AUGUST 2020

DELAWARE DIGITAL INCLUSION PARTNERSHIP

FEASIBILITY STUDY – CURRENT STATE, RECOMMENDATIONS, BUDGET

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TABLE OF CONTENTS

OVERVIEW ▶▶▶

This feasibility study was sponsored by Philanthropy Delaware to bring together a consortium of private, public, and social sector organizations to provide insight into ways to address digital inclusion in the state of Delaware. The goal was to take a collaborative approach, understand and leverage resources available by each entity involved, and reduce duplication of effort to have the greatest impact.

In approaching this feasibility study, 26 individuals were interviewed, and research was conducted by Tech Impact to understand the current state and gaps as it relates to devices, internet access, support and training, and content. It specifically examined how those relate to education, health, and workforce development. The prevalence of COVID-19 and the approaching fall semester influenced a focus on education and households with school-aged children.

Upon reviewing the findings, it was recommended, in the short-term, to focus on device distribution and internet access for low-income households and households with school-aged children. Long-term it was determined that an ongoing convening group to assess gaps and opportunities for collaboration would be beneficial in continuing to make strides towards digital inclusion in the state of Delaware.
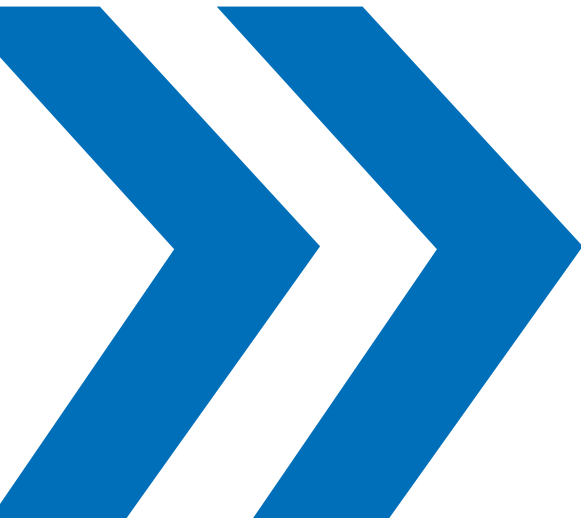
ISSUES AND AREAS ▶▶▶

In looking at digital inclusion in Delaware, it is important to start by identifying the individual building blocks and dependencies that are necessary to consider. These are broken up into 2 major categories: Requisites, or the foundational components required for individuals to leverage digital opportunities; and Areas, or the functional areas that are enabled for individuals once the requisites are in place.

Across all research and interviews conducted throughout this study, it was found that there were 4 core requisites needed regardless of the focus area. In order of necessity, those are: Devices, Broadband Access, Support and Training, and Content. Once the requisites are addressed, there are 3 core areas in which individuals can benefit: Education, Telehealth, and Workforce Development.

Starting with devices, users can leverage technology for both learning and working even without a stable internet connection provided they have local applications they are able to use. However, the power of the device is capitalized upon when it can be connected to a stable broadband connection.

This allows the user to connect to other users, online content, online portals, professionals outside their immediate local community, etc. While the combination of having a device that is paired with internet access is an essential requisite for addressing and working toward digital inclusion in Delaware, that alone is not enough. Users will need assistance with everything from how to turn their device on and how to get it connected to the internet initially, to ongoing support for break/fix issues and training opportunities which will increase awareness to available resources gleaned from the new connection. Additionally, they're going to need to understand how to access content that's relevant to them, and the content itself needs to be offered in a way that's designed to be digested digitally regardless of the area that content serves. With connected devices, the necessary support, and specific content to access, users are presented with opportunities in Education, Healthcare, and Workforce Development that would otherwise not be available to them.
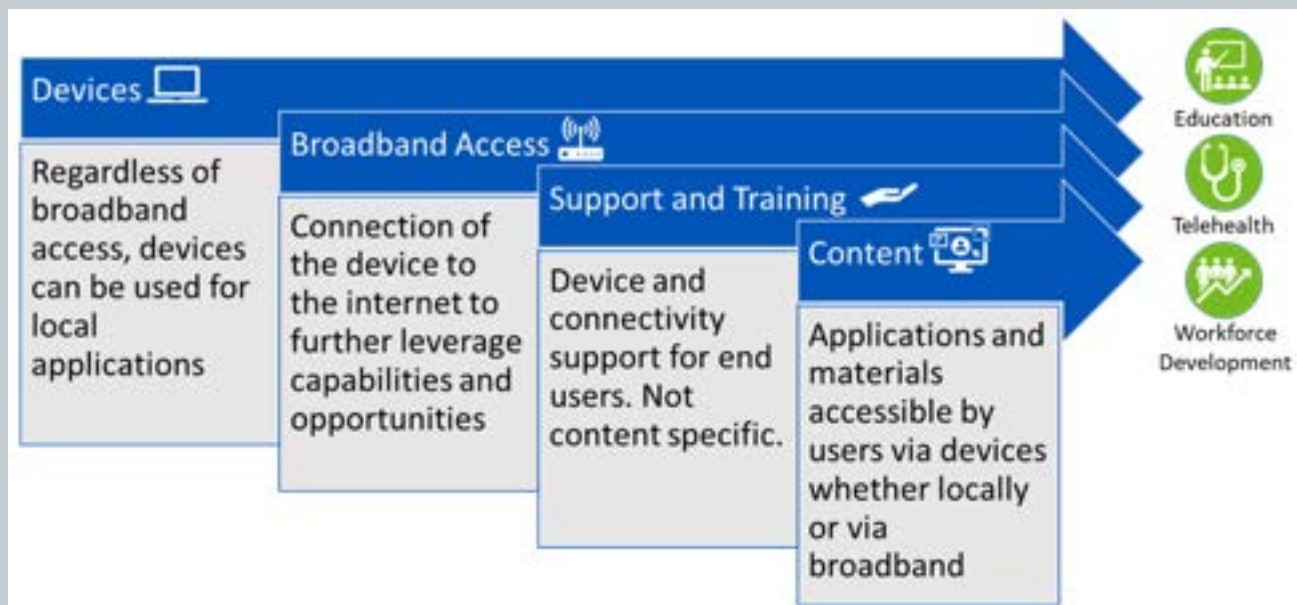

Figure 1: Requisites and areas identified including dependencies paramount to a digital inclusion effort

COVID-19

The "new norm" and "unprecedented times" presented due to the recent COVID-19 pandemic have drastically exacerbated the digital divide. Students are being required to attend 100% online education, the workforce is being forced to work remotely, and people are experiencing emotional and behavioral health challenges and isolation en masse. As a result of the widespread and immediate impact, many companies, organizations, and institutions were forced to pivot and adopt these new conditions without the planning that would normally be desired for such large-scale changes. The result is a plethora of information about what works, what doesn't work, what should be implemented for a short-term solution versus long-term adoption, and many opportunities for individuals to work or access services from almost anywhere. Left behind are all the households and individuals without access to a device or broadband.

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Devices, Broadband, Support and Training

Gaps and challenges related to devices and broadband should be evaluated in two groups: school-aged children (and households with school-aged children) and everyone else.

Devices

The State of Delaware and Department of Education have prioritized distributing devices in a one-to-one fashion, meaning one device for each student. Due to the local control model Delaware follows, each school district was responsible for creating a plan to obtain the required devices and distribute them to the students in need. The results of these efforts varied from district to district with some still not being able to accommodate the one-to-one model. Of those, some were able to distribute one device per family while others were not able to distribute devices at all. Because of the nature of the onset of the pandemic, a plan to maintain and refurbish devices was not implemented. There are circumstances where it is unclear who should be responsible for providing devices that are worth highlighting and need to be discussed and addressed; the gap during school year breaks (i.e. summer and winter), the summer breaks in between schools (i.e. 8th grade to high school), students whose families move frequently resulting in their transition through multiple schools, and families with intermittent connectivity. Throughout interviews with representatives from a variety of districts there seemed to be a trend of about 10% of families with which the district lost touch. Distribution of devices to those families became impossible.

There are also households without school-aged children that have been impacted by the digital divide for the past three decades and are now being further impacted by the adaptation of remote methodologies as a result of COVID-19. For these households of adults and seniors, the Department of Education is not focused on distributing devices so they must rely on other resources available to them. With much of the focus during this time on education and what school will look like for children in the fall, it's important to remember that these households are not yet a lost generation. Providing devices to these families in the first step in their ability to take advantage of programs and resources that were not previously accessible.

An example of a state that addresses this need early in the COVID-19 crisis, in May of this year, Maine's Department of Education "secured internet access and devices…for 100 percent of Maine school children for whom there was a reported need." This was done with a collaborative effort of state agencies, ConnectME, and a business and philanthropic partnership. The funding came from the CARES Act and donations.

Broadband

Internet currently exists as a privilege and throughout the interviews conducted there was a common theme that it should be viewed as a right just as any other utility. As a first step in this shift, many efforts are currently in progress to help address broadband deserts and affordability where access already exists.

The Delaware Department of Technology & Information (DTI) has been working over the past couple of years to address the major broadband deserts across the state. This effort was finalized in July of 2020 with the completion of a fiber backbone that stretches throughout the state and the addition of 15 towers to provide access to areas with previously limited connectivity option. This project addresses the big gaps in access, leaving scattered pockets without access that will need to be addressed moving forward. Currently there is limited data available at the household level to identify exactly how many are without accessible broadband. FCC data is available but is aggregated and does not provide a complete picture when it comes

to identifying pockets without access. DTI is working on addressing this both with current ISPs as well as with surveys which will be made available to households to identify information about their current connectivity (or lack thereof).

Based on geographic location, DTI is working with local ISPs which are leveraging the newly available infrastructure and providing broadband access to households in that area. These efforts are primarily focused on Kent and Sussex and the ISPs are currently capable of setting up approximately 150-250 new households per month. Due to the circumstances presented as a result of COVID-19, there have been unforeseen barriers which have slowed the setup in new households compared to the pre-COVID-19 environment. For individual households where connectivity through an ISP is not possible, there is currently no coordinated plan for providing internet access through an alternate method such as a mobile hot spot device.

DTI's primary role was in creating the publicly available infrastructure for local ISPs to utilize to provide access to the individual households. Now that the DTI project is nearing completion, it is up to the ISPs to communicate to the eligible households that access is now available in their area and discuss plan options. There is currently no centralized communication plan and local community resources are not included in distribution or education of the resources and options available to their community members.

