of poles outside of the terms of the pole-attachment tariffs.[90] Accordingly, under existing Vermont law, it may be possible for an electric utility to accept in-kind payment (e.g., *n* strands of fiber) or other forms of compensation in lieu of charging the tariffed make-ready or pole rental fees. For the future, the State should consider the pros and cons of clarifying and expanding these options.

9.4.3 Open Access Networks

Overview. Section 4.3 of this Report suggests that the State consider supporting "open access" and "neutral host" networks as part of a comprehensive broadband plan. Consistent with that advice, this section analyzes the key legal issues that these strategies may pose.

In the communications field, the term "open access" can have many meanings, but it most often refers to a business model under which a wireline network is built and operated for the benefit of multiple service providers, which can each access the network on a non-discriminatory basis and provide competitive services. [91, 92] The term "neutral host" is most often used to describe a

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89 PUC Rule 3.704(A).

90 PUC Rule 3.704.

91 More precisely, "[a]n open-access network refers to a horizontally layered network architecture in telecommunications, and the business model that separates the physical access to the network from the delivery of services. … In an [open access network], the owner or manager of the network does not supply services for the network; these services must be supplied by separate retail service providers." Wikipedia, "Open-access network," last mod. August 17, 2020, https://en.wikipedia.org/wiki/Open-access_network (accessed November 9, 2020).

92 "Open access" should not be confused with "open Internet," the umbrella term used by the FCC to describe a set of principles also known as "network neutrality." Network neutrality refers to an obligation of retail

wireless network that an entity builds and operates to provide non-discriminatory access and support to wireless service providers. The operator of the physical network is itself not necessarily (although could be) a service provider.

Open access and neutral host models will not always be feasible. But proponents believe that, when and where viable, they can simultaneously provide multiple benefits to multiple stakeholders. This may include accelerating buildouts and decreasing time to market for service providers: spurring and supporting robust competition among providers, thereby enhancing consumer choice; increasing facility-owner revenues while decreasing service-provider costs; increasing the efficiency of maintenance; making it easier for facility owners to obtain financing, by reducing their dependence on the success of a small number of service providers; and decreasing the number and intensity of disputes with neighbors by minimizing duplication of support structures. In the case of public networks in particular, open access networks may be able to serve well in circumstances where exclusive arrangements between a government-owned network and a private service provider may not be legally permissible or advisable.[93]

After the State gets beyond the COVID emergency and turns to its additional broadband options, it is likely to find that there are several potentially viable public, private, or mixed models for broadband development and that the feasibility of any particular model in a given case will depend on the circumstances involved. Given the sheer number of possibilities, we cannot here anticipate and analyze all of the potential legal issues that might be involved. We will therefore concentrate on the key legal issues that the State may need to address in deciding whether to support open access and neutral host models.

The State could support open access and neutral hosting in several ways: (1) it can try to use its regulatory powers to compel networks to open up; (2) it can seek to provide open access network or neutral hosting itself, using the fiber and other assets that it owns or controls; (3) it can make the fibers and other assets the State owns or controls available to other entities that agree to provide open access or neutral hosting; (4) it can offer grants, loans, or other subsidies to public or private entities that agree to provide open access or neutral hosting; or (5) it can combine elements of these options. We now turn to the legal issues that these approaches may implicate.

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service providers to enable users to access Internet services and information provided by other entities on a neutral, nondiscriminatory basis.

93 See, e.g., Jordan Arnold and Jonathan Sallet, "If We Build It, Will They Come? Lessons From Open-Access, Middle-Mile Networks," Benton Institute For Broadband and Society (December 2020), https://www.benton.org/sites/default/files/OAMM_networks,pdf

For convenience, in the remainder of this discussion we refer to open access and neutral host networks collectively as "open access" networks.

Federal law. Federal statutes and regulations do not directly address open access networks as they are described above, but various aspects of federal law may come into play as Vermont, or a unit of local government, considers supporting such networks.

First, the Fifth Amendment of the U.S. Constitution prohibits the federal government from taking a person's property without just compensation, and the Fourteenth Amendment prohibits state governments from doing so. For example, in *Gulf Power v. Federal Communications Commission*, 187 F.3d 1324 (11th Cir.1999), the Eleventh Circuit held the FCC's regulations authorizing cable companies to make attachments to privately-owned utility poles were lawful because they also provided for just compensation. Similarly, in *Loretto v. Teleprompter Manhattan CATV Corp*., 458 U.S. 419 (1982), the Supreme Court applied the same rationale in upholding a New York statute that required landlords to permit cable companies to install facilities on their property without paying more than the amount determined by a state commission to be reasonable. To be sure, the law in this area is complicated and highly nuanced, but the underlying principle appears to be well established – i.e., a regulation that provides for open access must also provide for just compensation to the owner of the property thus opened. Moreover, even if the state does provide for just compensation, its methodology for determining just compensation may well face protracted legal challenges.

