Kansas City Regional

Digital Equity Action Plan

March 2023

Federal Reserve Bank of Kansas City

RISING

MARC
MID-AMERICA REGIONAL COUNCIL

Acknowledgements

Community Convenors:
Mid-America Regional Council
KC Rising, Civic Council of Greater Kansas City
Federal Reserve Bank of Kansas City

With assistance from:
Vireo
Doug Johnson
KC Digital Drive

Advisory Group

Aaron Deacon	Managing Director	KC Digital Drive
Tom Esselman	Executive Director	PCs for People
Donell Hammond	IT Director	Ewing Marion Kauffman Foundation
Dustin Burns	Vice President of Technology	McCown Gordon
Bryan Gash	IT Director	Mid-Continent Public Library
Carrie Coogan	Deputy Director for Public Affairs & Community Engagement	Kansas City Public Library
Pedro Zamora	Executive Director	Hispanic Economic Development Corporation
George White	Business Development Director	GLMV Architects
Janet McRae	Economic Development Director	Miami County, KS
McClain Bryant Macklin	Director of Policy and Strategic Initiatives	Health Forward Foundation
Julie Brewer	Executive Director	UCS of Johnson County
Carrie Stewart	Program Officer	William T Kemper Foundation
Christal Watson	Executive Director	Kansas City, KS Public Schools Education Foundation
Bob Bennett	Alderman	City of Parkville
William Wells	Executive Director	aSTEAM Village
Sheri Gonzales	Vice-Provost	University of Kansas
Jeremy Hegle	Lead Community Development Advisor	Federal Reserve Bank of Kansas City

The plan's preparation was supported, in part, by a grant from the Kansas City Regional COVID-19 Response and Recovery Fund.

Table of Contents

Purpose of This Report

This report is intended to assist stakeholders across the Kansas City region better understand the importance of enabling every person and household to have access to quality, reliable and affordable internet services, devices to access those services and digital skills to fully utilize the technology. With the appropriation of federal resources, the states of Missouri and Kansas will have considerable dollars to invest in both broadband infrastructure and digital equity. This report should support local communities and organizations to identify and lead efforts to secure some of the new federal dollars and meet identified needs in the region.

Vision

Every resident and household in the Kansas City metropolitan area has access to the Internet, the equipment needed to use it and the skills needed to take advantage. (Kansas City Coalition for Digital Inclusion).

Goals to Support Achieving the Vision

- Inform local and state officials and other key stakeholders about the importance of addressing the digital divide and their potential roles to meet community needs to achieve digital equity.
- Increase understanding about the current role of anchor institutions and what additional support they might offer to help the region achieve digital equity.
- Increase understanding about barriers to digital access and adoption, and use of technology and digital skills and identify steps to reduce these barriers.
- Increase understanding about special populations that require greater support to achieve digital equity.
- Reduce disparities with digital access and adoption by improving broadband infrastructure in urban neighborhoods and rural areas and offering resources to enable household adoption.

The Importance of Addressing the Digital Divide

One of the most pervasive and fundamental changes that our society is experiencing is the constant and increasing reliance on internet access as a basic tool for daily life. This trend has been a growing issue for the past 15 years, but the COVID-19 pandemic accelerated and expanded its impact dramatically. The curtailment of many normal activities during the pandemic led to online replacements such as remote learning, work-from-home, telemedicine, Zoom meetings, and much more. Those households without access to a high-speed internet connection or without the proper devices or training were left behind and isolated.

Many businesses, government entities, healthcare providers, and other organizations have made operational changes that substituted online interactions for what was previously an "over the counter" or in-person mode of operation. In theory, the changes have made these organizations more cost efficient and provide users the opportunity to complete transactions more quickly and conveniently. In practice, however, there are serious disadvantages for those who are unfamiliar with internet protocols for searching, online applications, financial transactions, and file uploads. There are even greater disadvantages for persons who lack reliable or affordable in-home internet service.

In particular, the impact of society's shift toward internet reliance has not been evenly distributed across the Kansas City region. The poor, the elderly, the disabled, people of color and numerous other subgroups in our society have struggled to advance and have been left behind during this shift in use of technology. The gap between those who have adapted to the change and thrived with its new capabilities and those who have struggled with this change is known as the "digital divide." Closing this divide is seen by many as a significant barrier to achieving the implicit promise of American society that everyone should have an equal opportunity to participate in political decision-making, in economic prosperity, and in social justice. This ideal state is often referred to as "digital equity"–a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy.

The purpose of the Digital Equity Strategy Plan is to identify specific actions that can be implemented in the Kansas City region to close the digital divide. There is no single solution, or single organization, or single initiative that will achieve this goal. It will take long-term, coordinated, and combined actions from many people implementing a variety of actions to make digital equity a reality.

The Impact of the Digital Divide

Many government services are now largely digital processes. Routine tasks like applying for Social Security or Veteran's Administration's benefits to applying for COVID-19 relief require digital access. The default assumption is that people have reliable and affordable broadband internet access that allows them to research programs online, and email addresses to facilitate routine communication. It is assumed users have the necessary devices and digital skills to be able to fill out online forms, to complete financial transactions, or to create and then upload digital documents. There are alternatives but they are slower and more frustrating to use, which increases the chances that the segments of the population most in need of government services will be poorly served.

Many routine business interactions, from making a hotel reservation to receiving results from a medical appointment to applying for a building permit, rely upon the user having an email

address or a cell phone with text messaging capability. In addition, many businesses assume that payments can be made digitally. This is a capability that many people may or may not be comfortable using. Again, there are work-arounds available, but they are slower and harder to use. More importantly, they brand people as technology "have nots" who are either too poor to have those communication channels available to them or too digitally illiterate to be able to use them.

For many organizations, the default job application process is entirely online. Job openings are posted online, application forms must be filled out online, and resumes are created digitally, converted to a PDF format and uploaded electronically. While some businesses still have paper-based processes or at least a paper-based option, the number is declining rapidly. As a result, people without broadband access and digital skills are at a serious economic disadvantage in the job market.

Educational opportunities, particularly at the high school and college levels, are increasingly reliant on broadband access and digital literacy. Assignments and due dates are distributed electronically, research requires access to online resources, term papers are created electronically and uploaded, and classroom instruction is often recorded in advance and streamed to students on demand. Students without digital skills, appropriate devices and software, or high-speed internet access will end up learning less and will be less prepared to be a productive resident. These interactions carry over to the home where parents must have a level of digital sophistication to understand their child's school obligations, interact with teachers and pay student fees.

As our region faces a future of economic and social uncertainty, it is crucial to have participation from as broad of a spectrum of the population as possible. The economy of the Kansas City region depends upon a skilled and diverse workforce. To the degree that a segment of the workforce lacks the technology or skills to compete for job openings or to meet minimum job requirements, the entire region suffers. Similarly, solving the social inequities in housing, health care, education and political decision-making requires the engagement of all members of the community, not just the technology "haves." Our region will be poorer and more dysfunctional unless the digital divide is closed.

Our region's economic success also depends upon a trained and qualified workforce. Many of our most promising industries such as professional services (engineering, architecture), education, health care and life sciences, transportation and logistics, and manufacturing all rely on finding talent with digital skills.

The fact of the matter is that information of all kinds–whether it be reliable news sources, product reviews and prices, entertainment options, or social updates–is now largely in digital form. Printed information from newspapers and magazines, or broadcast information on

television or radio is increasingly being replaced by online media sources that require broadband access and digital devices. The segments of the population that lack that access risk being either uninformed or misinformed of potentially crucial information. If information is power, then a lack of broadband access is a serious obstacle to the economic and social mobility that has always been a part of the promise of American society.

The Elements of Digital Equity

One of the reasons that achieving digital equity is so difficult is that it requires delivering not just one thing but a combination of things that must all be available simultaneously. To be a full participant in modern society, four digital elements are needed:

- High-speed, reliable internet access (commonly referred to a broadband access);
- A computing device (or devices) appropriate for connection to the internet and for the tasks needed by the user;
- The knowledge to put the capabilities of the internet and computing to effective use;
- Affordability.

Without all four elements in place, effective technological engagement will be impossible to sustain.

Broadband Access. In 2009, Congress directed the Federal Communications Commission (FCC) to develop a National Broadband Plan to ensure that every American has access to broadband capability. Nearly 14 years later, that goal is still far from accomplished. The current minimum standard for broadband access as set by the FCC is 100 megabits per second (Mbps) download speed and 20 Mbps upload speed. While many households and businesses in the region have service that meets or exceeds that standard, many others do not. A companion analysis conducted with the assistance of Black & Veatch and MARC Research Services staff explored broadband access in greater detail. Section XX beginning on page ___ provides a summary. The bottom line is that large portions of the metro area do not have internet service providers (ISPs) that offer adequate and reliable broadband service.

Appropriate Devices. Households that have access to broadband internet service may still not be able to accomplish all that they would like if they do not have a computing device that is suited to their needs. There is a daunting array of possible products to choose from, and finding unbiased advice is not always easy. New devices can easily cost hundreds of dollars, but refurbished devices can be obtained for far less if you know where to look.

The four primary types of devices are smartphones, tablet computers, Chromebooks, and personal computers (including desktops and laptops). These device types offer basic internet

functionality and there is a fair degree of overlap between their capabilities. The challenge is finding a device that best suits each household's needs and purchasing power.

Knowledge and Training. Having the best broadband service and computing device is still not sufficient if the ability to use the resources of the internet is missing. The trend of increasing reliance on internet access as a basic tool for daily living is new enough that many adults, particularly seniors, never received any training when they were in school, and many workers have historically held jobs in which computer skills were either unimportant or were delegated to others. These skills are not necessarily difficult to learn and there are several organizations that offer training at moderate or no cost.

The problem is often overcoming the fear or reluctance to learn something new, particularly if the other elements of digital access are not in place. Many people are motivated to learn new skills only when they have an immediate need for those skills and then training may be perceived as inconvenient or too time consuming. As a result, effective training requires a combination of timely availability, appropriate content, and sufficient motivation. Older adults may be reluctant or feel incapable of learning about new technology without patient guidance.

Affordability. The final element necessary for digital inclusion in our society is perhaps the most challenging. For many households, gaining effective access to the internet means giving up or cutting back on other daily essentials. Families that struggle to pay the rent or put sufficient food on the table are likely to consider internet access to be a significantly lower priority. Low-income households may face a cruel "catch 22" situation – they have insufficient income to afford high quality internet connectivity and yet the lack of that connectivity may be the element that holds them back economically.

There is help available in the form of the Federal Affordable Connectivity Program (ACP) that can assist households earning less than 200% percent of the federal poverty level (or one of several other criteria). The program provides up to a $30 per month discount toward internet service and a one-time discount of up to $100 toward the purchase of a computer or tablet. Unfortunately, many eligible households are not aware of this program and the process of enrolling can be confusing and time-consuming.

Status of Access and Adoption

In June 2022, the Mid-America Regional Council (MARC), the Federal Reserve Bank of Kansas City and KC Rising (through the Civic Council of Greater Kansas City) launched a process to identify broadband infrastructure investments that could support increased access and adoption for residents throughout the nine-county Kansas City metropolitan region.

MARC engaged Black & Veatch to support the broadband infrastructure analysis with resources provided by the COVID-19 KC Regional Response and Recovery Fund and the Civic Council of Greater Kansas City. The purpose of the analysis was to review available data and identify priority areas where Federal Broadband Equity, Access, and Deployment Program (BEAD) could be used to address broadband infrastructure needs. The BEAD program will provide $42.45 billion to expand high-speed internet access by funding planning, infrastructure deployment and adoption programs in all 50 states. These Federal resources allocated through the states could improve broadband infrastructure to enable households, anchor institutions and businesses to engage in meaningful use – with adequate speeds, reliability, costs. The scope of the Black & Veatch work included steps to:

- ✓ Identify unserved and underserved portions of the Kansas City region without adequate fiber and wireless networks.
- ✓ Identify current internet service providers by county, approximate service areas, speed test data, and advertised costs.
- ✓ Recommend project area investments, specifically related to future grant opportunities.
- ✓ Provide MARC aggregated data and maps for future action.

ADEQUATE RELIABLE INTERNET SERVICE

The analysis used the Federal Communications Commission's (FCC) definition of served, underserved and unserved areas for reliable internet service. Black & Veatch analyzed service that did not include satellite or unregulated service at the census block group level. The definitions include:

- Served - Areas that have access to reliable internet speeds greater than 100 Mbps download and 20 Mbps upload (100/20)
- Underserved – Some areas have internet, but the speeds and reliability are not adequate or the costs are extremely high. In general, areas that lack reliable access to internet speeds of at least 100 Mbps down and 20 Mbps up, (100/20) and greater than 25 Mbps down/3 Mbps up (25/3) are considered underserved.
- Unserved - Areas lacking reliable internet speeds of at least 25 Mbps down and 3 Mbps up, (25/3)

DATA SETS ANALYZED

Five data sets were collected and analyzed to support the findings of this analysis, including:

US Census Bureau, American Community Survey – Data on households by census geography, including information on total population and total households and households with and without internet subscriptions. MARC provided this data to Black & Veatch along with base layer and anchor institution data. The Census Bureau data provides insight on those census

block group/tract areas with fewer households having internet subscriptions. Income and other socio-economic data from the Census Bureau helped in analyzing whether the lower adoption rates might be due to the lack of broadband infrastructure or the household income or other factors preventing internet adoption.

GeoTel – Proprietary data on telecommunications infrastructure by internet service provider (ISP), including broadband fiber infrastructure and wireless infrastructure with fiber-lit buildings. www.geo-tel.com

Ookla Speed Tests – Data collected on speed tests by area households was acquired for a 12-month time period (June 2021-June 2022). The unduplicated households' test data was analyzed to average the speed tests for individual households not including smartphone tests. The Ookla data used by Black & Veatch included unduplicated speed tests for 176,958 individual households in the nine-county region. www.ookla.com

FCC 477 Map – Internet service providers (ISP) are required to report their service areas and speeds to the FCC on a quarterly basis. The information is compiled into a map that is publicly available (FCC 477). The data from the fourth quarter of 2021 was used for analysis.

Internet Service Provider (ISP) - data for the larger providers was acquired from websites on areas served and advertised speeds and rates.

FCC vs. Speed Test Data

Of the ISPs who filed ***min. speeds of 25/3*** with the FCC, there are:

1. 33 internet service providers.
2. Top four hold 85% of the speed test "market share"
3. 19 providers have average speed tests meeting "served" definition.

The data have provided a geographic framework to identify coverage gaps and allowed MARC to compare data among data sets, including the FCC 477 map data with the advertised service, speed and cost by internet service providers (ISP).

In general, across the nine-county region, population centers have higher rates of service than rural areas and higher numbers of ISP providers offering that service. A majority of the region's rural areas have some amount of broadband fiber within five miles of housing and anchor institutions. There are needs, however, to connect the housing units and anchor institutions with adequate, reliable last-mile service.

About 20 percent of the ISP providers reviewed show different pricing for the same speeds within the region. This is a finding that is consistent with disparities found in a national study by Markup, a national online new source. The report released in October 2022 Broadband Bias – The Markup reviewed 800,000 broadband plans across the US offered by AT&T, Verizon,

Earthlink and Century Link. This study found that ISP providers, including AT&T and others in the Kansas City urban areas charged similar or higher fees for lower speed services in urban neighborhoods.

A review of recipients of the Affordable Connectivity Program (ACP) by zip code found the highest proportion of eligible households (by income) in the urban portions of Jackson County. These zip code areas also recorded the higher proportions of ACP enrollment for eligible households. This data provided indications that households with lower levels of broadband subscriptions may be caused more by limited income than availability of broadband infrastructure.

Findings from the Mapping Analysis

As the analysis was wrapping up, the FCC released the Fabric Map, a national map showing areas throughout the nation by census block group that were served, underserved or unserved. The FCC had a challenge process for 60 days (November 18, 2022, through January 16, 2023) to challenge the validity of the data submitted by the ISP providers. An extension to mid-March 2023 was announced by the FCC; however, most communities lack the capacity to fully analyze and challenge the Fabric Map. The Black & Veatch analysis relied heavily on speed test data, which the FCC announced was not appropriate for the challenge process. Regardless of the FCC guidance, the Black & Veatch analysis and discussions with residents, local governments, community organizations and others determined that there are portions of the metro area that are not served or adequately served by acceptable reliable broadband.

The unserved areas using the Ookla data are primarily in the outer lying rural parts of the region, including much of Miami County and Ray County; portions of Cass County south of Belton and Raymore and in unincorporated county areas; portions of eastern Jackson County; northern Platte County; northeast Clay County; western- and southern edges of Johnson County; and much of Leavenworth County outside the cities of Leavenworth and Lansing and at a distance from I-70 through the county. Most of Wyandotte County has broadband infrastructure, although there are areas throughout the county that are underserved with low-speed services. There are significant areas within Jackson County, including urban parts of Kansas City and Independence where broadband infrastructure is low speed or unreliable.

