



Preliminary Plan

June 30, 2018

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Background and Overview

Vanu Coverage Co. (dba CoverageCo), successor to Vanu Coverage Co. (VCC), is providing this plan to the State of Vermont in response to requests to clarify the future operations of the state's microcell network. This plan highlights the operational and financial history and the changes that have taken place to enable the long-term viability of the system. There are some portions of this plan that involve action by the State of Vermont and others to allow for the microcell network to provide continuing and expanding benefits to Vermonters and visitors for their safety and convenience and to provide the state with the necessary infrastructure and environment to successfully participate in a modern economy.

The challenge of rural cell service is real. With few customers and limited voice and data traffic in a given geographic area, even the most efficient multicarrier network still works on extremely tight margins.

The CoverageCo network currently consists of 160 state-owned utility pole mounted microcells that provide wireless cell service along roadways and in small population centers. The sites receive electricity and backhaul communications from local power and telephone or cable companies, with collocation on utility poles. The pole mounted radio equipment is manufactured by Vanu, Inc., and the switching and call processing functions are provided "as a service" by Globecomm Systems, Inc. Other major service providers include Syniverse Technologies, LLC and West Safety Services, Inc.

CoverageCo provides a wholesale "Roam Only" 2G wireless service using both GSM and CDMA cellular technologies to serve residents and visitors in rural Vermont. This roam-only service approach is also referred to as a *Neutral Host Business Model*. A neutral-host model operates without traditional retail cellular subscribers nor any retail presence. Revenue is generated from CoverageCo's roaming partners: AT&T, Verizon, Sprint, T-Mobile, US Cellular, and five smaller carriers in the US and Canada. These companies pay CoverageCo when their subscribers access and utilize the CoverageCo microcell network.

The pilot project activities of VCC through 2017 demonstrated the feasibility of the microcell technology. Unfortunately, the pilot project also uncovered weaknesses in the economic model and revenues were not sufficient to cover operating costs.

The five-year VCC effort to expand cell service to rural Vermonters and visitors delivered a number of key learnings on what works and what doesn't. Success in this partnership was hampered by a number of significant issues, including:

1. Vermonters' use of cell phones while driving was less than expected: The architecture of the proposal was focused on segments of highway where no cell service existed, with the hope of providing drivers and riders with continuous connectivity.
2. Electric metering costs: VCC devices attached to a utility pole had individual meters for electricity, despite the fact that one of the differentiating benefits of the technology utilized is that it is very energy efficient. One power company indicated that about \$5-\$7 of the Monthly Recurring Charge could be attributed to the recoupment of the material/labor of the power meter. That would mean the cost of the meter to a power company is between \$300 and \$420. Thus, the cost of the meter socket (\$800) and power meter (\$300-\$420), exceed the cost of electricity used over 3-4 years.

3. 911 geolocation service as a high fixed cost: The contract for providing 911 geolocation service to each of the microcells is \$50/month/site regardless of volume of calls on the site, representing nearly half of the total operating cost for each location. Unlike many states, Vermont has not reimbursed rural cell carriers in the past for direct 911 geolocation costs from the Universal Service Fund.
4. Installing microcell service where FairPoint (Consolidated Communications) DSL was the only option: While there were some exceptions, the use of FairPoint (Consolidated Communications) DSL led to very poor service quality and unreliability and therefore very low revenue.
5. AT&T chose not to have a roaming agreement with VCC until May 2018.

