

FUTURE FOCUSED BROADBAND FOR MASSACHUSETTS

Solutions for the Commonwealth's
Internet Connectivity Challenges

OCTOBER 2021

A Concise Overview of Broadband Challenges
with suggestions for Community Action and
Legislative Leadership



OpenCape
100% FIBER

INTRODUCTION

Society and the Commonwealth stand poised to invest once-in-a-lifetime funds to address issues that became evident during the pandemic, exposing significant gaps and shortcomings in our technology infrastructure. Current ARPA funding and pending infrastructure investment will allow us to make substantial strides forward, but it is critically important that we take this opportunity to make the best, most informed decisions on how to utilize these precious resources. Simply maintaining the status quo is not an appropriate response; we must strive to reach beyond what is easy and set the tone for the future!

My name is Steven Johnston, and I am Chief Executive Officer and Executive Director of OpenCape, a 100% fiber-optic network based in Barnstable that services Cape Cod, the Islands, and more than thirty-eight towns in Southeastern Mass. OpenCape is a technology company and an internet service provider, but we are also a not-for-profit organization that was founded in 2009 as part of the Broadband Technology Opportunity Program (BTOP).

We have grown the organization into a strong and sustainable presence in our market and we stand ready to offer unvarnished and specific guidance on how the Commonwealth may best proceed

with regard to building a future-focused internet infrastructure to serve our residents, close the digital divide and drive economic development for the next half-century.

The following pages illustrate how the Legislature might consider options for funding connectivity projects that benefit the entirety of the Commonwealth. These projects and initiatives can help chart the path for technological expansion and development that will ensure that Massachusetts remains a leader in innovation, economic growth, community inclusion and quality of life. We also believe that these actions will allow our business ecosystem to continue to flourish, attract new investment and welcome companies into the Commonwealth.

I hope you find this information useful as you debate and deliberate our broadband future, and I remain available for any questions or discussions about what we have presented here.

Sincerely,

Steve Johnston

CEO OpenCape Corp



OUR VISION

Advocate for choice in internet connectivity in our community to improve the quality of life across our region while working to address the digital divide and ensure access to all who wish it.

Three Major Challenges: Access, Cost and Future-Focused Infrastructure.

OUR MISSION

Provide local, reliable and affordable broadband access through our state-of-the-art 100% Fiber Optic Network.

“As a physician I rely on the Internet more now than ever to connect and treat patients. My internet service slows down dramatically every evening when people get home from work and go online to game or stream. This significantly interferes with me connecting to Cape Cod Hospital to do my evening medical work and follow up with my clients. In healthcare the paradigm has shifted to in person AND REMOTE care...our infrastructure must keep pace. “

—DR. BRUCE, HYANNIS

"I upload a medical device to my physician's portal on a regular basis. This is part of my ongoing and critical healthcare regimen. Regularly I am unable to even connect, when I do the speed and reliability are incredibly poor. Something this simple shouldn't be this hard!"

—MIKE

ACCESS

Over the past ten years some parts of the Commonwealth have seen substantial broadband investment while other regions have been virtually ignored. In OpenCape's service footprint, which covers the Cape, Islands and Southeastern MA, we see significant disparity in the quality of access. On the Outer Cape, for example, reliable access continues to be a significant challenge that directly impacts families, especially those at the lower end of the economic spectrum, and businesses across the Cape, such as downtown Falmouth stores that could not process credit card sales during busy summer months due to their substandard Internet.

We should note that the service availability that is 'claimed' by the self-reporting national providers is unreliable, and in fact, the FCC recently implemented a new reporting system which allows residents to accurately share their true experiences with the availability and quality of broadband services. To a similar end, OpenCape is currently utilizing the CrowdFiber Tool to collect data on real upload/download speeds and latency, as well as asking for input on how connectivity levels affects businesses and families on a daily basis.

Our initial survey responses indicate that struggles with internet connectivity are severely impacting our residents and small businesses.



COST

30% of Massachusetts households with incomes below \$35,000 do not have broadband service subscriptions of any kind, reflecting an affordability gap that our Commonwealth must address.

Falmouth recently completed a fiber-to-the-home (FTTH) feasibility study administrated by industry experts CCG Consulting and Doug Dawson. According to the survey, most residents in Falmouth are buying a bundle of multiple telecommunications services with an average monthly bill of \$183. Most people are unsure of their exact payments due to confusing bills and hidden fees, but it is still one of the highest numbers CCG has ever seen.

As part of OpenCape's ongoing data collection, people in our service footprint are reporting what they're actually paying for service.

A core part of **OpenCape's mission is affordable pricing**. Once we started implementing shared Gigabit Passive Optical Network (GPON) service, our ability to address pricing was greatly enhanced. Currently, we offer GPON service for small businesses at **\$80/month** and a shared Gig residential service for **\$55/month** in our pilot FTTH projects. Realizing that we also need to address income disparity, as we scale residential service we fully anticipate being able to offer a service level in the **\$25/month** range for those who have limited resources.