Community Engagement Process

The engagement process for this plan began during summer 2022 and concluded during late fall of the same year. The effort involved:

- Interviewing local government, library, and school representatives.
- Holding barriers and solutions discussions with institutions and community organizations.
- Organizing public digital equity workshops and pop-up events.
- Providing online and telephone commenting options.
- Reaching Spanish speakers.
- Coordinating with compatible efforts.

Local Government Interviews

Working from a list of 30 local government contacts, the planning team conducted 19 interviews with them. Out of the nine MARC counties, jurisdictions in all but Leavenworth County participated. All those interviewed understood the importance of having access to the internet, to some form of computer, and to training on how to effectively use internet resources. However, the predominant response from the officials interviewed was that neither broadband accessibility nor digital equity were issues where local government needed to play a leading role. Many felt that the private sector internet service providers (ISPs) were doing an adequate job providing broadband services and that other organizations could more appropriately lead digital equity initiatives.

Broadband Access

None of the jurisdictions interviewed actively track the broadband speeds or reliability available to their residents or business communities. Few know exactly where ISP facilities are located; however, largely because of the proprietary approach that most ISPs take toward their network. As a result, virtually no one has an actual “plan” for how to improve broadband service to residents and businesses.

Local governments have put a lot more effort into developing internet connections and private networks for their own internal needs. Most appear satisfied with their current capabilities, although in rural areas there are more facilities that are not as connected as the jurisdiction would prefer. Many have laid their own fiber to connect government facilities and are often looking for opportunities to expand that network. Some were open to the idea of leasing surplus fiber or conduit space, but many were concerned about competing with the private ISPs.

Digital Equity

Interviewees saw digital equity issues (affordability, device availability, and digital education) as an important social issue, but not necessarily one which requires their leadership or direct involvement. Consequently, local governments have put even less emphasis on this issue than broadband accessibility. None of the jurisdictions interviewed has a comprehensive approach to digital equity issues and many have taken no specific actions at all.

Many jurisdictions point to the local libraries and school districts as organizations that have taken steps in this regard. They tend to see those organizations, or social service providers, as logical leaders if more action is needed. Few constituents are raising this as an important issue to their elected officials and they were not aware of examples of local governments in the Midwest that have a successful program to emulate.

Exceptions

Both Kansas City, Kansas, and Kansas City, Missouri, were active in helping plan the initial Google Fiber rollout that gave the region an important lead in broadband access. That planning effort led to the inclusion of many government buildings, schools and libraries on the fiber routes that were provided. Those jurisdictions have also been active in supporting community organizations that are working to span the digital divide. Kansas City, Missouri, has completed its own Digital Equity Strategic Plan – the only jurisdiction in the region identified to have adopted a specific document of this type.

Miami County has been a leader in actively working with ISPs to expand the quality and geographic scope of service in their jurisdiction. They have participated in multiple applications to the State of Kansas for grant money to expand private ISP networks. Their view of broadband accessibility as an economic development tool is an important approach that could be replicated in other parts of the Kansas City region.

The City of North Kansas City, Missouri, is the only city in the region that owns a fiber network that serves the entire community. This network, managed through a partnership with KC Fiber, enables every residence in the city to receive high-speed broadband service at a very modest cost. Recent efforts are involving several jurisdictions to install fiber networks in public places, such as downtowns, to offer free Wi-Fi services. The Kansas City Area Transportation Authority (KCATA) has provided free Wi-Fi at some transit centers and on some buses to serve transit patrons.

Other jurisdictions and public organizations might be willing to be more active in promoting broadband access and digital equity if a clear need or justification for their action was articulated in a way that made sense to their constituents. All jurisdictions are becoming

more digital themselves (e.g., online applications and live-streaming meetings), and the pandemic underscored the advantages of being connected to the internet. The issue is finding a role for local governments and other public institutions that is seen as both clearly beneficial for the community and separate from the role already being played by the private sector or by other organizations.

Library Interviews

This work started with a list of 18 contacts across the MARC region. All 18 library systems were contacted via email asking for their participation in the interview process. Ten interviews were completed as a result. Those interviewed represented both large systems (e.g., Kansas City, Missouri, and Mid-Continent) and much smaller systems (e.g., Osawatomie and Tonganoxie). Libraries are extremely active in efforts to bridge the digital divide, and they take their role in the process very seriously. Every library system has a variety of digital resources available for their patrons, and those resources are very popular. They also realize the importance of internet access and digital literacy to our society and believe that libraries can play a significant role in reaching both of those goals.

Access to Broadband Internet and Computing Devices

All the libraries interviewed provided free public access computers with high-speed internet service. This program is universally popular with library patrons and meets the dual needs of those without internet access and without an appropriate device. Most libraries had enough computers that at least one workstation was always available, but in a few locations the public access computers were popular enough that time limits were needed at certain times of the day.

All the library systems interviewed also provided free Wi-Fi at each facility for patrons who had their own device. Again, the service is very popular, which suggests patrons either do not have Wi-Fi service at home or their home service is slow, unreliable, or constrained by data caps. In many cases, Wi-Fi coverage has been intentionally extended into the parking lot or other exterior areas outside the library building. This exterior service is typically available 24/7 so that internet access is available even when the library is closed. Taking advantage of Wi-Fi service outside the building or at odd hours does not happen frequently but happens often enough that the interviewees felt it was a useful service to provide. Some felt that there was usage by homeless families who might not feel comfortable coming into the library itself.

Many of the libraries, but not all, also provided Wi-Fi hotspots that could be checked out by library patrons for extended use. This service was very popular during the height of the pandemic and has remained popular even as concern about COVID has declined and facilities are back to normal operations. Smaller libraries may have just a handful of hotspots while larger systems have hundreds. No matter the scale, however, the service is popular enough that

several interviewees mentioned that they would like to expand the number of hotspots available for loan.

Roughly half of the libraries also had portable computers that could be checked out by patrons. Laptops and Chromebooks appeared to be the most popular type of device, with tablets being the least popular. In some cases, the devices were required to stay in the library building (e.g., to be used for a meeting), but in most cases they could be taken home. Loaning devices seems to have lower demand levels than loaning out hotspots, suggesting that broadband access is a more compelling problem than device access. A few who loaned out laptops noted that the process was labor intensive due to the need to reset the device, check for viruses, and delete any files left behind. Chromebooks offer an advantage in this respect, although they have limitations where specific software is needed.

Training, Support and Related Services

During interviews, the planning team learned libraries function as a general source of technical support for a wide variety of device, software, and internet usage problems. Patrons with tech support questions appear to be a routine aspect of library operations. Many of the questions are relatively basic (e.g., how do I print? Or how do I upload a file?) but others are more complex. A few library systems have specialized staff for tech support questions, but in most cases the questions are handled by the general library staff.

To respond to the demand for technical information, some library systems have tried training classes aimed at both increasing general digital literacy as well as teaching more advanced digital skills; however, the results of such efforts have been mixed. While some courses have been popular, many times the attendance has been weak, and the classes were eventually dropped. Some systems have also tried tech-support desks where one-on-one support is offered on an appointment basis. Again, the results have been mixed. A key take-away seems to be that while some patrons are interested in building their overall knowledge level through a series of classes, most people simply want answers “at the point of need.” In other words, they don’t want to sign up for a class or even a tech support appointment, they want to be able to get an answer to their questions when they are experiencing a problem.

This “point of need” issue creates staffing problems for libraries because the volume, timing, and nature of those requests are difficult to predict. Most library systems cannot afford to have trained specialists on hand at every facility throughout normal operating hours. Inevitably, many technical support questions end up being handled by the general library staff who do the best they can but are often unprepared for more advanced requests. Libraries end up being torn between asking patrons to wait until a tech support specialist is available or providing more advanced training to all of their public-facing staff.

Challenges and Opportunities

Although as a group, libraries have probably done more to close the digital divide than most other community organizations, there are limitations on what they can do and several of the interviewees noted both the challenges and opportunities that they face. As with many organizations, staffing has been difficult and unfilled positions are common. Filling technical support positions is hard given the high demand for people with those skills and the often-modest pay structure of library systems. And yet, those are precisely the types of employees who are needed for libraries to advance digital equity initiatives.

Staff training is another challenge that was mentioned by several interviewees. Most librarians don't need or want to be computer technicians, but they are faced with technical questions daily. What may be needed is training that is specifically designed for the types of issues that library patrons are most concerned with, including on-going training updates given that common devices and software change constantly. Libraries could partner with community organizations or seek volunteers who could offer technical advice and training to patrons.

On the other hand, libraries have built themselves into a major community resource for both broadband access and technical information. They are ubiquitous institutions across the region that are known for their knowledgeable staff and modern facilities. Most importantly, they have earned a high level of trust among members of the community. Although they don't reach everyone, they do reach a wide spectrum of the community including many in segments that are economically or socially disadvantaged.

Finally, libraries are innovators. Nearly all library systems now have extensive digital collections of books, periodicals, movies, and other forms of media. In addition, libraries have altered their physical form to accommodate computer workstations and areas for collaboration, often supplemented by broadband access. Meeting rooms, often outfitted with computer displays, were mentioned by many of the interviewees as one of their most popular facilities' features – and the one thing that many were scrambling to build more of. Libraries clearly want to play a major role in addressing digital equity issues and have proven themselves to be agile and effective in meeting community needs.

Interviews with School Districts

A series of interviews were conducted with representatives of local school districts to inform the Broadband and Digital Equity Investment Strategy plan. These interviews were held during the winter of 2023. This work started with a list of 34 contacts across the MARC region. All 34 school districts were contacted via email asking for their participation in the interview process. To date, 8 interviews have been completed. Those interviews represented both large districts (e.g., Kansas City, Missouri, and Independence, Missouri) and much smaller systems (e.g., Paola, Kansas and Strasburg, Missouri). Five of the districts interviewed were in Missouri and the other three were in Kansas.

All the interviews were productive, and all the interviewees expressed interest in the work that was being done. There was a realization that the pandemic had required a heavy reliance on the internet for remote learning but that not every family was equally capable of making use of that resource. School districts proved to be very creative and adaptable in dealing with the pandemic related shutdowns, but digital equity issues were a source of concern in every district interviewed.

The overriding impression from the interview process was that school districts have been active in using computer technology as a teaching tool and that usage had been slowly expanding for years. The pandemic, however, forced that technology transition into overdrive because no other options were available. Although there were obviously struggles with remote learning during the pandemic shutdowns, it appears that the districts interviewed believe they are in a stronger position with respect to technology utilization coming out of the pandemic than they were going in.

Technology for School Facilities

The school districts interviewed felt that their own facilities were adequately served with broadband internet services. There were, however, discrepancies between the level of service that was available. Some districts (Kansas City, Missouri and DeSoto, Kansas) mentioned having bandwidth up to 10 Gigabytes while another (Pleasant Hill, Missouri) had just 625 Megabytes of bandwidth. Still, the districts seemed to make extensive use of computers both for classroom learning as well as for organizational purposes such as Learning Management Systems.

When interviewees were asked if there were educational initiatives that they would like to implement but couldn't because of technology limitations, most said "no". There was a sense that the districts wanted to consolidate and fine-tune the gains that were made from the hastily implemented solutions put into place during the pandemic before implementing more initiatives. The changes forced by the pandemic caused stress for not only students, but for some teachers, parents, and grandparents as well.

Technology for Students

Every district interviewed indicated that virtually every student is issued some type of computing device. Chromebooks appeared to be the most commonly used device, but iPad and MacBook laptops were also frequently used. This "one to one" condition was not universal prior to the pandemic but quickly became so when the pandemic forced remote learning. After schools were able to re-open, districts stayed with the practice of a device for every student, although some districts limited the grades that were allowed to take devices home after school. The widespread distribution of devices caused predictable problems with breakage, security settings, and system administration, but the districts seem to have figured out ways to deal with those issues and to continue to fund new device purchases as needed. The advantages of each student having their own device are apparently so compelling that no district interviewed seemed to be even considering going back to some lesser standard.

The problem that was more difficult to solve was the need for students to have adequate internet access at home during the period of remote learning (and even now as homework assignments have become more dependent on online access). In the more affluent districts, the vast majority of families had home broadband service, but a significant minority did not. In less affluent districts, or in districts that served a predominantly rural population, the majority of families either did not have internet access at all or it was of poor quality. The most common solution was to issue mobile hotspots to families that requested them. These devices seemed to work reasonably well in most circumstances but there were some problems with families where multiple students needed to be online at the same time or where the household was located in an area with poor cell service. Districts supplemented hotspots with Wi-Fi access outside school facilities and by referring students to other community sources of public Wi-Fi such as libraries.

Still, there were (and continue to be) obvious disparities between districts. The Kansas City, Missouri, School District, for example, issued roughly 12,000 hotspots to their students during the pandemic and most of those devices are still in place today. Most other districts issued far fewer hotspots, and some have only a handful that are still actively used. Most districts provide the computers to students during the school year, and students are required to return the devices at the end of the school year so the school districts may make repairs and ready the devices for the next school year. This practice limits the availability of devices for students during the summer months.

Student Skill Levels

All of the school districts interviewed felt confident that their students were learning the computer skills necessary to be not only digitally literate, but to also do well in college courses or employment fields with a technology focus. Given that most students work with a variety of computing devices and online resources starting at the very early grade levels, that assertion seems quite reasonable. Many districts offered optional tracks for students that wanted to focus on advanced technology. Courses could be found in coding, robotics, computer aided drafting, video editing, website design and similar specialties.

There is a difference, however, between offering the opportunity to become digitally proficient and really providing the additional resources necessary to overcome the economic and social disadvantages that some households face. None of the interviewees mentioned any special programs aimed at providing an extra boost to the skills for students from disadvantaged families or to mentor those students in understanding the potential economic opportunities that computer skills could provide. In addition, several interviewees mentioned concern that not enough instruction was being given to practical issues such as avoiding online scams and phishing attempts.

Innovation

In 2020, school districts were forced to make rapid changes to enable remote learning and that sometimes led to creative solutions that are still paying dividends. For example, virtual meeting technology (e.g. Zoom, et al) which was implemented for instructional purposes for home-

bound students has been expanded to parent-teacher conferences and supplemental instructional resources for special needs. Students are back in the classroom, but the other uses are still in effect and have increased participation levels because of the convenience they provide.

The Pleasant Hill School District created a video production studio which has enabled teachers to create their own educational resources. Some districts provided special services to families to assist them in getting discounted internet service or to enroll in the ACP program for internet subsidies.

Possible Next Steps

1. Support teacher training efforts. The pace of technological change in education has been so fast that many experienced teachers have struggled to keep up. The pandemic forced teachers to use technology in ways that pushed them out of their comfort zone and cause undue stress on them as well as their students. Districts need to expand digital training and support groups so that teachers can confidently use the technology available to them and be able to experiment with new teaching techniques. Teacher turnover rates are already growing so it is important that stress from technology not be a contributing factor.

2. Provide expanded family services. School districts are understandably focused on the needs of their students, but student performance is often affected by conditions at home, particularly for students from disadvantaged backgrounds. Districts should consider offering "digital navigator" services to parents or partnering with community organizations to assist families in enrolling for eligible subsidies (such as the ACP) or understanding how to find the best value in the range of available internet options. Adult education classes on digital literacy and digital safety should also be offered either directly or through a partnership with community organizations.

3. Expand community partnerships. School districts are a unique governmental entity that have borders that rarely correspond with other levels of government or with other community agencies. Consequently, schools tend to be as self-sufficient as possible. However, the scope and complexity of digital equity issues is such that a multi-pronged effort across the community may be the only way to make substantial progress. Schools should partner with local governments, for example, to expand high-speed infrastructure for not only their own schools but for all public facilities. Stronger partnerships with libraries could provide additional digital and educational resources, and another safe place for after-school studying. Similarly, there are a variety of community organizations that provide supplementary educational classes or workforce development training. School districts should be part of a cooperative network that uses technology to not only teach students but to make communities more prosperous.

Stakeholder Discussions and Community Conversations

In coordination with the stakeholder interviews, five virtual Barriers and Solutions Discussions were held during the planning process (September 12 – September 15, 2022). Invitees included community organizations, local government officials and staff, schools, and libraries. During the discussions more than 60 people commented on barriers to digital access, connectivity needs, equity considerations, opportunities to leverage potential solutions, project ideas, and priority recommendations were explored.

