

## The Broadband Access for Rural Students (BARS) Policy Plan Analysis

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#### POLICY BRIEF

As a result of the COVID-19 pandemic, inequity in access to internet services, particularly in rural communities, has been brought to the foreground. According to Broadband Now, an internet service aggregator and research organization, over 697,000 Virginians do not have access to a wired internet connection of at least 25 Mbps, while 306,000 Virginians live without any wired service at all.<sup>1</sup> This incredible inequity has halted the education of children throughout the Commonwealth of Virginia.

Broadband is defined by the FCC as internet with a minimum of 25 Mbps download and 3 Mbps upload speeds.<sup>2</sup> According to a 2016 study, 5 million students in the United States do not have access to adequate internet service. In addition, one third of kindergarten through 12th grade students, many of whom from low-income families or rural areas, are unable to go online from home. By contrast, according to the same study, seven in ten teachers assign homework that requires access to the internet.<sup>3</sup> According to another study, kids without reliable access to the internet are less likely to further their education independently online. In addition, of students surveyed who *did* have access to household internet, 20% said that their internet service had been turned off within the last year, due to a failure to make scheduled payments.<sup>4</sup>

Access to the internet for educational purposes has been shown to have an extraordinary impact on students' development and success in the classroom. According to one study, 92% of

<sup>&</sup>lt;sup>1</sup> Internet Access in Virginia: Stats & Figures. (2020). Retrieved 5 June 2020, from https://broadbandnow.com/Virginia

<sup>&</sup>lt;sup>2</sup> What is Broadband - Definition, Meaning & Explanation. (2020). Retrieved 19 July 2020, from https://www.verizon.com/info/definitions/broadband/

<sup>&</sup>lt;sup>3</sup> Bridging a Digital Divide That Leaves Schoolchildren Behind. (February 22, 2020). Retrieved 5 June 2020, from https://www.nytimes.com/2016/02/23/technology/fcc-internet-access-school.html?\_r=0

<sup>&</sup>lt;sup>4</sup> What's Lost When Kids Are 'Under-connected' to the Internet? | KQED. (2020). Retrieved 5 June 2020, from https://www.kqed.org/mindshift/43601/whats-lost-when-kids-are-under-connected-to-the-internet

teachers said that the internet had a "major impact on their ability to access content, resources, and materials."<sup>5</sup> Internet use can help build students' communication skills, critical thinking skills, and can encourage cross-cultural understanding. And, for economically disadvantaged students, classrooms can be their own place to access the internet.<sup>6</sup>

However, Virginia has several laws that stand in the way of municipal broadband service in rural counties and school districts. According to Broadband Now, VA Code § 56-265.4:4, § 56-484.7:1, § 15.2-2108.6, and § 15.2-2403 creates funding, competition, and bureaucratic barriers to municipal broadband.<sup>7</sup> In 2019, Governor Ralph Northam signed into law a bill allowing municipalities to contract internet providers to build networks reaching communities without service. However, the law only applies to communities where fewer than 10% of residents have service (see Appendix). This inequity will persist until laws preventing county governments and school districts from providing service are reversed.<sup>8</sup> Furthermore, providing tax incentives for internet providers that build out infrastructure in rural school districts will motivate providers to develop telecom infrastructure that can be used both in schools and at home. The tax incentives will be connected to the percent of people in a rural community served, capped at a particular percentage, require an annual report to be made by the ISP, and have a sunset date of 5 years.

access, but Virginia laws are getting in the way. The Washington Post.

<sup>&</sup>lt;sup>5</sup> Purcell, K., Buchanan, J., & Friedrich, L. (2020, May 30). How Teachers Are Using Technology at Home and in Their Classrooms. Retrieved July 26, 2020, from

https://www.pewresearch.org/internet/2013/02/28/how-teachers-are-using-technology-at-home-and-in-their-classrooms/

<sup>&</sup>lt;sup>6</sup> Edutopia. Why Do We Need Technology Integration?. (November 5, 2007). Retrieved 5 June 2020, from https://www.edutopia.org/technology-integration-guide-importance

<sup>&</sup>lt;sup>7</sup>Chamberlain, K. (2020). Municipal Broadband Is Roadblocked Or Outlawed In 22 States - Broadband Now. Retrieved 26 June 2020, from https://broadbandnow.com/report/municipal-broadband-roadblocks/ <sup>8</sup> Natanson, H. (2020, May 26). Schools are some families' best hope for Internet

https://www.washingtonpost.com/local/education/schools-are-some-families-best-hope-for-internet-access-but-virgi nia-laws-are-getting-in-the-way/2020/05/22/520cc46c-95f3-11ea-82b4-c8db161ff6e5 story.html

#### PRELIMINARY REPORT

#### What is the problem that you're trying to fix?

Lack of internet access in rural communities poses a unique challenge for students using technology to access and complete their academic work. According to the Office of Management and Budget (OMB), rural is defined as "nonmetropolitan counties consist[ing] of some combinations of open countryside, rural towns (places with fewer than 2,500 people), and urban areas with populations ranging from 2,500 to 49,999." There are two types of nonmetropolitan (rural) counties that can be split into two further categories: micropolitan and noncore counties. Micropolitian counties have at least one urban cluster of at least 10,000 but less than 50,000 people. Noncore counties do not have an urban core population of 10,000 or more. Noncore counties are considered the most rural of this designation.<sup>9</sup> During 2019, an estimated 1,034,447 out of the 8,535,519 people living in Virginia were living in rural communities. <sup>10</sup> A 2015 survey released by the American Community Survey looked at five years of the U.S. Census Bureau's estimation on housing and poverty and how that relates to the urban and rural divide. It indicated that of more than 3,100 counties present in the United States, 704 were completely rural.<sup>11</sup>

Internet service in many rural areas is generally not as efficient as service provided in urban areas. For instance, according to the United States Department of Agriculture Report (USDA), 29% of U.S. farms have no access to the internet." In addition, the Federal

<sup>&</sup>lt;sup>9</sup> *Defining rural.* (n.d.). Research and Training Center on Disability in Rural Communities. Retrieved June 28, 2020, from http://rtc.ruralinstitute.umt.edu/resources/defining-rural/#omb

<sup>&</sup>lt;sup>10</sup> *Virginia*. (n.d.). Rural Health Information Hub. Retrieved June 28, 2020, from https://www.ruralhealthinfo.org/states/virginia

<sup>&</sup>lt;sup>11</sup> Hambrick, G. (2016, December 8). *Urban vs. rural: Counties ranked in northern virginia*. Patch. Retrieved June 28, 2020, from https://patch.com/virginia/fredericksburg/urban-vs-rural-counties-ranked-northern-virginia

Communications Commission has reported that "39% of rural Americans lack access to 25 Mbps/3 Mbps service, compared to only 4% of urban Americans."<sup>12</sup> Experiencing 25 Mbps/3 Mbps service is crucial as it provides reliable and efficient broadband access to use the internet. Current and future generations of rural Americans will be left behind if they are without affordable high-speed broadband service that enables them to tap into educational services. Therefore, having the ability to utilize technology with an efficient broadband system has revealed countless benefits for a student's learning environment.

