

SPRING 2020 **CONNECTIVITY REPORT**

Assessing the Digital Divide and Remote Learning Across 22
Kansas City School Districts

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EDUCATION**

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INTRODUCTION

Since President Trump declared the coronavirus a national emergency on March 13, school leaders across the nation have been balancing incredible operational challenges—distributing food, coordinating social services, and supporting staff—all while transitioning instructional activities to a new frontier of virtual, or distance, learning. Additionally, a stark “digital divide,” the gap between those with computer and internet access and those without, is preventing many of our nation’s students from accessing online learning opportunities. This means many students have functionally been without access to instruction, beyond paper packets, since early March. This divide belies a deeper concern; in a city where staunch educational inequities have persisted for decades, this digital divide threatens to widen an already stark chasm, despite recent hard-won progress.

When stay-at-home orders went into effect and school buildings closed their doors, LEANLAB Education, a Kansas City based non-profit focused on innovating in public education, decided to put their traditional program activities on hold, in order to support Kansas City area students with gaining access to the connectivity and technology necessary to participate in distance learning efforts. LEANLAB’s mission has always been to combat structural inequities that prevent access to quality learning opportunities for all students through technology and innovation, so working to close the digital divide and increase access to connectivity and technology was a natural fit. Additionally, LEANLAB’s expertise in edtech instructional solutions and innovation processes—and standing relationships with many regional school districts—makes them uniquely qualified to support educators during this transition to virtual learning.

This report discusses the collaborative effort of LEANLAB and its school and community partners to help schools identify and respond to the technology needs of Kansas City school students. LEANLAB found that 1 in 5 students across 22 school districts in the Kansas City region lack reliable internet access, and lack, therefore, access to virtual learning opportunities. This finding points to an opportunity to create larger, systemic change by inviting multiple change agents (schools, communities, philanthropy and government) to take collective action toward bridging the digital divide and ensuring all students have equal access to learning opportunities.

TECHNOLOGY NEEDS ASSESSMENT

Geographic evidence of the digital divide in the Kansas City metropolitan area has been identified by other organizations that have conducted assessments of technology needs across the region. Such connectivity analyses cannot, however, accurately describe the educational digital divide—variation in access to technology at the school level—across the region for two reasons. First, census-level reports don't account for the dynamism of the frequent mobility of families. There is very high transience in KC schools; 40-50% of students will switch from one school to another school in any given year. Second, geographic reports do not account for the fragmented nature of Kansas City's public school setting. Nearly 50% of KC students are in charter schools, meaning many Kansas City students don't attend school in the same neighborhood in which they live.

Therefore, in order to effectively assess the extent of the educational digital divide in Kansas City, LEANLAB developed a separate technology needs assessment and process with each participating school district. School districts had the option to voluntarily leverage LEANLAB's capacity to assist with identifying connectivity and technology needs. LEANLAB designed a bilingual technology needs assessment tool that schools could use to assess the needs of their students and families. Ultimately, 22 local education agencies (LEAs), colloquially known as "school districts" or "charter school systems," communicated their technology needs to LEANLAB, including the total number of students in need of internet access and the total number of students in need of devices (laptops or tablets) to use for remote, virtual instruction.

Of the 22 participating LEAs (see table below), 17 were public charter schools and five were traditional public school districts. The five traditional public school districts were Belton, Fort Osage, Independence, Clinton County, and Kansas City Kansas Public Schools. These districts serve suburban, rural and urban student populations across geographically dispersed landscapes. There were unique challenges related to distribution of resources and connectivity for families outside of densely populated areas with centralized school systems.

At-Home Technology Needs Assessment Encuesta Familiar



CONNECTIVITY AND DEVICE NEEDS BY SCHOOL TIER

Tier	Description	Total Student Population	Device Need	% of Population in Need	Hotspot Need	% of Population in Need
1	Charter schools within KC Public School System Boundaries	10,484	2,418	23.06%	1,100	10.49%
2	Non-charter districts in the Kansas City, Missouri metro area	25,724	144	0.56%	6,857	26.66%
3	Kansas City Kansas School District	22,902	0	0.00%	4,800	20.96%
Total	22 participating schools	59,110	2,562	4.33%	12,757	21.58%

To organize schools and provide resources where they were most needed, LEANLAB categorized the 22 school districts that voluntarily participated into three separate tiers. Charter schools were prioritized as “Tier 1” because they are least equipped with the IT staff necessary to support the transition to remote learning. Additionally, the small student populations of charters meant that their needs could be more quickly met. LEANLAB then prioritized other public school districts in the Kansas City region, including Fort Osage, Independence, Clinton County, and Belton School Districts. Finally, the third tier comprised the Kansas City Kansas School District, the only participating school district in the state of Kansas¹.