OPENCAPE ADDRESSED COMMUNITY NEEDS THROUGHOUT THE PANDEMIC:

- Starting in April 2020, OpenCape immediately offered all current clients ANY level of bandwidth on top of their current level at **no cost**, to address extra demand they experienced from remote work and other pandemic-related challenges. We honored this commitment through July 2021.
- We expanded our existing service subsidies for connections to Police, Fire, EMS, Nonprofits and Libraries. In addition to discounted service, we also offered in-kind matching one-time connection costs for organizations.
- During this 16-month period, OpenCape contributed more than \$580,000 toward reducing, eliminating, or discounting costs for all segments of our customer base.



43%

of survey respondents on Cape Cod & The Islands pay more than \$150 per month

65%

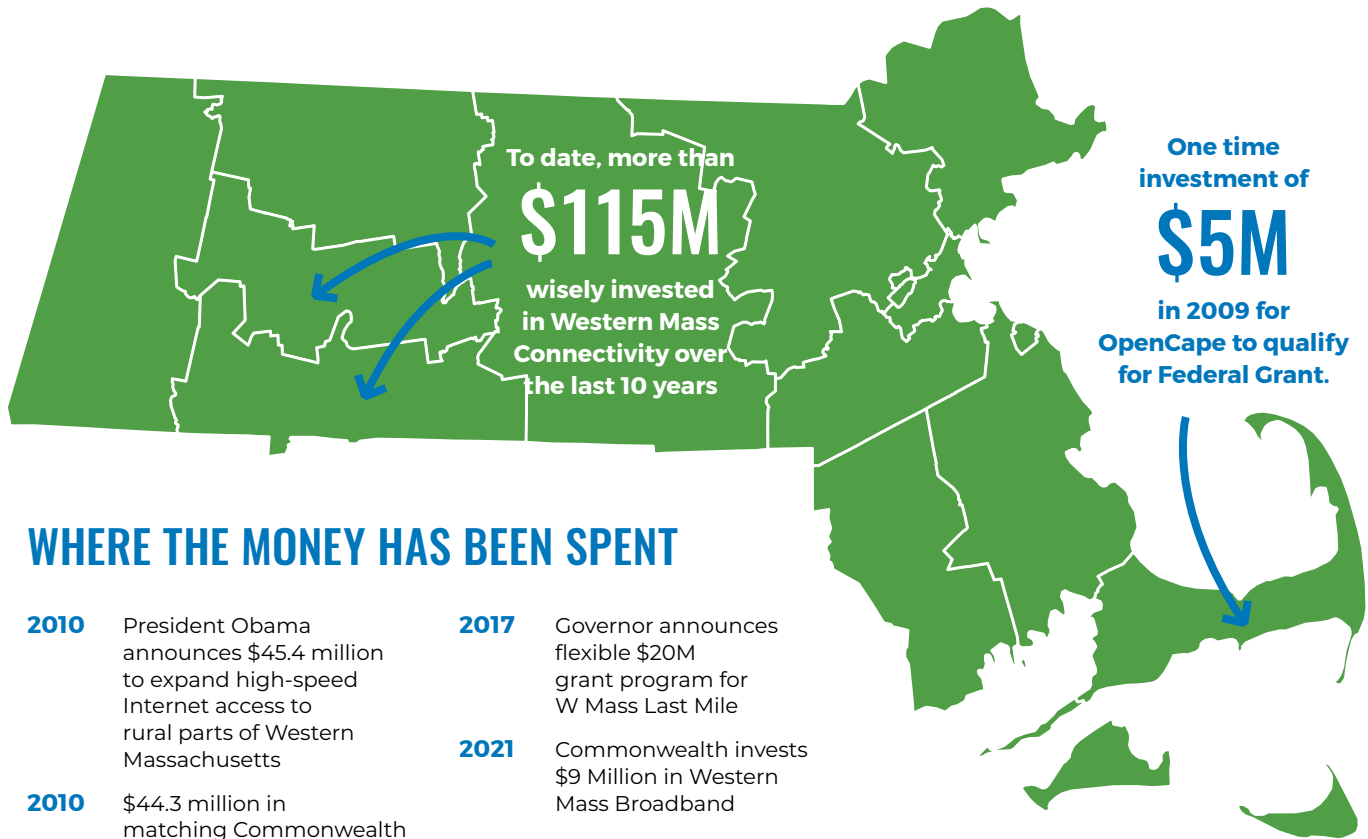
of survey respondents on Cape Cod & The Islands pay more than \$100 per month

81.5%

of survey respondents on Cape Cod & The Islands say they are either Unhappy or Very Unhappy with their current provider