Although traditional paper-and-pencil methods are still needed in the classroom, technology is becoming a prominent medium in education and provides and introduces new methods of learning and tools that can help students learn more efficiently.<sup>13</sup> However, without proper internet access, this poses a barrier for students to access technology, especially when inadequate broadband access is present in rural communities. Moreover, according to research conducted by the *TrustRadius Team*, teachers utilize technology to discover resources and go to virtual expert improvement courses and conferences.<sup>14</sup> Due to the lack of internet access available in rural Virginia, it is necessary to change laws that restrict broadband access and to provide tax incentives to build out infrastructure in rural school districts and counties.

#### What is the solution proposed?

<sup>&</sup>lt;sup>12</sup> *Rural broadband*. (n.d.). American Farm Bureau Federation. Retrieved June 28, 2020, from https://www.fb.org/issues/infrastructure/broadband/

<sup>&</sup>lt;sup>13</sup> *The growing importance of technology in education*. (n.d.). University of the People. Retrieved June 28, 2020, from https://www.uopeople.edu/blog/the-growing-importance-of-technology-in-education/

<sup>&</sup>lt;sup>14</sup> Khan, T. (2019, March 28). How Technology Can (and Does) Improve Education. TrustRadius. Retrieved June 28, 2020, from https://www.trustradius.com/buyer-blog/how-technology-improves-education

First, the solution proposed is the amendment or abolition of § 56-265.4:4; § 56-484.7:1; § 15.2-2108.6; § 15.2-2403 of the Virginia Code to eliminate barriers for localities to provide low cost internet to their residents. The restrictions currently in place erase competition for public entity pricing and impose unrealistic financial obligations on localities, making private companies the only feasible option for those seeking access.<sup>15</sup>

Second, due to low population density in rural communities, costly infrastructure that only serves few residents causes private companies to be less inclined to invest in non-urban areas. Therefore, residents of rural areas lag behind in their access to broadband internet services. A tax incentive will be awarded to companies that take on the financial risk of broadband access projects. Because rural communities are often underserved due to few residents paying back the return on a large infrastructure investment, financial incentives shall be offered to those contributing to the public good for equitable internet access.

#### Why was this specific issue chosen?

As a result of the COVID-19 pandemic, inequity in access to internet services, particularly in rural communities, has been brought to the foreground. According to Broadband Now, nearly 20% of Virginias do not have access to terrestrial broadband coverage In addition, only 51.3% of Virginians have access to wired low-price broadband plans, defined by Broadband Now as "plans with prices less than or equal to the 20th percentile of all qualifying broadband plan prices within a given technology."<sup>16</sup> This widespread lack of reliable internet service has

<sup>&</sup>lt;sup>15</sup> Chamberlain, K. (2020, May 13). Municipal Broadband Is Roadblocked Or Outlawed In 22 States. BroadbandNow. Retrieved June, 2020, from

https://broadbandnow.com/report/municipal-broadband-roadblocks/

<sup>&</sup>lt;sup>16</sup> Broadband Now. (2020, February 6). Internet Access in Virginia. BroadbandNow. Retrieved June, 2020, from https://broadbandnow.com/Virginia

impeded the education of many children throughout the Commonwealth of Virginia, particularly during the COVID-19 pandemic.

This leaves students without internet access in Virginia, particularly in rural areas, behind their classmates. This topic was chosen to address that inequity, ensuring that all students in Virginia have reliable access to the internet, allowing them to continue their education during incidents such as the COVID-19 pandemic and take advantage of myriad benefits that online resources can provide.

#### What were the broad questions that guided research into this issue?

Questions that guided this research include: What is preventing rural communities from accessing broadband?; How have other states responded to the lack of internet access in rural areas?; How has Virginia responded to the lack of broadband access?; How is Virginia's response to internet access different or similar to how other states have responded?; How can we address the issue of the lack of internet access?; How have Virginia schools responded to COVID-19 and what have they done to address barriers to distance learning in terms of technology?; What have Virginia schools done to help students who do not have internet access and how have the students continued their education during distance learning?; Have previous responses successfully addressed the lack of broadband access in rural Virginia and what have they accomplished to mitigate the issue? As a result of these questions pertaining to the lack of the internet access, it is necessary to conduct research and implement a policy that focuses on aiding the lack of broadband access in rural communities.

#### What is the relevance of the issues to Virginia and its citizens?

The insufficient internet access has had widespread and detrimental effects on Virginia's economy, political system, health care system, and school systems. As a result, with the lack of access present in rural communities, it presents consequences on Virginia school systems, and thus poses a challenge to a student's academic success. Without proper access to broadband, it hinders the ability to use technology for education. Rural counties make up a majority of Virginia as 704 of the total 3,100 counties in the U.S. are rural. Various rural counties in Virginia include Spotsylvania County (32.2% rural), Stafford County (19.8% rural), Loudoun County (12.6% rural), Prince William County (4.2% rural) and Fairfax County (1.4% rural). Rural internet access has countless problems as coverage is spotty, access is scarce, and speeds are abysmal. In addition, BLiNQ Networks, a pioneer manufacturer that creates broadband solutions, has emphasized that "relief on data caps and overage fees is denied to rural customers because they use LTE sticks and mobile hotspots, one of the very few options available to them.<sup>17</sup> Data caps, also known as bandwidth caps, is the maximum amount of data allotted in a monthly internet plan.<sup>18</sup> Without relief on data caps, they present challenges to rural communities as it results in lower rates of access to online materials, making it more difficult for students to use technology for educational purposes.<sup>19</sup> Additionally, overage charge is also denied, producing barriers for students who need extra data to access the internet. Available rural internet options are more