Key barriers involved:

- ✓ Lack of reliability and quality of service
- ✓ History of redlining in communities of color and the way it has resulted in higher internet costs and reduced service provision.
- ✓ Apartment complexes that lack internet connectivity or have limited ISP options.
- ✓ Information not being communicated in multiple languages.
- ✓ Slim engagement of older adults despite the need for healthcare and transportation services
- ✓ Limited number of providers, especially in smaller communities
- ✓ Infrastructure and service limitations, particularly in areas with lower populations and communities of color
- ✓ Costs associated with providing internet access, internet-enabled devices, and training delivery.
- ✓ Community members' need for basic computer skills and digital job skills.
- ✓ Technical vocabulary associated with internet service and devices.
- ✓ Limited knowledge about alternative internet providers and solutions
- ✓ Fears about the lack of safety online

Improvement ideas involved:

- **Access Support:** Discussion participants recommended expanding KC Digital Drive's Internet Access Support Program, which "helps individuals and families connect to opportunities and resources. It helps community members get quality, high-speed internet access and manage their monthly internet bill. See kcconnect.me.

- **Alternative Approaches:** Participants proposed investigating alternative approaches for providing broadband internet infrastructure. They advised examples may include piggybacking off public facilities, creating cooperatives, using Power-Line Communication (PLC), and developing point-to-point (or point-to-multipoint) wireless networks. Systems being developed and offered by aSTEAM Village and PCs for People were also cited as new approaches.

- **Coordination:** Participants suggested working with groups and organizations to help provide high-speed broadband infrastructure and internet access to underserved communities.

- **Devices:** Providing not only funding for new computers and other devices but also offering direction on what type(s) are available and how to select the one(s) that may meet a person(s) and/or household's needs was proposed during the community discussions. In addition, participants suggested developing descriptions of obsolescence and including guidance for how to determine when a device is outdated. They also recommended expanding existing programs and/or developing new ones that focus on acquiring and distributing free devices.

- **Funding:** Discussion participants indicated that broadening the allowable uses of funding sources, such as the Workforce Innovation and Opportunity Act (WIOA) may be an opportunity. By connecting digital literacy and device distribution with workforce programs, such actions could make it possible to provide basic digital skills training that will help build a capable workforce. They also suggested funding sources should be targeted to specific populations, such as those released from prisons, so they can receive computers and digital literacy training to overcome obstacles to re-entry or overcome other barriers. Participants were also interested in expanding the use of E-rate funding for schools and libraries, as "eligible schools and libraries may receive discounts on telecommunications, telecommunications services, and Internet access, as well as internal connections, managed internal broadband services and basic maintenance of internal connections." Lastly, discussion participants wanted to change funding requirements to allow assistance for internet service along with other utility assistance. Participants identified the opportunity to secure new federal funds through cooperative efforts among organizations.

- **Information-Sharing:** Participants proposed leveraging the communications networks of schools and faith-based organizations for outreach to youth and adults to share information about available devices, internet access options, and the necessity of high-speed broadband. They advocated for emphasizing existing programs.

- **Infrastructure:** To increase internet access via hot spots, participants suggested expanding wireless network possibilities through free public Wi-Fi in community locations and Wi-Fi networks in neighborhoods. The participants identified the opportunity for electric utilities and local governments to permit the use power or light poles to install wireless networks.

- **Libraries:** Participants recommended extending library operating hours to give patrons more time to access computers, use high-speed internet service, and participate in digital education programs available to all ages. They also said loaning devices to library visitors was important.

- **Public Wi-Fi:** Participants proposed increasing the number of safe, known, and free public spaces that offer high speed Wi-Fi. They identified areas including parks, downtowns, libraries, community centers, transit centers and other spaces.

- **Project Locations and Permitting:** Installing broadband infrastructure in public rights of way as roads are built and/or rehabilitated was suggested during the discussions. In addition, participants advised the process for 5G permitting should be streamlined.

- **Schools:** Participants suggested schools provide students with devices that can access high-speed internet all year (rather than only during the school year). In addition, they recommended offering students and parents technical training and computer skills courses, including Microsoft Office.

- **Training:** Discussion participants advised providing funds for digital literacy training, so more community members could engage in the "new economic model" of jobs through entrepreneurship. They suggested targeting programming to specific populations and implementing it through local community organizations. In addition, they proposed developing (or making broadly available) a comprehensive and accessible library of digital skills training and volunteers.

Public Digital Equity Workshops and Pop-up Events

Building from the stakeholder interviews and Barriers and Solutions Discussions, the planning team organized 12 digital equity workshops and pop-ups at public gathering places, such as libraries, community centers, sporting events, and holiday celebrations. During the events, the planning team gathered feedback from approximately 700 residents and representatives from businesses, libraries, and schools; local government officials; and others about issues and improvement ideas for high-speed broadband and digital equity. Generally, participants' comments related to:

- **Infrastructure:** Gaps in both the presence and quality of broadband infrastructure in all nine counties. Although it is beyond the scope of this study, some commented that broadband internet service should become a utility like water, gas, and electricity.

- **Education and Technical Assistance and Training**: The need for more information and technical assistance include how to select among internet service providers (ISP) for the type, speed and cost of broadband services; application to the Federal Affordable Connectivity Program; devices with which to connect; and uses, features, and lifespans associated with devices. Meeting participants commented that education and digital literacy training courses are needed for all age groups. They also commented that trainings should be age-group appropriate, user-friendly, culturally relevant, available in multiple languages, offer basic computer and application skills along with internet

literacy, and be provided or taught by people familiar to the community. In some target populations, such as communities of color and elderly households, the case for the importance of high-speed broadband, use of devices (laptops, desktop computers in addition to mobile phones and hotspots), and digital equity overall must be communicated and repeatedly shared in easily understandable ways. Doing so may combat situations where community members do not view broadband internet in their homes as relevant to or useful in their daily lives.

- **Funding:** There are limited resources for funding broadband infrastructure or for addressing digital equity. Many meeting participants expressed support for funding strategies that involve collaborating with faith-based and community organizations, agencies, small and large ISPs, local businesses, schools, libraries, and/or local governments. Some commented that doing so would help achieve broadband investments in infrastructure and digital equity, especially in communities of color, other target populations, commercial corridors, small cities, and less urbanized areas.

- **Business, Schools, and Libraries:** Meeting participants commented that businesses, especially small and/or home-based businesses, need easy-to-access and affordable internet service. Education and training on the available options may be needed for some business operators. Participants also commented that community members need devices and both computer and digital skills training. They suggested schools and libraries may best be able to help provide training opportunities to the public and contribute to workforce development.

Online Survey Commenting

The planning effort's online opinion survey began September 7, 2022, and concluded December 10, 2022. A total of 174 people responded to the English version; 13 the Spanish. The planning team used the survey as a tool to gather information about how community members access and use the internet; issues they experience; and suggested improvements. A toll-free phone number was also advertised; however, there were few messages left on the phone line.

<u>English Survey Respondents</u>

Nearly all English-speaking survey respondents had internet access. The majority described themselves as residents, workers, property owners, and/or others. Due to special events encouraging response, nearly half lived in Miami County, almost 40 percent resided in Cass, Jackson, or Johnson Counties, and the rest were from other Kansas City metro counties, Buchanan County, or Franklin County. Most commented that they connect to the internet via their personal computer, smartphone, and/or work-provided computer. Respondents reported that they access the internet from home, work, and/or school.

They commented that fun uses of the internet involved watching movies or television, shopping, or making social connections. Use of the internet for responding to household needs

involved banking, paying bills, and finding or accessing services (transportation, home or other repair work, or other). Predominant uses of the internet for educational purposes involved emailing, researching, and downloading/uploading information. Respondents' top three uses of the internet for work and education were the same — emailing, researching, and uploading/downloading information.

Over 80 percent commented that use of the internet for healthcare involved finding medical help and information. Additional key uses included scheduling appointments and paying medical bills. Most respondents said utilizing the internet for safety involved the location services on their phones and other devices. The three biggest issues affecting respondents' access to and/or use of the internet concerned the cost of service, slow download speeds, and poor connectivity. The four most selected improvements that would make their experience better included more affordable costs for services, faster download speeds, more internet service providers from which to choose, and faster upload speeds. Several survey respondents expressed a need for reliable internet service that everyone can access, including those living in smaller cities and rural areas.

Respondents shared that a range of people and/or organizations have helped them use or access the internet by providing computers, training, connections, or other assistance. Resources included family members; Cass County Public Library; Johnson County Community College; Adult Education, and Public Library; PCs for People; DAVE's Place Community Impact Center; Paola Free Library (mobile hotspots); Federal Communications Commission; ISP providers; Community LINC; Kansas City, Kansas Public Library (computer classes in Spanish); and KC Digital Drive.

Spanish Survey Respondents

All but one of the 13 Spanish-speaking survey respondents had access to the internet. They described themselves as workers, residents, property owners, and others from Jackson County, Wyandotte County, and other communities. Smartphones and personal and work computers were the top types of devices they used to connect to the internet. Popular access points included their homes, jobs, and other locations.

In contrast to the English-speaking survey respondents, Spanish speakers commented that their most common use of the internet for fun activities involved video calling or chatting, looking at photos, and/or listening to audio books. Like the English-speaking respondents, Latinos responded that bill-paying was the top use of the internet to help meet household needs followed by banking, grocery shopping, and finding or accessing services, such as transportation, home, repair work, or other needs. Internet use for educational purposes centered around email, research, virtual classes, and downloading/uploading information. About half of the Spanish-speaking respondents commented that use of the internet for work was identical to their educational uses. Their responses mirror those of English-speaking respondents.

More than 70 percent commented that they use the internet to help find medical help and information. More than 60 percent use it to pay medical bills. About half responded that internet use is tied to safety centers around home or business security and/or location services on their phones or other devices. Like the English respondents, Spanish speakers included slow download speeds, the costs of internet service, slow upload speeds, and poor connectivity among the biggest issues affecting their access to and/or use of the internet.

Over two-thirds of respondents commented that faster upload speeds would make their experience with the internet better. Over half commented that faster download speeds and more affordable costs for services would also help. Unlike the English speakers, none commented that more internet service providers would help address their issues. In terms of helpful resources, they included the Hispanic Economic Development Corporation and The Toolbox Small Business Resource Center among the organizations that have helped them use or access the internet by providing training, connectivity, or other assistance.

Coordinating with Compatible Efforts

Kansas City Coalition for Digital Inclusion

The Kansas City Coalition for Digital Inclusion is an open, collaborative group of Kansas City area nonprofits, individuals, government entities, and business focused on fostering internet access and digital readiness in greater Kansas City. Membership is open to any individual or organization and regular meetings are held either virtually or in person.

UMKC Law School (Professor Anthony Luppino as convenor) Community of Practice

The University of Missouri-Kansas City worked with other University of Missouri partners in the design and launch of Missouri Broadband Rail (www.mobroadband.org) and regular convening of community members to identify needs in the community and best practices for communities to address digital equity. The Community of Practice is engaging stakeholders as digital activists and is focused on identifying organizations that provide a range of digital services to residents. Recent convenings are focused on developing toolkits and other resources around the following:

- Technical options for high-speed internet access and service affordability programs
- Affordable devices Toolkit
- Digital Training Options Toolkit
- Community Engagement Toolkit
- Access and Service Affordability programs

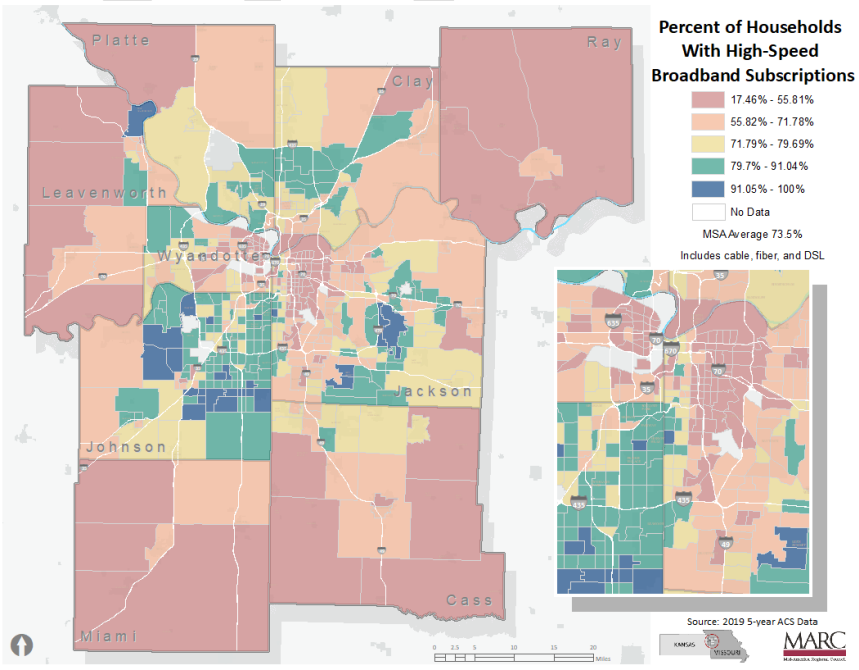
Barriers to Access & Adoption

Access and Adoption

A goal of this plan is that every household has the access to an in-home internet subscription. The region has 86,659 households throughout the nine-county region with no internet subscription. There are 738,679 households with a broadband subscription, but over 100,000 of those households must rely on dial-up or satellite low speed or expensive services.

County	Households with internet subscription	Households with broadband subscriptions	Households with no internet subscription
Cass County	36,271	28,157	4,042
Clay County	87,944	74,488	10,089
Jackson County	256,192	211,866	38,826
Platte County	39,243	32,965	2,911
Ray County	7,101	4,063	1,503
Johnson County	225,369	205,367	12,580
Leavenworth Co	25,365	19,456	3,299
Miami County	10,551	7,008	2,370
Wyandotte County	50,643	40,685	10,239
Total 9-County Region	738,679	624,055	86,659

Source: US Census Bureau, 2016-2021 American Community Survey



Cool colors show the tracts with better than average shares of households with high-speed broadband. Tracts with warm colors are below average. Source: US Census Bureau American Community Survey 2014-2019

For those households who have an internet subscription in their home, costs are likely to be a concern for them. The Federal Affordable Connectivity Program (ACP) launched in January 2022 offers up to $30 per month toward broadband service subscription costs and up to $100 for a device. The program's appropriations are expected to reach millions of qualified households across the nation, but not be sufficient to continue beyond 2024. This program replaced the Emergency Broadband Benefits Program (EBB). According to the Annenberg Research Network at the University of Southern California, only 28 percent of the nation's eligible households had enrolled in the program by the end of 2022.

There are 62,672 households in the Kansas City region that have enrolled in the federal Affordable Connectivity Program (ACP), about 33 percent of the 193,156 total eligible households, according to a report by KC Digital Drive. At the time of the report in October 2022, about 2,700 new households per month enrolled in the program. Data does not exist on the degree to which enrolled households maintain subscription service. The proportion of eligible households taking advantage of this program is low due to lack of awareness about the program and complexity of completing an application.

Device ownership

A goal of this plan is that a secure device with privacy and access to the internet is available to everyone, regardless of income.

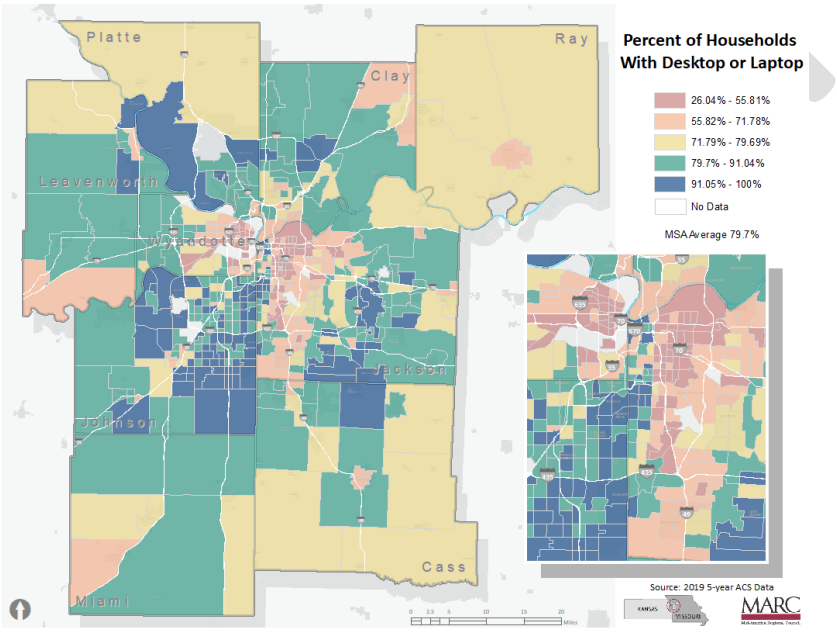
The advent of smartphones has enabled many residents to readily access the internet and information from smartphones. This has undoubtedly provided greater connectivity for many, allowing residents to book a ride from a ride-hailing company or video call others in an instant. However, smartphones can be costly and may not be well suited to complete more complicated tasks such as completing online school assignments, doing remote work, and accessing tele-health. These sorts of activities require the use of a computer or similar device that is more reliable, has greater bandwidth, and possesses a larger screen to complete online activities.