FUTURE FOCUSED INFRASTRUCTURE



WHERE THE MONEY HAS BEEN SPENT

- 2010** President Obama announces \$45.4 million to expand high-speed Internet access to rural parts of Western Massachusetts
- 2010** \$44.3 million in matching Commonwealth funds provided
- 2017** Governor announces flexible \$20M grant program for W Mass Last Mile
- 2021** Commonwealth invests \$9 Million in Western Mass Broadband

Governor Baker has recently proposed spending \$100M on broadband in his initial budget to utilize the \$5.3B in ARPA funds the Commonwealth has received. See the comparison with other states' funding commitments:

OpenCape has instead called for a minimum investment of \$400M, to increase the investment per Massachusetts resident to \$56.90. If the Legislature combined funds allocated through the \$10B Capital Projects Fund alongside Covid relief funds and pending infrastructure dollars, we could address core area of broadband accessibility challenges; including rural towns, Gateway Cities and underserved regions. We suggest that the goal should be to distribute available funds with some semblance of parity across all towns and communities in the Commonwealth.

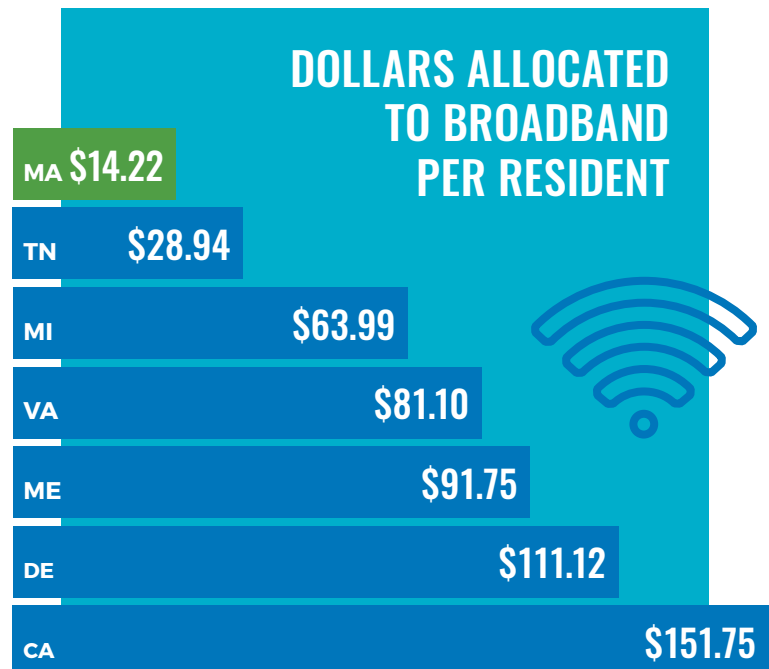
We also want to offer technological guidance to support broadband infrastructure that will not only solve some of today's biggest access and affordability issues, but will also serve future Internet needs. Why invest more \$\$ into obsolete technology?

25mbps download/3 upload thresholds were obsolete a decade ago and should be rejected as milestones for new investment.

Instead, we maintain that Massachusetts must aim for at least **100mbps/100mbps speeds**.

- Today OpenCape delivers a minimum of 250 down/125 up, and can deliver up to 400 Gbps to customers
- Our 550 mile (and growing) network is redundant, reliable & state-of-the-art.

Our communities' demand for bandwidth will only increase with more need for remote work, telemedicine, online education, and public safety communications. **We need to invest in broadband infrastructure that will take us into the future.**



SPECIFIC SOLUTIONS FOR AN UNDERSERVED REGION

OpenCape may be the best investment the Commonwealth has ever made! The original \$5M that Massachusetts invested in OpenCape allowed us to receive \$32M in Federal BTOP Funds as well as to attract an additional \$2M in initial private investment to launch our 100% fiber network. It also provided the Commonwealth 12 strands of fiber on the network.

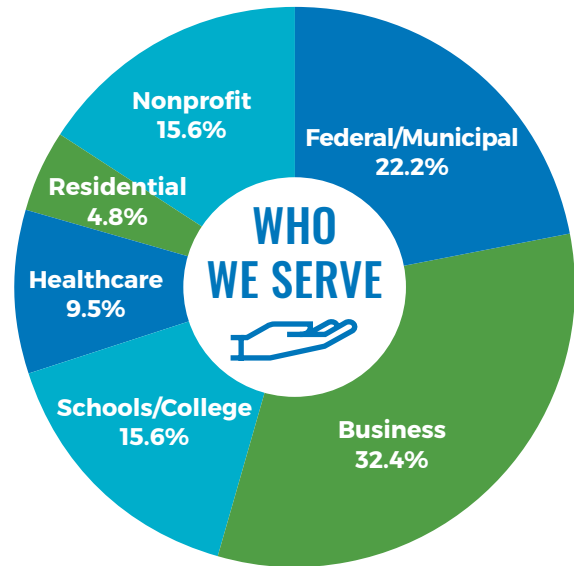
OpenCape built 350 miles of fiber with those funds, and we have grown that to encompass 550 miles, while building a strong and sustainable public asset to serve the Cape, Islands, and 38 towns in Southeastern MA. Our local network is redundant, reliable and state-of-the-art and our presence here is critical as the national incumbent provider struggles to meet the needs of the region.