<sup>&</sup>lt;sup>17</sup> BLiNQ. *Why is rural internet so bad*? (n.d.). BLiNQ Networks. Retrieved June 28, 2020, from https://blinqnetworks.com/wireless-matters/why-is-rural-internet-so-bad/<u>/</u>

<sup>&</sup>lt;sup>18</sup> Schafer, D., & Holslin, P. (2019, May 19). *Which internet service providers have data caps?* (C. Haynes, Ed.). High Speed Internet. Retrieved June 28, 2020, from

https://www.highspeedinternet.com/resources/which-internet-service-providers-have-data-caps

<sup>&</sup>lt;sup>19</sup> Rouse, M. (2016, June). Data Cap. TechTarget. Retrieved June, 2020, from

https://whatis.techtarget.com/definition/data-cap-broadband-cap

expensive and slower than services offered to urban and suburban customers.<sup>20</sup> In 2013, Virginia had 1,265,419 students enrolled in a total of 2,182 schools in 227 school districts.<sup>21</sup> Students make up a vast population in Virginia<sup>22</sup> and many live in rural areas where broadband access is inaccessible, therefore hindering their academic performance and resources. Internet access is becoming a necessary and vital component of education as teachers shift to using technology more and insufficient broadband access in rural Virginia poses a challenge for all students. As inadequate broadband access continues to be a pressing issue in Virginia, students will likely suffer and fall back from their school assignments. With COVID-19 at hand, lawmakers, school staffers and advocates in Virginia are increasingly demanding for change as they want to revise or repeal the laws. As a result, it is necessary to amend or adjust laws that are restricting broadband access and provide tax incentives for internet providers to construct infrastructure in rural areas to help students and better aid their educational settings.

#### Why is this an issue that requires governmental response?

This policy suggests the amendment or abolition of four sections of Virginia Code and the creation of tax incentive programs, both of which can only be accomplished by the Virginia

https://p1pe.doe.virginia.gov/apex/f?p=180:1:1341019526482:::::

<sup>&</sup>lt;sup>20</sup> BLiNQ. (2020, March). Why is Rural Internet So Bad? BLiNQ. Retrieved June, 2020, from https://blinqnetworks.com/wireless-matters/ why-is-rural-internet-so-bad/

<sup>&</sup>lt;sup>21</sup> Ballotpedia. (2018). *Public education in Virginia*. Ballotpedia. Retrieved June, 2020, from https://ballotpedia.org/Public\_education\_in\_Virginia

<sup>&</sup>lt;sup>22</sup> [Student enrollment in Virginia data]. (n.d.). Virginia Department of Education. Retrieved June 28, 2020, from

government. Governmental action is requisite to the removal of barriers to municipal broadband for educational purposes and the funding of needed tax incentives that encourage private companies to expand broadband networks into rural areas. In addition, the Virginia government has a vested interest in the expansion of broadband networks; by passing the included resolution (see Appendix), the Virginia legislature will reemphasize its commitment to equitable internet access across the commonwealth. As a result, this is an issue that necessitates government intervention, response, and leadership.

# What are the arguments for the creation of the programmatic or policy response to issues that will be proposed?

Currently, Virginia broadband laws are among the strictest in the nation and prevent public entities from serving as internet providers and distributors.<sup>23</sup> Loosening these restrictions that leave rural families without internet access will allow more teachers to access educational materials and resources,<sup>24</sup> allow students to benefit from online integration in the classroom, and will make broadband access more equitable.<sup>25</sup>

In Virginia, demand for internet is high, especially now that the COVID-19 pandemic has moved schooling online for the near future. However, counties and school districts have few resources when trying to provide their residents with municipal broadband, a service that is now

 $https://www.washingtonpost.com/local/education/schools-are-some-families-best-hope-for-internet-access-but-virginia-laws-are-getting-in-the-way/2020/05/22/520cc46c-95f3-11ea-82b4-c8db161ff6e5\_story.html$ 

<sup>&</sup>lt;sup>23</sup> Natanson, H. (2020, May 26). Schools are some families' best hope for Internet access, but Virginia laws are getting in the way. The Washington Post.

<sup>&</sup>lt;sup>24</sup> Purcell, K., Buchanan, J., & Friedrich, L. (2020, May 30). How Teachers Are Using Technology at Home and in Their Classrooms. Retrieved July 26, 2020, from

https://www.pewresearch.org/internet/2013/02/28/how-teachers-are-using-technology-at-home-and-in-their-classrooms/

<sup>&</sup>lt;sup>25</sup> Floberg, D. (2018, December). The Racial Digital Divide Persists. Free Press. Retrieved June, 2020, from

https://www.freepress.net/our-response/expert-analysis/insights-opinions/racial-digital-divide-persists

essential. First, § 56-484.7:1 of the Virginia Code states that localities "shall not be set at a price for the service lower than the prices charged by any incumbent provider." If current rates are not affordable for residents, neither will a public option. This essentially eliminates any possibility of a public entity creating an affordable option for the good of the people. Revising certain sections of the Virginia Code is an incredibly impactful first step, which will give power back to localities, allowing them to provide internet service to residents who can't afford or access it.

Second, rural areas lag even farther behind urban areas. In the US, 39% of rural residents lack access to broadband (25 Mbps/3 Mbps speed internet) compared to urban areas where only 4% lack the same service<sup>26</sup>. Much of this can be attributed to the incredibly expensive undertaking of installing broadband infrastructure. Private companies must take on large investments to lay down fiber optic networks that often do not end up serving the amount of people a similar investment would in an urban area.<sup>27</sup> Because of a lack of financial incentives for private companies to take on large investments for lower and slower returns, rural areas are left with inadequate service for 21st century demands. To reward companies that are willing to take on the financial burden of expanding their service, tax incentives should be offered to private companies to push for equitable access. The Commonwealth of Virginia has a large role to play to ensure that rural communities don't get left behind in jobs or education.

#### What is the basic form of your policy response?

<sup>&</sup>lt;sup>26</sup> FCC. (2016, January 29). 2016 Broadband Progress Report. Federal Communications Commission. Retrieved June, 2020, from https://www.fcc.gov/reports-research/ reports/broadband-progress-reports/2016-broadband-progress-report

<sup>&</sup>lt;sup>27</sup> BLiNQ. (2020, March). Why is Rural Internet So Bad? BLiNQ. Retrieved June, 2020, from https://blinqnetworks.com/wireless-matters/why-is-rural-internet-so-bad/

First, revising § 56-484.7:1 to make a public option competitive with the for-profit providers. Loosening restrictions on § 15.2-2108.6 making feasibility studies not produce outrageous results, unlikely for a public or for-profit provider, for the municipality to commence with service. Break down bureaucratic barriers as laid out in § 15.2-2403 to allow any municipality with high demand for internet and the infrastructure to cater to that demand wield power to do so.