CoverageCo is learning from and addressing each of these challenges:

1. As the result of new technologies that allow for hands-free use of cell phones, and supported by evidence that shows that cell phone usage on the network increased 25% between 2016 and 2017, the future applicable uses of cell phones should continue to increase and thereby provide additional revenue.
2. There are two cost items associated with metering a pole site. First, there is the upfront cost to CoverageCo of purchasing and installing a meter socket and disconnect, which is approximately \$800 for materials and labor. Then there is the cost of the power meter, which is procured, owned, and installed by the power company. Power companies elect to amortize this cost over the monthly recurring charges. Indications have been provided to the effect that the break-even point to the power company related to the cost of materials and labor of installing a power meter on a pole is 60 months. Power consumption will vary little from site to site regardless of whether there is high use of the site. To this end, each electric utility could install a meter on only one site and multiply this monthly meter reading to bill for all sites.
3. The solution to the geolocation costs problem is a combination of renegotiating the rates for E-911 geolocation services and seeking cost reimbursement from the state as envisioned in the recently passed legislation providing funding from the Universal Service Fund for that reimbursement.
4. Having switched some microcells from FairPoint (Consolidated Communications) DSL to cable or fiber connections (in the few places where this is an option), the improvement in service and revenue has been dramatic. The intent going forward is to replace the backhaul at existing sites with more reliable backhaul service or modify site locations to account for more viable backhaul alternatives and serve more people more reliably.
5. In May 2018, AT&T finally agreed to roam with CoverageCo in Vermont. As a result, CoverageCo has seen roughly a 50% increase in average site revenue.

CoverageCo has learned other lessons that afford increased confidence moving forward:

1. Locations with even very low population density can still be viable for CoverageCo's model of small cell service: Small villages like Wilmington can benefit from cell service and provide a volume of activity to make the network economically viable in those locations, even with the high fixed costs of pole attachments.

2. Many important community institutions, like medical facilities, schools, and colleges, still have inadequate or even no cell service, and they desperately need that service. These important community institutions are hampered by the lack of cell service, sometimes creating dangerous situations. Yet, through various federal programs, most already have robust Internet backhaul connectivity in-house that provides more than enough connectivity to support microcell service. *Hosted Site* deployments at Sterling College and even the Silver Lake State Park in Barnard yield strong revenue results and user satisfaction.
3. Many Vermont business and homeowners are happy to host microcell sites in order to have cell service: Within the last year, CoverageCo discovered that, in a classic example of Vermont resourcefulness and collaboration, individuals and business were happy to have a CoverageCo antenna installed on their building, plug the device into an outlet, and connect to their existing cable modem or fiber Internet backhaul. The end result is wireless service for a neighborhood, with very low operating costs, which allows these net positive sites to cross-subsidize less viable microcells in more rural areas.
4. “Daisy chain” backhaul solutions can be engineered to potentially further reduce backhaul costs and leverage better quality, higher capacity backhaul such as fiber.

In recent months, CoverageCo has been working to transition ownership and operational control from VCC. The ownership transfer was completed in late-June, with transfer of network operations and financial management following and ongoing.

CoverageCo is supported by existing equityholders Richard Biby and Disruptive Innovation Fund. The company has had conversations with other prospective financial partners, and is open to various forms of financial relationships with other parties who are committed to the rural wireless mission.

Present management consists of Mr. Biby, serving as Interim CEO, with support from Disruptive Innovation Fund and Trilogy Networks, transitional support from Vanu, Inc., and active involvement of a broader team of Vermont-based industry and functional experts. CoverageCo is actively seeking a Chief Operating Officer to be based in Vermont and manage the company's restoration and expansion efforts on a day-to-day basis.

Coincident with the ownership and operational transition, a series of stabilizing activities have been undertaken, with focus on continuity of existing services, restoration of non-functioning network elements, and reestablishment of positive relationships with the many service providers critical to maintaining network operations.

CoverageCo has initiated monthly service payments to all providers of critical network functions. This includes power companies for electrical service, communications companies for microcell backhaul connectivity, switching and call processing services, and E-911 routing and geolocation services.