During the pandemic, many local jurisdictions, organizations, and educational institutions distributed mobile hotspots and devices to households. While many households have benefited from these temporary programs, a permanent solution is needed to make broadband services readily available for the long-term. Despite steps taken to help people gain internet access during the pandemic – even temporarily – device ownership and broadband accessibility across the metro area remain uneven across income, age groups, education, and race/ethnicity lines.

According to the US Census Bureau's 2021 American Community Survey, there are over 100,000 households in the 9-county Kansas City region that have no devices in their home (including a smartphone, tablet, laptop or desktop computer) and over 68,000 that rely solely on smartphones.

County	Total Households	Households without any device	Households relying solely on smartphones for internet use
Cass County	41,113	2,394	3,265
Clay County	98,033	4,844	7,253
Jackson County	295,018	19,290	34,004
Platte County	42,154	1,274	2,517
Ray County	8,604	802	969
Johnson County	237,949	7,398	8,079
Leavenworth County	28,664	1,698	2,078
Miami County	12,921	958	1,106
Wyandotte County	60,882	5,166	9,041
Total 9-County Region	825,338	43,824	68,312

Source: US Census Bureau, 2016-2021 American Community Survey



Percent of households with a desktop or laptop computer. Cool colors show the tracts with better than average shares (blue and green) while tracts with warm colors (orange and yellow) are below average. Source: US Census American Community Survey 2014-2019.

A limited number of organizations provide desktop or laptop computers to households needing support. PCs for People is recognized as a provider of both refurbished and new devices in the Kansas City metro area. Previously known as Connecting for Good (founded in 2011), the organization became part of PCs for People in 2020. In addition to providing affordable computers, internet service, and free e-recycling, the organization's retail space offers free digital literacy courses. The recycling center is at 518 Santa Fe, Kansas City, Missouri, and the retail store offers refurbished computers and sign-up opportunities for internet service (depending on home location) is at 1801 Linwood Boulevard, Kansas City, Missouri. Several

other non-profits offer computers to clients, including the Hispanic Economic Development Corporation, Essential Families, aSTEAM Village and Latinx Education Collaborative.

Many of the region's school districts distributed Chromebooks and other devices to help students with remote learning during the COVID-19 pandemic. While these devices are valuable for remote learning, they have limited functionality for other family members, particularly around business applications (e.g., Microsoft Office). Many districts continue to provide devices to students. The area's libraries offer technology, both hot spots and computers, to patrons on loan.

Training and Technical Assistance

Digital literacy refers to the skills and knowledge needed to use a device and navigate the internet. Examples include ability to: read a book or article; assess the validity and security of a website; maintain privacy and a secure connection while using the internet, safely and securely; use internet services including device authentication and websites without falling prey to malware, scams, and hacking; read, write, send and manage emails; and update the settings on a device to access a Wi-Fi service.

A US Department of Education study found 16 percent of US adults were not digitally literate. These Americans do not have the comfort or skills with technology to use a computer. They tend to have lower educational attainment and are unable to fully participate in the workforce, posing a significant barrier for economic growth and upward mobility. For seniors, the lack of digital literacy may exacerbate social isolation and health problems. Those without digital skills may be unable to handle financial transactions or more likely to fall prey to scams. (https://nces.ed.gov/pubs2018/2018161.pdf)

A recent study by the MassINC and Massachusetts Competitive Partnership described the challenge with digital skills in this way: "In many regards, digital skills are far more important than internet connectivity and access to devices. Residents who lack these skills are often reluctant to seek out technology and unaware of how it can benefit them. Additionally, making online access and devices available to those without digital skills can potentially expose them to harm or extend structural inequities into the digital realm. However, we must also recognize that increasing access to computers and the internet positions residents to build digital skills. Throughout the pandemic, many organizations that work with low-income populations have found that their clients quickly acquired digital skills when they were provided with technology and help getting started."

The National Skills Coalition and the Federal Reserve Bank of Atlanta issued a report in February 2023, ***Closing the Digital Skill Divide***, that outlines the importance of digital skills to driving a thriving and inclusive economy. The report found that 92 percent of all advertised jobs required some digital skills across all industries; yet, many workers have not had the opportunity to build

such skills. This is particularly true for workers of color due to structural inequities. Public investments in workforce development and education are especially vital. Closing the digital skill divide could have major payoffs for businesses and the broader economy. The report recommended steps for policymakers, workforce and education advocates and providers and corporate decisionmakers. These recommendations included investments in free or low-cost digital skills training for workers; encouraging employers to help new hires and incumbent workers to develop industry and occupation specific digital skills to adapt to the current jobs and advance their careers.

A number of organizations provide computer skill training for youth and adults across the Kansas City metro area. A list of identified organizations are included beginning on page 53 of this report in addition to libraries and school districts.

Special Populations

In the Fall of 2022, every state and U.S. territory received Digital Equity Planning grants, a prerequisite for accessing the $1.45 billion Digital Equity Capacity grant program from the National Telecommunications and Information Administration. Planning grants require states and territories include an analysis of the following populations: Blacks, Hispanics and those with limited English proficiency, low-income households, older adults (people aged 65 and over), veterans, those living with disabilities, and families with young and/or school-aged children. With this in mind, the ***Kansas City Regional Digital Equity Action Strategy*** provides the following overview of each population group along with descriptions of their digital equity issues and needs and potential improvement strategies.

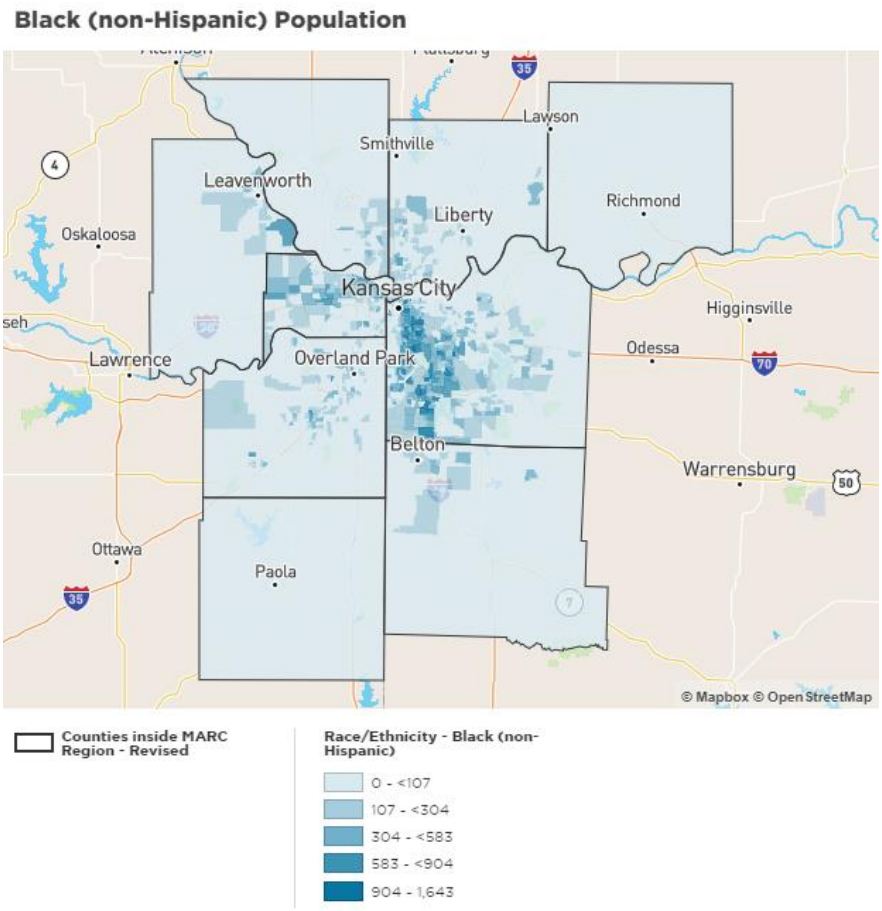
Black Population

Overview

According to the US Census' American Community Survey (ACS) Five-Year estimate (2017-2021), a total of 257,307 Black persons reside in the Kansas City region, representing 12.3 percent of total population. The three counties with the largest Black populations are Jackson, Johnson, and Wyandotte counties, respectively. Jackson and Johnson counties have the greatest proportion of Black persons at 22.7 percent and 20.3 percent, respectively. The concentrations of Black residents are greatest in the region's urban centers and along the region's highway and interstate corridors, including I-29, I-35, I-70, and Highway 71/I-49. The Black population in the region is projected to increase 11 percent by 2030.

Total Population	All Persons	Black (Non-Hispanic)	Percent of All Persons
9-County Region	2,087,515	257,307	12.3
Johnson County, KS	605,154	28,450	4.7
Leavenworth County, KS	81,601	5,929	7.3
Miami County, KS	33,968	293	0.9
Wyandotte County, KS	168,333	34,150	20.3
Cass County, MO	106,966	4,385	4.1
Clay County, MO	250,134	15,038	6.0
Jackson County, MO	713,229	162,081	22.7
Platte County, MO	105,189	6,728	6.4
Ray County, MO	23,080	253	1.1

Source: US Census Bureau, American Community Survey, 2017-2021

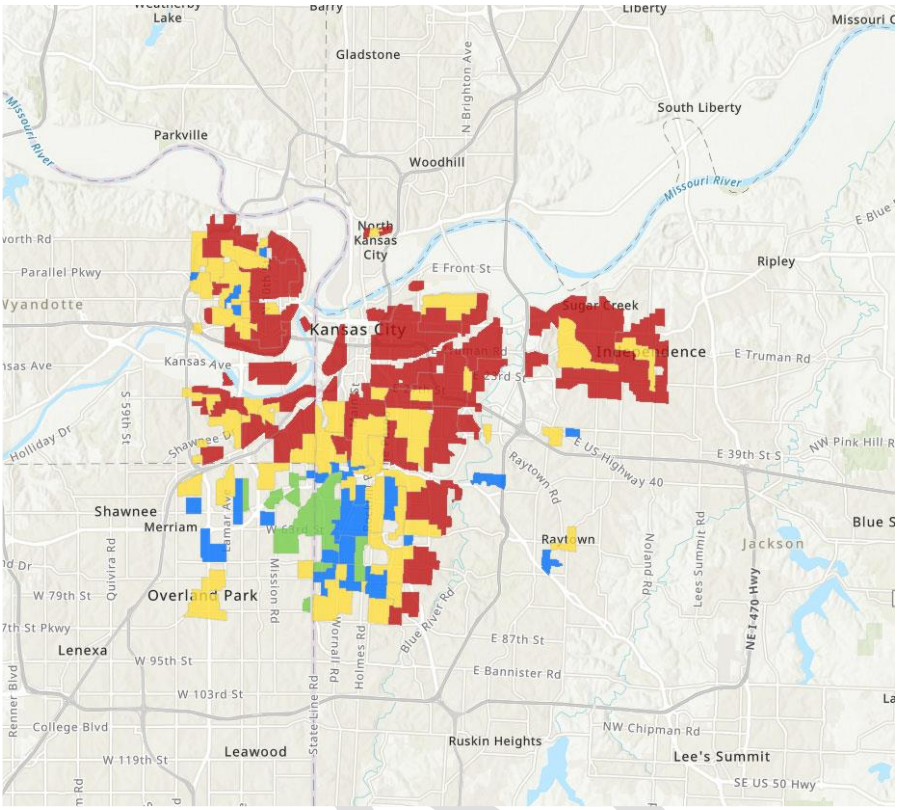


Sources: US Census Bureau ACS 5-year 2017-2021

For decades, anti-Black government policies, lending practices, property appraisals, and redlining maps determined where Blacks in the United States could live. Redlining maps were developed to illustrate a neighborhood's "credit worthiness." Areas with Black populations were more likely to receive D-ratings (hazardous) on the maps. Redlining maps from the federal Homeowners' Loan Corporation (HOLC) during the 1930s show where in the Kansas City region Blacks were able to live and invest in property. The legacy of those policies has resulted in concentrations of Black households who continue to reside in the areas identified in the 1930s as C and D ratings.

Redlining Map for Greater Kansas City

The map produced in the 1930s by the Homeowners Loan Corporation guided property appraisals and mortgage lending, limiting the opportunities for Blacks and other groups to purchase homes and realize wealth from property investment. The Green A ratings were "Best" for investment with the least risk; Blue B was still desirable; Yellow C were "Declining" areas where working-class or immigrants lived; and Red D areas were "Hazardous."



Source: Not Even Past: Social Vulnerability and the Legacy of Redlining.

The challenges for Black households across the Kansas City area to be able to access broadband subscription services and use the internet effectively are two-fold. The first is the segregated residential patterns for Black households, historically and today, limiting their ability to take advantage of quality affordable broadband subscriptions in their homes. Older, urban neighborhoods that are home to concentrations of households composed of persons of color have older technology – often copper telephone and cable wiring rather than fiber infrastructure. Older multi-dwelling unit buildings were also wired with older infrastructure, making it more difficult and more costly to offer high-speed services to tenants.

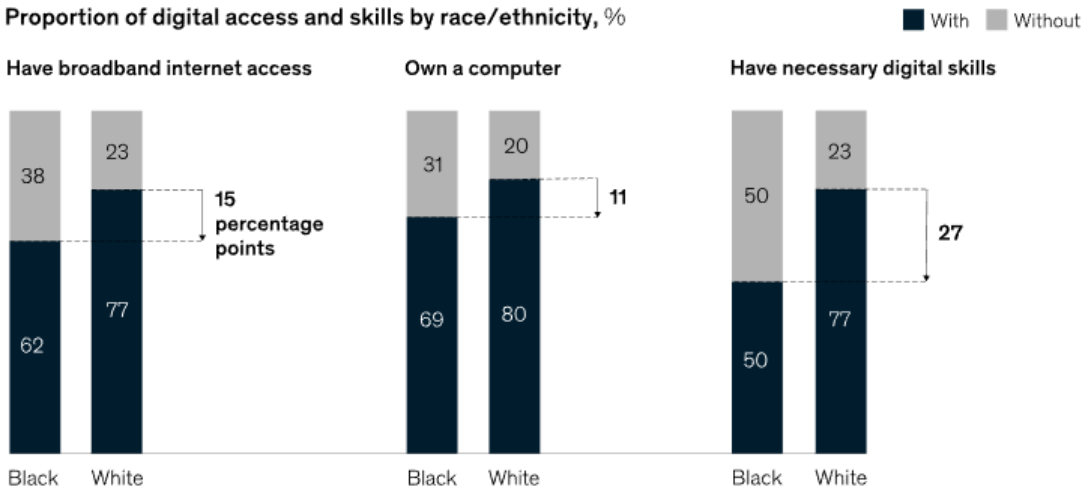
Historically underserved neighborhoods and communities have been impacted by redlining for housing, insurance, telephone and other services. In addition, there is "digital redlining" in which internet service providers have neglected to invest in infrastructure and provide services to certain areas that do not offer strong market opportunities. More analysis is needed to identify where this lack of broadband investment is occurring, and which ISP providers offer lesser quality or more expensive services to allow the community to target public intervention.

Digital Equity Issues and Needs

National data from McKinsey & Company (a global management consulting firm) indicates 40 percent of Black households do not have broadband internet access compared to only 28 percent of White households. Blacks are also less likely to own a desktop or laptop computer

than Whites at 31 percent compared to 20 percent, respectively. In addition, half of adult Blacks have the digital skills necessary for workers versus 77 percent of Whites. Further, Blacks are only 7.4 percent of digital workers but represent 13 percent of workers overall.[2] Black households have lower median incomes and less average household net worth than Whites, Hispanics, and others (non-Hispanic).[3] Increased access to affordable broadband, internet-enabled computers (desktops and laptops), and training are needed to narrow these gaps.

The digital divide disproportionately affects Black Americans across adoption, computer ownership, and digital skills.



Source: Dominique Harrison, *Affordability & availability: Expanding broadband in the Black rural South*, Joint Center for Political and Economic Studies, Oct 2021; Sara Atske and Andrew Perrin, "Home broadband adoption, computer ownership vary by race, ethnicity in the U.S.," Pew Research Center, July 16, 2021; *Applying a racial equity lens to digital literacy: How workers of color are affected by digital skill gaps*, National Skills Coalition, Mar 20, 2020

McKinsey & Company

Potential Improvement Strategies

A number of strategies could help advance digital equity among the region's Black population:

- Work with Trusted Community Organizations to Help Households Enroll in ACP
  There are community organizations that serve Black persons or neighborhoods where many households are Black. These organizations have, or could build, trusted relationships with Black households desiring to gain access to broadband internet services, obtain desktop or laptop computers, or participate in training and receive technical assistance. These organizations could be supported through public or private grants to employ and train neighborhood residents as digital navigators to offer support to households in submitting applications for the federal Affordable Connectivity Program (ACP). Many households may not be able to apply for the program without assistance due to the complexity of the application. These community organizations could also seek public or private funds to buy computers for residents, provide digital skills training and internet literacy, increase access to healthcare services, and meet other needs. Ideal benefits to community members should involve increased access to

affordable internet, digital skills development, and better health and economic outcomes.