Second, the addition of tax incentives specifically for ISPs that build into rural areas will be codified. Under this policy, the government of Virginia will offer tax breaks for companies who choose to expand into counties with "wide-spread internet deficiency," defined as counties where a certain percentage of households have access to the internet. The telecom company tax will be waived until those counties surpass that threshold. This will encourage companies to build out broadband infrastructure in areas that might otherwise not be profitable.

#### What ongoing questions do you have?

As new innovation comes along that changes the demand and type of service (5G, AI, etc.), how can access to these technological advances be rolled out to all Virgnians and what role will public entities play in that advancement? What are other broad technology based inequities among rural students? How effectively can advocacy work on this project if Verizon alone has

contributed \$2.4 million<sup>28</sup> to elected officials in Virginia in the past 10 years How is Verizon working to make sure they have no competition?

<sup>&</sup>lt;sup>28</sup> The Virginia Public Access Project. (2019). Verizon Donor Contributions. VPAP. Retrieved June, 2020, from https://www.vpap.org/donors/149095-verizon/ ?start\_year=2010&end\_year=2020

#### POLICY PROPOSAL AND ANALYSIS

#### What is the programmatic or policy response to the problem that was chosen?

The policy response includes reversing long-standing Virginia laws that provide barriers to municipal broadband and providing tax incentives for internet providers that build infrastructure in rural school districts.

Virginia is one of 22 states that have laws restricting municipal broadband, and is one of those states with the most severe restrictions. According to Broadband Now, there are 4 parts of Virginia code that make broadband less accessible and affordable by creating funding, competition, and bureaucratic barriers. Under these laws, municipalities cannot subsidize services or charge lower rates than incumbents for a similar service. Municipalities are further restricted because they must include phantom costs in their rates and comply with requirements that private companies don't face. Modifying these parts of the code will likely result in lower internet prices which will make the internet more accessible to rural Virginian students. They will also allow municipalities to create the infrastructure and services necessary to service rural Virginian school districts.<sup>29</sup>

In more than 750 communities, local governments have invested in wired telecommunications networks, providing quality internet to those who are underserved by the market.<sup>30</sup> The pandemic exposed the ways in which Virginia's municipal broadband laws prevent schools from giving internet access to their students. Arlington County, for example, spent \$4.1

<sup>&</sup>lt;sup>29</sup>Chamberlain, K. (2020). Municipal Broadband Is Roadblocked Or Outlawed In 22 States - Broadband Now. Retrieved 23 June 2020, from https://broadbandnow.com/report/municipal-broadband-roadblocks/

<sup>&</sup>lt;sup>30</sup>Brodkin, J. (2018). ISPs say they can't expand broadband unless gov't gives them more money. Retrieved 23 June 2020, from

https://arstechnica.com/tech-policy/2018/08/isps-want-to-be-utilities-but-only-to-get-more-money-from-the-govern ment/

million dollars in 2015 to install a fibre-optic network which reached low-income students that lacked broadband. However, Virginia's restrictive municipal broadband laws meant that individual consumers, including students and their families, couldn't connect to the network. Even with solutions like MiFis and parking lot wifi networks, Arlington was still unable to connect to 5% of students.<sup>31</sup> Modifying these restrictive laws, like many states around the country have in recent years, will be a significant step in allowing counties to reach their disconnected students.

The other part of this policy response is providing greater tax incentives for internet providers that build out infrastructure in rural school districts. This incentive will be accompanied by a sunset date, an annual report made by the Internet Service Provider (ISP), and a cap at a calculated percentage. One of the main reasons that ISPs do not expand to rural areas is low population density, which makes creating the appropriate infrastructure in the area unprofitable.<sup>32</sup> Tax incentives, which would have to be carefully calculated by experts in both taxes and telecommunications, would make expanding into rural areas more profitable and motivate internet providers to expand into school districts that are in rural counties. The tax incentive will be issued in relation to the percentage of households in a community served. According to USTelecom CEO Jonathan Spalter and NTCA CEO Shirley Bloomfield, "private-led investment model" only works well in "reasonably populous areas." In rural parts of

<sup>&</sup>lt;sup>31</sup> Natanson, H. (2020, May 26). Schools are some families' best hope for Internet access, but Virginia laws are getting in the way. Retrieved July 22, 2020, from

 $https://www.washingtonpost.com/local/education/schools-are-some-families-best-hope-for-internet-access-but-virginia-laws-are-getting-in-the-way/2020/05/22/520cc46c-95f3-11ea-82b4-c8db161ff6e5\_story.html$ 

<sup>&</sup>lt;sup>32</sup> Brodkin, J. (2018). ISPs say they can't expand broadband unless gov't gives them more money. Retrieved 23 June 2020, from

https://arstechnica.com/tech-policy/2018/08/isps-want-to-be-utilities-but-only-to-get-more-money-from-the-govern ment/

America, "the private sector can't go it alone."<sup>33</sup> Cooperation between counties and internet providers will help provide rural counties with access to the internet, that the market alone cannot achieve. However, these tax incentives should only be used in places where allowing municipal broadband cannot effectively serve the needs of rural students. Even though tax incentives can be helpful at times, they often come out of American taxpayer pockets, while municipal broadband frequently doesn't.<sup>34</sup> Furthermore, the sunset date and the required yearly report will serve as a means to hold ISPs accountable, since in some cases they do not perform the service they were asked to provide, or do so poorly.<sup>35</sup>

# Outline the process your policy proposal will take once implemented. Explain any systems that will be in place, administrative changes, agency authority changes, etc.

VA Code § 56-265.4:4, § 56-484.7:1, § 15.2-2108.6, and *§ 15.2-2403*, which, according to Broadband Now, create unnecessary barriers that inflate broadband prices, will be repealed or modified to exclude the regulations on municipal broadband.<sup>36</sup> Under this policy, municipal broadband systems will be allowed for educational purposes only, except in the communities where fewer than 10% of residents have access to internet with speeds of greater than 25 Mbps and where county governments and school districts can distribute broadband for any purpose. In addition, a county with widespread internet deficiency will be defined as a community where a certain percentage of households have access to internet with speeds of at least than 25 Mbps.