Unfortunately, one service provider, Consolidated Communications (successor to FairPoint), decided to disconnect service to all the microcell sites it served, constituting over 70% of CoverageCo's network. Consolidated's action to interrupt 911 Emergency Calling Service to thousands of Vermonters and visitors came just three business days after Consolidated had received a full month's payment, an offer of an additional month's payment in advance, commitment to timely future payments, and after a detailed briefing on the ownership and

operational transition. Consolidated's action continues to cause harm while CoverageCo scrambles to locate an alternative solution.¹

Moving forward, CoverageCo will take the necessary steps to fully restore microcell service while implementing a plan to generate sufficient revenue and investment to independently maintain operations, expand wireless coverage, and upgrade the network to the modern 4G/LTE technologies. But the constructive involvement, cooperation and support of the State of Vermont as a partner, as well as other partners will be needed.

CoverageCo will seek mutually viable resolutions with each of its ongoing business partners to whom payables were accumulated under VCC.

Longer-term, CoverageCo envisions a state of the art wireless network delivering world-class 4G/5G, "Internet of Things", and Smart Cities services while creating more high tech jobs in Vermont. Among other areas of value, this improved network as envisioned will increasingly support the communications requirements of public safety, tourism, municipal asset management, telemedicine, and remote workers in the unserved and underserved rural areas of Vermont.

¹ It is ironic that in 2010 FairPoint Communications received many millions of dollars in concessions from the State of Vermont and ratepayers (who were due service-quality refunds) in order for the company to be able to maintain operations in the state, and yet the same organization under Consolidated now prevents Vermonters and visitors from having access to the 911 emergency calling that the state-owned network operated by CoverageCo provides.

Business and Economics

The state-owned microcell network operated by CoverageCo has delivered value to Vermonters and visitors and has the potential to deliver far more.

An expanded network of 188 operational sites would provide over 50,000 Vermonters with new cell coverage, hundreds of thousands of calls have been completed on the CoverageCo network, and over 1,250 emergency 911 calls during the one-year period from March 1, 2017 through February 28, 2018 were connected to Vermont emergency responders. Applying this same rate to an anticipated expanded network of 454 sites, the network would field at least 4,054 emergency 911 calls each year in rural Vermont.

The state of Vermont, thanks to microcell investments, no longer has the ignominious distinction of having a hospital with no cell service, as the CoverageCo network was the first to provide service to the Grace Cottage Hospital in Townshend. Parents now have cell coverage when picking up children from school, and attendees can now locate and communicate with each other using their wireless phones at the Tunbridge Fair.

The CoverageCo technology is extremely nimble and can be installed quickly. CoverageCo had a site installed in Puerto Rico within 24 hours of first being asked to participate in the Hurricane Maria relief effort. The heartwarming results from that effort in Puerto Rico and US Virgin Islands, with 14 sites and all carriers roaming, where 911 infrastructure was rendered inoperable by the hurricane were as follows:

- 462,827 SMS text messages
- 140,076 voice calls
- 269,195 voice minutes
- 54,551 MB aggregated data roaming services.

The pilot project efforts of VCC established a market foundation that is just a starting point for CoverageCo's expansion. This expansion will include activation of the remaining microcell radio transmitters currently in state storage, as well as the upgrade of the 2G network to a fiber backhaul based 4G/LTE system. CoverageCo and its financial backers recognize the potential of this wireless market based on trends in expanded data transmissions and new technologies that are based on ubiquitous wireless voice and data coverage.

While under VCC's pilot-stage activities, increasing usage was observed. Between 2016 and 2017 (prior to the AT&T roaming agreement), gross revenue increased by 25%. The addition of AT&T roaming led to an additional almost doubling of revenue immediately prior to the disconnection of DSL backhaul service by Consolidated.

Site Economics		Mo. Revenue/Site
Average Voice Revenue per site	\$	172
Average Data Revenue per site	\$	62
Total Revenue	\$	234

The average direct costs for these sites:

Mo. Cost Per Site

Average Direct Cost per site **\$147**

The above individual microcell site operating expenses are not the only expenses of the company. The company has monthly overhead expenses of approximately \$21,500, and there are fixed costs of approximately \$9,000 for operating the core network that provides the required connectivity to other networks. In addition, there are variable transactional costs associated with operating the core network. These costs are not linear but range from 15% of total revenue on a small network to around 10% of revenue on large network.