The aggregate technology needs assessment data revealed, as shown in the table above, a total need for 2,562 student devices

(4% of the student population), and a total need for internet access for 12,757 students (21% of the student population). Charter schools represent the majority of the device need. About 23% of the charter school student population was in need of devices, while only one of the non-charter school districts reported a need for devices, representing just 0.56% of the total student population of Tier II schools. The connectivity need, however, was much larger with the non-charter schools. Among the five public school districts (Tier II and III), 24% of the student population was without access to the internet, representing a need for 11,657 hotspots. Among the 17 charter schools, about 10% of the student population did not have access to the internet, representing a need for 1,100 hotspots.

PARTICIPATING SCHOOLS

SCHOOL NAME	# OF STUDENTS
TIER I	
Academie Lafayette	1088
Academy for Integrated Arts	207
Citizens of the World	221
Crossroads Charter Schools	895
De La Salle Education Center	140
Frontier School of Excellence	1564
Genesis Charter School	272
Gordon Parks Elementary School	180
Guadalupe Centers	1479
Hogan Preparatory Academy	1058
Hope Leadership Academy	116
Ewing Marion Kauffman School	1139
Kansas City Girls Preparatory Academy	76
Kansas City International Academy	677
KIPP: Endeavor Academy	630
Lee A. Tolbert Community Academy	513
Scuola Vita Nuova Charter School	314
TIER II	
Belton School District	4868
Fort Osage R-I School District	5069
Independence School District	15143
Clinton County R-III School District	644
TIER III	
Kansas City Kansas School District	22902

¹ Kansas City Public Schools (KCPS), an initial participant with LEANLAB, was able to withdraw their need and negotiate their own agreements with vendors for hotspots and devices independently. They remained an advisor on vendor selection, procurement, distribution, and short-term WiFi solutions for “digital deserts” - neighborhoods identified as having dense areas of families without internet access.

TECHNOLOGY ACQUISITION

After identifying the technology needs of Kansas City area schools, LEANLAB explored the technology and connectivity vendor landscape to identify purchase and distribution options. Through investigating COVID-19-specific offers and vendor partnerships for schools, three key challenges emerged.

1

DIMINISHING INVENTORY AND LIMITED VENDOR CAPACITY

As the COVID-19 crisis set in, and more organizations and individuals began working and studying from home, demand for hotspots and devices skyrocketed and vendors struggled to supply inventory to meet the demand. This limited inventory, coupled with overtaxed distribution channels, created long delays for order fulfillment, un conducive for an emergency crisis response. For certain vendors, orders placed in late March through early April would not be fulfilled until July and August, after the end of the school year. This timeline was not conducive for many of LEANLAB's school partners working urgently to reduce the gaps in learning for disconnected families. Furthermore, each school had its own specific technology needs and preferences, which made achieving economies of scale through collective purchasing difficult, as no single vendor could effectively meet the unique and specific needs of each school.

2

LACK OF ACCESSIBLE CAPITAL

The capital costs of devices and connectivity solutions became cost prohibitive depending on the total number of devices and solutions needed. Particularly, large districts, some reporting needs of up to 5,000 hotspots, with an estimated price tag of \$1.2 million for 12 month contracts, did not have sufficient cash reserves to absorb such large, unbudgeted expenditures. Funds made available by government agencies and local philanthropy were often limited in scope and had long disbursement timelines. Furthermore, schools were hesitant to employ funds to purchase devices and connectivity solutions given the uncertainty of the scope and severity of the crisis, which is expected to decrease available state school funding for the next fiscal school year, 2020-21. Some school districts explicitly expressed a desire to hold back on technology expenditures, instead prioritizing building cash reserves to cover basic operating expenses expected to be negatively impacted by anticipated Covid-19 related school budget cuts in the next fiscal year.

3

LACK OF COMPREHENSIVE BROADBAND AND CONNECTIVITY INFRASTRUCTURE

A baseline of adequate connectivity and broadband infrastructure is necessary to effectively and efficiently implement connectivity and technology service at scale. Prior infrastructure analyses reveal a patchwork of unequal broadband access available across the KC-metro area. Neighborhoods with more concentrated poverty have more housing units without broadband infrastructure running directly to individual homes, limiting the viability of high-speed in-home connectivity options at scale. This meant that certain families were unable to redeem connectivity offers from traditional internet providers. For example, Spectrum had an offer for 60 days of free internet, but only customers without outstanding Spectrum balances were eligible for the offer. Additionally, rural communities struggled with necessary and consistent satellite access to leverage hotspots from some mobile providers. School districts in Clinton and Wyandotte Counties, for instance, reported struggling to reliably access the internet from Sprint's 1Million Project², citing inconsistent satellite signals.