Second, while the State of Vermont may not be constrained by constitutional takings law from compelling open access to existing networks, provided that it provides for suitable compensation and judicial review, adversely affected parties would undoubtedly argue that federal law also explicitly or implicitly preempts the State from doing so. We are not aware of any case that has addressed this precise issue, and it is uncertain how any future case would turn out. One thing is certain, however: such a State requirement would be vigorously challenged, and it might take many years for the courts to reach a final decision.

Third, even if the State believes that it has sufficient authority to require open access, it should carefully consider the pros and cons of doing so. If the State's main goal is to spur deployment of *new* broadband networks, requiring owners of *existing* networks to open them up may not achieve that goal and, indeed, may discourage investment in future networks. This is a complicated matter that requires careful study.

In this regard, the FCC's experience with unbundled network elements (UNEs) may be instructive. In the Telecommunications Act of 1996, Congress found that the telecommunications industry was highly concentrated and anticompetitive. Congress sought to remedy this situation by, among other things, requiring incumbent local exchange carriers (ILECs) to provide competitors

unbundled access to portions of their ILEC networks at wholesale rates.[94] In 2003, the FCC exempted network elements supporting Fiber-to-the-Home from its UNE rules, finding this necessary to remove disincentives to the deployment of advanced telecommunications facilities in the mass market.[95] For the same reason, the FCC soon afterward also exempted network elements supporting Fiber-to-the Curb deployments.[96] Over time, as "intermodal competition" has increased, the FCC has essentially dismantled the UNE process altogether – at least in urban areas.[97]

To be sure, one can question whether the FCC made the right decisions for the right reasons in addressing UNEs, and some of the FCC's conclusions may not necessarily apply to Vermont today. But the extensive factual and policy questions that the FCC asked are well worth studying.

Further complicating matters is the fact that the FCC's authority with respect to broadband Internet access service – which is fundamental to the open access approach – has waxed and waned over the past ten years. As discussed above, the current FCC maintains that Internet access service is an "information service" over which the FCC does not exert regulatory jurisdiction.[98] That could well change when under the Biden Administration or as a result of Congressional action.

In short, reliance upon governmental fiat to bring open access networks into existence carries with it a substantial risk of protracted litigation based on federal law (and possibly state law, as described below), with the outcome uncertain at best.

But while an open access *mandate* by the State may be problematic, the State could conceivably take steps to *encourage* open access networks by other, less coercive means. For example, the State may be able to provide open access to some of the fiber optic cables and related assets that it owns or controls in various locations across to Vermont. Or it may be able to make such

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94 *See* 47 U.S.C. § 251(c)(3).

95 *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, ¶ 278, 18 FCC Rcd. 16978, 2003 WL 22175730 (rel. September 17, 2003).

96 *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, ¶ 2, 19 FCC Rcd. 20293, 2004 WL 2347593 (rel. October 18, 2004).

97 *See In the Matter of Modernizing Unbundling and Resale Requirements in an Era of Next-Generation Networks and Services,* WC Docket No. 19-308, Report and Order, FCC 20-152, released October 28, 2020.

98 *In the Matter of Restoring Internet Freedom,* WC Docket No. 17-108, Declaratory Ruling, Report and Order, FCC 17-166, released January 4, 2018

assets available to entities that will, in turn, make them available to third parties on an open access basis. The State could also explore whether it makes sense as a policy matter to tie State broadband grants or financing to the open access model – i.e., in exchange for State funding, providers would agree to operate on an open-access basis.