Putting this all together, if we were to apply the same revenue from active sites at the end of May 2018 to all 188 installed sites², the projected net profit/loss would be:

Revenue

Voice Revenue	\$32,336.00
Data Revenue	\$11,656.00
Total Revenue	\$43,992.00

Operating expenses:

Hosted core network expenses	\$14,645.47
Site operating expenses	\$27,556.00
G&A/Overhead	\$21,588.00
Total Operating expenses	\$63,789.47

Income from operations (EBITDA) (\$19,797.47)

A net loss of approximately \$20,000 per month indicates that the network needs accommodation relative to 911 geolocation fees in order to reduce site operating expenses so that the incremental site profit dollars can be used to cover the fixed G&A/Overhead expense and the fixed hosted core network expenses. (Immediate access is also needed to the radio equipment and spares that have been placed in storage by the Department of Public Service.)

The following analysis applies the same site economics over 454 sites, which is the number of sites that all of the available equipment would enable. Actual revenue from the last week of May for sites then-operational has been extrapolated to project 454 sites (in practice, some sites will not perform as well, and others will exceed the average; and traffic varies widely by time of year).

Revenue

Voice Revenue	\$78,088
Data Revenue	\$28,148
Total Revenue	\$106,236

² Includes both currently installed active and decommissioned sites.

Operating expenses:	
Hosted core network expenses	\$27,052
Site operating expenses	\$56,156
G&A	\$21,588
Total Operating expenses	<u>\$104,796</u>
Income from operations (EBITDA)	<u>\$1,440</u>

Based on these assumptions, CoverageCo's economics would then be just above breakeven. This analysis does not include any anticipated revenue from US Cellular data service, and does not include revenue increases such as those seen in the recent past due to increased utilization over time.

Operating Plan

Service Restoration

We have a number of operational projects in the works for the company in 2018 and 2019. Our highest priority project right now is to restore microcell wireless services in affected areas. We are evaluating alternatives for backhaul service providers and working with each of the electric power utilities for continued service to each of the operational sites. We are also working with a few electric utilities to restore temporarily suspended service.

Reduce Costs

We have evaluated the historical cost drivers for network operations. We are evaluating alternative low-cost solutions relative to each, including identifying partners that can provide similar solutions more cost-effectively. One of the areas we have identified is deploying virtualized network functions (VNF). VNFs help optimize infrastructure, connectivity, and support costs.

Increase Revenue

We have a number of initiatives to increase recurring revenue. Partnerships with international operators and expanding other services beyond roaming are expected to contribute to revenue growth, allowing for more sustainable margins than those noted above.

Expand Wireless Coverage

The microcells are a public safety priority – for instance, their typical half-mile coverage radius is an obvious highway safety solution. Moreover, they address a fundamental economic development imperative – visitors considering moving to and/or starting a business in Vermont are understandably wary of "no bars anxiety". It's simply not safe or modern in today's environment not to have wireless coverage.

A critical State action to assist in expanding the network sooner and most cost effectively is a wireless propagation study to identify precise areas unserved or underserved by cell towers. Planning would thus be enabled for locating additional 2G microcells, new 4G/LTE service, and even macrocells. State-funded propagation studies were last completed in 2010 and 2013 and are since obsolete as VTel has initiated 4G/LTE service and other carriers have increased coverage with new towers or more antenna elements on existing towers.

CoverageCo could continue to operate the 160 installed 2G microcells and install some of the 240 additional 2G radios the state already owns (subject to traffic and therefore revenue needs). CoverageCo could even contract for setting new, taller (65-foot) utility poles to mount existing antennas higher, with increased range, spaced further apart, and thus carrying a significantly lower operating cost. CoverageCo could subcontract for the installation of any fiber backhaul required to support new 4G/LTE radios where needed, including managing the leasing of unused fiber strands for expediting community fiber broadband efforts.