In addition to broadband access being available, it is imperative that access is also affordable. Rates are determined by the individual ISPs and only a subset of them offer specific plan(s) for low-income families or income-dependent, sliding scale rates. In rural areas specifically,

> *In addition to broadband access being available, it is imperative that access is also affordable.*

affordable options for low-income households are limited. Base level plan rates range from $10 per month to $30 per month and eligibility may depend on income or household eligibility or other public assistance programs (i.e. MEDICAID, SNAP, TANF, SSI, etc.).

Support and Training (outside of education)

In the current environment, the role of support for individuals with devices and newly available connectivity is understated. There is currently no centralized support for households without school-aged children or for non-student family members in households with school-aged children. The Delaware Division of Libraries, within each of their libraries across the state, does provide technology resources and training opportunities for its members. While this is a great resource, it is a single resource which may sometimes be inaccessible due to geographic location. There is also not a break-fix type of support available via this resource.

For any individual with a device and internet connectivity, especially when the device or connectivity is new, there is an important need for support and training including basic training on how to use a device, applications or software that's available on their device, how they can connect their device to the internet, and online resources that are now available

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to them and how to access them. From the experience of organizations which have recently distributed devices to some of the aforementioned individuals, they experienced a large influx of support/training needs at first which then leveled out and became manageable as the individuals were able to get connected. Currently, there are limited workforce development pathways to feed the call center agents and trainers that would be required to meet the support needs.

Education

Once the internet access and device availability problems are solved, there are other challenges to overcome in the education sphere which the COVID-19 crisis has magnified.

These fall into four primary areas:

- IT Training and Support
- Teacher and Administrator Professional Development
- Online Curriculum Content
- Emotional and Learning Support

Information Technology Training and Support

IT Training and Support should bolster the needs of students, parents, and teachers so that the tools are enablers of learning not inhibitors. During the spring 2020 semester of the COVID-19 crisis, the 41 districts and charter schools individually provided the support for their specific constituents. The support varied widely from a list of information on a website, to "contact your teacher", to 3 levels of a defined support structure. Most commonly, the teachers were responsible to be the first line of support, in addition to having to redesign their entire learning plans and readjust to their own remote working environment.

Some districts were able to provide IT dedicated resources while others had people wearing multiple hats as IT support in addition to their regular full-time position, and some augmented by using an outside vendor such as Brandywine Technologies. Due to budget constraints faced in less well funded districts, the choice a superintendent often must make is whether to hire a math teacher or an IT specialist.
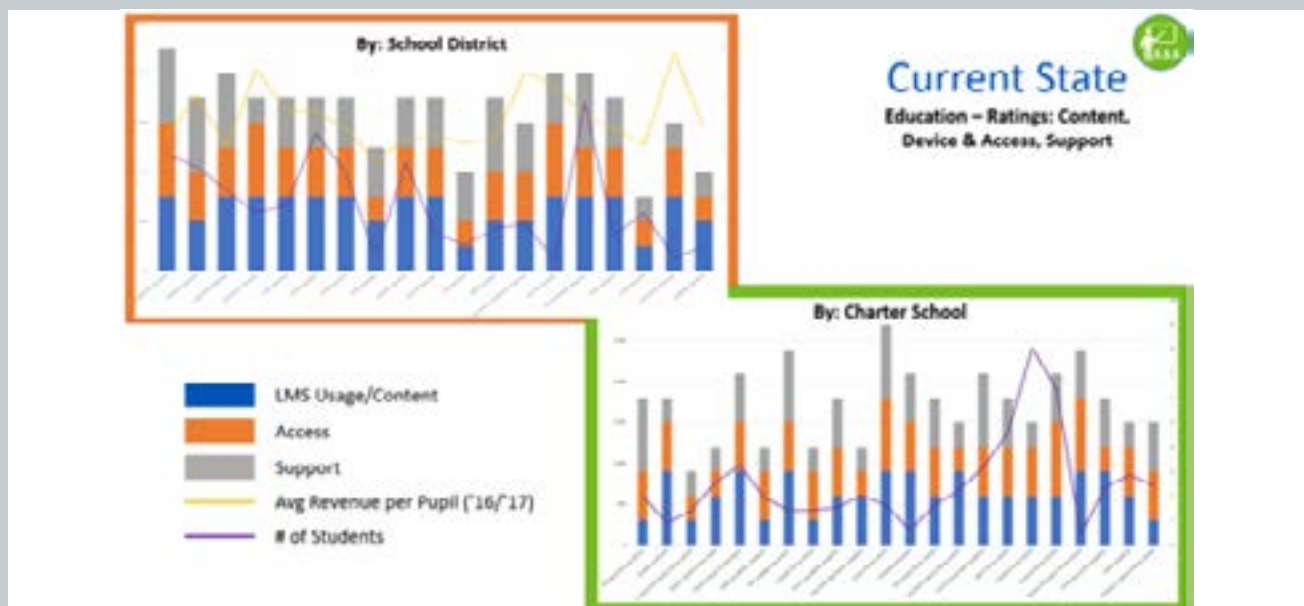

Figure 2: Content, access, and support ratings by school district and charter school including comparison of number of students and average revenue per pupil where available

An inventory and assessment were done by examining each district and charter school's COVID-19 plans as described on their website. The inventory documented the Learning Management System and online content used, the device and access provided, and the support given to students and parents for navigating this new online environment. The details of this work are provided in Appendix B. A comparison was done between the ratings and the average revenue spent per pupil (for districts) as well as number of students. There appeared to be no correlation between high ratings and those two factors as can be seen in Figure 2.

> **When asked about supports needed for the next school year, educators identified instructional technology support as critical.**

This lack of correlation, leads to a conclusion that the high ranking districts and schools have other factors that caused them to be able to address the needs of their community more effectively and that these may be due to local leadership and the pre-existence of Information Technology (IT) expertise and investment at these districts and charter schools.

Support for the teachers was also needed. According to the *COVID-19 Insights from the Delaware School Reopening Survey, July 2020,* "when asked about supports needed for the next school year, educators identified instructional technology support as critical. Specifically, 82% of district leaders, 51% of school leaders, and 38% of teachers reported needing expanded instructional technology personnel capacity. In addition, 61% of district leaders reported using and promoting technology as their top three priorities for the supports needed for next school year."

In business or nonprofit environments, organizations are encouraged to standardize on platforms, devices, and software to help facilitate consistent support and training. This is difficult in the Delaware state education environment because of local control.

But particularly for the smaller districts who are the most resource constrained, if it were possible to work together to agree upon devices and some level of software consistency, the IT support and training function could be coordinated and shared.

Professional Development

According to the COVID-19 Insights from the Delaware School Reopening Survey, July 2020, the usefulness of the professional development provided in the spring was rated relatively low by teachers:

- Professional development on how to use online platforms – 36% very or extremely useful
- Professional development on converting offline materials into online resources – 25% very or extremely useful
- Professional development on engaging students through remote learning – 20% very or extremely useful

The importance of professional development in these areas was consistently echoed by many of the interviewees as a key requirement to effectively delivering quality remote learning to students. Many teachers, particularly those with the most classroom teaching experience, were ill equipped to make the transition to teaching in an online environment and received little to no training on how to do so. This situation is not unique to Delaware. According to the *Teaching from Home Survey* by the Shanker Institute, which had a "diverse sample of 7,195 teachers working across nine southern, midwestern and eastern states...13% of teachers with 20-29 years of experience and 22% of teachers with 30 years of experience or more were not comfortable using online teaching tools, compared to only 6% of teachers with less than 10 years of experience and 7% of teachers with 10-19 years of experience".

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Even on common systems such as Schoology, there was feedback on a Rodel survey that some teachers still did not know how to use that software. There needs to be a least a base level of training on commonly used tools but this assumes that there are commonly used tools, such as Schoology, Zoom, etc. Rodel's Delaware Educator's Recommendations from June, 2020, written by a consortium of teachers across the state, also highlights the need for "Encouraging partnerships among schools, districts and charters to offer professional development to more educators at scale, and including school wide staff or parents/families when appropriate."

Though there may not be uniformity on the online curriculum between districts, education on effective use of tools, best practices for online delivery, and balancing synchronous and asynchronous instruction are common needs across all districts and schools. Where there are common platforms such as Schoology and Zoom, consistent training on these tools is a must.

Online Curriculum Content

The area of online curriculum is one of the most challenging. There is a wealth of content to choose from and every district makes its own determination as to which they feel best fits their needs. Because online curriculums and learning plans are technology driven/delivered, an added "technology toolbox," and training on those tools, is needed for the teachers to be effective. Though newly graduated teachers may possess these skills, more senior/master teachers often do not.

When COVID-19 hit, Delaware teachers had to quickly transform their in-person lesson plans to ones that could be electronically delivered. Some districts, such as Colonial & Red Clay who use Go Open, a US DOE initiative supporting use of openly licensed education resources, had an advantage because they had experience and collateral to pull from. Many others had to quickly improvise and though Delaware's DOE provided a list of possible resources, individual teachers were left to figure it out for themselves in many instances. The quality of the delivery was dependent on the tech-savviness of the teacher, with some scanning papers to PDF

format to be viewed by students. Even within one district, if a family had children in multiple grades (from elementary to middle to high school), remote learning could be very different for each child. This makes it difficult for parents, who themselves may not be highly technology proficient, to support their kids which in turn can affect the kids' overall engagement.

Larger districts have more resources to investigate and invest in new technology earlier, often leading in solution identification before DOE has done their vetting. But smaller districts do not have these resources and can use more guidance from the state on what tools may work for them. There may not be a one size fits all, but if districts can align on standards, utilize the experience gained from early adopters and consortiums such as BRINC, there could be a more proactive approach that would help the smaller districts. In Rhode Island, the Rhode Island Department of Education (RIDE) provides a vetted list of online tools for remote teaching and learning that summarizes where the tool can be used, a brief description, whether it has a free version, synchronous or asynchronous delivery, and security provided by the apps.

There are areas where it does not make sense to have a different system for each district and school across the state. For example, DDOE is working on a common enrollment system in an effort to modernize to meet people's needs which is an application that can be used uniformly across the state's school districts and charter school with no added benefit for having different systems per district. It is worth considering where there are other areas of common need with little advantage to differentiating by district and charter network.

Remote learning should be a well-planned combination of synchronous and asynchronous delivery. Synchronous classes, where the teacher and students can engage in real-time with each other, is critical not only for student engagement but also for their mental health. Students need to see their peers.