² The 1Million Project is a multi-year initiative to offer free mobile devices and free high-speed wireless internet connectivity to 1 million low-income, U.S. high school students lacking a reliable source of internet access at home.

COORDINATED FUNDRAISING EFFORTS

While LEANLAB has not directly fundraised on behalf of schools, LEANLAB has worked as an advisor, making data-informed recommendations to area philanthropists and individuals interested in supporting immediate connectivity needs.

Specifically, LEANLAB Education worked with SchoolSmartKC—a funder specializing in strategic investments for charter and district schools within the Kansas City Public School District boundaries—on an effort to allocate financial and instructional resources through an accelerated grant-making process to meet short-term purchasing needs of hotspots and devices. SchoolSmartKC allocated \$467,360 to the 17 charter schools partnering with LEANLAB and \$611,000 to Kansas City Public Schools to purchase the technology of their choice to meet the needs of their students and families. As shown in the table below, the funding allowed the 17 charter schools to purchase 360 devices (15% of the total charter need) and 719 hotspots (65% of the total charter need). Because the SSKC funding was only available to schools within the KCPS boundaries, suburban and rural districts (Tier II and III schools) did not qualify for funding.

TIER	DESCRIPTION	NUMBER OF DEVICES PURCHASED	PERCENT OF DEVICE NEED MET	NUMBER OF HOTSPOTS PURCHASED	PERCENT OF HOTSPOT NEED MET
1	17 Charter schools within KC Public School System Boundaries	360	14.88%	719	65.36%
2	4 non-charter schools in Kansas City, Missouri	0	NA	145	2.11%
3	Kansas City Kansas School District	0	NA	0	0%
TOTAL	22 participating schools	360	14.88%	864	19.01%

Additionally, LEANLAB worked with the Ewing Marion Kauffman Foundation, recommending purchasing support for smaller Tier II and Tier III school districts, and infrastructure assessment and connectivity planning grants for larger school districts with high volumes of need. Google Fiber and Startland, a local digital news-outlet, helped direct giving initiatives toward individual school districts with unmet needs.

COORDINATED DIGITAL INCLUSION EFFORTS

There were many barriers to acquiring technology quickly. With long distribution timelines, there remained a need to get students and families stop-gap connectivity solutions in the short term, while coordinating a larger fundraising initiative from funders and simultaneously negotiating bulk deals with vendors.

The Kansas City Coalition for Digital Inclusion stepped in to coordinate the efforts of local organizations, including the public library system, transportation authorities, non-profits, and private industry to provide emergency connectivity and technology to students and families in need. Connecting for Good secured donations of devices and hotspots from local businesses and government agencies, and distributed to families with students attending schools within Tiers 1,2 and 3, as well as to the general public in need throughout Jackson County. The Kansas City Public Library system made open access WiFi available 24-hours a day in the parking lots of all branch locations. Kansas City Public Schools and Student Transportation of America, a transportation vendor, placed WiFi-equipped school buses at library locations throughout the city in areas that were identified as “digital deserts,” meaning they contained large disconnected populations.