An accurate inventory of all existing utility-owned fiber and Network Access Points (NAPs) is needed and would facilitate cost-effective planning for leasing of dark fiber made accessible

through open access rules effectuated by the PUC. It is CoverageCo's view that this Open Access policy currently supported by statute should be actively pursued by the DPS and PUC.

Both the carrier-owned and State-owned fiber, once leases are executed, could then immediately become available to enable and support community broadband by leasing the excess dark fiber strands to whomever is willing to light them to provide gigabit-speed broadband services or to complete more resilient, protected ring topologies for backhaul. This supports public safety.

Any new middle mile fiber installed with state funding should be state-owned, consistent with the State's current ownership model of the microcell equipment and with the prior extensive Vermont Telecommunications Authority fiber building projects.

Vermont Agency of Transportation fiber build permit conditions have long included language that allows "the State, for its own purposes", to attach to other carriers' cables at no cost. This could serve to cut the costs of new middle mile fiber installation by as much as 60%-75%, from the current \$25K per mile or more, to less than \$10K/mile. As this approach would eliminate delays for pole make ready, incur no pole rental fees, require no steel support strand, etc., this could happen almost immediately—an extremely cost efficient model of upgrading to 4G/LTE microcells, including support for Band 14 frequencies supporting first responders using FirstNet, while simultaneously providing infrastructure to community broadband efforts.

The \$900K already appropriated from Capital funds could be used to install a limited number of taller (65-foot) utility poles, currently-on-hand 2G or new 4G/LTE microcells radios, or even a limited amount of new fiber backhaul. Some of the \$393K available for the installation of Fiber Network Access Points could be used to install the NAPs precisely where new microcells will be needed and/or where community fiber networks will need to interconnect in the near future.

The beauty of this concept is that emergency community broadband efforts benefit greatly from the millions of dollars invested by CoverageCo and its private equity backers and the nearly \$4M in State/VTA/EDA investments already made in this public/private partnership for microcells.

The CoverageCo contract may need to be amended to accommodate not only the installation and maintenance of 2G microcells, but also to facilitate incremental upgrades to 4G/LTE technology, a change that will absolutely require fiber backhaul, and that drives the need for CoverageCo to expedite the installation of additional state owned, middle-mile, dark fiber – in a timeframe and with efficiencies that no other party could justify.

This evolved microcell strategy will complement and enhance the state's prior investments in long-haul dark fiber via the Vermont Telecommunications Authority and yield rapid returns by supporting economic development founded on clean, symmetric, gigabit-speed fiber services.

CoverageCo could, with effective planning and execution, and State cooperation, complete the State's wireless cellular canopy, incrementally upgrading the 2G service to 4G/LTE, possibly even licensing the Band 14 spectrum to support FirstNet, thereby perfectly complementing proposed AT&T tower FirstNet coverage and making Vermont potentially the first/only state to reach FirstNet Band 14 and 4G/LTE coverage across more than 90% of the land area and more than 97% of the population protected by wireless 911 service and FirstNet for first responders.

[Upgrade to 4G LTE](#)

We plan to upgrade the microcell radios to 4G/LTE. This will increase the current data transmission speeds and improve the quality of services (voice + data) to Vermonters and

visitors. This will necessarily require higher-capacity backhaul. We are evaluating both radio and fiber backhaul options for these upgrades.

Meterless Electricity Connections

CoverageCo's experience operating microcell hardware shows that the costs for electricity service are predictable and consistent, just as are similar services for street lights. In both cases, the billing for the electric service can be based on historical use patterns and eliminate the need for meters and expensive, complicated billing operations. CoverageCo is in active discussions with electric utilities toward eliminating the need for unnecessary meter sockets at each microcell site.