While federal law may have little to say about how the State uses fiber and other assets that it has funded exclusively itself, the State must be attentive to conditions that apply to assets that it has acquired in whole or in part with federal funds. For example, subject to the conditions and procedures set forth in 23 C.F.R. § 710.403, a state can give other entities access to currently unused assets that the state acquired for transportation purposes in whole or in part with funds from the Federal Highway Administration (FHWA). The state must ordinarily charge fair market value for such access, and it must use the proceeds for transportation purposes. These requirements do not apply, however, if the state can demonstrate to the FHWA's satisfaction that "an exception is in the overall public interest based on social, environmental, or economic benefits, or is for a nonproprietary governmental use."[99]

In short, before making the fiber and other assets that it owns or controls available to other parties, the State of Vermont must ensure that doing so is consistent with federal law or other terms and conditions that apply to them.[100]

Vermont law. Vermont has a "takings clause" similar to the one in the U.S. Constitution. That is, Chapter I, Article 2, of the Vermont Constitution prohibits the government from condemning private property without adequate compensation.[101] As a result, the arguments under federal law both for and against mandated open access discussed above could also be made under Vermont law. In short, Vermont can arguably require open access, as long as it provides for suitable compensation, but whether it should do so is a question requiring careful study.

Opponents of an open access mandate may also argue that the State lacks authority to regulate Internet access networks, and thus has no authority to impose an open access requirement. Here as well there are arguments and passionately-held views on both sides of the issue. So, as stated

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99 23 C.F.R. § 710.403(d) and (e).

100 Restrictions may also appear in bond instruments, franchises, pole attachment agreements, and many other kinds of contracts.

101 "That private property ought to be subservient to public uses when necessity requires it, nevertheless, whenever any person's property is taken for the use of the public, the owner ought to receive an equivalent in money." Vermont Constitution, Ch. 1, art. 2.

above, an effort by the State to mandate open access could well result in years of time-consuming, burdensome, and costly litigation.

Rather than rely upon its regulatory authority, the State may be able to use fiber optic cable networks that it owns or controls in various locations across Vermont to advance open access. Doing so through non-regulatory means can be of great assistance as the State seeks to make broadband Internet services available to every resident in Vermont. While a government entity cannot take control or ownership of privately-owned fiber optic cable, or individual strands within a company's fiber optic cable, without providing for fair compensation in exchange, the State nonetheless has a variety of opportunities to control fiber optic networks in Vermont.

For one thing, the State itself has deployed networks of its own fiber optic cables for its own purposes and has the right to construct further State-owned networks. To the extent that these State-owned fiber networks have excess capacity, the State can make them available to broadband providers.

The State also leases or licenses fiber optic strands in cables that have been deployed by third parties, which again it can make available for use by other broadband providers.

The State has potential opportunities to acquire further rights to fiber optic cables in Vermont. In addition to simply paying for such rights, the State can exchange rights to use State owned/controlled fiber for the right to use third-party fiber. Likewise, when the State provides grants or financing to construct fiber optic cables, it can seek to reserve for itself the right to use some of the fiber strands in such network.

Finally, as noted above, the Vermont Constitution contains certain eminent domain rights.[102] To that end, Vermont, like most other states, permits the use of eminent domain *on behalf of* a telecommunications utility (and other public utilities) to obtain access to necessary rights-of-way.[103] Entities that have received a CPG from the PUC, and that demonstrate the necessity of the condemnation, may exert a right of eminent domain as to the property of another private entity. The valuation of eminent domain by public utilities is established by the PUC.[104]

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102 Vermont Constitution Ch. I, art. 2 ("That private property ought to be subservient to public uses when necessity requires it, nevertheless, whenever any person's property is taken for the use of the public, the owner ought to receive an equivalent in money.").

103 *See, e.g.,* 30 V.S.A. § 110.

104 30 V.S.A. § 112(4).

Eminent domain, however, may be of limited use. While state law may permit the use of eminent domain on behalf of a telecommunications utility, we are unaware of any instance in which a government entity has condemned private telecommunications facilities for the purpose of putting such facilities to its own use, or for government-directed economic development initiatives. Indeed, Vermont law specifically prohibits a "governmental or private entity" from taking private property through the use of eminent domain "if the taking is primarily for purposes of economic development."[105]

3.4.4 Municipal Broadband

Overview. Over the past two decades, municipalities and municipally-owned utilities across the country have developed state-of-the-art communications networks to serve their citizens. In general, these efforts are undertaken by necessity, as smaller cities and towns find themselves inadequately served by traditional private sector communications providers. About 20 states have some form of legislative limitation on municipal communications networks, typically adopted at the behest of large incumbent communications service providers. (Vermont is not one of them, as discussed below.)

While "municipal broadband" is often portrayed as a taxpayer-funded service offered directly by a municipal government, in recent years the trend in "community broadband" has been toward the development of partnerships between local governments and private-sector service providers, with many successful examples to be found across the country.