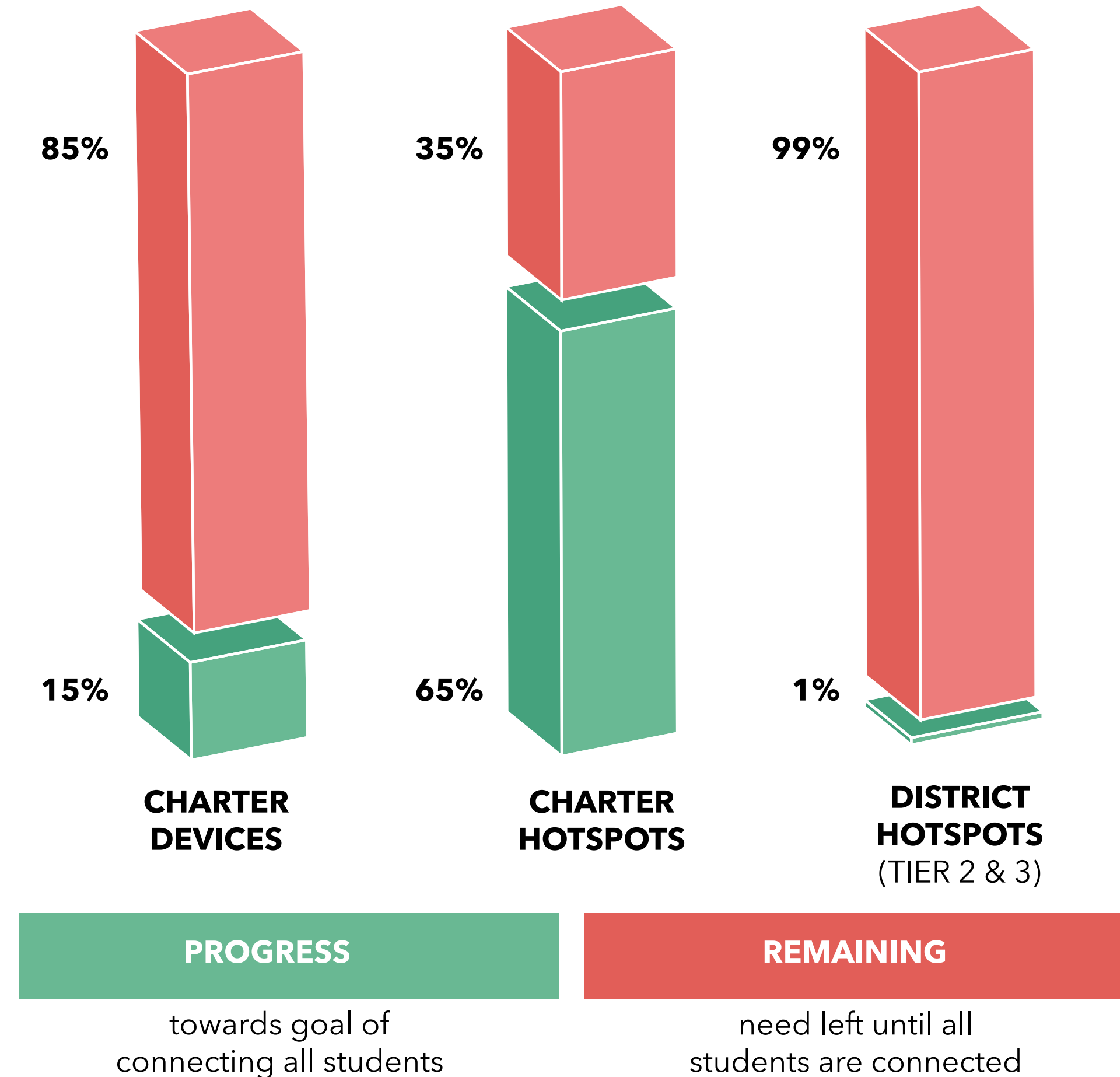
Though these short-term efforts were successful in providing some connectivity to vulnerable populations, identifying high-need areas, and leveraging existing resources, these efforts were unable to meet the total need for connectivity in the Kansas City region. Solutions like WiFi-equipped school buses lacked the strength of signal needed to cover larger areas and often were subject to bandwidth throttling and slowed speeds. For the long-term change needed to fully connect the Kansas City region, significant infrastructural investment is needed.

REMAINING NEED

While the philanthropic community in Kansas City helped many schools in the urban core provide direct, immediate support, the funding was, unfortunately, not sufficient for addressing all of the immediate needs across the region. Substantial connectivity needs for large, traditional school districts with larger populations remain. The sheer size of their need (4000-6000 households without internet) and the corresponding cost (more than \$1 million dollars for annual contracts on hot spots) of connectivity prevented large district school leaders from procuring hotspots even at discounted, bulk pricing. Of the 11,657 households among the five district schools (Tier II and III) that were reported to be without internet at home, only 145 hotspots were secured to distribute to families, representing just 1.24% of the total need across Tier II and III schools.

Among the charter schools, many larger charter schools were not able to cover the cost of buying devices for every student in need. Even with SSKC funding, only 15% of the total device need was secured. Among the charter schools that were able to secure devices, many are in the position of requiring that multiple students within homes share the same device across contents and grade levels. Charter schools were able to cover 65% of the immediate connectivity need by distributing hotspots they purchased with SSKC funding, but 35% of the connectivity need remains.

The figure above illustrates progress toward the immediate need that schools identified in March. The need is, however, ongoing and always evolving. Given the dynamic nature of the connectivity need as well as the significant size of the remaining immediate need, there existed a space for other creative avenues for connecting families to the internet beyond distributing hotspots. Though some families were able to secure COVID-19 related short term offers from service providers, there was no evidence of these kinds of connectivity solutions being broadly leveraged. Therefore, a consortium of organizations across Kansas City formed with the purpose of providing alternative connectivity solutions.