- Offer Informational Programs and Services
  Faith-based organizations, local chambers, schools, and libraries could host educational events focused on helping community members learn how to connect to the internet more affordably and gain an understanding of the value of its service by demonstrating the opportunities such as healthcare access, employment, and education, when desktop and laptop computers are used. The events could be conducted in neighborhood churches, schools, and libraries; and implemented with support from digital navigators. Black Churches 4 Digital Equity may be a resource that can help leaders and organizers further frame the events. Some Black households with broadband or other internet subscriptions may qualify based on income for the ACP program. Local organizations could promote the program to current subscribers, either by helping them evaluate current subscription services to reduce costs or to change providers.

- Local governments support expansion of technology support
  City governments should work with community organizations to identify options for improving access to quality affordable internet services, including increased public Wi-Fi locations, Wi-Fi mesh networks in neighborhoods, and innovative approaches to offering low-cost services such as those offered by aSTEAM Village and PCs for People. Free public Wi-Fi could be expanded to include community centers, public buildings, and parks. Libraries could be supported to offer additional hot spots to provide internet access to both individuals and businesses.

- Targeted use of public incentives
  City governments and business organizations could support efforts to increase the quality of broadband access in neighborhoods lacking adequate broadband infrastructure. Grants, tax incentives and other actions could encourage internet service providers or other technology providers to improve the availability of high-speed infrastructure to neighborhoods, multi-dwelling buildings or community facilities. Public resources, whether local, state or federal, should be provided only in return for commitments by for-profit enterprises to offer low-cost options for households with limited incomes. The states of Missouri and Kansas should consider broadband infrastructure investments in urban neighborhoods, particularly those with large concentrations of Black households and areas where old inadequate infrastructure exists, to ensure high-quality affordable internet is available.

Hispanic Population

Overview

The Hispanic population is one of the fastest growing racial/ethnic groups in the Kansas City metro area. Many Hispanic persons are descendants of Hispanics who arrived in the Kansas City region during the early 1900s and worked at Kansas City's railway companies and meatpacking plants located in eastern Kansas City, Kansas, and western Kansas City, Missouri. The Hispanic population is more dispersed across the region than the Black population, with concentrations in the westside, northeast and northland portions of Kansas City, Missouri; the southeast area of Wyandotte County; and portions of Shawnee and Olathe in Johnson County.

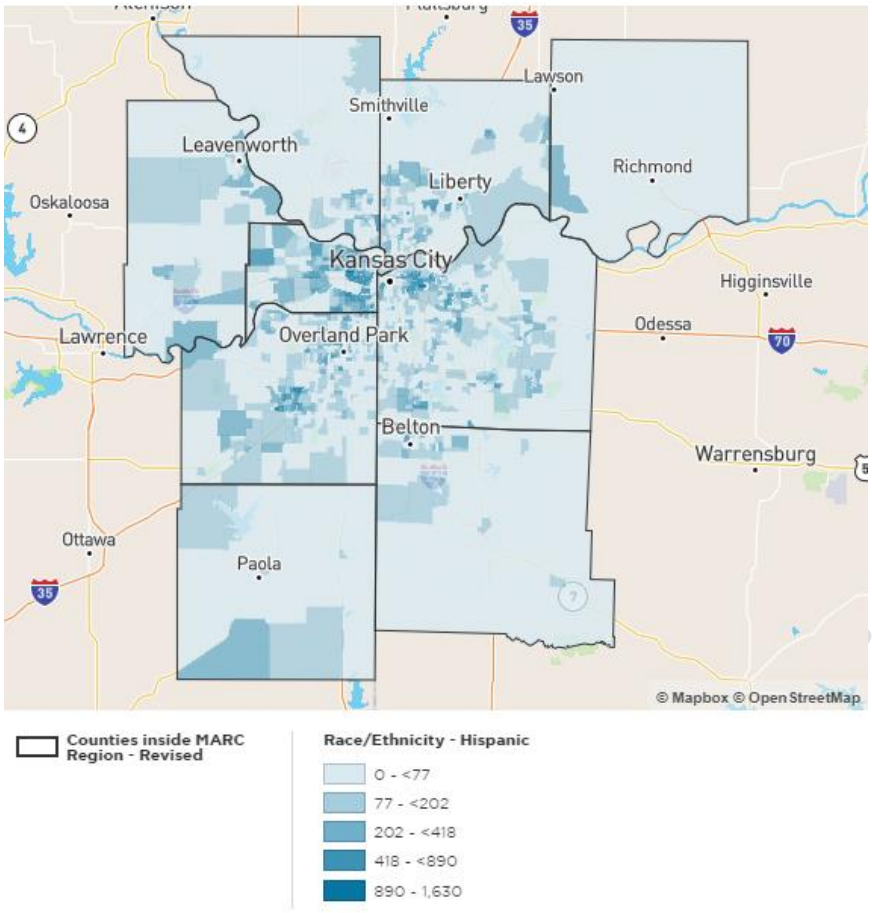
The ACS Five-Year estimate (2017-2021) indicates there are 202,218 Hispanic, non-White persons residing in the Kansas City region, which is nearly 10 percent of the total population. The ACS data shows 62,231 Hispanic persons who are foreign-born and 139,988 native-born in the Kansas City region. The three counties with the largest Hispanic populations are Jackson, Wyandotte, and Johnson counties, respectively. Wyandotte County's Hispanic population represents a large proportion of their total population at 29.7 percent. The Hispanic population in the Kansas City region is projected to grow 34 percent by 2030, according to mySidewalk.

Hispanic Persons in the Kanas City Metro Area

Total Population	All Persons	Hispanic Persons	Percent of All Persons
MARC Region	2,087,515	202,218	9.7
Johnson County, KS	605,154	47,948	7.9
Leavenworth County, KS	81,601	5,949	7.3
Miami County, KS	33,968	1,161	3.4
Wyandotte County, KS	168,333	50,037	29.7
Cass County, MO	106,966	5,079	4.7
Clay County, MO	250,134	17,878	7.1
Jackson County, MO	713,229	66,772	9.4
Platte County, MO	105,189	6,793	6.5
Ray County, MO	23,080	606	2.6

Source: US Census Bureau, American Community Survey, 2017-2021

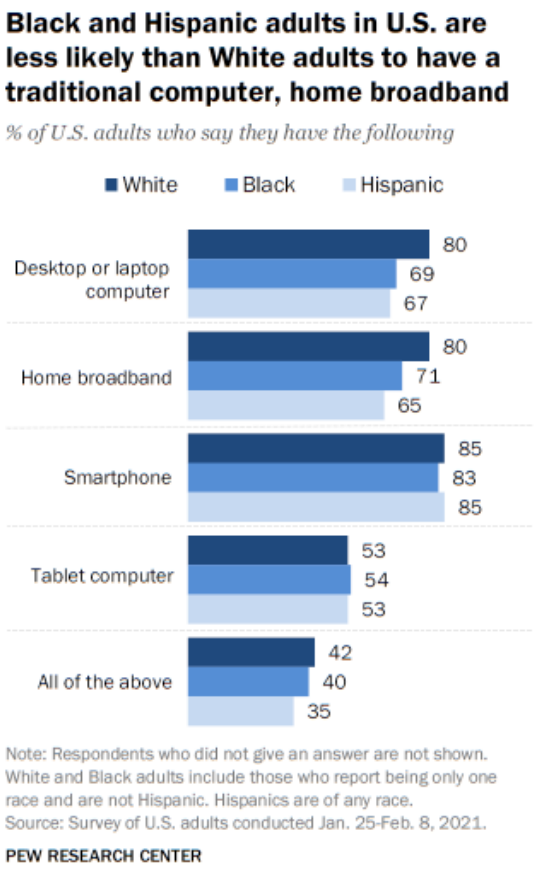
Hispanic Population



Sources: US Census Bureau ACS 5-year 2017-2021

Digital Equity Issues and Needs

National findings from the Pew Research Center indicate 67 percent of Hispanic adults have a desktop or laptop computer, compared to 69 percent of Blacks and 80 percent of Whites (Non-Hispanic). They are also less likely to have home broadband and more likely to rely on their Smartphones. Sixty-five percent of Hispanic households have broadband at home versus 71 percent of Blacks and 80 percent of Whites. Hispanic persons are more likely to own smartphones and tablet computers at rates than Black and White persons. A 2021 National League of Cities report, the ***State of the Digital Divide in the Hispanic Community*** notes "…in 2020 when the COVID-19 pandemic spread throughout the country impacting the Black and Hispanic communities the hardest, the digital divide—the gap between individuals who have access to computers, high-speed internet and skills to use them, and those who do not—not only became obvious but also dangerous to millions of Hispanic residents throughout the country."

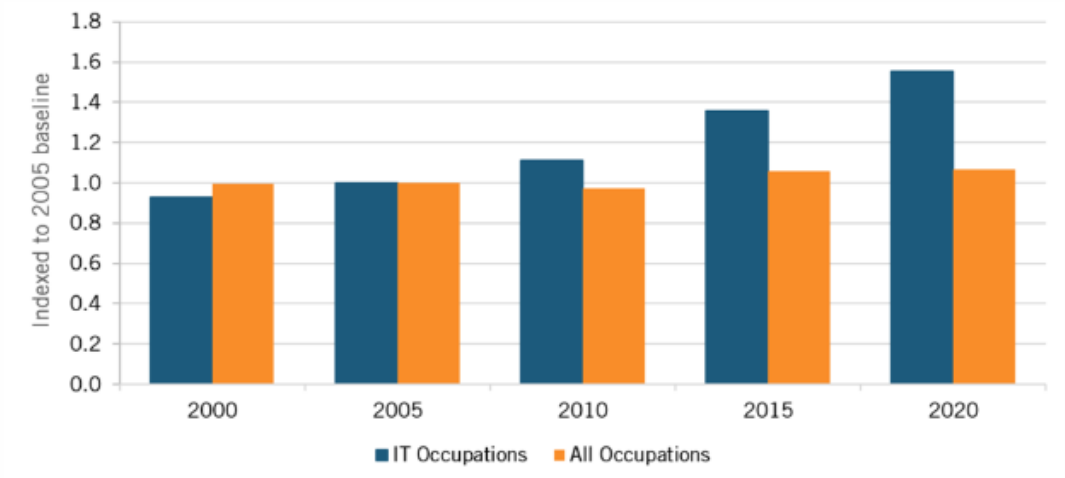


Affordability also contributes to the digital divide, as it impacts a household's ability to purchase internet service and buy computer devices. The NLC report indicates households with incomes of less than $50,000 per year are least likely to have home internet access. Hispanic households in the Kansas City region have a median household income of $76,009, according to the ACS. Their incomes are as much as 34 percent lower in the counties with the largest number of Latino persons: Jackson ($51,129), Wyandotte ($50,023), and Johnson ($68,827) counties.

About one-third of Hispanic households across the country lack access to the internet and do not have high-speed broadband infrastructure in their communities. In addition, not everyone has the knowledge and skills to leverage the internet once connected to it. The "National Skills Coalition found that approximately 50 percent of Black workers and 57 percent of Hispanic workers lack robust digital skills."[1] The Brookings Institution saw digital skills requirements for jobs increase between 2002 and 2016. Notably, 70 percent of American jobs required medium to high digital skills in 2016. Only 44 percent required the skills in 2002. A new study published by the National Skills Coalition and Federal Reserve Bank of Atlanta reported on a 2021 analysis of job openings across the U.S., and the study found that 92 percent of all jobs required some level of digital skills.

More jobs were added to the technology industry between 2000 and 2020. The rate of Information Technology (IT) job growth increased 60 percent faster than jobs overall from 2005 to 2020. Persons of color, including Hispanic persons in the Kansas City region, face barriers to higher wage jobs due to a lack of digital skills.

Figure 1: Indexed job growth in U.S. IT and overall workforce, 2000–2020 (2005 baseline = 1)[9]



The NLC report points out that undocumented Hispanic immigrants have fears about being deported. The fear makes privacy essential and impacts their ability to sign up for programs designed to improve their access to and use of the internet. Some Hispanic persons may also have concerns about interactions with government officials, having experienced discrimination or unfair treatment connected to their race/ethnicity likely related to speaking Spanish in public, outward expressions of Hispanic pride, or other characteristics.

Limited English proficiency among Hispanic persons, particularly new immigrants, is an issue that can limit digital access and skills. Based on ACS data, 117,890 people in the Kansas City region speak Spanish at home, and 19,539 people are both living below poverty and speaking Spanish at home. By household, there are 18,250 households with one or more members who do not speak English well. More than half of those households, 59 percent, speak Spanish. (One in five are Asian languages.)

The Pew Research Center suggests Hispanic persons use of Spanish at home is decreasing among those born in the United States. Regardless, most communication tools in the U.S., including the Kansas City region, are developed in English. Some communities, organizations, and news outlets (*Dos Mundos, Telemundo* and *KC Hispanic News*) produce English-Spanish programming and materials as a matter of practice. English-only communication campaigns, ACP enrollment efforts, and other digital equity tools will be difficult for Hispanic persons with limited English-speaking skills to access.

Potential Improvement Strategies

Strategies that could improve digital equity among Hispanic persons in the Kanas City region include:

- Increase digital services by community-based organizations serving Hispanic persons.
  There are community organizations that serve Hispanic persons. These organizations have or could build trusted relationships with Hispanic households desiring to gain access to broadband internet services, obtain desktop or laptop computers or participate in training and receive technical assistance. Organizations such as the Hispanic Economic Development Corporation, El Centro, Latinx Education Collaborative, and Guadalupe Center provide such services to Hispanic households. Organizations including Jewish Vocational Services, Catholic Charities of Northeast Kansas and Don Bosco serve Hispanic immigrants and refugees. These organizations could be supported through public or private grants to employ and train neighborhood residents as digital navigators to offer support to households in submitting applications for the federal Affordable Connectivity Program (ACP). This program offers up to $30 per month toward broadband service costs. The program has limited funding, which is expected to end by sometime next year. These community organizations could also seek public or private funds to buy computers for residents, provide digital skills training and internet literacy, increase access to healthcare services, and meet other needs. Ideal benefits to community members should involve increased access to affordable internet, digital skills development, and better health and economic outcomes. These organizations and others offer digital navigators and other support that are bi-lingual, speaking Spanish fluently and offering services in a culturally competent manner to gain trust of clients they intend to serve.

- Digital equity outreach materials targeted to the Hispanic population in English and Spanish could support actions by those needing support.
  The outreach materials could be shared using locations, social media, and other platforms that are familiar to the region's Hispanic population. The outreach materials should stress the importance of internet access, benefits of use, connectivity options that address affordability, and assistance available. Such platforms may include newspaper and television advertisements, social media, WhatsApp, in-person activities, direct mailers, and/or partnerships with local businesses, public and private schools, community centers, and grocery stores. Outreach tools should be developed in a bilingual format of Spanish and English.