<sup>33</sup>ibid

<sup>&</sup>lt;sup>34</sup>Craig, C. (2020). Only in the USA: ISPs get tax dollars to build weak broadband. Retrieved 23 June 2020, from https://www.infoworld.com/article/3189828/only-in-the-usa-isps-get-tax-dollars-to-build-weak-broadband.html <sup>35</sup>ibid

<sup>&</sup>lt;sup>36</sup> Chamberlain, K. (2020). Municipal Broadband Is Roadblocked Or Outlawed In 22 States - Broadband Now. Retrieved 23 June 2020, from https://broadbandnow.com/report/municipal-broadband-roadblocks/

This will lead to the creation of agencies on the local level that are tasked with building broadband infrastructure. Each municipality will need its own agency to deal with the unique socio-economics, geography, population density, commercial tax base, community vision, and economic development level of that particular municipality. Furthermore, municipalities should then use revenue bonds and internal loans to fund the broadband projects. In some cases, municipalities can redirect money that was going to lease connections from an existing provider into creating their own broadband networks.<sup>37</sup> Municipalities can also look into creative means of funding, such as local improvement districts, local utility districts, and community development block grants.<sup>38</sup> Furthermore, in addition to the existing tax incentives for ISPs,<sup>39</sup> additional ones specifically for ISPs that build into rural areas will have to be codified. Under this policy, the government of Virginia will offer tax breaks for companies who choose to expand into counties with "wide-spread internet deficiency." The telecom company tax will be waived until those counties reach a determined threshold.

#### Why is this something that should be addressed at the state level?

This should be addressed at the state level because state-wide regulations are standing in the way of affordable broadband access for all Virginians, including its students. The four parts of the code that create funding, competition, and bureaucratic barriers must be removed at the state-wide level. VA Code § 56-265.4:4 is "Certificate to Operate as a Telephone Utility", which

<sup>&</sup>lt;sup>37</sup> Institute for Local Self-Reliance. (2020). Retrieved 23 June 2020, from

https://ilsr.org/wp-content/uploads/2014/01/financing-munis-fact-sheet.pdf

<sup>&</sup>lt;sup>38</sup> Institute for Local Self-Reliance. (2020). Retrieved 23 June 2020, from

https://ilsr.org/wp-content/uploads/2019/01/fact-sheet-creative-funding.pdf

<sup>&</sup>lt;sup>39</sup> Virginia Tax. (2020). Retrieved 23 June 2020, from https://www.tax.virginia.gov/laws-rules-decisions/rulings-tax -commissioner/13-179

outlines the restrictions and regulations that a municipality must follow when attempting to provide broadband itself or provide certificates to other telecommunications companies.<sup>40</sup> VA Code § 56-484.7:1, "Offering of communications services", deals with pricing, acquiring infrastructure, and the petition process.<sup>41</sup> VA Code § 15.2-2108.6, "Feasibility study on providing cable television services", dictates what municipalities must ask a feasibility consultant to measure before they are permitted to provide cable television services.<sup>42</sup> Finally, VA Code § 15.2-2403, "Powers of service districts", dictates the powers that governing bodies have over service districts, including broadband service districts. This is also the law that allows independent providers to build broadband networks to service communities in need, and defines communities in need as areas where fewer than 10% of residents have access to broadband.<sup>43</sup> In conjunction with experts from organizations like Broadband Now, these laws should be repealed or re-written, depending on the circumstance. As long as these parts of the code remain, bringing broadband access to rural Virginian students will remain a struggle. This change must occur on the state level, since it is state code that is serving as a barrier.

Furthermore, tax incentives for ISPs that build out broadband infrastructure in rural school districts must be devised at the state level, since counties and municipalities do not have the power to levy taxes against ISPs.<sup>44</sup> Since these taxes are state-wide, the modifications to the tax code must be state-wise as well.

<sup>&</sup>lt;sup>40</sup> Code of Virginia. § 56-265.4:4. Certificate to operate as a telephone utility . (2020). Retrieved 23 June 2020, from https://law.lis.virginia.gov/vacode/56-265.4:4/

<sup>&</sup>lt;sup>41</sup> Code of Virginia. § 56-484.7:1. Offering of communications services . (2020). Retrieved 23 June 2020, from https://law.lis.virginia.gov/vacode/title56/chapter15/section56-484.7:1/

<sup>&</sup>lt;sup>42</sup> Code of Virginia. § 15.2-2108.6. Feasibility study on providing cable television services . (2020). Retrieved 23 June 2020, from https://law.lis.virginia.gov/vacode/title15.2/chapter21/section15.2-2108.6/

<sup>&</sup>lt;sup>43</sup>Code of Virginia. § 15.2-2403. Powers of service districts . (2020). Retrieved 23 June 2020, from https://law.lis.virginia.gov/vacode/15.2-2403/

<sup>&</sup>lt;sup>44</sup> Division of Legislative Services. (2020). Retrieved 23 June 2020, from http://dls.virginia.gov/groups/taxcode/citcou.pdf

In order to create equitable internet access for Virginia's students, the needs of each county must be addressed, rather than continuing the current system of individual counties struggling to bring their students internet in the face of restrictive laws and disinterest on the part of major internet providers to build broadband infrastructure in rural counties. Approaching this issue solely at a local level will result in even further inequity, and the effect of any actions taken at the local level will be mitigated by parts of the Virginia code that remain in existence. While each municipality will need to use a personalized plan for funding their programs, building the infrastructure, and reaching their students, they cannot do so until parts of Virginia code are modified or repealed altogether. Therefore, it is vital that this issue is addressed at the state level.