Many felt that this crisis presents an opportunity to re-evaluate how children are taught and evaluated. It was felt that there is value in having a combination of online and in-person

instruction, but regulations need to be revised – much is based on "butts in seats" versus mastery. However, there is the need to ensure that competency-based metrics do not eliminate the teaching of critical thinking skills.

In other states, some districts have done better jobs adapting to the online environment because they were forced to address online learning needs earlier due to circumstances prior to the COVID-19 crisis. The Miami Dade school district was identified as a district which very effectively went virtual in a matter of days. This was due to prior plans that had been put in place for hurricane mitigation. They had a lot of support services on distance learning for teachers and had support hotlines for both teachers and parents. Their summer professional development focused on distance learning and trauma. Additionally, Florida's virtual/cyber schools have a good reputation and are being looked at by other states.

According to the Center for Reinventing Public Education article calling for states to address the educational crisis with decisive action, "Last spring exposed widening inequities and learning gaps across schools and districts. Without decisive action from states to address these challenges, this trend is likely to continue this fall. Students whose parents cannot afford to join learning "pods," those who rely on special education or English language learner services, and other vulnerable students have the most to lose from inaction. At a minimum, states should:

- Put in place ambitious expectations for remote learning, which looks increasingly likely to be the norm learning modality this fall.
- Give districts a default virtual learning platform with built-in high-quality instructional materials, professional development, and assessments.
- Work aggressively to close gaps in access to devices and internet connectivity.
- Plan to monitor local school systems and step in when students are being left behind."

According to the *Center for Reinventing Public Education,* "Projections from last spring suggest students could expect to lose anywhere from one-third to half of their academic gains from last year compared to typical progress—with large racial and class disparities in estimated losses." To address this crisis, Louisiana is making it mandatory for schools to assess for learning loss and make specific plans to address these with the children. Their experience with the learning loss which occurred due to Hurricane Katrina, has made them more focused on this issue.

Emotional and Learning Support

School based wellness centers have a full range of telehealth, focusing on depression and anxiety and school counselors also provide support with both individual and group sessions in the online environment. A hybrid approach has also been effective with therapists standing in the front yards of student/patient's homes and dropping off packages of therapy toys, for example. Additionally, scheduling logistics are simplified for parents when sessions are held online, and therapists are provided added insight to a child when they have a view into their home environment. For some children with short attention spans, giving small (15 minute) increments of service remotely can be effective.

However, there is a population that absolutely needs in-person support and for which remote support does not work. This also includes students who need to be assessed as it is very difficult to see the necessary non-verbal cues over a video screen. Other persistent concerns about emotional and learning support in the online environment are the lack of non-individualized attention during remote class sessions and the lack of social interaction which is detrimental to development. Children of all ages need to interact with their peers for the benefit of their mental health.

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BENEFITS ▶▶▶

If the first requisite areas are addressed and individuals gain access to devices and access, many ancillary benefits will result as well. Identifying these benefits by area (Education, Telehealth, Workforce Development) provides additional justification for addressing devices and access as well as provides multiple lenses to consider when searching for funding opportunities.

Education

Starting with Education, the ability to provide remote education opens the opportunity to leverage this technology in a non-COVID-19 environment as well. For example, schools will be able to pivot to remote learning in lieu of snow days or during times when a student is required to be out of in-person school such as during an out-of-school suspension or when the student is homebound. There is also an opportunity to structure virtual learning in an asynchronous method to provide resources for education to non-traditional students. This will expand previously limited opportunities for adults going back to school or school-aged children who also work to support their family and need non-traditional school hours. Additionally, this will provide alternative methods for consuming information for students who prefer to work at their own pace or their own time.

The current need to pivot to remote learning also provides opportunities to question some of the long-held assumptions about the current learning methodologies as well as the current operating and funding models. While these items require collaboration and time to adjust, this has been an area highlighted by the current environment.

There is also an opportunity to structure virtual learning in an asynchronous method to provide resources for education to non-traditional students.

Lastly, there are additional curriculum options outside of traditional education that have been available previously that may become more essential moving forward. For example, the role of mentorship, programs targeting disconnected youth, and enrichment and supplemental learning not typically offered during the school day. Each of these provide additional learning opportunities as well as additional ways to connect with peers in an environment where social interaction is limited without in-person schooling options.

Telehealth

Access to devices and internet will provide many telehealth opportunities to everyone, not just households with school-aged children but also adults without school-aged children and seniors. In addition to continuing to receive health services without additional exposure risks in the current COVID-19 environment, telehealth provides access to specialty services and providers that may not otherwise be geographically available. This could mean access to a cardiologist in a community without or access to a highly regarded peer support group in another county. Benefits like

this are already being realized as Alcoholics Anonymous and Narcotics Anonymous are offering virtual meetings, and primary care and specialist doctors are starting to schedule meetings with patients virtually where possible. From a behavioral perspective, some health care professionals have indicated there is an advantage to being able to have vision into the home environment which has not previously been accessible.

It is possible that telehealth appointments will become more prevalent over time out of a necessity for cost and convenience. Health providers are finding scheduling overall to be easier whether that is for an initial, follow up, or recurring appointment. Students meeting with school-based counselors are able to schedule around class instead of during class, and adults can more easily accommodate other engagements without the need to account for drive time to-from the appointment. From the provider's perspective, there is an option to record visits, take notes during appointments, and spend the entire appointment time with the patient without as much time required for clerical tasks. Transition time between appointments for providers is reduced and time required for overhead tasks are also reduced. Reducing the number of patients in the facility possibly reduces overall costs which may have long term advantages and cost/pricing implications. Additional cost incentives for facilities such as hospitals may be realized with greater adherence to follow up visits, due to convenience for the patient, and reduced readmittance rates.

Workforce Development

The COVID-19 environment has created a greater prevalence for remote work opportunities. This increase has resulted in a correlated increase in need for focus on IT as it pertains to training, job opportunities, and workforce development.

There is an opportunity for organizations and education providers to increase the quantity and availability of remote training for career specific pathways. This provides greater access to online certifications from distance learning providers as well as traditionally in-person educational facilities that are not geographically available.

Many employers are adopting a more remote workforce which creates an increase in potential jobs, especially those outside of a reasonable commuting distance. In addition to an increased variety of employers and jobs available, individuals that didn't previously have access to devices or internet will now not only have access to many more job opportunities, but will gain access to online resources and the ability to conduct online job searches.

The variety of jobs available is not only greater, but there is an increase in need for IT specific related positions. These include training and support positions such as those mentioned in the Support and Training section. This provides individuals with an opportunity to get their career started in IT or start their second career with a focus in IT. Since remote work will require the use of technology, a renewed focus on technology proficiency and capacity within a given organization or company is likely to occur.

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RECOMMENDATIONS AND FUNDING OPPORTUNITIES ▶▶▶▶

Based on the current state of both the COVID-19 environment as well as the availability of devices, access, support, and content, there are several opportunities within a public-private partnership to focus effort on individuals with the most need to reduce the rate of growth of the digital divide and focus on digital inclusion across the state of Delaware. These should be separated into short-term recommendations that address gaps that should be prioritized immediately and long-term recommendations that address current state items that will require time and collaboration to change or focus on sustainability and completeness of the short-term recommendations.

Short-Term

Short-term recommendations are broken down based on where responsibility falls and are listed below as: School Districts, Delaware State, Private/Social Sector. Some recommendations span across multiple or there is a recommendation for one area to provide funding and another to provide management or services.

School Districts

It is recommended that the school districts focus on providing one-to-one (1:1) devices for students, meaning each student should have access to their own device. Many districts and some charter school have already accomplished this. For those that haven't, if funding is limited, it's recommended to look into possible partnerships with organizations such as College Board which have previously provided devices to students enrolled in AP courses and are interested in continuing to be a resource. College Board mentioned their ability to get devices through partnerships with Amazon

and Staples which would be another option to investigate for additional devices with limited funding.

In addition to distributing devices to each student, it is recommended that school districts distribute mobile hot spot devices to families of school-aged children that are not able to get internet at home due to a physical inability for broadband installation. It is not recommended that the school districts be responsible for funding these devices at this time.

Lastly, the school districts and charter schools are all focusing on professional development for the individual teachers. It is recommended that they also take advantage of larger scale professional development opportunities such as those offered by the University of Delaware. The University of Delaware offers professional development opportunities for teachers as well as district leaders, other school-wide staff, and families and parents of students. They are currently working to create learning videos to support the different tools used within the state and how these tools can be incorporated into lessons.

Delaware State

It is recommended that the state of Delaware fund or partially fund much of the short-term recommendations. In addition to funding, it is recommended that the state help provide a coordinated effort for purchasing. While the state does not have to provide all the funding for the purchases, the advantage of bulk buying could provide cost-savings to other entities. Rodel's Delaware Educator's Recommendations from June, 2020 recommends bulk purchases to take advantage of "steeply discounted rates." Specifically, it is recommended that

the state investigate mass-purchasing opportunities for the school districts and charter schools to utilize for devices.

Additionally, it is recommended that the state focus on funding devices for households with non-school aged children, and access, whether broadband or mobile hotspot, for all qualifying households. Specifically, the state should focus on funding devices for adults/seniors without school-aged children with income at or below 100% of the Federal Poverty Level (FPL).

From an internet access perspective, it is recommended that the state partially fund access for both households with income at or below 100% - 200% of the FPL regardless of the presence of school-aged children in the household, and mobile hot spots for households with school-aged children in the same income range which do not have the ability to get internet access at their residence due to a lack of infrastructure or signal. There is an opportunity to broaden the qualified households for mobile hotspot distribution and funding, and partner with local libraries as they intend to invest in these devices and are focused on the low-income population and households without school-aged children.

Private/Social Sector

A lot of responsibility falls within the private and social sectors for distribution, community interaction and communication, funding, and overall coordination. The social sector has a unique connection with local communities and should leverage that relationship to help communicate with community members about opportunities and to get support to advance the initiatives. They should also build on the relationships already in place to help provide support to individuals with newly distributed devices and newly available internet access. Community centers, churches, senior centers are some examples of local resources that can assist with the distribution of devices to households without school-aged children and can act as a resource to help individuals either directly, or by providing them with contact information for resources available to them.