Low-Income Population

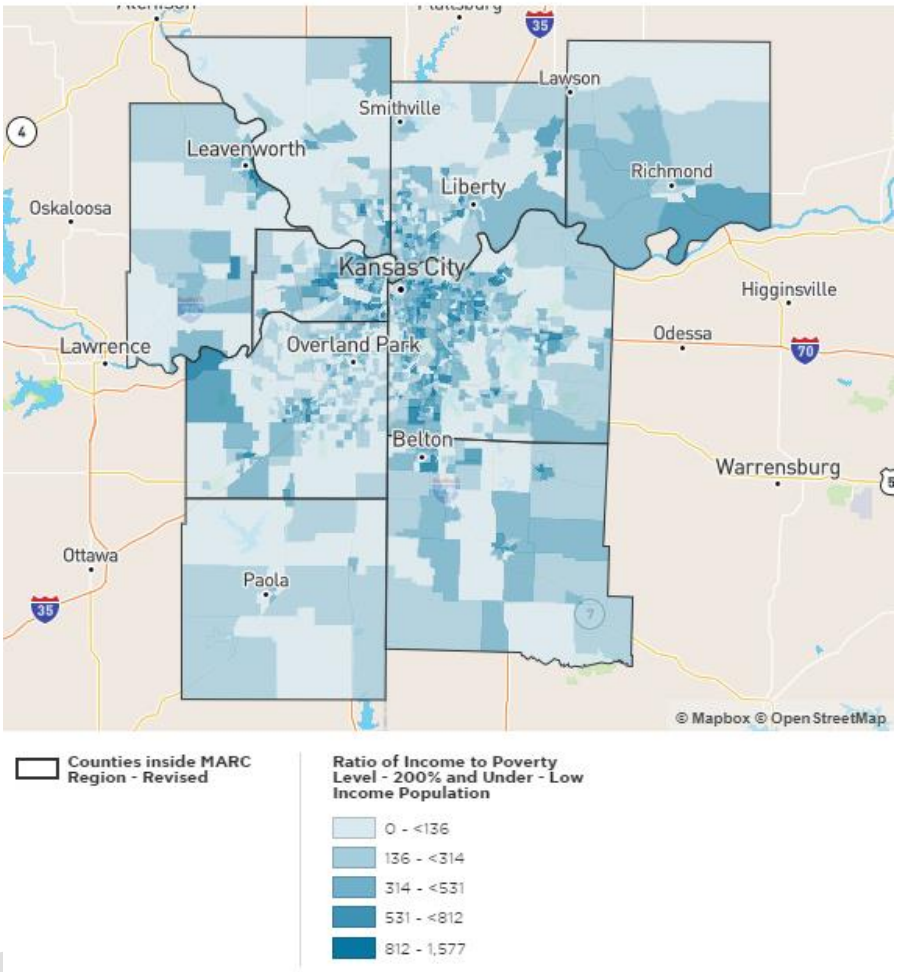
Based on the ACS Five-Year estimate (2017-2021), 492,338 people with incomes at or below 200 percent of the federal poverty level live in the Kansas City region. This low-income population represents 24 percent of the region's population. The three counties with the largest low-income populations are Jackson, Johnson, and Wyandotte counties, respectively. An estimated 44 percent of the region's low-income persons live in Jackson County, 17 percent in Johnson County, and 14 percent in Wyandotte County. Wyandotte County has the largest percentage of low-income residents.

Persons with Incomes Below 200 Percent of the Federal Poverty Level

Ratio of Income to Poverty Level - 200% and Under - Low-Income Population	Persons
MARC Region	492,338
Johnson County, KS	82,522
Leavenworth County, KS	16,947
Miami County, KS	5,472
Wyandotte County, KS	67,173
Cass County, MO	22,613
Clay County, MO	55,227
Jackson County, MO	217,944
Platte County, MO	18,326
Ray County, MO	6,138

Source: US Census Bureau, American Community Survey, 2017-2021

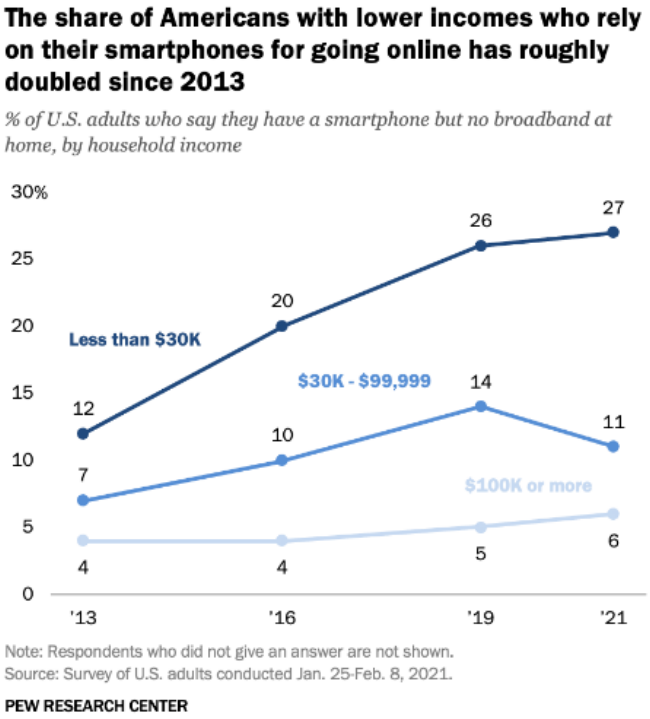
Low-Income Population



Sources: US Census Bureau ACS 5-year 2017-2021

Digital Equity Issues and Needs

Adults with lower household incomes (under $30,000 annual) are less likely than those with higher incomes to have a smartphone, computer, or home broadband. The Pew Research Center indicates 24 percent are without a smartphone, 41 percent do not own a desktop or laptop computer, and 43 percent do not have broadband at home. In 2021, about twice as many lower-income households depended upon their smartphones to access the internet as in 2013. Persons with lower incomes are more likely to use smartphones to look for and complete applications for jobs than persons with greater incomes who are more likely to own a desktop or laptop computer. If the household has children, the smartphone may also be the tool for remote learning and homework completion.[1]



During the pandemic and resulting period of school closures, nearly 60 percent of lower income parents said their child encountered at least one digital equity challenge while trying to attend school from home. Examples included not being able to do schoolwork because their home was without a computer; using public Wi-Fi due to not having access to a reliable internet connection in their home; and/or doing their homework on a smartphone.[2] Internet access and devices may be a luxury for people with limited financial means. What's more, the potential for service cancellation can also be a concern for low-income people who only have internet access via their mobile phones.

Low-income households and others without internet subscriptions or with internet service with inadequate speeds may depend upon library personal computers or public Wi-Fi to support their needs. Most libraries in the metro area offer public computers and Wi-Fi, and many offer devices and hotspots on loan. The length of the loan may limit households' ability to continue to use the needed technology.

Potential Strategies

Strategies for improving digital access and adoption among low-income households include:

- Increase residents' knowledge of localized resources, such as libraries, community-based organizations, and social networks that can help provide devices, offer digital skills training and education, and assist with programs that make internet access more affordable. Digital support organizations are often trusted contacts and should utilize a multi-pronged approach that includes person-to-person engagement when communicating available options, and other information to low-income households.

- Help with enrollment in the ACP. Digital support organizations could train and use volunteers or employees as digital navigators to help low-income households enroll in the ACP program or secure other support such as computer devices and training and technical assistance. The navigators could help residents sign up for programs that make internet service more affordable, such as the ACP, and guide them through the process of selecting a laptop or desktop computer that would be best suited to meet their household's needs. In addition, digital navigators could provide technical support to ensure that the devices remain functional.

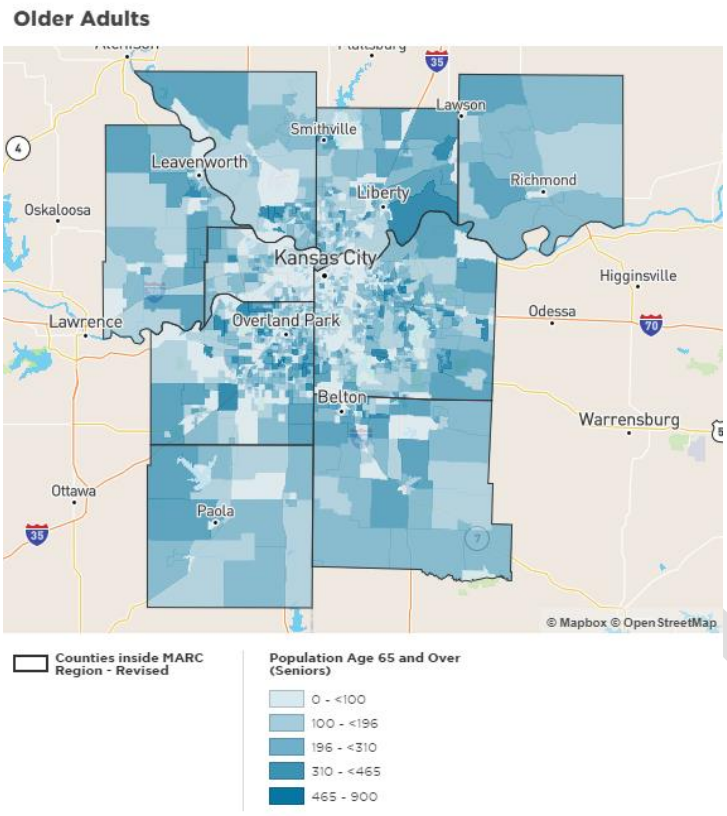
- Households in multi-dwelling units (MDU) have lower rates of digital subscriptions. Digital support organizations could work with landlords who manage multifamily developments to help tenants enroll in the ACP program, improve fiber or wireless services to units in the building or provide space for public Wi-Fi in the building. A clubhouse or other common spaces could be designated as a computer space or lab for residents. If the development's day-to-day staff were to receive digital navigation training, they could assist residents with their internet needs, such as identifying service options, signing up for in-home service, and accessing educational trainings and support beyond what can be offered via the computer lab. Community organizations and public housing authorities should work together to ensure all of their properties have internet access and if common space is available, computer training opportunities.

- School districts and public library systems could provide additional digital skills offerings that combine technology with collaborative project-based learning. The offerings could be marketed to low-income households. Schools and libraries should increase participants' understanding of the importance of the internet and demonstrate why having a high-speed connection is important. Marketing and project materials should be tailored to specific age ranges and in a variety of languages. These materials could include information about workforce needs and job outlooks for those with digital skills.

Older Adults

Overview

There are 307,184 older adults aged 65+ living in the Kansas City region, according to the ACS Five-Year estimate (2017-2021). This fast-growing age group represents 15 percent of the region's total population. The three counties with the largest older adult population are Jackson, Johnson, and Clay counties. The number of older adults in the region is projected to increase from 2019 to 2030 by an estimated 38 percent.



Sources: US Census Bureau ACS 5-year 2017-2021

Persons 65 Years and Older

Population Age 65 and Over (Older Adults)	All Persons	Persons 65 Years and Over	Percent of All Persons
MARC Region	2,087,515	307,184	14.7
Johnson County, KS	605,154	88,561	14.6
Leavenworth County, KS	81,601	11,747	14.4
Miami County, KS	33,968	5,665	16.7
Wyandotte County, KS	168,333	21,026	12.5
Cass County, MO	106,966	17,970	16.7
Clay County, MO	250,134	35,472	14.2
Jackson County, MO	713,229	106,911	15.0
Platte County, MO	105,189	15,651	14.9
Ray County, MO	23,080	4,191	18.2

Source: US Census Bureau, American Community Survey, 2017-2021

Older adults are less likely than the general population to own smartphones or tablets, although there has been dramatic growth in the proportion of older adults adopting technology. The Pew Charitable Trust showed a growth from 13 percent of older adults owning such devices in 2012 to 61 percent by 2021. That report found 64 percent of older adults had

internet service in their homes by 2021. Although older adults may have adopted internet use and broadband technology at lower rates than other age groups, their rate of connectivity is greater for those older adults who are younger, more affluent and highly educated.

Digital Equity Issues and Needs

According to the American Association of Retired Persons (AARP) website, barriers to technology adoption include lack of understanding about the value of connecting to the internet; cost of broadband subscriptions and devices, need for technical support to install and begin utilizing the technology, training needed for meaningful use, and concerns about privacy and cybersecurity.

Older adults need support to sign up for and securely use online banking services. Some financial institutions offer services to assist older adults with getting set up and trained on how to safely use online banking. Cybersecurity is a concern for all persons who use online banking; however, older adults are often targeted for scams.

Recent studies on older adult well-being indicated that social interaction has the most positive impact on longevity, more than physical or mental exercises or healthy eating. The pandemic highlighted the problem of social isolation and the opportunity that online connections could have in reducing social isolation. A Pew Trust report found that 75 percent of seniors who are online are motivated most by staying connected to families and friends.

There are a limited number of digital skills' initiatives targeted to serve older adults in the Kansas City area. Jewish Family Services has assisted older adults with digital skills training and guidance in getting signed up for affordable internet service. The Belton School District has a program for high school students in partnership with West Central Missouri Rural Development Corporation to help older adult residents with digital training. This program is modeled after a national initiative, Cyber-Seniors. Northland Shepherd's Center and Kearney Enrichment Council provide digital skills training to their older adult program clients.

Potential Improvement Strategies

Provide guidance to older adults on the value of using technology to meet needs and enrich their lives:

- Encourage local financial institutions to work with community organizations to offer online-friendly services to older customers, including cybersecurity training.
- Encourage health care organizations to help their patients become comfortable using online patient portals and tele-health services.
- Encourage the business community to work with community organizations to offer online services that meet the needs of the hearing and visually impaired.
- Support organizations in providing digital skills training to seniors on topics that are of greatest interest to them, including how to safely use the internet, staying in touch with friends and family (Facebook and other social media platforms), online shopping and using telehealth resources.

- Community organizations should consider digital navigators specially trained to help older adults select in-home broadband or apply for the ACP program if eligible; assist with acquiring and setting up devices; and offering digital skills training.

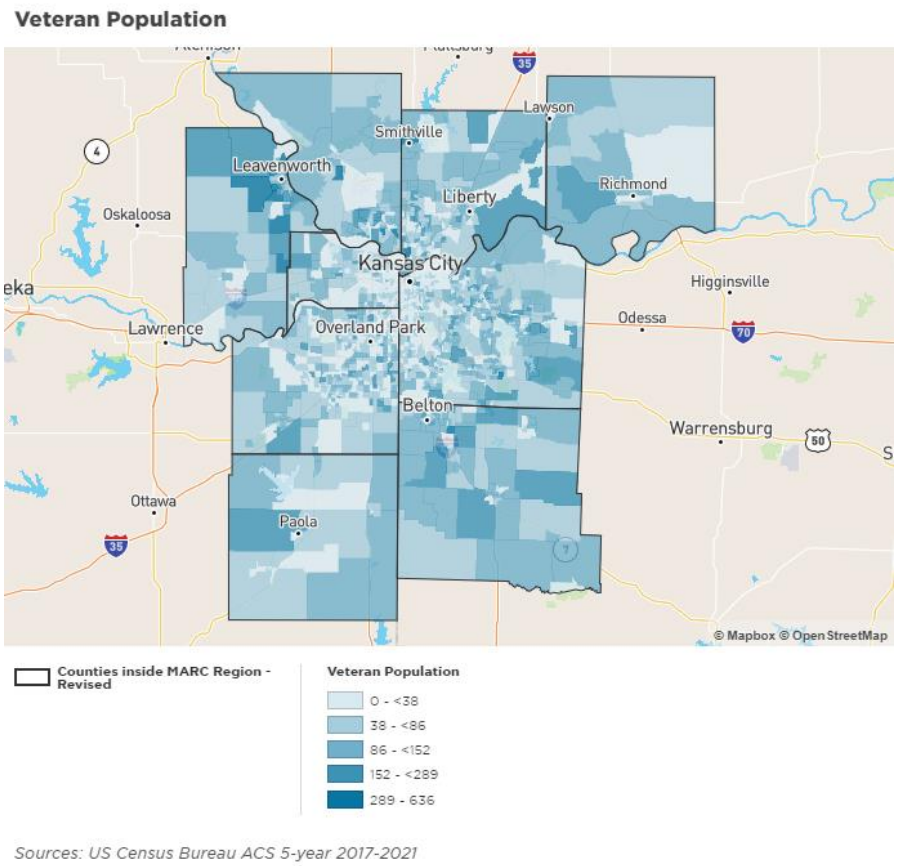
Veterans

Overview

According to the ACS Five-Year estimate (2017-2021), 114,757 veterans live in the Kansas City region representing 5 percent of total persons. The three counties with the largest veteran populations are Jackson, Johnson, and Clay counties. An estimated 33 percent of the region's Veterans live in Jackson County, 23 percent in Johnson County, and 13 percent in Clay County. Leavenworth County has the highest proportion of veterans to their total population. The presence of Whiteman Air Force Base, Fort Leonard Wood Army Base, and MC Mobilization Command Marine Corps in Missouri and Fort Leavenworth Army Base in Kansas and a number of Veterans Administration health facilities make the region appealing to veterans. The Veterans Administration offers benefits to Veterans, and information about these resources is most easily accessed online.

Veteran Population	All Persons	Number of Veterans	Percent of All Persons
MARC Region	2,087,515	114,757	5.5
Johnson County, KS	605,154	26,454	4.4
Leavenworth County, KS	81,601	8,994	11.0
Miami County, KS	33,968	2,081	6.1
Wyandotte County, KS	168,333	7,908	4.7
Cass County, MO	106,966	7,789	7.3
Clay County, MO	250,134	14,544	5.8
Jackson County, MO	713,229	38,089	5.3
Platte County, MO	105,189	7,313	7.0
Ray County, MO	23,080	1,590	6.9

Source: US Census Bureau, American Community Survey, 2017-2021



Sources: US Census Bureau ACS 5-year 2017-2021

Digital Equity Issues and Needs

Veterans, like many others in special population groups, have lower rates of in-home broadband or internet-capable devices. According to a 2019 FCC analysis, 15 percent of veterans lack internet connections. Many programs and services targeted to Veterans require online capabilities to obtain information and apply online. Veterans without internet access are at a disadvantage.