#### Are there alternative responses that should be taken into account?

An alternative response would be letting rural counties use traditional educational tools while urban and suburban areas continue using broadband internet and the accompanying technologies to educate students. However, this will exacerbate the existing urban/rural divide in American education. As it stands, rural communities already face educational barriers such as shortages in the number of teachers, along with long commutes to school, which can create disparities between rural and urban educational outcomes.<sup>45</sup> Allowing urban students greater access to broadband can result in greater disparities, since a lack of internet at home poses a problem for many students. This results in increased barriers, such as the inability to connect with teachers and classmates, find online help, and sometimes missed information. Furthermore,

<sup>&</sup>lt;sup>45</sup> Lister, J. (2018, June 27). There's A Growing Educational Gap Between Rural And Urban Areas, Connectivity Could Help Solve It. HundrED. Retrieved June, 2020, from

https://hundred.org/en/articles/there-s-a-growing-educational-gap-between-rural-and-urban-areas-connectivity-could -help-solve-it

broadband access, when properly used, can be a powerful educational tool that increases the quality of education by providing access to online learning, collaboration, and research tools.<sup>46</sup> About 70% of teachers assign homework that requires the internet, and about 65% of students use the internet to complete homework.<sup>47</sup> This gap is not merely an issue of income but an issue of geography; while the broadband gap between urban and rural areas has been narrowing, it remains significant. 18% of 5 to 17 year olds in rural districts have no broadband access, while the numbers are only 13% for urban areas and 7% for suburban areas.<sup>48</sup> Thus, simply allowing rural areas to rely on non-broadband educational tools will exacerbate an educational gap between rural and urban areas, while allowing rural areas to use broadband without making it accessible to all students will create disadvantaged students within these districts.

Another response would be to declare broadband a public utility. However, much debate remains among experts on whether this would be an effective policy. Proponents argue that broadband is a natural monopoly, since 61% of U.S. households have either one or zero choices for high-speed broadband providers in their area.<sup>49</sup> They state that broadband is a necessary service to participate in modern life, and point to problems in existing infrastructure, chaos in funding, and the benefits that utility regulations would provide to consumers.<sup>50</sup> Opponents argue

https://www.theedadvocate.org/the-absence-of-internet-at-home-is-a-problem-for-some-students/

Pacific Standard. Retrieved June, 2020, from

<sup>&</sup>lt;sup>46</sup> Berdik, C. (2018). Rural Kids Face an Internet 'Homework Gap.' The FCC Could Help. Retrieved 23 June 2020, from https://www.wired.com/story/rural-kids-internet-homework-gap-fcc-could-help/

<sup>&</sup>lt;sup>47</sup> The Ed Advocate. (2017). The Absence of Internet at Home is a Problem for Some Students - The Edvocate. Retrieved 23 June 2020, from

<sup>&</sup>lt;sup>48</sup> Berdik, C. (2018). Rural Kids Face an Internet 'Homework Gap.' The FCC Could Help. Retrieved 23 June 2020, from https://www.wired.com/story/rural-kids-internet-homework-gap-fcc-could-help/

<sup>&</sup>lt;sup>49</sup> Paulas, R. (2018, January 17). Why American Internet Should be Public Utility.

https://psmag.com/news/why-american-internet-should-be-a-public-utility

<sup>&</sup>lt;sup>50</sup> Andriole, S. (2020, March 30). It's Time For An Internet-For-All Public Utility (Before Corona Crashes It). Forbes.

https://www.forbes.com/sites/steveandriole/2020/03/30/its-time-for-an-internet-for-all-public-utility-before-corona-c rashes-it/#4ace26abaf95

that broadband is not a natural monopoly and, because of the nature of the market and regulatory system, it should not be declared a utility.<sup>51</sup> Both argue that their approach would decrease prices for consumers. Since there is much debate surrounding the impact of declaring the internet a utility, it would be unwise to do so at this time; this policy offers an equally effective solution.

# Why is the policy you have proposed the appropriate/best response to the problem you have identified?

The proposed policy takes a two pronged approach, addressing both individual internet access deficiency and the creation of broadband networks. This approach represents the most appropriate and most effective way to expand broadband access throughout the state of Virginia, especially in rural areas.

First, the policy addresses the immediate needs of individual students, providing families who are without internet service access to the internet for educational purposes. Second, through the use of tax-incentivized public-private partnerships, the policy works to create broadband networks. This means that the overseeing agency will have the ability to provide needed service in the short-term, for instance during the COVID-19 pandemic, and, in the long-term, set up broadband systems which will allow equitable and efficient integration of computers and internet into the classroom.

# What are the resources that will be needed to carry out this programmatic or policy response?

<sup>&</sup>lt;sup>51</sup> Eisenach, J. (2020). Don't Make the Internet a Public Utility - NYTimes.com. Retrieved 23 June 2020, from https://www.nytimes.com/roomfordebate/2015/02/04/regulate-internet-providers/dont-make-the-internet-a-public-utility

First, once they are authorized to distribute internet service on a case-by-case basis, for educational purposes only, counties and school districts will require additional funding to implement this service. As a result, school districts will be able to provide broadband service to students who would not otherwise have access to the internet.

Second, in counties with wide-spread internet deficiency, tax incentives for public-private partnerships may cause a decrease in state tax revenue. For the purposes of this policy, a county with wide-spread internet deficiency will be defined as a community where a certain percentage of households have access to internet with speeds of at least 25 Mbps. Taxes on a company's profits in this area (usually 5% for telecom companies) will be waived, as long as the number of people without internet service remains below the specified percentage. These partnerships will provide a large number of people, particularly in rural areas, with subsidized internet service, therefore increasing the Commonwealth of Virginia's wired low-price plan access metric.

For both of these policy points, as they are opt-in programs, controlled by local governments, it is impossible to calculate the exact cost of implementation. However, wide-spread internet access can have incredible economic benefits, especially in Virginia's \$70 billion agriculture industry, and will likely pay for itself. By employing "precision agriculture technologies," using increased broadband coverage, Virginia could see an 8% increase in agricultural output, leading to a "\$2 billion increase in annual sales, 9,415 new jobs, and \$452 million in new annual wages."<sup>52</sup>

<sup>&</sup>lt;sup>52</sup> Sickes, M., & Rush, N. (2019, December 13). No matter where you live, rural broadband is a big issue in Virginia. Washington Post.

https://www.washingtonpost.com/opinions/local-opinions/no-matter-where-you-live-rural-broadband-is-a-big-issue-in-virginia/2019/12/11/

<sup>0</sup>a3faa6e-1b96-11ea-87f7-f2e91143c60d\_story.html

Third, each county will appoint its own agency to deal with the unique socio-economics, geography, population density, commercial tax base, community vision, and economic development level of that particular county or school district. This agency, determined and identified by the county itself, will oversee the distribution of internet service to individuals and the creation of larger fiber-optic networks. A new agency should not be created, rather delegated responsibility by the county government, and will therefore not necessitate additional funds.