Distribution of devices cannot happen in a silo and cannot be entirely the responsibility

of each organization. There needs to be a coordinated effort to make sure households eligible for devices are able to receive their devices and to prevent single households from receiving distributed devices from more than one source. It is recommended that a centralized database be implemented to track qualified households and their device distribution as well as their access to sponsored broadband access. The Division of Libraries has an inventory management system that may be able to be leveraged for this use case and the State of Delaware will need to help provide information about qualified households. Absent the state being able to provide this information there should be a process implemented to qualify households based on income or eligibility for other programs such as Medicaid or SNAP.

Beyond devices, it is recommended that a large portion of the funding for broadband access for all households with income at or below 100% - 200% the FPL come from the private sector. This will not connect all households in the entire state as there will still be some access and affordability gaps, but it does address those with the lowest income first.

Lastly, it will be important for an organization or company in the social or private sector to provide support for distributed devices and newly available internet access. Many individuals will need assistance with setting up new devices, understanding what applications are available to them and how to use them, how to connect their devices to the internet, and how to find reputable online resources. This support should be available to all households with distributed devices and households of school-aged children and families which need additional support and/or training outside of that which is available directly through the schools and districts. There is an opportunity to fund this effort through an economic development grant which would fund a support call center as well as a workforce development program which would provide a pathway for call center agents and individuals looking to start (or restart) their careers in IT support and training. It is recommended that an outsourced partner is used to submit bids for available federal funding.

Long-Term

In the long-term, there is a need for ongoing oversight and sustainability of the short-term recommendations as well as a need to address remaining gaps. It is recommended that a convening group form which includes members from the public, private, and social sectors to continue to address issues related to digital inclusion in the state of Delaware. At first this group might focus on education topics such as a recommended approach to content or guidelines around which devices should be compatible with the learning methodologies of the districts and schools to provide better access to bulk buying and device support. These will take long term planning and collaboration and should be addressed over time including key stakeholders from each district and charter school.

> *It is recommended that a convening group form which includes members from the public, private, and social sectors to continue to address issues related to digital inclusion in the state of Delaware.*

It is recommended that this convening group also address a plan for sustainability of device distribution. This may include long-term funding solutions, additional funding available, a program for refurbishing devices at scale (i.e. devices that may be returned with broken screens or broken internal components), or a program to add devices to the existing fleet from large local sources such as banks as they refresh their own devices.

Beyond devices, it is recommended to review any further gaps in broadband access. Depending on DTI's success with the current survey efforts to identify remaining access gaps, it is recommended to work with a third-party such as Connected Nation to identify these.

Aside from the convening group there is a need for some policy changes to occur to help support the current recommendations. Those include a push for insurance providers to reimburse for devices. That may be limited to qualified individuals which may include restrictions based on age or diagnosed comorbidities or be available to individuals with chronic conditions where regular interaction with a doctor is beneficial and compliance is more likely due to convenience. Additionally, there is already an effort underway to make E-Rate funds more flexible and allow them to follow the student home. This would help with affordability for access for households with school-aged children and is crucial to a remote learning environment.

Lastly, for internet access to be truly viewed as a utility, it is recommended that new, residential construction require proof of internet connectivity at the building. Like other utilities, access to internet should be required in the same way that access to water or a power source is required.

BUDGET ▶▶▶

Based on the recommendations, the proposed budget can be broken up into several portions. First, focusing on internet devices and access, the budget is split by county and calculated overall across the state. Considering households in the 100% - 200% of federal poverty level income rage and using the data from the United States Census Bureau 2018 ACS

5-Year Estimates Data Profile for Delaware an estimated budget was calculated for providing internet access to all qualifying households, including mobile hotspots for those households without physical access to broadband, and funding devices for adults and seniors without school-aged children and earning less than 100% FPL (see Table 1 below).

	Kent	New Castle	Sussex	Delaware Total
Broadband Coverage				
Monthly Broadband Coverage ($15/mo./household)	$99k - $156k	$220k - $304k	$101k - $160k	$421k - $620k
Monthly Hotspot Coverage ($30/mo./household)	$3k	$4.9k	$2.7k	$11k
2-year Internet Coverage (incl. hotspot)	**$2.45M - $3.81M**	**$5.41M - $7.42M**	**$2.50M - $3.91M**	**$10.37M - $15.12M**
Mobile Hotspot Device - One-Time ($80 each)	$7.8k	$13.1k	$7.2k	$28k
Devices for households w/o school-aged children				
Chromebook ($200 bulk pricing)	$1.15M	$2.65M	$2.0M	$5.0M
Tablet ($100)	$574k	$1.33M	$599k	$2.5M

Table 1: Broadband/Devices Budget - See Appendix C for details

Second, a budget dedicated to centralized distribution and tracking of devices and access provided to eligible households, as well as technical support and training for those individuals is shown in Table 2 below. This includes tracking distributed hotspots to school-aged families without physical access available, a coordinated effort to distribute devices for adults and seniors, IT support for school-aged children and families, even if this support is provided by the district, and IT support for the additional devices distributed to qualified households without school-aged children.

	1 Year	2 Years
Outreach/Marketing	$150k	$200k
Call Center Staff + Workforce Development	$2M	$4M
Coordination, Hotline, and Database Administration	$1M	$2M
TOTAL	**$3.15M**	**$6.2M**

Table 2: Device Distribution/Support Budget - Based on PHLConnectED to provide access and support to 35k student households

Table 3 below combines the budgets for devices, access, and support, accommodating 3 of the 4 requisite areas identified in working toward digital inclusion and reducing the exacerbation of the digital divide in the current COVID-19 environment. These budget numbers include the cost to accommodate these recommendations over the first 2 years. Not included but important in long-term consideration is the cost to refresh/refurbish devices every 3 years.

	2 Years
Devices (Chromebooks + Mobile Hotspots)	$5.028M
2-year Internet Coverage (Broadband + Mobile Hotspot)	**$10.37M - $15.12M**
Distribution and Support (Outreach, Call Center, Database)	**$6.2M**
TOTAL	**$21.6M - $26.35M**

Table 3: Overall 2-Year Budget - Focused on Devices, Access, and Support. Not Included: $255k for Connected Nation to identify remaining broadband access gaps; cost to outsource bids for federal funding

Understanding the current budget limitations and availability of current funding, Table 4 below focuses on the budget for the first year only and removes the consideration for funding devices for households without school-aged children. This focuses on the immediate needs presented in the education area and provides access to all qualified households for the benefit of those that may already have devices but do not have access to internet.

	1 Year
1-year Internet Coverage (Broadband + Mobile Hotspot)	$5.18M - $7.58M
Distribution and Support (Outreach, Call Center, Database)	$3.15M
TOTAL	**$8.33M - $10.73M**

Table 4: Immediate 1-Year Budget - School and Access focused

Additional budget items not included in the tables above include $255k for Connected Nation to identify remaining gaps in physical availability of broadband access if DTI's survey does not produce the anticipated results, and $20k to outsource bids for federal funding opportunities.

APPENDIX A – RECOMMENDED READINGS/SITES OF INTEREST ▶▶▶

The following studies and articles are relevant to the topics discussed and may better inform decision making.

Nicola, Tara and Gable, Alexis and Ash, Jennifer. "The Response of Rural Districts to theCOVID-19 Pandemic", *National Center for Rural Education Research Networks,* July 2020, cepr.harvard.edu/files/cepr/files/ncrern_report.pdf

Vogels, Emily A. and Perrin, Andrew and Rainie, Lee and Anderson, Monica, *53% of Americans Say the Internet Has Been Essential During the COVID-19 Outbreak,* April 30, 2020, pewresearch.org/internet/2020/04/30/53-of-americans-say-the-internet-has-been-essential-during-the-covid-19-outbreak/

Modern Teacher, an organization that some of the BRINC schools have engaged with and focuses on personalized, blended, and competency-based learning at scale. modernteacher.com

Altitude Learning, an organization being engaged by some districts in Texas to among other things, help to curate which open education resources are of high quality and meet state standards. altitudelearning.com/

The Evidence Project, Center for Reinventing Public Education, "...a new initiative that will advance solutions-oriented analysis of the K-12 response to the COVID-19 pandemic", evidence-project.org/

APPENDIX B – SCHOOL DISTRICT AND CHARTER SCHOOL SUPPORT INFORMATION ▶▶▶

Rating Scale

DIGITAL INCLUSION TOPIC	3/3 - EXCELLENT	2/3 - FAIR	1/3 - POOR	NOTES
DEVICE ACCESS	Devices where made available to all students and the schools worked with families to provide internet access (Hotspot distribution, subscription reimbursement, Wi-Fi from school parking lot).	Devices were available to some students on a case-by-case basis. District provided families with easy access to information on about internet resources (Wi-Fi from school parking lot, local free hotspots, or discounted subscriptions).	No devices were made available and the district was only providing hard copies of learning material to families without digital access.	Focus is on device availability, but a 3/3 rating requires that the schools also provide some form of internet access to students. So, a school with a 1:1 initiative that only gives families information about internet resource would get rated 2/3.
LMS USAGE	District utilizes an LMS (Schoology, Google Classroom), a teleconferencing platform (Zoom, Google Hangout), and has also given students access to supplemental learning platforms (Khan Academy, Freckle, etc.)	The district is utilizing an LMS. The district may also be utilizing either a teleconferencing platform or supplemental materials, but not both.	District may be utilizing teleconferencing or learning platforms but is not using any LMS (e.g. uploading learning material directly to SharePoint/ Google Drive).	Utilization of LMS is the top priority, so no LMS usage results in a 1/3 rating. A 3/3 Rating requires the usage of LMS + teleconferencing + supplemental material.
SUPPORT	District provides technical support staff contact information that can be accessed digitally and by phone, ensuring that all families can access support when needed. Instructional material is available for device/LMS/ teleconferencing setup and troubleshooting.	District provides technical support staff contact information but contact methods might be limited (ex. Device can't connect to internet, but student can only contact tech support by email). Some instructions are provided for devices and LMS usage	There is no mention of direct technical support contact, or families were only instructed to contact the student's teacher. There are limited or no tutorials/ instructions on devices and LMS	Focus is on the contact information availability of technical support staff, but a 3/3 rating requires the option of contacting technical support staff by phone to ensure all families can access it when needed. Students and families being told to contact a teacher, as opposed to technical support staff, results in a 1/3.