Hosted Site Expansion

As noted in the lessons-learned section above, microcell installations along the roadway that rely on existing utility poles each require new connections for both electricity and backhaul service. We have found that many Vermont institutions, businesses, and even some homeowners are glad to host our microcell devices in order to support high quality cell phone service and to support their neighbors' safety and connectivity as well. This model reduces overall CoverageCo installation costs and recurring monthly expenses, allowing for rapid expansion of service.

Propagation Studies

The further expansion of the microcell network will benefit greatly from a statewide propagation study, which would provide the necessary detailed coverage information for all carriers, ensuring that future microcell installations take place in the most appropriate areas. These studies, regularly updated, also have value for emergency response services and communications as envisioned for the FirstNet system of a priority broadband network for first responders, to which CoverageCo is now effectively a partner by providing wireless coverage.

Recommendations for State Support

- Apply the State Budget approved USF funds to reimburse E-911 geolocation charges
- Pursue expedited approval for meterless electricity connections and pole make ready
- Address issues allowing for microcell *Hosted Sites* by institutions and homeowners
- Complete comprehensive propagation studies of 2G, 3G, 4G/LTE, and LMR coverage
- Identify funding sources to accelerate middle-mile deep fiber access in rural areas
- Integrate microcell planning with:
 - Highway Safety and Economic Development Plans
 - Statewide fiber speed community broadband strategies
 - State Health Information Technology Plan to support Telemedicine
 - Education and Environmental monitoring initiatives

State Support For Geolocation Fees

We recognize that a part of the CoverageCo business plan requires addressing arrearages from the operations of VCC's prior pilot activities. For this reason, the pace of microcell expansion will be slower than it would be if revenue were able to be directed solely toward expansion of the microcell network. The funding authorized under the State Budget, H.16 of the 2018 Special Session (Sec. E.233.2) to provide State support for E-911 geolocation fees would thereby accelerate our ability to expand service.

The logic behind public support relative to geolocation fees is based on the fact that the current 911 geolocation fee structure is designed for large-volume tower-based carriers with retail subscribers. There is no question that microcells serve a lower amount of E-911 traffic and therefore should have lower fees. While CoverageCo has negotiated the fees based on the economic reality that the marginal costs for the service are close to zero, having a greater number of microcells actually results in greater revenue for the 911 geolocation service vendor.³

³ The geolocation fees for Vermont were previously included as a no-charge benefit to the state by the State's NG-911 vendor. When the E911 Board switched the operating NG-911 vendor to FairPoint from Intrado/West (which also provides national wireless geolocation services), there was an unanticipated consequence, imposing the roughly \$100K annual geolocation expense on CoverageCo, an extreme negative impact on the viability of the business model.

Business Development

CoverageCo currently has roaming relationships with five national and two regional carriers in the US and three national carriers in Canada. While these relationships yield most of the company's revenue, there are additional revenue opportunities from expanding and negotiating direct roaming agreements with international carriers outside the US. CoverageCo will be engaging with operators in Canada to execute direct roaming agreements that could significantly increase roaming revenues.

CoverageCo believes that a strong partnership ecosystem is key to its success. Partners bring strengths in different areas and CoverageCo benefits from others' resources in cost-effective ways. One such area is network management and operations. CoverageCo is tapping into the deep network management skills of several regional and rural wireless operators to support its efforts. Discussions are in-process to outsource aspects of network management and network monitoring on a 24/7 basis. Partner capabilities will help ensure high-quality service.

In analyzing CoverageCo capabilities, network infrastructure, and customers/users, it appears that there are opportunities to provide services beyond wireless coverage. Two areas in particular are of interest. First, there is rapid growth in smart city solution deployments. Solutions such as smart street lights, traffic lights, traffic monitoring, smart metering, city asset tracking, and utility management applications are all potentially a strong fit for CoverageCo, and discussions are under way with a smart street light provider to bring their solution to Vermont. This offers the potential, via its revenue generation prospects, to further support CoverageCo's sustainability and its ability to extend and improve wireless coverage.