#### What criteria are you using to determine if your policy is successful?

Broadband Now, an internet service aggregator and research organization, uses two primary metrics in their assessment and ranking of broadband availability in the United States: terrestrial broadband coverage and wired low-price plan access. According to Broadband Now, 83.4% of Virginians have access to wired internet with speeds of at least 25 Mbps. In addition, only 51.3% of Virginians have access to low-price broadband plans, plans that cost less than or equal to the 20th percentile of all qualifying broadband plan prices offered.<sup>53</sup>

These two metrics, and their resulting fluctuations, will determine the success of the policy. First, if the terrestrial broadband coverage, the number of Virginians with at least base-level access, increases, the first prong has been successful. This means that the elimination of regulations restricting counties and school districts from providing internet access to individuals has led to an overall increase in coverage. Second, if the percentage of Virginians with access to low-price plans increases, the tax incentive for public-private partnerships has worked to make affordable options more widely available.

<sup>&</sup>lt;sup>53</sup> Broadband Now. (2020, February 6). Internet Access in Virginia. BroadbandNow. Retrieved June, 2020, from https://broadbandnow.com/Virginia

# What would happen with the problem if no action is taken and the problem were to continue on unchanged and undisturbed?

If no action is taken to correct this problem, the quality of education will continue to vary drastically by county, specifically based on its urban-rural classification. This will have a significant impact under two scenarios.

First, when schools return to normal classroom environments, students in counties without wide-spread internet access will not receive the benefits of computer and internet integration into the curriculum. Access to the internet for educational purposes has been shown to have an extraordinary impact on students' development and success in the classroom. According to one study, 92% of teachers said that the internet had a "major impact on their ability to access content, resources, and materials."<sup>54</sup> In addition, internet use can help build students' communication skills, critical thinking skills, and can encourage cross-cultural understanding.<sup>55</sup>

Second, if schools are forced to operate on a remote basis, as they have during the COVID-19 pandemic, schools in counties with wide-spread internet access will be able to continue class learning. On the other hand, schools without wide-spread internet access, many of which are in rural areas, will be forced to limit learning significantly, if not suspend it all together.

<sup>&</sup>lt;sup>54</sup> Purcell, K., Buchanan, J., & Friedrich, L. (2020, May 30). How Teachers Are Using Technology at Home and in Their Classrooms. Retrieved July 26, 2020, from

https://www.pewresearch.org/internet/2013/02/28/how-teachers-are-using-technology-at-home-and-in-their-classroo ms/

<sup>&</sup>lt;sup>55</sup> Edutopia. Why Do We Need Technology Integration?. (2020). Retrieved 23 June 2020, from https://www.edutopia.org/technology-integration-guide-importance

#### CONCLUSION

Internet is no longer a luxury; it is an essential tool that every Virginian deserves to have in the 21st century. Widespread broadband access has allowed distance learning to be facilitated across Virginia in the wake of the COVID-19 pandemic. This policy seeks to allow feasible marketplace access for municipalities to provide internet for underserved rural communities. By amending § 56-484.7:, § 15.2-2108.6, and § 15.2-2403 to empower localities to create an affordable public option, remove outlandish feasibility study requirements, and breaking down bureaucratic barriers, rural communities in rural Virginia will not have to be at the will of for-profit providers who are reluctant to make infrastructure investments in their communities.

The high cost of building the broadband infrastructure, laying fiber to serve only a few households due low population density, de-incentivises bringing reliable internet connection to non-urban areas. Low and slow returns on investments in rural areas, even when the individual household demand is high, cause broadband companies to ignore the needs of rural communities. Increasing tax incentives for companies willing to take on the financial risk to provide an essential service for those left behind is crucial.

This is an issue of equality; students in urban and rural areas deserve the same chance to access 21st century educational resources, especially during a time of ubiquitous distance learning. By passing the BARS Joint Resolution (see Legislative Recommendation Guide), the Legislature will reaffirm its commitment to equitable broadband access, affordable internet service, rural communities, and, most importantly, Virginia's students.

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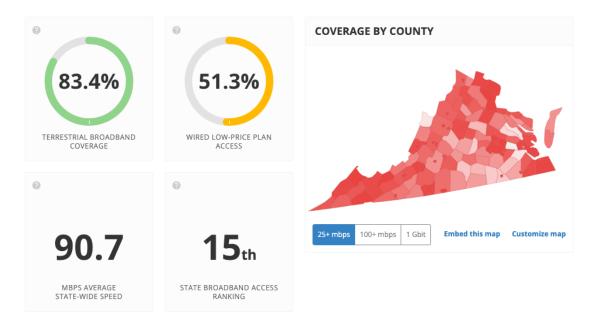
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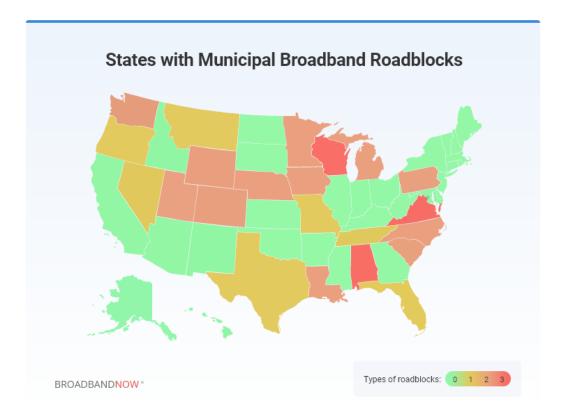
### A. Internet Access in Virginia

Figure 1: Virginia's Internet Access Data



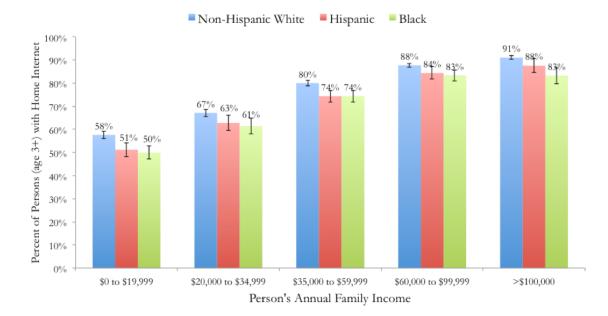
### B. Municipal Roadblocks by State

Figure 2: Types of Roadblocks by State



### C. Racial Discrepancy in Internet Access







The Greater Good Initiative

## Legislative Recommendation Guide Broadband Access for Rural Students (BARS)

#### Purpose

This guide is intended to assist legislators, in the Virginia House of Delegates and Senate, and education advocates in their efforts to expand broadband access for students in Virginia's rural communities and school districts. This guide includes 1) a summary of the problem, 2) our three legislative recommendations, 3) a compilation and description of four sections of Virginia code which prevent the creation and dissemination of municipal broadband, and 4) the Broadband Access for Rural Students (BARS) Joint Resolution, which reaffirms the legislatures to expanding broadband networks in Virginia's rural communities by the year 2022.