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School District Details

DISTRICT	# OF SCHOOLS	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING	AVG REVENUE PER PUPIL ('16–'17)
APPOQUINIMINK SCHOOL DISTRICT	17	11,737	3	Clever (gateway program), Schoology (LMS), Zoom (meetings), STEMScopes for science & STEM activities 3/3 - Excellent	3	Devices already provided to middle & high school students. Grades 3-5 had a loaner program set up for those who did not have them, and hot spots ordered for those who need them. PK-2 got any extra loaner that were available. For those without access, hardcopy learning packets were made available weekly. 3/3 - Excellent	3	1st week of rollout was focused on parent support. Help/support: L1-teacher, L2-School Building's Tech Coordinator, L3-District Level Tech Team. Mention of a tech support hotline and help email. 3/3 - Excellent	$13,646
BRANDYWINE SCHOOL DISTRICT	16	10,548	2	Schoology with wide range of core & supplemental materials from a variety of providers (Khan Academy, Scholastic at Home, EPIC!, DreamBox Math etc. 2/3 - Fair	2	District providing loaned device for those without access (families completed survey). Gave list of free or discounted internet providers. 2/3 - Fair	3	All support through district Technology Helpdesk (Phone and email). Page with instructions/videos on using Schoology. 3/3 - Excellent	$17,654
CAESAR RODNEY SCHOOL DISTRICT	13	8,183	3	Clever and Schoology and Zoom. 3/3 - Excellent	2	If need Wi-Fi, go to school parking lot. "If you don't have a computer or internet access, contact the teacher or principal so we can establish alternative means of communication" 2/3 - Fair	3	Technology helpline between 8 and 4pm. Lots of instructions and troubleshooting information for online learning platforms. 3/3 - Excellent	$12,527

DISTRICT	# OF SCHOOLS	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING	AVG REVENUE PER PUPIL ('16-'17)
CAPE HENLOPEN SCHOOL DISTRICT	9	5,860	3	Clever and Schoology and Zoom plus others depending on teacher (ClassDojo etc.). 3/3 - Excellent	3	Info on Comcast options and use of parking lot for Wi-Fi access. Mentions school issued iPads (1:1 program had already been implemented for high school students) but also that all students may not have a device. 3/3 - Excellent	1	No helpline or email listed. Tutorials for logon and google form to request logon support but no other helpdesk request form. 1/3 - Poor	$ 20,326
CAPITAL SCHOOL DISTRICT	13	6,605	3	Schoology, Clever, Edmentum, Zoom, along with a wide range of supplemental materials 3/3 - Excellent	2	Grades preK-8 students without digital access are receiving printed "learning kits" from the school. High School students can borrow Chromebooks from school and information is listed on free/reduced cost internet services from Comcast 2/3 - Fair	2	Web page with resources and tutorials for connecting to Wi-Fi, logging into student portals, and setting up home internet/hotspots. Support email is listed for any issues not addressed on tutorial page. 2/3 - Fair	$16,230
CHRISTINA SCHOOL DISTRICT	26	14,003	3	Schoology, Zoom, Class Dojo 3/3 - Excellent	2	1:1 initiative implemented for grades 6-9 with plans to expand to 6-12. Printed learning materials provided weekly for students without digital access. Web page with information about internet options from Comcast and free hotspots in the city/county 2/3 - Fair	2	Page with login instructions for logging in to Schoology and Google. Helpdesk email address for remote learning issues. 2/3 - Fair	$16,056

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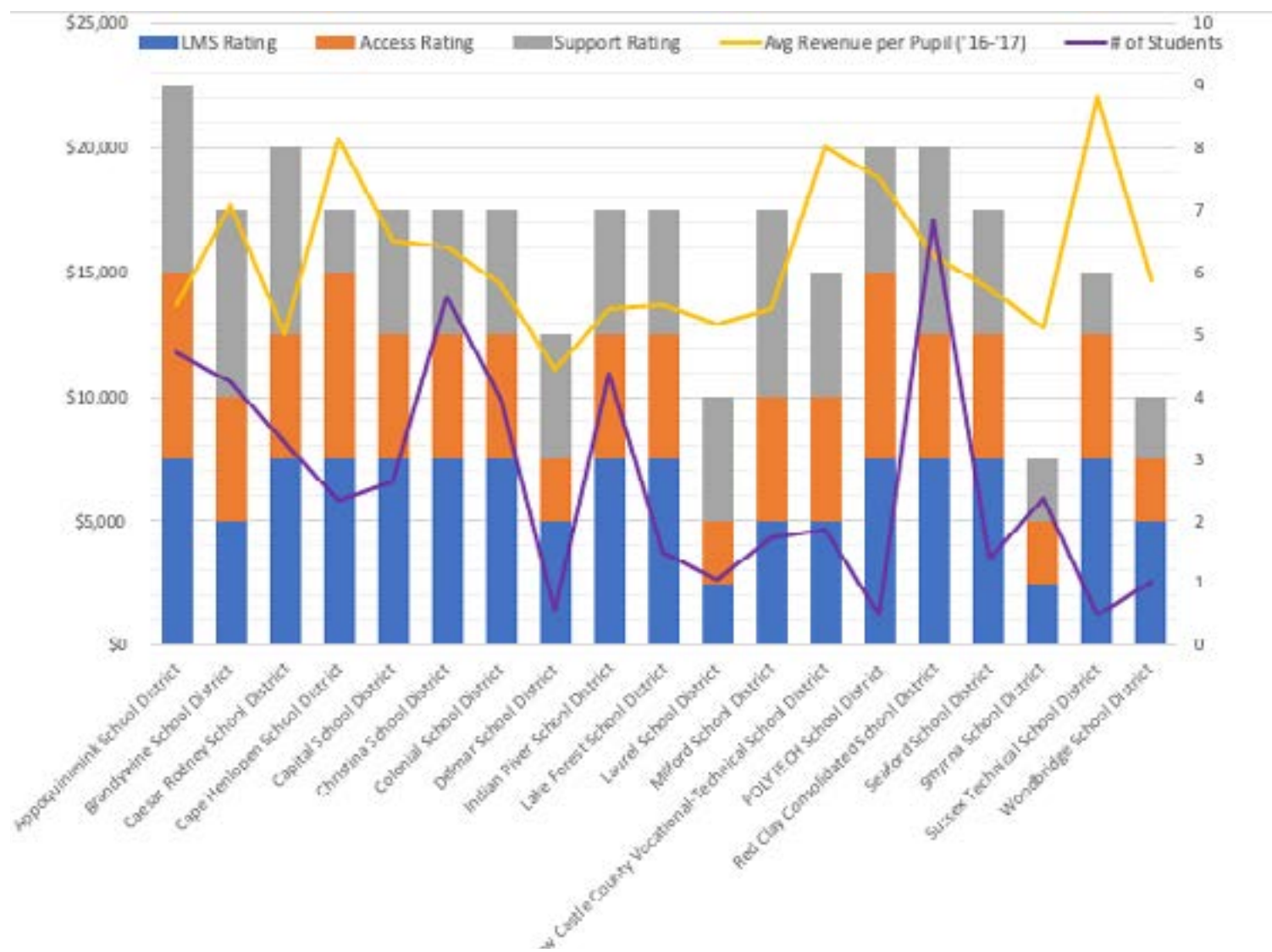| DISTRICT	# OF SCHOOLS	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING	AVG REVENUE PER PUPIL ('16-'17)
COLONIAL SCHOOL DISTRICT	15	9,921	3	Schoology, Zoom (with scheduled class sessions and office hours), and some software for math education (Dreambox, ST Math, Imagine Math) 3/3 - Excellent	2	District issued Chromebooks to students who requested them. Says that they are averaging 6500 students using "Colonial" devices. Website has a list of free/discounted internet vendors. Claims 93% of students have consistent device access and reliable Wi-Fi. 2/3 - Fair	2	District provides technology request and support form, which can be used by families to request devices or technical assistance. There is a page with Chromebook instructions and videos (how to connect to Wi-Fi, add/delete user, clear cache, restart), and tutorial page on accessing remote learning resources. 2/3 - Fair	$14,520
DELMAR SCHOOL DISTRICT	2	1,405	2	Schoology, Zoom 2/3 - Fair	1	Learning packets are uploaded to Schoology. Students without device access are provided printed learning packets. No mention of the district providing equipment. 1/3 - Poor	2	There is a tech support email provided for questions regarding Schoology/Home Access Center, along with an email for questions regarding the printed learning packets. 2/3 - Fair	$11,058
INDIAN RIVER SCHOOL DISTRICT	14	10,942	3	Clever, Schoology, Google Apps, Zoom, Class Dojo 3/3 - Excellent	2	Offers parking lot Wi-Fi access (says they will not be providing technical support), lists public libraries with free Wi-Fi, and lists free/discounted internet options. The remote learning plan states "We are currently working on a plan to get devices into the hands of those families who need them" but provides no more details 2/3 - Fair	2	Has a technical help request form. 2/3 - Fair	$13,475

DISTRICT	# OF SCHOOLS	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING	AVG REVENUE PER PUPIL ('16–'17)
LAKE FOREST SCHOOL DISTRICT	7	3,721	3	Schoology, Zoom, Screencastify, Remind 3/3 - Excellent	2	The High School had implemented a 1:1 technology initiative in 2015 to provide a laptop to all students. K-8 students can contact the district for assistance in obtaining devices. Mail-in packets are available for students with no device/internet access 2/3 - Fair	2	Technology help desk form is available, along with a page with instructions/ videos for Schoology, Zoom, etc. 2/3 - Fair	$13,693
LAUREL SCHOOL DISTRICT	4	2,645	1	Khan Academy, Achieve3000, Freckle Math 1/3 - Poor	1	"Students without laptops can access the Khan Academy website or use the Khan Academy app on smartphones" Does not provide any devices. Link to Comcast internet essentials. 1/3 - Poor	2	There is a form for requesting assistance with online portals 2/3 - Fair	$12,922
MILFORD SCHOOL DISTRICT	6	4,301	2	Schoology, Clever, Remind, Class Dojo 2/3 - Fair	2	Students grade 6-12 without device access can borrow Chromebooks. Printed packets are available for those without internet. Website has list of local ISPs 2/3 - Fair	3	There is a technology support hotline and online form that goes to the technology support specialist. 3/3 - Excellent	$13,494
NEW CASTLE COUNTY VOCATIONAL-TECHNICAL SCHOOL DISTRICT	4	4,669	2	Schoology, Zoom 2/3 - Fair	2	District had previously implemented 1:1 device to student program, issuing a Chromebook to every student. Lists of locations with free Wi-Fi 2/3 - Fair	2	Device repair appointments are available 8am-10am Tuesdays and Thursdays. Mentions online technical support but I couldn't find it on the district website 2/3 - Fair	$20,015