The Veterans Administration offers resources to help veterans, including help with tablet devices to access telehealth and support from a digital navigator to apply for the ACP or other digital programs.

Potential Improvement Strategies

- Help veterans become aware and take advantage of resources available through the VA.
- Digital equity organizations in the Kansas City region should collaborate where possible with the VA. The agency is striving to address the issues facing veterans who want to access telehealth services.
- Community organizations might work with the VA to offer ACP promotional campaigns targeted to veterans.

- Help to educate or supplement the VA's Digital Divide Consult program, which connects veterans to social workers who can help identify and respond to their connectivity and technology needs.
- Promote the VA program that lends internet-enabled devices to veterans who need telehealth services.
- Establish partnerships with ISPs to help veteran subscribers avoid the expense of accessing telehealth services via their personal mobile service plans.
- Provide information about the Lifeline Program for discounted broadband service and telephones targeted to low-income veterans.
- Collaborate with companies that develop and install free Wi-Fi in veteran-focused facilities.
- Organizations such as the VFW and American Legion could be encouraged to offer digital navigator and digital skills training.

People with Disabilities

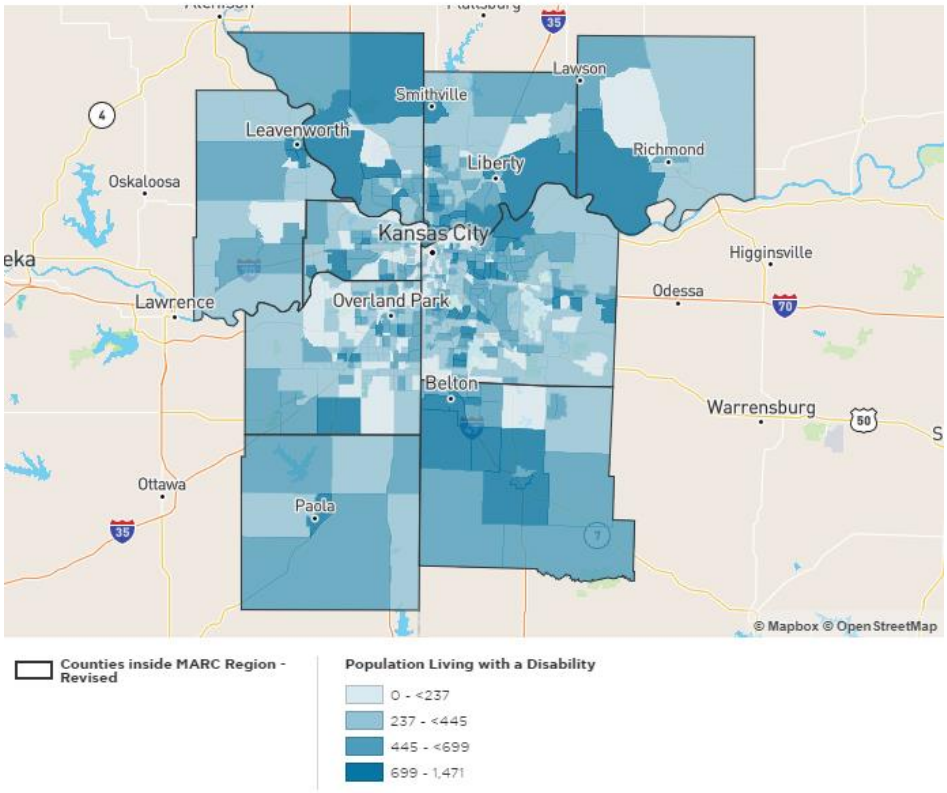
Overview

According to the ACS Five-Year estimate (2017-2021), 237,732 people in the Kansas City region live with a disability, representing 11 percent of the region's population. The three counties with the largest populations of people living with a disability are Jackson, Johnson, and Wyandotte counties. An estimated 38 percent live in Jackson County, 21 percent in Johnson County, and 10 percent in Wyandotte County. Wyandotte and Cass counties have slightly higher proportions of disabled persons to their total population. Disabilities recorded by the US Census Bureau include those affecting sight, hearing, physical mobility and cognitive abilities.

Population Living with a Disability	All Persons	Those with Disabilities	Percent of All Persons
MARC Region	2,087,515	237,732	11.4
Johnson County, KS	605,154	51,085	8.4
Leavenworth County, KS	81,601	9,436	11.6
Miami County, KS	33,968	4,109	12.1
Wyandotte County, KS	168,333	23,063	13.7
Cass County, MO	106,966	14,644	13.7
Clay County, MO	250,134	29,187	11.7
Jackson County, MO	713,229	90,407	12.7
Platte County, MO	105,189	12,809	12.2
Ray County, MO	23,080	3,010	13.0

Source: US Census Bureau, American Community Survey, 2017-2021

Population Living with a Disability



Sources: US Census Bureau ACS 5-year 2017-2021

Digital Equity Issues and Needs

Having a disability can make it more challenging to live independently, complete educational courses, win jobs, and be paid higher wages for work. People with disabilities are also more likely to be unbanked and have issues with unemployment, which can make it difficult to pay for needed services and establish credit to make large purchases. Some disabled people may encounter challenges going to physical learning environments due to transportation issues, negative impacts of sound and light (for those with an autism spectrum disorder), and other concerns. Working a job or accessing healthcare services may require specific accommodations for communicating, parking, or other equipment.

Nationally, "Americans with a disability are more likely than those without disabilities to say they never go online," according to the Pew Research Center.[8] Pew data also indicate nearly two-thirds have a laptop or desktop computer, which is less than the proportion of people living without a disability (81 percent). In-home broadband is available to 72 percent of disabled persons according to the 2021 survey. As with older adults, the lack of inclusively designed devices may impact internet use.

Access to health care through assistive devices or through telehealth is important for persons with disabilities. Many disabled persons face barriers to these opportunities due to the lack of devices and in-home broadband access as well as limited digital skills.

The World Economic Forum reported that people with disabilities offer opportunities for employers with workforce opportunities. Unfortunately, people with disabilities are 50 percent less likely to get jobs and those jobs are often at lower corporate levels. Even disabled persons with advanced degrees earn less.

Potential Improvement Strategies

- Engage with organizations like the Center for Accessible Technology (CAAT) to integrate digital inclusion supports for people with disabilities into social service and government programs. School districts, nonprofits, business and policy makers could work with organizations like CAAT to increase digital access for persons with disabilities.
- Encourage employers, including sheltered workshops, to work with organizations serving people with disabilities to consider remote employment and offer devices and digital training to enable work-from-home.
- Healthcare organizations should work with patients to help them access devices, in-home broadband through the ACP or other programs and digital training to engage in telehealth or use health devices to improve their daily living.

Families with Young or School-aged Children

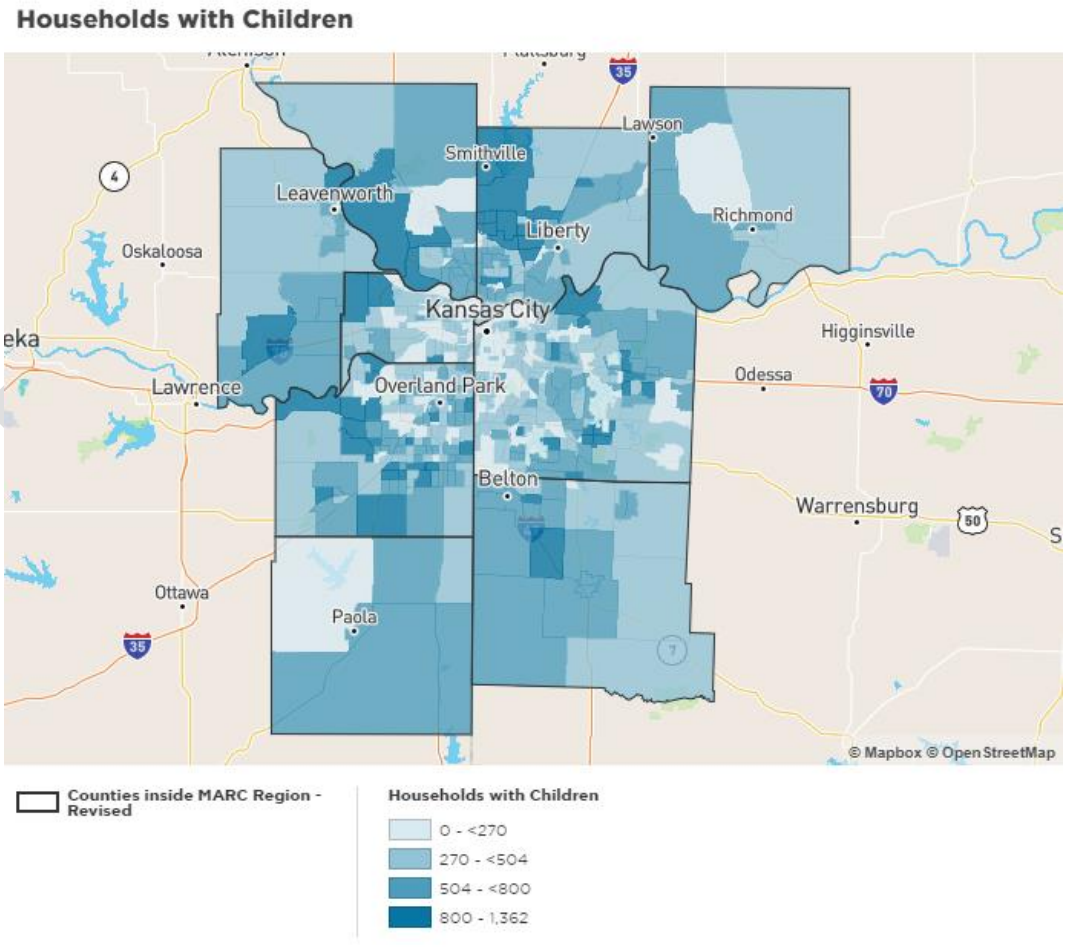
Overview

Based on the ACS Five-Year estimate (2017-2021), 258,191 households with children live in the Kansas City region. They represent 31 percent of all households. The three counties with the most households with children are Jackson, Johnson, and Wyandotte counties. An estimated 32 percent live in Jackson County, 30 percent in Johnson County, and 8 percent in Wyandotte County. In recent years the price of raising children has increased so much that some families struggle to maintain their household's finances. Further, a recent study showed that it takes $15,000 to $18,000 a year to raise a child, depending on regional location.[10] Families with children may feel that high-speed internet service is beyond their means.

Households with Children
Under 18 Years

Total Households	All Households	HH with Children	Percent of all HH
MARC Region	825,288	258,191	31.3
Johnson County, KS	237,949	78,101	32.8
Leavenworth County, KS	28,664	10,060	35.1
Miami County, KS	12,921	3,987	30.9
Wyandotte County, KS	60,882	20,766	34.1
Cass County, MO	41,113	13,233	32.2
Clay County, MO	98,033	33,155	33.8
Jackson County, MO	295,018	82,013	27.8
Platte County, MO	42,154	14,366	34.1
Ray County, MO	8,604	2,527	29.4

Source: US Census Bureau American Community Survey, 2017-2021



Sources: US Census Bureau ACS 5-year 2017-2021

Digital Equity Issues and Needs

While remote learning was an issue for many students prior to early 2020, the COVID-19 pandemic made remote learning and work a necessity for many households. As a result, school districts around the country, including those in the Kansas City region, began exploring ways to provide tablets, Chromebooks, hotspots, and virtual learning environments to students.

Problems with connectivity, slow upload/download speeds, a limited number and type of devices per household, parents serving as teachers in unfamiliar digital spaces, and other issues presented barriers. Many families had to transport their children to libraries or other locations with public Wi-Fi to access school materials and complete homework. Some students faced participating in school on their smartphone, which limited their ability to access information, participate in class and complete assignments.

Recent studies on student performance and achievements during the COVID-19 pandemic found that many students, particularly those who were in minority households and lower income, recorded setbacks in learning, particularly in reading and math. A January 2022 report by the Brookings Institution found gaps between test scores for low-poverty and high-poverty elementary schools across the nation grew by 20 percent.

Families with children faced the problem of insufficient number or type of computer devices in the home, with multiple family members competing for use of available devices for school or work.

While the opening of schools and return to classrooms has reduced the need for remote learning, families with children continue to face challenges during severe weather days when remote learning may be necessary to a lack of devices during summer months. Children in those households without home broadband subscriptions are sometimes found outside school buildings, in parking lots, at restaurants or other locations where public Wi-Fi may be available after buildings close for the evenings or on weekends.

Potential Improvement Strategies

Strategies to consider when tackling digital equity issues with families that have children could include:

- Encourage school districts to provide acceptable documentation for participation by students free and reduced lunch program, including students who attend a Community Eligibility Provision school, to parents/guardians so that they can apply for the ACP.
- Encourage schools to provide devices year-round to enable students to learn during summer months. The use of these devices would be more effective if training on digital skills accompanies the distribution of the devices.
- Schools should also be encouraged to offer students access to spaces during summer months or evenings to allow for the use of computers and Wi-Fi.
- In addition to schools, many youth-serving organizations could support families by helping direct them to resources for training, devices and ACP enrollment.

- Digital equity organizations should continue working with schools and employers to provide Chromebooks and tablets or desktop and laptop computers to households with children. These organizations should work with these families to sign up for the ACP for affordable home internet.
- Libraries should continue to expand their digital services to support families with devices through a lending program and training on use of the devices. Information on resources outside of the library such as organizations offering devices, ACP enrollment support or other digital training could be maintained and provided through the area libraries.
- Area businesses and public organizations, including local governments, should work with PCs for People and other organizations to donate surplus devices to be refurbished and provided at low or no cost to families with children.

Inventory of Community Organizations Providing Support

There are many community organizations assisting individual youth and adults and entire households to overcome barriers to achieve access to the internet with devices and training and technical support for meaningful uses. School districts, colleges and universities and other educational organizations have focused attention during the COVID-19 pandemic and since the early days in 2020 when remote learning was essential. Libraries have played an essential role in providing access to residents with public computers and public Wi-Fi. Most libraries have used E-rate funding to purchase hot spots and devices to enable residents to borrow the technology needed for their home use.

In fall 2022, MARC and KC Digital Drive initiated a process to inventory digital inclusion work in the Kansas City region. A survey was developed to identify organizations offering digital support services in the region, what type of services are offered and their interest and ability to scale their services if new funding were available. The survey was limited in scope, and there are additional organizations offering services that have not yet been identified. From the survey responses, a few basic themes are worth highlighting:

- Of the organizations surveyed, most were providing digital support services. Additional organizations were interested in serving digital needs, but they were limited due to a lack of devices for training or other services. All were interested in providing services of some kind to their client base regardless of the types of services they were the primary provider for, and only a few of the organizations were technology focused. Most were providing digital services/training as a complement to their entire portfolio of work, whether it was workforce development, social services, education or other.

- Roughly half of the organizations were at or over capacity for their services, while the remainder were under capacity. There appears to be an opportunity for coordination between organizations to maximize use of existing capacity and in some organizations to provide additional funds to scale up operations. However, some organizations indicated that funding alone was not the issue – finding appropriate help to lead programs or provide training was as much of a challenge as funding the programs. Some of the programs rely on community volunteers to run the training and agencies have been unable to find needed volunteers due to COVID or needing to assign volunteers elsewhere in the organization, particularly those also providing other social services.

- Almost every organization indicated they either had plans or might consider adding or increasing their existing digital inclusion offerings. Most of the organizations indicated they were working with partners to deliver their digital inclusion services and some that were not currently were actively exploring partnerships to increase their offerings. Many of the organizations that are partnering with others as the provider of training indicated funding was a major driver of their expansion, while many of the organizations who were offering digital inclusion services under a larger umbrella of services indicated devices and internet assistance were their larger need.