#### **Contact Us**

For more information about the policy, our recommendations, or to schedule a meeting with The Greater Good Initiative's Education Policy and Advocacy Team, contacts us at <u>contact@thegreatergoodinitiative.com</u>.

#### SUMMARY AND RECOMMENDATIONS

#### Impediments to Universal Broadband in Virginia

The Commonwealth of Virginia retains some of the strictest broadband laws in the nation, preventing counties and school districts from providing low cost internet service to residents and students. These restrictions leave rural communities and school districts, and the students they serve, without necessary internet access for education. The COVID-19 pandemic has highlighted this glaring inequity; students in wealthy, urban and suburban communities have been able to continue their education, while many in Virginia's rural communities have been forced to stop or greatly reduce their learning. Virginia lawmakers must amend or abolish these laws, allow municipal broadband for education purposes, provide tax incentives for internet service providers that build out broadband networks in rural communities, and reaffirm their commitment to equitable internet access across the commonwealth.

#### **Legislative Recommendations**

- 1. Lawmakers must work to amend or abolish four sections of the Virginia Code (below) that create funding, competition, and bureaucratic barriers to the creation and dissemination of municipal broadband service for educational purposes.
- 2. Lawmakers must implement tax incentive programs for service providers who make investments in rural communities, where low population density makes the construction of broadband infrastructure otherwise unprofitable. These tax incentive programs will be implemented in areas where a certain percentage of residences have access to wireless or wired internet service, with speeds of at least 25 Mbps, will require an annual report from the internet service provider, and will have a sunset date of 5 years.
- 3. Lawmakers in both the Virginia House of Delegates and Senate must pass the Broadband Access for Rural Students (BARS) Joint Resolution, recognizing that Virginians do not have equitable access to an essential commodity: the internet, emphasizing the importance of internet access for primary and secondary students, and affirming their commitment to expanding broadband networks in Virginia's rural communities by the year 2022.

#### HARMFUL SECTIONS OF VIRGINIA CODE

#### VA Code § 56-265.4:4

This section outlines the restrictions and regulations that a municipality must follow when attempting to provide broadband itself or provide certificates to other telecommunications companies. Hence, this section provides strict control over accessing broadband and makes it difficult for municipalities to access internet. Consequently, the restrictions should be loosened in order to increase the accessibility and access of broadband.

#### VA Code § 56-484.7:1

This section deals with deals pricing, acquiring infrastructure, and the petition process. As a result, it is necessary to revise this section and make a public option competitive with the for-profit providers to ensure that broadband access is available for all.

#### VA Code § 15.2-2403

This section emphasizes the powers that governing bodies have over service districts, including broadband service districts. As a result, it is necessary to break down the governmental barriers and allow municipalities to access their demand for internet and infrastructure.

#### VA Code § 15.2-2108.6

This section dictates what municipalities must ask a feasibility consultant to measure before they are permitted to provide cable television services. It provides strict regulations on accessing broadband and the usage of technology as it complicates the process of seeking broadband access. Therefore, it is necessary to loosen the restrictions to increase the likelihood for municipalities to obtain broadband access.

#### JOINT RESOLUTION

#### House of Delegates and Senate Joint Resolution

Committing to internet equity and access for all Virginians.

WHEREAS, as a result of the COVID-19 Pandemic, inequity in access to internet services in Virginia, particularly in rural communities, has become exposed; and

WHEREAS, 697,000 Virginians do not have access to a wired internet connection 25 Mbps or more, while 308,000 Virginians live without any wired service at all; and

WHEREAS, in the US, 15% of households with children enrolled in K-12 course lack internet services faster than 25mbs per second and 17% of teens say they are often unable to complete homework assignments because they lack access to a computer or reliable internet connection; and

WHEREAS, 83.4% of Virginians have access to terrestrial broadband coverage and only 51.3% of Virginians have access to wired low-price plans, costing less than or equal to the 20th percentile of all qualifying broadband plan prices offered; and

WHEREAS, due to school closure, lack of internet access has and greatly hindered the education of children throughout the commonwealth during the COVID-19 pandemic; and

WHEREAS, the Commonwealth of Virginia retains several laws preventing the creation and distribution of municipal broadband services in counties and school districts and the expansion of broadband infrastructure, including § 56-265.4:4, § 56-484.7:1, § 15.2-2403, and §15.2-2108.6; and

WHEREAS, internet integration into the classroom has shown to have an extraordinary impact on students' development and success, including students' communication skills, critical thinking skills, and can encourage cross-cultural understanding, and, according to one study 92% of teachers said that the internet had a "major impact on their ability to access content, resources, and materials;" now, therefore, be it RESOLVED by the House of Delegates, the Senate concurring, that the General Assembly of the Commonwealth of Virginia hereby affirm its commitment to amending or repealing sections of the Virginia code that restrict or prevent municipal broadband, building out broadband infrastructure in rural areas, recognizing that internet service has become an essential commodity for all Virginians, and ensuring all Virginians affordable, fast (at least 25 Mbps), and reliable internet service in the coming decade; and

RESOLVED FURTHER by the House of Delegates, the Senate concurring, that the General Assembly will have adopted, and the Governor enacted, measures intended to remove barriers to municipal broadband service and expand broadband infrastructure in rural areas, by the end of the 2022 General Assembly session.

#### The Greater Good Initiative

The Greater Good Initiative is a youth-led policy think-tank working to promote youth engagement and mobilization in the policymaking process. Our primary goal is to create effective, sustainable, and bipartisan policy proposals and advocate them to legislators at the local, state, and federal levels. Our team is crafting these proposals and connecting with legislators and special interest groups to garner support from both sides of the aisle. The Greater Good Initiative is working to bring new voices into the world of politics. The organization believes that it is of vital importance to shine a light on the innovative fresh new thinking that comes out of young minds.

Powerful voices, Powerful policy.