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DISTRICT	# OF SCHOOLS	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING	AVG REVENUE PER PUPIL ('16-'17)
POLYTECH SCHOOL DISTRICT	1	1,192	3	Schoology (video conferencing with teachers through Schoology, this may have required extra licensing), Apex Learning Platform 3/3 - Excellent	3	Chromebooks were issued to every student as part of a 1:1 program. "less than 15 of our families lack reliable internet access and we have worked with those families to obtain internet access and/or be provided with alternate, paper packet, remote learning opportunities" 3/3 - Excellent	2	Students are advised to submit an incident report sheet for any issues with their Chromebook 2/3 - Fair	$18,750
RED CLAY CONSOLIDATED SCHOOL DISTRICT	26	17,069	3	Schoology, Clever, Zoom, Class Dojo 3/3 - Excellent	2	K-8 Students receive a remote learning packet. High school students without device or internet access can contact the school for assistance in obtaining the necessary technology. Links to a tool for finding free Xfinity hotspots 2/3 - Fair	3	Help desk email and phone number. Instructions for using Clever 3/3 - Excellent	$15,682

DISTRICT	# OF SCHOOLS	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING	AVG REVENUE PER PUPIL ('16-'17)
SEAFORD SCHOOL DISTRICT	6	3,516	3	Schoology, Zoom, Khan Academy and other supplemental resources 3/3 - Excellent	2	Chromebooks are provided to students with limited digital access, though it is stated that "learning opportunities will not be contingent on students having access to the internet or a device such as a tablet or computer" and learning activity packages were mailed out. Has a page with links to free Xfinity hotspots and comcast internet essentials 2/3 - Fair	2	Instructions on how to set up and use zoom. Tech support online ticket system. 2/3 - Fair	$14,381
SMYRNA SCHOOL DISTRICT	8	5,882	1	Clever, Khan Academy, ARC Bookshelf, and many links to other online learning resources 1/3 - Poor	1	No mention of devices. Hard copy learning materials are available. Links to comcast internet essentials and free Xfinity hotspots. 1/3 - Poor	1	Instruction page on how students can access clever. 1/3 - Poor	$12,788

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DISTRICT	# OF SCHOOLS	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING	AVG REVENUE PER PUPIL ('16-'17)
SUSSEX TECHNICAL SCHOOL DISTRICT	1	1,241	3	Schoology, Zoom, Khan Academy, and a list of online educational resources 3/3 - Excellent	2	Printed learning materials are available. "Assistance with Internet-accessible devices may be available on a case-by-case basis.". Provides links for internet access options (School Parking lot, public libraries, internet essentials, free hotspots) 2/3 - Fair	1	The instructions for logging into Schoology/Zoom are provided by the teacher 1/3 - Poor	$21,997
WOODBRIDGE SCHOOL DISTRICT	4	2,594	2	Clever, Edmentum, Class Dojo, Remind, Google Classroom, along with a list of online educational resources 2/3 - Fair	1	Printed learning materials are provided weekly. No mention of the district assisting with device access. There is a document with information about comcast internet essentials and Xfinity free hotspots 1/3 - Poor	1	Instructions document for logging into Clever. Teachers are to hold regular office hours to provide support and receive feedback 1/3 - Poor	$14,644

Content Access and Support Ratings by School Districts

Charter School Details

CHARTER SCHOOL	GRADES	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING
ACADEMIA ANTONIA ALONSO	K-5	595	1	Dreambox, Imagine Learning, McGraw-Hill connect, Class Dojo, Zoom 1/3 - Poor	2	Devices (Chromebook or iPad) were distributed to students based on responses to a survey. Information regarding comcast internet essentials and free hotspots is provided. 2/3 - Fair	3	Tech Support hotline. School provides documentation on supported web browsers, along with browser settings recommendations. Also provides instructions for logging in, navigating, and submitting work to all digital learning platforms 3/3 - Excellent
ACADEMY OF DOVER	K-5	266	3	Google Classroom, Class Dojo, Zoom 3/3 - Excellent	2	Chromebooks were loaned to students based on survey responses. Families still in need of devices are to contact the student's teacher. Link with ISP and hotspot information is provided. 2/3 - Fair	1	Parents are encouraged to contact their student's teacher, and are provided teacher email, phone numbers, and sometimes Facebook pages. No other form of direct support is mentioned 1/3 - Poor
CAMPUS COMMUNITY CHARTER SCHOOL	K-8	420	1	Remind 1/3 - Poor	1	Schoolwork is made available online or mailed out. Students can upload assignments or drop them off at the school. Families in need of devices are urged to contact the Principle for help. It is unclear if devices were actually distributed 1/3 - Poor	1	Each teacher has instructions on when and how to retrieve/submit assignments. Parents are urged to contact teachers or principle for any support 1/3 - Poor
CHARTER SCHOOL OF NEW CASTLE	K-8	766	2	Google Classroom and links to additional online learning tools (Freckle, Zearn, Khan Academy, etc.) 2/3 - Fair	1	Links are provided for the usual internet resources (comcast IE, Xfinity hotspots). Students without devices are to receive printed packets that they can submit by mailing it back or dropping it off 1/3 - Poor	1	Instructions and videos on how to access Google Classroom on an iPhone, Android, and Laptops. 1/3 - Poor

| CHARTER SCHOOL	GRADES	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING
CHARTER SCHOOL OF WILMINGTON	9-12	971	3	Schoology, SMART Learning Suite Online, Google Drive/ Hangouts, Zoom 3/3 - Excellent	2	The school implemented a 1:1 Chromebook initiative in 2017. Initially students were not allowed to bring laptops home, but it looks like they received permission to do so during COVID-19. Information on Xfinity hotspots is provided. 2/3 - Fair	2	An email address for Chromebook problems is provided, and video tutorials for Schoology 2/3 - Fair
DELAWARE MILITARY ACADEMY	9-12	578	1	Band app 1/3 - Poor	2	Daily assignment and instructions are posted to Band app. The school announced that they will be implementing a 1:1 initiative for the 20-21 school year, where every student will receive a G-8, 32GB Chromebook. No mention of device access assistance for the 19-20 school year 2/3 - Fair	1	No mention of any technical support or training 1/3 - Poor
EARLY COLLEGE HIGH SCHOOL	9-12	421	3	Schoology, Plato, Study Island, Zoom (mandatory sessions) 3/3 - Excellent	2	All students were issued a laptop as part of an already implemented 1:1 program. No mention of internet access assistance 2/3 - Fair	3	Students are provided with a form to fill if they are experiencing problems with their computer or charger. A phone number for the tech staff is also available, and the names of staff to contact if experiencing problems with Schoology 3/3 - Excellent
EASTSIDE CHARTER SCHOOL	K-8	426	1	Zoom (scheduled class sessions), Google Drive, Nearpod, Edmentum, Study Island, Exact Path, Khan Academy, Newsela 1/3 - Poor	2	School has information about comcast Internet essentials and links to information about free hotspots and discounted plans. Chromebooks were distributed based on survey responses 2/3 - Fair	1	Parents are encouraged to contact their student's teacher or school leadership to provide support. There are tutorial videos for Zoom, Study Island, and Exact Path. 1/3 - Poor

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CHARTER SCHOOL	GRADES	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING
FIRST STATE MILITARY ACADEMY	9-12	452	2	Echo (LMS), Zoom 2/3 - Fair	2	Chromebooks (DELL 11 3100) were issued to students at the beginning of the school year as 1:1 program had already been implemented. Links to internet essentials and Xfinity hotspot information 2/3 - Fair	2	Email address provided for Chromebook support 2/3 - Fair
FIRST STATE MONTESSORI ACADEMY	K-8	599	2	Google Classroom, Freckle, Khan Academy, Typing Club, Quill 2/3 - Fair	1	Distance learning plan says activities are posted daily to google classroom but has no information about device access assistance or even printed copies of assignments. This information must have been sent directly to parents and was not publicly posted 1/3 - Poor	1	Very little information about distance learning or technology is on the website so it's not clear what training or support is offered 1/3 - Poor
FREIRE CHARTER SCHOOL	8-12	487	3	Google Classroom, Zoom 2/3 - Fair	3	"90% of our families have smartphones, 53% have a computer or tablet, and 61% have internet access at home". Chromebooks where purchased and distributed to all students. "We also have a solution in development to ensure that every student has an internet connection" - Unclear on what this solution is. 3/3 - Excellent	3	IT support email and hotline available from 10am-4pm. Chromebook usage guide is provided, along with instructions for accessing google classroom 3/3 - Excellent
GATEWAY LAB SCHOOL	3-8	177	3	Google Classroom, Zoom, IXL Learning, Study Island 3/3 - Excellent	2	Every student in special and general education was sent home with a Chromebook. There are links with information on comcast IE and Xfinity hotspots 2/3 - Fair	2	Parents are told to contact the Director of Technology for technical assistance, who has an email listed on the site. 2/3 - Fair

CHARTER SCHOOL	GRADES	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING
GREAT OAKS CHARTER SCHOOL	6-10	479	2	Google Classroom 2/3 - Fair	2	Facebook post shows School hosted a curb-side pickup of Chromebooks for families who still need them. Hard copies of learning material were also available for curbside pickup. An email address is provided for questions regarding computer/ internet access 2/3 - Fair	2	An email address is provided for any questions or support regarding distance learning. Video instructions for using Google Classroom 2/3 - Fair
KUUMBA ACADEMY CHARTER SCHOOL	K-8	668	3	Schoology, Class Dojo, Kickboard, Home Access Center 3/3 - Excellent	1	Parents were asked to submit a technology survey if they did not have at least one reliable device at home. No mention of assistance with equipment or internet access 1/3 - Poor	1	Parents are told to contact their child's teacher for technology support 1/3 - Poor
LAS AMERICAS ASPIRA ACADEMY	K-8	946	2	Schoology, Zoom 2/3 - Fair	2	A document references parents dropping off Chromebooks at the end of the school year, so it seems devices were distributed. No mention of internet access assistance 2/3 - Fair	3	A phone number for Chromebook support was provided on a now deleted page, showing that tech support was available during the school year. Not sure why page was deleted 3/3 - Excellent
MOT CHARTER SCHOOL	K-12	1,375	2	Schoology 2/3 - Fair	2	9-12 students had Chromebooks from previously implemented 1:1 program. No mention of internet access assistance or device access for other grades. 2/3 - Fair	2	Email addresses where provided for Schoology and general support. There are also instructional videos for how to scan assignments with a phone and submit them digitally 2/3 - Fair