Second, global shipments of connected devices are expected to reach 30 billion units in 2020. Connected devices, commonly referenced as "Internet of Things", vary from sensors used in homes, farms, hospitals, warehouses, and factories, to autonomous vehicles, industrial monitors, and robots. Connected devices require resilient wireless connectivity, and that connectivity is mission-critical. CoverageCo could potentially partner with device manufacturers and solution providers to be a regional connectivity partner relative to millions of devices that are shipped to and transit through Vermont.

These improvements and extensions would complement the efforts of the AT&T hosted FirstNet system by providing coverage in areas otherwise difficult to serve using the traditional tower-based approach.

The fifth generation (5G) of wireless networks is expected to be deployed widely in the next few years. Equipment manufacturers and service providers are now conducting field trials for performance measurement and fine tuning of their pre-commercial devices and products. CoverageCo's wireless network, with its pole-mounted assets, can be an ideal testing ground for such trials. This activity would bring much needed ancillary revenue to CoverageCo as well as support high-tech travel-related businesses and economic development to areas served.

Regulatory Reform

The combination of the public safety imperative and the evolution of technologies surrounding the provision of rural wireless phone service calls for regulatory changes that adapt existing practices and rules to current realities. It seems appropriate for CoverageCo to actively engage relative to these important issues and areas, including as follows:

1. Amendment of Public Utility Commission Rule 3.700, or pursuit of contractual opportunities under the existing Rule, to recognize the minimal consequences and costs, and the major public benefits, associated with the attachment of the microcell equipment needed to effectuate the goal of providing universal rural wireless service.
2. Regulatory reforms or rules as are needed to expedite availability for the leasing of dark fiber at reasonable costs as consistent with statutory policy and as is required to support 4G/LTE wireless services and community broadband.
3. Regulatory recognition of the need for and benefit of the placement of solar panels on utility poles to charge backup batteries to extend microcell functionality during utility grid power outages in order to facilitate the above goals.
4. Electric rate designs that result in rates that recognize the very small incremental costs to utilities associated with the provision of electric service to equipment located on utility poles and to eliminate the requirement for unnecessary and expensive electric meters at every microcell location rather than a calculated “streetlight rate” based on the low power consumption actually incurred.
5. Participation and advocacy in the stakeholder process, and resulting regulatory reform efforts, that will need to ensue upon timely receipt of the December 1st report to be provided by the Commissioner of Public Service to the Senate Committees on Finance and Institutions, and the House Committees on Energy & Technology and Institutions, pursuant to Sec. E.233.2(e) of House Bill 16, which is set to become law on June 30, 2018.⁴

⁴ Excerpt from House Bill 16, 2018 Special Session, Sec. E.233.2 Appropriations Bill as Passed:

On or before December 1, 2018, the Commissioner of Public Service shall submit a report to the Senate Committees on Finance and on Institutions and the House Committees on Energy and Technology and on Corrections and Institutions regarding E-911 compliant microcell service in Vermont. The report shall include findings and recommendations related to:

- (1) the financial viability of operating and maintaining a microcell network in Vermont using existing 2G technology as well as 4G technology;
- (2) whether changes to State regulatory policy are needed to facilitate the availability of wireless E-911 service in Vermont;
- (3) whether the State should subsidize E-911 geolocation service charges incurred by microcell service providers on a permanent basis;
- (4) the costs of completing a statewide propagation coverage analysis and whether such an analysis is needed to inform State policy, planning, and investment with respect to wireless service in Vermont;
- (5) the estimated costs of providing microcell service in Vermont, including rates and charges related to electric, backhaul, and geolocation services, pole rental fees, backup-power requirements, colocation requirements, and any other costs deemed relevant by the Commissioner; and
- (6) any other matters deemed relevant by the Commissioner.