Federal law. While federal law encourages local governments to provide communications services of all kinds, it does not affirmatively empower them to do so. For such authority, local governments must look to state and local law. Moreover, such authority must exist for each activity in question.[106]

With respect to telecommunications services, Section 253(a) of the federal Telecommunications Act of 1996, 47 U.S. § 253(a), states:

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105 12 V.S.A. § 1040. Note, however, that Section 1040 does not affect "the authority of an entity authorized by law to use eminent domain for the following purposes: …public utilities, including entities engaged in the generation, transmission, or distribution of electric, gas, sewer and sewage treatment, or communication services." *Id.*

106 For example, in *City of Bristol, VA v. Earley*, 145 F.Supp.2d 741, 745 (W.D. Va. 2001), the court held that the City has authority to provide telecommunications services, and in *Marcus Cable Associates, L.L.C. v. City of Bristol*, 237 F.Supp.2d 675, 678-79 (W.D.VA 2002), the same court held that the City does not have authority to provide cable television service. According to the court, the critical difference was that Virginia's statute authorizing localities to establish "public utilities" applied to telecommunications services but not to cable television.

> No state or local statute or regulation or other state or local legal requirement may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.

Despite the broad sweep of this language, the courts have held that Section 253(a) does not affirmatively authorize municipalities to provide telecommunications services – and does not even bar states from prohibiting municipal provision of such services. *Nixon v. Missouri Municipal League,* 541 U.S. 125 (2004).[107]

Similarly, while prior administrations have encouraged local governments to participate in the rapid deployment of broadband communications services and capabilities, Congress has not yet explicitly empowered municipalities to provide such services.[108]

In 2015, the FCC adopted an *Order*[109] preempting the state barriers to public broadband initiatives in North Carolina and Tennessee. The FCC relied on Section 706 of the Telecommunications Act of 1996, which requires the FCC to ensure that broadband is being deployed on a reasonable and timely basis to all Americans.[110] Under Section 706(b) if the FCC determines that advanced communications capabilities are not being deployed to all Americans in a reasonable and timely manner, the FCC must "take immediate action to accelerate deployment…by removing barriers to infrastructure investment and by promoting competition." In August 2016, the United States Court of Appeals for the Sixth Circuit the FCC's preemption decision, finding that Section 706 does not contain a sufficiently clear statement of Congressional intent to authorize the FCC to preempt state barriers to public broadband initiatives.[111]

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107 Indeed, in a case that preceded the Nixon decision the Texas barrier to municipal entry was upheld in *City of Abilene v. FCC*, 164 F.3d 49, 53 n.7 (D.C. Cir. 1999).

108 In nearly every session of Congress, one or more bills are introduced to remove state barriers to public broadband initiatives. This year HR 2, the Moving Forward Act, was such a bill.

109 *Memorandum Opinion and Order, in the Matter of Petitions for Preemption by the City of Wilson, North Carolina and the Electric Power Board of Chattanooga, Tennessee*, .

110 47 U.S.C. 1302(b).

111 *State of Tennessee v. Federal Communications Commission*, 832 F.3d 597 (6th Cir. 2016).

Vermont law. Municipalities in Vermont are specifically authorized by the Legislature to acquire and build communications plants and facilities and to provide communications services.[112] Municipalities that provide such communications services enjoy broad rights.

A municipality that provides communications services may do so both within and outside of its municipal boundaries. The municipality also has the right of eminent domain to acquire buildings, land, and rights-of-ways as may be necessary or convenient to the operation of the communications plant, and it may use any public highway as may be necessary for its pole and wires.

However, a municipality that provides communications services must still comply with the PUC rules and regulations. For example, the municipality must obtain a CPG from the PUC before it can provide telecommunications or cable TV services, but no CPG is needed if the municipality provides only broadband services. In order to protect other communications providers, the CPGs must be nonexclusive, and they cannot contain terms or conditions more favorable than those imposed on existing CPG holders that are authorized to serve the municipality.

The most stringent set of conditions placed on municipalities that desire to provide communications services concerns the financing of the plant and operations:

- A municipality's operation of any communications plant must be supported solely by the revenues derived from the operation of the plant, except for the portion that is used by the municipality for its own municipal purposes.
- Any financing that the municipality using must be paid from the net revenues derived from the operation of the communications plant.
- The municipality is strictly prohibited from passing any financial losses from its communications operations onto the municipality's taxpayers.