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CHARTER SCHOOL	GRADES	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING
NEWARK CHARTER SCHOOL	K-12	2,412	2	Schoology, Zoom 2/3 - Fair	2	Some devices where donated from families and a technology access survey was used to coordinate the distribution of devices. There are links with information about free/discounted internet resources (Comcast IE and hotspots) 2/3 - Fair	1	Teachers contact families every two weeks to check in and provide any support 1/3 - Poor
ODYSSEY CHARTER SCHOOL	K-12	1,916	2	Google Suite (K-8), Schoology (9-12), Classlink SSO 2/3 - Fair	3	"All OCS families must have technology access during school closure." School had already implemented 1:1 initiative for grades 9-12. Chromebook pickups where made available for K-8 families who filled out a technology access survey. Families with 2 or more students were offered multiple Chromebooks (School had to order more for this). Families were asked to purchase comcast IE/Xfinity monthly subscription and were offered reimbursement 3/3 - Excellent	2	There is a remote support email address provided, along with some troubleshooting instructions for commonly experienced problems when accessing email or learning materials. There were instructions for how to sign up for internet services and request reimbursement. Also, some instructions for avoiding phishing attempts. School provided links to webinars for cybersafety training 2/3 - Fair
POSITIVE OUTCOMES CHARTER SCHOOL	7-12	121	3	Zoom, Google Classroom, Edmentum 3/3 - Excellent	3	School reached out to families to assess technology needs. 48 families needed computers and were distributed Chromebooks. 12 families needed internet and were distributed Wi-Fi hotspots 3/3 - Excellent	2	A staff member was assigned as the point of contact for all technology support and implementation. A tech support help form is available for contacting this staff member. 2/3 - Fair

CHARTER SCHOOL	GRADES	# OF STUDENTS	LMS RATING	LMS USAGE	ACCESS RATING	COVID DEVICE & ACCESS PLAN	SUPPORT RATING	SUPPORT & TRAINING
PROVIDENCE CREEK ACADEMY	K-8	703	3	Schoology, Dreambox, MobyMax, Zoom 3/3 - Excellent	1	Links with information about free/discounted internet services from ISPs. Families completed surveys on technology access but there is no mention of equipment actually being distributed. Printed learning packets were mailed to families that couldn't connect digitally. 1/3 - Poor	2	Instructions for login and assignment submission on online learning portals. Email address is provided for requesting technology resources. 2/3 - Fair
SUSSEX ACADEMY	6-12	858	2	Schoology, Zoom 2/3 - Fair	2	School had already implemented 1:1 program so all students took home Chromebooks. There is information and links on free Xfinity hotspots. There is also mention of the school following up with families who responded to a survey about internet access, but no mention of what action was taken 2/3 - Fair	1	No mention of technical support or training. Seeing as the 1:1 program was already implemented; tech support was likely already in place, but the contact information is not available on the website. 1/3 - Poor
THOMAS A. EDISON CHARTER SCHOOL	K-8	728	1	SharePoint, Zoom 1/3 - Poor	2	Learning packets were made available to pick up and were also uploaded to SharePoint. School loaned devices (type of devices unclear) to families who need them. Link with information on discounted/free internet options from different ISPs 2/3 - Fair	2	Instructions on how to login with school issued devices and how to access digital learning packets and videos. There is an email address provided for requesting a device and support from the school. 2/3 - Fair

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Content Access and Support Ratings by Charter Schools

Legend: LMS Rating, Access Rating, Support Rating, # of Students
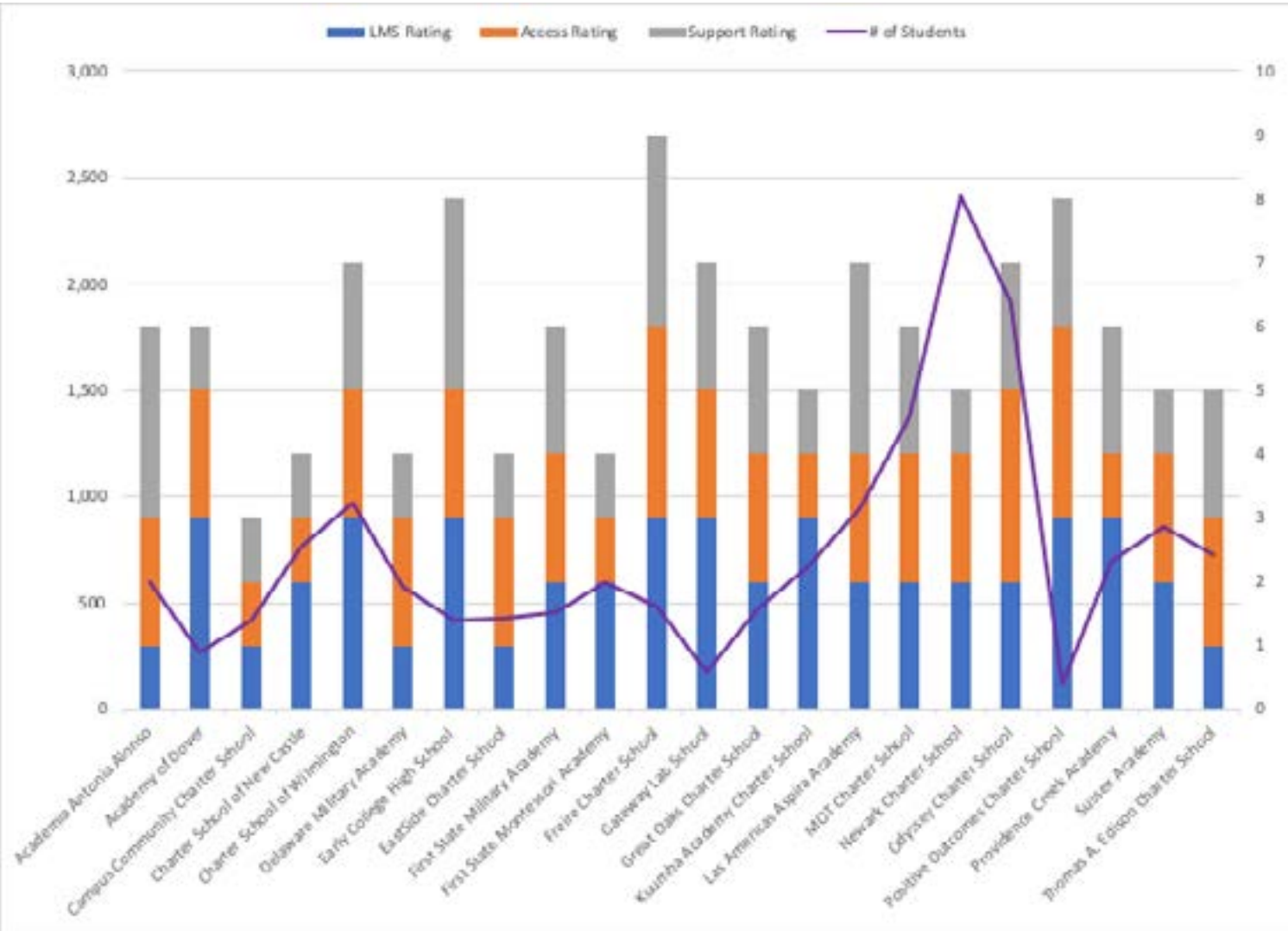
APPENDIX C – BUDGET DETAILS AND CALCULATIONS ▶▶▶

	Kent		New Castle		Sussex		Delaware Total	
Total Households	64,545		203,855		89,365		357,765	
Household Breakdown	100% FPL	200% FPL[2]	100% FPL	200% FPL	100% FPL	200% FPL	100% FPL	200% FPL
Households	6,713	10,462	14,881	20,424	6,881	10,748	28,475	41,634
% of Total	10.4%	16.2%	7.3%	10.0%	7.7%	12.0%	8.0%	11.6%
% without school-aged children[1]	8.9%		6.5%		6.7%		7.0%	
Households below FPL w/o school-aged children	5,745		13,251		5,987		24,983	
Broadband Coverage								
Monthly Broadband Coverage ($15/mo./household)[3,4]	$99,238	$155,478	$220,775	$303,914	$101,876	$159,880	$421,889	$619,271
Monthly Hotspot Coverage ($30/mo./household)[5]	$2,905		$4,893		$2,681		$10,478	
Annual Internet Coverage	$1,225,710	$1,900,587	$2,708,010	$3,705,675	$1,254,685	$1,950,726	$5,188,404	$7,556,988
2-year Internet Coverage	$2,451,419	$3,801,174	$5,416,020	$7,411,350	$2,509,369	$3,901,451	$10,376,808	$15,113,976
Mobile Hotspot Device - One-Time Cost ($80 each)	$7,745		$13,047		$7,149		$27,941	
Devices for households w/o school-aged children[6]								
Chromebook ($200 bulk pricing)	$1,148,901		$2,650,115		$1,197,491		$4,996,507	
Tablet ($100)	$574,451		$1,325,058		$598,746		$2,498,254	

% below FPL w/o school-aged children	**Families below FPL without children + Families below FPL with children only less than 5 years**
Families below FPL without children	Total Households * % of Families below FPL * (1 - % of families below FPL with related children less than 18 years)
Families below FPL with children only less than 5 years	Total Households * % of Families with Children under 18 years * % of Families with Children under 5 years only

Example: Kent

Total Households	64,545
% Families below FPL	10.4%
Of Families below FPL, % with related children under 18 years	17.2%
Of Families below FPL with related children under 18 years, % with related children under 5 years only	16.2%

Families without related children under 18 years	5,558
Families with related children under 5 years only	187
Families without related school-aged children	**5,745**
Families with related school-aged children	968
Families below FPL	**6,713**

[1] See ' % below FPL w/o school-aged children' for calculation

[2] Based on Families with SNAP benefits in the last 12 months

[3] Pricing varies by provider, location, and qualification requirements. Assumes $15/household/month

[4] Assume 90% of families with school-aged children have physical access to broadband

[5] Assume 10% of families with school-aged children require mobile hotspot for internet access

[6] Devices should be refreshed every 3 years

APPENDIX D – CONNECTED NATION PROPOSAL ▶▶▶

See attached PDF(Connected Nation Delaware - County Broadband Proposal 20200730) also available online at https://f.hubspotusercontent20.net/hubfs/575821/Connected%20Nation%20Delaware%20-%20County%20Broadband%20Proposal%2020200730.pdf.