CONCLUSION

Reaching the most marginalized families requires overcoming major infrastructural gaps and intractable inequities. A connectivity report on the digital divide prepared by mySidewalk, a city intelligence platform, makes clear that the Troost Avenue boundary, a North-South thoroughfare that serves as Kansas City's de facto racial dividing line, also segregates the connected from the disconnected. As research continues to point to COVID-19 disproportionately affecting communities of color, it is evident that communities of color are also disproportionately affected by connectivity issues as well.

LEANLAB technology needs assessment results suggest that the current digital divide is perpetuated by long standing inequities in the Kansas City region and points to a need for comprehensive, sustainable solutions, especially for school districts serving large populations of students living in poverty and rural communities. Connectivity solutions need to work over a longer time horizon than 12-month hotspot contracts and temporary WiFi access points. Though the Covid-19 outbreak has shined a light on the extent of the digital divide in the Kansas City region, the digital divide preceded and will persist beyond the outbreak.

Schools, districts, and communities need to be prepared to deal with the effects of the divide in the future. As more research points to how low-income and historically marginalized students are the most adversely affected by going online, schools, policymakers, and communities need to take meaningful action to ensure that virtual learning doesn't perpetuate or exacerbate existing gaps in achievement and opportunity. The Kansas City region will not be able to prosper in the future without an education system that adequately serves all students, and the digital divide and its related challenges remain a barrier to this vision of what education in this region can be.

5

RECOMMENDATIONS FOR DIGITAL EQUITY

Co-created with system level leaders from school systems across the KC metro area.

INTERNET PROVIDERS

- Internet providers should provide free internet service plans for all households with pre-k to college aged students.
- Provide “school-district education plans” with increased flexibility including:
 - o No contractual obligations
 - o Month-to-month options
 - o No data caps
- Reduce barriers for non English-speaking and undocumented populations by:
 - o Eliminating any status identifying documentation
 - o Providing translational services in tech support service

LOCAL & MUNICIPAL GOVERNMENT

- City Councils in KCMO and KCKS should adopt resolutions for Digital Equity. These resolutions should commit to supporting a phased plan for achieving 100% citywide household and small business adoption of internet, computers, and digital/online learning tools. The four phases are: Assessment, Costing, Funding, and Execution.

SCHOOL DISTRICTS

- School districts should adopt a 100% digital equity pledge, ensuring 100% of students receive access to quality internet devices (laptops/tablets), and the ongoing tech support necessary to equitably participate in 21st Century Learning.

PHILANTHROPISTS

- Philanthropy should give immediate, unrestricted funds to support the immediate technology needs (internet connectivity, laptops/tablets, and anticipated technology loss expenses) for the academic year 2020-21, while a more comprehensive government and corporate policy initiative is undertaken.

STATE DEPARTMENTS OF EDUCATION

- Create grant programs for customized Professional Development and instructional resources for local districts, and
- Create a stipend program to incentivize exemplar instructional leaders to share best practices locally, state-wide and nationally.
- Leverage national best practices to inform the creation of clear learning standards aligned to best practices in distance learning



THANK YOU

LEANLAB hopes to start a conversation about a collective response to provide connectivity to our most vulnerable student communities in times of crisis, and to build a collaborative culture rooted in sharing best practices when it comes to expanding educational opportunities for our region's children. The findings in this report suggest individual initiatives executed in siloes will fall short, given the magnitude of the challenge. Private industry cannot quickly and sufficiently meet demand. Even with discounted products and plans, connectivity through traditional service providers still remains unaffordable for many families and schools. While the philanthropic community has been generous during this crisis, they, too, are limited in financial resources. An alternative is a solution from the government. Local and state governments can begin committing resources toward immediate, emergency needs (expanding free municipal wifi), while committing to building and expanding long-term infrastructure solutions that will streamline connectivity solutions for all students and families in the future. Digital inclusion advocates and education support organizations can continue to work to coordinate efforts to maximize their impact.

LEANLAB Education suggests that we all have a part to play in expanding educational opportunities via technology for all of our region's students. LEANLAB intends to use the findings in this report to influence partner organizations, and then to create a larger research agenda, evaluating the conditions under which virtual learning is successful and the ways in which connectivity impacts teaching and learning across our region. While Covid-19, and the emergency initiatives it incited, have reaffirmed the existence of long-standing regional inequities, LEANLAB hopes that the learnings from this crisis can also act as an opportunity toward creating a more equitable environment for all Kansas City students, once and for all.