In 2015, the Legislature expanded the rights of municipalities by allowing two or more of them to form a communications union district (CUD).[113] A district formed under that legislation continues to be a body politic much like the underlying municipalities, all for the purpose of providing communications services. The rules and regulations for CUDs are similar to those for municipalities that go it alone. And like municipal communications services, no losses by the CUD can be borne by the taxpayers of the member municipalities.

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112 24 V.S.A. ch. 54.

113 30 V.S.A. ch. 82.

As discussed in the Report, many municipalities in Vermont have already joined together to create CUDs in various regions of the State. The Report further acknowledges the important role that CUDs play in bringing broadband services into their communities.

The financial restrictions imposed on municipalities and CUDs under these statutes may, however, impose roadblocks or cause delays in their ability to bring communications services to their residents, business, schools, hospitals and others. The State has periodically revisited the question of whether these financial restrictions should be maintained, and in December of 2019, decided to take a "wait and see" approach to any such decision to relax these restrictions.[114] However, given the significant role that the State is asking municipalities and CUDs to play in expanding broadband internet services in their own communities, particularly in response to need highlighted by COVID-19, it may be prudent for the Legislature to explore again whether it is appropriate to loosen the financial restrictions on municipalities and CUDs, thereby allowing them greater financial flexibility to help bring broadband to their towns. That is particularly so given that private entities are aggressively seeking taxpayer subsidies themselves. Public support should go to whichever entities, public or private, can deliver the best value to the public.

3.4.5 Electric Co-Op Cross Subsidization of Communications Services

Overview. Nearly a hundred years ago, many rural homes throughout the country, including those in rural homes in Vermont, were without electric service. President Roosevelt and Congress answered the call in the mid-1930s through the enactment of the Rural Electrification Act of 1936, with the goal of bringing electricity to unserved rural communities and farms. The Act provided for the creation of the Rural Electrification Administration (REA), which quickly learned that the best vehicle for making rural electrification a reality in the hardest to serve areas was through member-owned electric cooperatives. To that end, in 1937, the REA drafted a model law that states could adopt, called the Electric Cooperative Corporation Act, to enable the formation and operation of not-for-profit, consumer-owned electric cooperatives.[115]

This led to the creation of electric coops in Vermont. For example, according to its history posted on its website, "Vermont Electric Coop (VEC) was established in 1938 by farmers in the town of

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114 *See* Report to the Vermont Legislature Act No. 79, Section 14: A Report on the Use of General Obligation Bonds for Improvements to Municipal Telecommunications Plants, Submitted by Susanne Young, Secretary of Administration, December 1, 2019.

115 NRECA – America's Electric Cooperatives, *History, The Electric Cooperative Story*, www.electric.coop/our-organization/history.

Eden with the goal of bringing electricity to rural Vermonters who had been bypassed by investor-owned utilities."

Today, the question is, what role can electric cooperatives play in helping to bring broadband services to Vermont's rural communities?

Vermont law. Electric cooperatives are established in Vermont by state statute.[116] Although the primary mission of electric coops, as the name and history imply, is to provide electric services to its members, the enabling legislation also grants electric coops with the power to provide telecommunications, cable television and internet services to its members.[117] Moreover, electric coops are authorized by statute to "work cooperatively with governmental entities or private sector institutions, or a combination of both, for purposes of economic or community development, to benefit cooperative members in their communities."

Accordingly, electric coops in Vermont have the authority to assist and/or engage in the provision of communications services, include broadband internet services to its members. Beyond simple authority, coops also likely have a significant interest in being able to help their members obtain broadband services because the electric service ratepayers, members and owners of the coop are all one and the same.

At the same time, however, just as municipalities and CUDs that seek to provide broadband services to their residents are currently limited as to sources of funds that they can use to provide communications services, so too are coops. More specially, electric coops in Vermont are prohibited from using revenues from the provision of electric services to help fund the communications services: "the electric revenues received from regulated activities of a cooperative shall not subsidize any nonelectric activities of the cooperative.'[118]

Given that coops are already providing electric services in some of Vermont's most rural and hard to reach communities, and given the importance and necessity of bringing broadband to these very same residents, it may be prudent for the Legislature to explore whether it is appropriate to loosen the financial restrictions on electric coops thereby allowing them greater financial flexibility to help bring broadband to their member/owners.

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116 30 V.S.A. ch. 81.

117 30 V.S.A. § 3001a.

118 30 V.S.A. § 3047.