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WORKS CITED ▶▶▶

Interviews and Meeting Participants

Thank you to the following individuals for your participation, feedback, and resource sharing. We appreciate the generosity of your time, ideas, and information.

Name	Organization
Annie Norman	Delaware Division of Libraries
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Chris Coxon	Educate Texas
Cynthia Pritchard	Philanthropy Delaware
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Douglas Garcia	College Board
Elizabeth Farley-Ripple	University of Delaware
Heath Chasnov	Woodbridge School District
James Collins	Delaware Department of Technology & Information
Jenna Ahner	Delaware State Board of Education
Jim Shanahan	WhyFly
Johan Samarxhi	Tech Impact
Kendall Massett	Delaware Charter Schools Network
Madelyn Bayard	Rodel
Markevis Gideon	NerdITNow
Matt Meyer	New Castle County
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Patches Hill	Delaware Department of Education
Patrick Callihan	Tech Impact
Paul Herdman	Rodel
Pete Leida	Colonial School District
Robin Lake	Center on Reinventing Public Education
Susan Bunting	Delaware Department of Education
Teri Lawler	Delaware Department of Education
Timothy Gibbs	Delaware Academy of Medicine and the Delaware Public Health Association

Public Resources and Documents

The following studies, papers and websites were quoted or referenced in this document

Remote Learning Experiences in Delaware, COVID-19 Insights from the Delaware School Reopening Survey, July 2020, Delaware Department of Education www.doe.k12.de.us/cms/lib/DE01922744/Centricity/Domain/599/Remote%20Learning%20Experiences%20in%20Delaware%20Report.pdf

*Delaware Educator's Recommendations – Reopening Schools Working Groups, June 2020, Rodel, rodelde.org/wp-content/uploads/2020/06/Delaware-Educator-Reccomendations-_-Final-June-2020.pdf

2018-2019 Delaware Public Education at a Glance, Rodel, School Finance: Average revenues per pupil by district, www.rodelde.org/ataglance/#school-finance

Kraft, Matthew A. and Simon, Nicole S., "School Organizational Practices And The Challenges Of Remote Teaching During A Pandemic", *Teaching and Learning During a Pandemic*, June 24, 2020, Albert Shanker Institute, www.shankerinstitute.org/blog/school-organizational-practices-and-challenges-remote-teaching-during-pandemic

Jochim, Ashley and Hassel, Bryan C. and Clifford, Beth, "States must take decisive action to avert the coming education crisis", *The Lens,* July 29, 2020, Center for Reinventing Public Education, www.crpe.org/thelens/states-must-take-decisive-action-avert-coming-education-crisis

Mills Administration Secures WiFi & Learning Devices for 100 Percent of Maine Students Reporting a Need In Face of COVID-19's Impacts on Schools, May 15, 2020, Announcement from the Office of Governor Janet T. Mills, Maine, www.maine.gov/governor/mills/news/mills-administration-secures-wifi-learning-devices-100-percent-maine-students-reporting-need

Open Education, United States Office of Educational Technology, tech.ed.gov/open/

*Engaging Tools for Distance Learning, Rhode Island Department of Education, Accessed August 14, 2020, www.ride.ri.gov/Portals/0/Uploads/Documents/COVID19/Engaging_Tools_for_Distance_Learning.pdf

Online Tools for Storyline and Remote Teaching and Learning - Supporting Students' Science Learning in the Era of COVID-19, Rhode Island Department of Education, Accessed August 14, 2020, www.ride.ri.gov/Portals/0/Uploads/Documents/Instruction-and-Assessment-World-Class-Standards/Curriculum/AppFinder-Tool-TeachingScienceRemotely.pdf

Diagnostic and Screener Guidance, July 14, 2020, Louisiana Department of Education, www.louisianabelieves.com/docs/default-source/assessment/diagnostic-and-screener-guidance.pdf?sfvrsn=42599b1f_28

Strong Start: Addressing Unfinished Learning Gaps, July 14, 2020, Louisiana Department of Education, www.louisianabelieves.com/docs/default-source/strong-start-2020/addressing-unfinished-learning-gaps.pdf?sfvrsn=2d499b1f_14

*What you need to know about Philly's plan to get 35K low-income households online for the 2020-21 school year: PHLConnectED, August 6, 2020, Technically, technical.ly/philly/2020/08/06/city-philadelphia-government-school-district-internet-device-connection-plan-students-2020-2021/

*2018: ACS 5-Year Estimates Data Profile, Delaware - 2018, United States Census Bureau, data.census.gov/cedsci/table?g=0400000US10_0500000US10001,10003,10005&d=ACS%205-Year%20Estimates%20Data%20Profiles&tid=ACSDP5Y2018.DP03&moe=false&hidePreview=true

School Districts

School District	Relevant Links
Appoquinimink School District	https://www.apposchooldistrict.com/apps/pages/index.jsp?uREC_ID=439244&type=d
Brandywine School District	https://de50000195.schoolwires.net/site/default.aspx?DomainID=5028
Caesar Rodney School District	https://www.crk12.org/Page/3288
Cape Henlopen School District	https://www.capehenlopenschools.com/Page/3873 https://www.cape-henlopenschools.com/Page/3618
Capital School District	https://www.capital.k12.de.us/for_families/communication_with_families/flu_and_corona_virus_information
Christina School District	https://www.christinak12.org/covid19
Colonial School District	http://www.colonialschooldistrict.org/learning-resources/
Delmar School District	https://www.delmar.k12.de.us/apps/news/show_news.jsp?REC_ID=637296&id=0
Indian River School District	https://www.irsd.net/UserFiles/Servers/Server_170503/Image/Staff/IRSD%20Remote%20Learning%20Plan%204-7-20.pdf https://www.irsd.net/cms/One.aspx?portalId=170587&pageId=13224983
Lake Forest School District	https://www.lf.k12.de.us/wp-content/uploads/2020/04/Parent-Re-mote-Learning-Plan-Final-4.30.2020.pdf
Laurel School District	https://www.laurelschooldistrict.org/apps/pages/index.jsp?uREC_ID=440526&type=d&termREC_ID=&pREC_ID=806736
Milford School District	https://www.milfordschooldistrict.org/apps/pages/index.jsp?uREC_ID=440072&type=d
New Castle County Vocational-Technical School District	https://www.nccvt.k12.de.us/wp/wp-content/uploads/2020/05/NCCVT-Remote-Learning-Plan-2020-COVID-19.pdf
POLYTECH School District	https://www.polytechpanthers.com/ourpages/auto/2020/3/27/55013032/POLYTECH%20Remote%20Learning%20Ad-dendum.pdf
Red Clay Consolidated School District	https://covid19.redclayschools.com/home
Seaford School District	https://www.seafordbluejays.org/apps/pages/index.jsp?uREC_ID=1305916&type=d&pREC_ID=1866378
Smyrna School District	https://www.smyrna.k12.de.us/apps/pages/index.jsp?uREC_ID=212231&-type=d&termREC_ID=&pREC_ID=810878
Sussex Technical School District	https://sussexvt.org/cms/one.aspx?portalId=11965367&pageId=14310004
Woodbridge School District	https://www.woodbridgeraiders.net/apps/pages/index.jsp?uREC_ID=443467&type=d&termREC_ID=&pREC_ID=827768

Charter Schools

Charter School	Relevant Links
Academia Antonia Alonso	https://sites.google.com/academiacharter.org/laacademiadistantlearning/home
Academy of Dover	https://aodcharter.org/f/remote-learning-plan https://aodcharter.org/academy-letter
Campus Community Charter School	http://campuscommunityschool.com/content/ccs-will-be-conducting-remote-learning-march-16th-june-5th
Charter School of New Castle	https://sites.google.com/charterschoolnewcastle.org/csncdistance-learningportal/home
Charter School of Wilmington	https://charterschool.org/cyber-schedule-begins-on-wednesday-march-18/
Delaware Military Academy	http://www.demilacad.org/commandants-corner.htm
Early College High School	https://echs.desu.edu/sites/desu.edu.echs/files/document/31/echs_instructional_plan_march-may_2020.pdf
EastSide Charter School	https://sites.google.com/view/eastsidems/home?authuser=0 https://sites.google.com/eastsidecharterschool.org/apex/home
First State Military Academy	https://www.fsmilitary.org/apps/pages/index.jsp?uREC_ID=443331&type=d&termREC_ID=&pREC_ID=827288
First State Montessori Academy	https://firststatemontessori.org/wp-content/uploads/2020/03/Distance-Learning-Plan-Final.pdf
Freire Charter School	http://freirewilmington.org/families/coronavirus/
Gateway Lab School	https://4.files.edl.io/c3e9/04/09/20/171628-6413955f-ecc4-4072-98c8-8655d94d858d.pdf
Great Oaks Charter School	https://sites.google.com/greatoakscharter.org/go-wil-school-closure-website/home https://www.facebook.com/gowilmington/photos/a.560116270789615/1908463372621558/?type=3&theater
Kuumba Academy Charter School	https://kuumbaacademy.org/academics/homework-and-learning
Las Americas Aspira Academy	https://4.files.edl.io/b282/05/15/20/040842-6923bd93-65f9-4c03-bc9b-022f18277c64.pdf
MOT Charter School	http://motcharter.com/remote/
Newark Charter School	https://www.newarkcharterschool.org/covid-19
Odyssey Charter School	http://odysseycharterschooldel.com/covid-19-updates/ http://odysseycharterschooldel.com/wp-content/uploads/2017/03/032620_Coronavirus_Parent_Guardian_Email_4.pdf
Positive Outcomes Charter School	https://www.positiveoutcomescs.org/ourpages/auto/2020/3/26/37574936/Remote%20Learning%20Plan%20Final%20DOE%20Reviewed.pdf
Providence Creek Academy	http://www.pcasaints.org/pca-updates-on-the-covid-19-situation/
Sussex Academy	https://www.sussexacademy.org/wp-content/uploads/2020/04/Sussex-Academy-COVID-19-Remote-Learning-Plan.pdf
Thomas A. Edison Charter School	http://thomasedison.charter.k12.de.us/TECS/COVID-19