- Our efficient company size and ongoing not-for-profit commitment to our mission allow us to quickly put dollars to work to serve local communities.
- We receive no ongoing fiscal support from the Commonwealth, and instead work hard to remain fiscally responsible based on customer growth and strategic partnerships.

OpenCape customers are broadly represented by these categories. We connect municipal facilities in all fifteen Cape Cod towns. We service 92.3% of Cape businesses with 200+ employees, while at the same time are actively expanding our Main Street initiatives to support small businesses and local downtown areas.

Our residential deployments are currently limited to new construction MDU (Multi-Dwelling Units), but we can offer dedicated residential service as needed and continue to explore options and opportunities with community-focused housing developers and assistance organizations.

This coverage map depicts OpenCape's service footprint. We connect in Providence and Boston and we use four diverse Tier-One providers to ensure the Network offers maximum redundancy both in terms of providers and path. We are constantly expanding and building new laterals and backbone extensions. We use the Sagamore (288 strands) and Railroad Bridge (864 strands) to cross the Canal, which means when the bridges are replaced, **OpenCape will have the only unmolessted path across the canal.**



We continue to focus efforts on expanding fiber to Martha's Vineyard and Nantucket, with an estimated cost to run fiber from the mainland to the Islands at \$25M.

Our state-of-the-art fiber network is poised to grow significantly, **if we can secure appropriate funding to address community needs.**

SOME OF THE KEY PROJECTS THAT OPENCAPe COULD INITIATE IMMEDIATELY:

- Connect 100 Medical Facilities across Cape, Islands and Southeastern MA
- Expand to unserved/underserved areas (Gateway Cities, Outer Cape)
- Connect additional Cape Cod Main Streets for small business growth
- Build new undersea fiber to Nantucket and Martha's Vineyard
- Expand affordable residential connections in our service footprint
- Connect the most visited beaches on Cape Cod providing Public Safety outcomes
- Expand robust connections to Police, Fire, EMS
- Offer fiber coverage to remaining unconnected schools in our service footprint
- Ensure robust connections for the hospitality industry
- Connect blue economy businesses and scientific research institutions
- Support cultural, educational and social service nonprofits

FACT V. FICTION: TRUTHS ABOUT THE COMMONWEALTH'S CONNECTIVITY

The common narrative we hear from both incumbent providers and the administration is that the Cape and Islands are already "well served" with Internet connectivity.

Unfortunately, the reality is quite the opposite, and "significantly underserved" is a more accurate description for our region.

THE FOLLOWING REAL WORLD EXAMPLES SHOW JUST HOW CHALLENGING OUR CURRENT BROADBAND LANDSCAPE IS:

- OpenCape was asked to connect Main Street businesses in Falmouth that couldn't even get enough connectivity to process credit cards.
- We've been receiving hundreds of speed tests and personal stories about how the price and unreliability of existing internet service are negatively impacting business and quality of life.

- Each summer when the population on the Cape and Islands swells to over one million, the national provider can't meet demand, and residents and visitors experience slowdowns and service interruptions.
- Families with children struggled with lack of connectivity, especially on the Outer Cape, and OpenCape was chosen to partner with MBI to expand publicly accessible Wifi.
- Data shows that the ever-increasing cost for Internet service has become a financial burden for many.
- Residents and businesses have overwhelmingly asked for a choice in Internet service providers in our region. The market is lacking competition, and the customer is paying the price.

We share these examples to help ensure the legislature truly understands the need in our communities here on the Cape and Islands.

NOW IS THE TIME TO INVEST

OpenCape has proved it can build and manage a thriving technology business, and that we are nimble, responsive and innovative. Our successes speak for themselves:



Expanding and upgrading the service we provide to the City of New Bedford & its municipal fiber ring

In 2020, initiated a scholarship program and awarded fifteen

\$1,000 scholarships



Made DDoS mitigation tools available to all customers

Currently connects over

60

schools in Southeastern MA

Expanded network from original 350 miles to

550+ miles

33

libraries connected and subsidized to service in our footprint



Work tirelessly to ensure our services meet the needs of our diverse communities



Subsidized connections and service to arts organizations

In response to COVID we offered ALL customers

100% FREE bandwidth upgrades to any level for 16 months



Feel free to reach out directly if you have questions or need additional information

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