As a proposed path forward, the inventory needs to be refined and maintained. The ongoing list of organizations providing digital inclusion services in the region, either to other organizations or direct service to clients, should be added to any time new information is received; however, from a maintenance standpoint, the information should be verified/collected from organizations already on the list on a regular basis to maintain accuracy without requiring constant maintenance. [WE ENCOURAGE REVIEWERS TO LET US KNOW WHAT's MISSING]

Organization	**Digital Inclusion Services**
aSTEAM Village	Provides Broadband Internet Services, Technical Support, and Network Security. Provides internal network cabling and infrastructure upgrades to older homes and buildings to be digital compatible, Provides I.T. Certification Prep Classes, Exam Vouchers, and Proctoring Exams for industry certification exams.
Arts Tech	Offers youth class and seniors' computer skills classes, instructor listens to their needs and adjusts the class content; accordingly, computer refurbishing (tech reconditions them with youth helping, music engineering and marketing with Adobe software, how technology ties into art
Bishop Sullivan Center	Computer classes teaching basic skills, and access to Resource Room computers to complete job search and other employment related information
Black Family Technical Awareness Association	Offers basic digital skills class for older adults, 2 Robotics class (one for elementary, one for middle school), internet radio station with Raytown middle school doing a program
Business Speaks LLC dba Entrepreneur Church	Provides K12 Title I students and youth entrepreneurs with training, career exploration, and career readiness. Worked with partners to enroll families in ACP in KCMO and KCKS
Catholic Charities of NE KS	Provides digital literacy training and access assistance to immigrants in NE KS. Assists students to purchase computers through PCs for People; assistance with WI-FI, online banking, applications for benefits, access telehealth, etc.
Community Services League	Provides one-on-one technical assistance
DAVE's Place Community Impact Center	Teaches classes and provide access to resources for internet
East Central KS Economic Opportunity Foundation	Works with community partners in Miami Co to acquire, refurbish and distribute computers, provide training and technical assistance
El Centro Inc.	Provides digital training in English and Spanish for Latino adults in JO and WY
Essential Families Midwest	Provides digital navigator assistance to families to sign up for the ACP program, distribute computers and training (Pilot program in 2021-2022)
Full Employment Council	Provides support for digital skills training and devices
Front Porch Alliance	Provides computers and hot spots to help families in east KCMO
Goodwill of Western MO & Eastern KS	Two digital inclusion instructors doing training at Goodwill and partner sites in workshop-style training opportunities, uses GCF Learnfree, Northstar Digital Literacy Assessment (includes basics as well as Office), then how to apply them in the workforce development space (applying for jobs, LinkedIn, other social media to network, find a job or better your career). Expanded training to be one-on-one coaching style (career navigation, access to devices and the internet and what do they want to know about computers to customize their learning), distributed devices, ACP signup assistance, many people are in a transitional living situation, so they aren't in a place to sign up for internet service, hotspots for people who are houseless. Mobile learning unit--Vehicle

	with 10 computers with internet that goes to partner orgs. Also bring it out to community resource fairs or employers for an on-site job fair so job seekers can create a resume or apply for a job. Help them get an email, resume, fill out the job application (remove the barriers to getting a job). Also, ACP signup, Medicaid waivers or other non-workforce resources. Bridge to Technology class--Helps people learn more about potential career pathways. More advanced online certification programs, like data analytics, IT support (Coursera) with scholarships.
Groundworks Northeast Revitalization Group	Surveyed residents in NE KCKS on digital needs and distributed devices
Guadalupe Centers	Provides digital training and devices through workforce and Financial Opportunity Center services to Latino adults in KCMO
Healing House	Northstar Digital Literacy Certificate, resume building, job searching, free wi-fi, computer lab,
Hispanic Economic Development Corporation	Offers Digital Literacy program - four levels. Focus on teaching Google Workspace and Microsoft 365. Offer three professional credentials: office assistant, financial process assistant and CompTia A.
Jewish Vocational Services	Distribute laptops to refugee families and digital training in NE KCMO
Johnson Co Adult Education (JCCC)	Provides basic digital skills and devices for adults participating in adult education (English skills and basic skills for a GED)
KC Digital Drive	Provides outreach to assist households enroll in the ACP Program, provides devices and works with community organizations to offer basic digital training using a train-the-trainer approach (KC Tech)
Kansas City KS Foundation for Excellence	Provides emergency and other assistance to families in the USD 500 school district, including distribution of hotspots.
Kearney Enrichment Council	Provides digital literacy training and support to older adults in Clay, Platte and Ray counties
Latinx Education Collaborative	Provides a digital skills training program to aspiring teachers, parents and others in Spanish to increase understanding and use of technology for communications and access and distribute computers in Jackson Co and Wyandotte Co
Literacy KC	Offers basic computer skills (5 classes/week) three are on their Troost campus, one is with Don Bosco and is ESL and one is on Zoom on Saturday. Most complicated is budget spreadsheet. Flexible to meet the participants' needs.
Metropolitan Lutheran Ministry	Through their Financial Opportunity Center, assist households enroll in the ACP program and work with PCs for People to distribute computers as needed. Serve 5-county bi-state area.
Mattie Rhodes Center	Have worked with community organizations to provide devices and training to youth and adults served by the center in NE KCMO
My Father's House Community Services	Assist homeless and at-risk households in Miami County and are seeking funds to assist in ACP enrollment and devices.
Northland Shepherd's Center	Operate a Tech Connect Center offering digital training for older adults in Clay County and have a lending program for computers and hotspots.
Parkville Living Center	New Tech Connect Center offering digital training and devices for older adults in Platte County. Have enrolled some older adults in the ACP program.
PC's for People Kansas City	Provides refurbished and new computers to households in the metro area; assists in signing up households for the ACP program; operates its own network for housing authority residents; and training in the bistate region.
The Toolbox Small Business Resource Center	Provides digital training for Spanish-speakers in KCKS and KCMO; digital skills training (Excel) and provide laptops with technical support.

Urban Technology Empowered Communities	Provides digital and other technology training for children and youth in KCMO and KCKS.
W E Dubois Learning Center	Offers youth technology through an afro-centric lens. Expose them to different technologies. Also offering certified network security courses (graduate around 5 with starting at 10-15/year), high school students help parents with QR code to sign in student and online applications
West Central Community Action Agency	Offers Cyber Seniors--computer basics, Facetime, downloading apps on their phone. Survey them at first class to see what participants need. Mentors are from Belton Academy. Part of the high school curriculum for IT and social services path. Get high school credit for helping with the classes. Paired up with a senior. Do a full graduation for both the mentor and participant.
Women's Employment Network	Provides computer instruction relating to employment search; teaching workshops on employment; one-on-one computer instruction if needed.
Workforce Partnership	Assist WIOA eligible individuals with the cost of hotspots/internet. WP's RespectWorks grant provides individuals coming out of incarceration with a Chromebook, phone and 3 months of internet hot spot through the phone.

The regional effort to provide broadband internet access to every household, along with the devices and training necessary to take full advantage of the resources that can be found on the internet, has been powered largely by national internet service providers and large institutions such as school districts and regional libraries. As useful as that has been, there are numerous gaps throughout the metro area in broadband coverage, device availability and training that are not being met and seem unlikely to be met within the structure and operational mandates of those large organizations.

Several local organizations have been crucial in identifying alternative approaches to filling some of those gaps. The approach utilized by these organizations emphasizes personalized, hands-on solutions that rely on both innovative thinking and the practical use of limited resources. They focus on not just providing a service to a community, but on deeply engaging with the community so that they can be empowered to fully participate in the digital economy. Their experience has shown that bridging the digital divide is not just a technical issue, but an issue of building relationships in the disadvantaged communities that have been left behind. This is a labor-intensive effort, but one that is fundamental to long-term success.

aSTEAM Village

aSTEAM Village is a not-for-profit organization that focuses on engaging students, families, and educators in science, technology, engineering, arts and math (STEAM). The organization's vision is that the best way to prepare students for success in the 21st century economy is to use innovative programs and community-based project learning to inspire students to take STEAM pathways to meet their educational and career goals. aSTEAM Village offers supplementary education and training services to students from some of the poorest areas in the Kansas City region.

aSTEAM Village goes beyond educational classes, however, to gives students hands-on experience learning how internet networks are built and function. aSTEAM Village has its own fiber-based network that provides ISP services not only to its own educational campus but also to other community organizations in the area. The students participate in not only building the network, but also in running its day-to-day operation.

The city of Kansas City, Missouri, recently launched a new digital equity initiative known as Digital KC NOW. aSTEAM Village is the organization that will lead the initiative in collaboration with Lincoln University, the University of Missouri-Kansas City and AT&T. The goal is to bring equitable internet access and technology-focused education to Kansas City neighborhoods who need better internet connectivity and practical guidance on how to make better use of those resources.

To achieve this goal, aSTEAM Village will hire, train and mentor a youth workforce from inner-city neighborhoods to put Digital KC NOW into action. When it is fully implemented, Digital KC NOW will directly connect businesses and residents to the internet at broadband speeds to enhance personal, social, and economic development. This network will use a fiber backbone and fixed access wireless service to individual households.

More importantly, however, is that the internet access and support services provided will be community defined and focused. aSTEAM Village plans extensive outreach efforts to identify community-based projects that can connect, train and empower individuals. The emphasis will be on finding ways to not only provide high quality internet services but to do it in a way that keeps resources within the community.

PCs For People

PCs for People is a national nonprofit organization working to get low-cost computers and internet service into low-income households. By recycling and refurbishing computers, PCs for People provides a valuable service to businesses, families, and the planet by keeping computers out of landfills and repurposing them to advance digital inclusion. In addition to providing low-cost devices, PCs for People also provides internet access for a modest $15 per month (or free with ACP enrollment) by using 4G LTE wireless technology (hotspots).

PCs for People has found, however, that offering low cost computing devices and internet access is not enough for many households. They estimate that only 60 percent of the households that they provide assistance to are digitally skilled enough to be productive online. Consequently, they offer a variety of free training courses and support services on a daily basis at their location on Linwood Boulevard.

The Kansas City location of PCs for People has been active in providing low-cost internet service to multi-family housing developments in areas that have historically been underserved by the private sector. They are working with four residential communities in Kansas City, Missouri, and four additional communities operated by the Kansas City, Kansas Housing Authority. In these locations, PCs for People operates as their own Internet Service Provider (ISP) and uses a variety of technologies to provide broadband services. This hybrid approach is a pragmatic solution that takes advantage of the most economical options at each site. The primary service to the building is usually fiber or wireless point-to-point using roof mounted antennas. Internal distribution to each residence typically uses coax cabling (if available) or wireless service via the Citizens Broadband Radio Service (CRBS) license that they have obtained from the FCC.

Providing broadband service, however, is just the beginning. Getting households to actually sign up for service has been a significant challenge. Many low income households are deeply suspicious of efforts to force them into a new technology that they do not fully understand, and they are concerned about being obligated to pay for something they are not convinced they will need. Consequently, PCs for People spends significant time building relationships with local residents so that the services and devices being offered – and the associated costs – are clearly understood. Costs are minimized through enrollment in the ACP and supplemented through grants where possible. PCs for People is already serving hundreds of households in these locations, with a goal of thousands in the near future.

Recommendations

For the States of Missouri and Kansas

Consider the broadband infrastructure and digital equity needs of the Kansas City metropolitan area – its urban, suburban and rural neighborhoods and communities.

- The Kansas City region's stakeholders, like those in other parts of the two states and the nation, have concerns about the proposed FCC Fabric Map, both in terms of the accuracy and completeness of housing units as the base layer, and the availability and adequacy (unserved or underserved) of census block groups as reported by internet service providers. We encourage the states in their state plans to enable processes for local communities to challenge the accuracy of the map with local data as the states implement their challenge processes. The short timeframes and complexity of the FCC challenge process has limited the ability of many communities and organizations to submit challenges. Given more time, communities could identify areas where infrastructure investments are necessary.

- The states should support broadband infrastructure investments that enable fixed wireless providers to serve areas difficult or expensive to serve with fiber, particularly for urban neighborhoods, for rural areas and for public mesh networks that offer secure Wi-Fi for residents.

- The states should set priorities for last mile infrastructure to connect public housing and other multi-unit properties to enable residents to have access to affordable, quality internet services.

- Encourage organizations serving similar populations and geographies with the states to collaborate in designing and delivering digital equity services. Give priority to digital equity grants that emphasize services to underserved and special populations. Encourage organizations to outline their approaches to sustainability so that the federal BEAD and digital equity funding provide the important foundation for ongoing digital investments.

- When possible, enable not-for-profit and local government applications to secure funds with smaller match requirements. Assist smaller internet service providers with some upfront cash for awards for infrastructure investments to unserved and underserved areas to allow them to compete with larger companies.

For Foundations and Community Organizations

- Assist the community, either at the regional level or at the community level, to identify one or more leadership organizations to convene and offer support in addressing the

region's broadband and digital equity needs for the foreseeable future. There are several organizations engaged in this work, and broader community recognition and support could help reduce competition and encourage collaboration.

- Encourage collaboration among community organizations so that the Kansas City region demonstrates to the two states that by working together funding will be efficiently and effectively invested.

- Encourage the development and sharing of digital navigator training to help support enrollment in the Affordable Connectivity Program (ACP) or in other programs that help households gain access and adoption of internet services and devices.

- Participate in the Digital Activists events convened by Anthony Luppino with the UMKC School of Law to identify community resources and outline toolkits to strengthen the region's digital equity resources.

- Encourage continued outreach to clients and stakeholders to learn about their digital needs and help identify investments or action steps to address those needs.

- 'Encourage community organizations to seek funding and support projects that serve those most in need of support, particularly Special Populations outlined in this report.

- A number of foundations are providing bridge funding for community organizations to engage in digital equity – helping households with enrollment in the ACP program, providing devices and offering skills training. There will be needs identified by the community that will not be able to be supported with the federal funds, and continued foundation support to fill gaps would be important. The federal funds available through the states will likely require local match. A Digital Equity Fund at the Greater Kansas City Community Foundation could be re-established and focused for the next several years on offering match grants to organizations seeking and securing the federal funds.

For Local Governments

- Encourage local governments to become involved. Universal internet access and adoption is critical to a community's economic development. It is imperative that communities have adults with digital job skills. Cities and counties must be able to offer a talented workforce to meet the needs of their existing employers and to attract new companies. Internet adoption is an equity issue for all residents to access programs and services. Perhaps the most important step that should be taken with local governments is an effort to convince them of the importance of this issue. Some local governments may assume that any resident without internet access has done so by choice, not realizing that there are areas where broadband coverage is inadequate or does not exist or that a significant number of households are so financially stressed that paying for

internet access is a low priority compared with paying for rent, food, clothing, or medical care. They may also not realize the degree to which a lack of internet access is a socially and economically isolating condition. Many everyday tasks, including interacting with local government, require an internet connection, an appropriate computing device and knowledge of how to find information, complete web-based forms, upload documents, and communicate via email.

- Identify techniques to help residents achieve meaningful use. In addition to supporting everyday tasks, it is also important to stress the need for universal internet access during emergencies and to support the technologies of the future. Many residents without broadband access and digital skills may not realize the opportunities they are missing until something catastrophic happens or existing services are disrupted by technological change. The COVID pandemic was a great example with its needs for communicating emergency rules, facilitating remote learning for school children, and enabling remote work for many adults. But pandemics are not the only scenario that could test the resiliency of our community. A natural disaster, a terrorist incident or civil unrest would all pose problems if a significant sector of the community was isolated from internet communication. In addition, the rapid pace of change is likely to disrupt traditional ways of receiving social, medical, and governmental services that many residents are reliant upon.

- Help local governments define an appropriate role. For those governmental entities where broadband coverage is nonexistent or unreliable, it might be suggestions on how to partner with ISPs to expand broadband infrastructure. For governments with a significant low-income population, it might be strategies for getting more households signed up for the Affordable Connectivity Program or programs that offer devices and training. For communities with significant populations that are elderly, non-English speaking, veterans, or some other characteristic that makes effective internet usage difficult, it might mean developing educational outreach programs that address those challenges. In any case, the goal should be to get local governments engaged by convincing them that their community will be economically and socially stronger with their participation. If the first three steps make sense for local communities, then an important fourth step is to identify proactive initiatives to support universal internet access and adoption. Among the range of options are:

    - Support expansion of broadband infrastructure for households, businesses and anchor institutions,
    - Negotiate agreements with internet service providers to use public right-of-way or other public assets such as light poles or water towers to install infrastructure.
    - Support the expansion of quality infrastructure in a community at an affordable cost for residents,
    - Offer modest matching dollars to enable an ISP provider to seek federal funds from the state,
    - Promote enrollment in the Affordable Connectivity Program by households with

existing internet subscriptions to make the service more affordable,
    - Consider funds to assist households in enrolling in a broadband subscription (e.g., CDBG funds could support service for low-income households)
    - Review local government codes and regulations regarding use of the public right-of-way and publicly owned poles or structures to enable ISP providers to extend services,
    - Promote the installation of internet infrastructure in new multi-unit housing or housing renovation to make service easier for residents and for new subdivisions to enable more cost-effective connections to new homes.
    - Encourage internet service providers to install last-mile service to small business locations and into neighborhoods.

- Increase Digital Adoption/Equity Services.
    - Inventory resources in your community available to residents, including libraries and schools. Make sure residents are aware of those resources.
    - Identify locations where public Wi-Fi is available and consider adding locations in more public facilities such as community centers, city halls, etc. where residents could bring a device and connect to the internet.
    - Donate unwanted technology to PCs for People to be refurbished and reused by residents needing a low-cost device.
    - Integrate digital services into the local government's human services, such as older adult services.

For Libraries

- Support staff training efforts. Given that it is often "front counter" librarians who deal with patron questions concerning internet resources, device troubleshooting, or digital skill building, it is important to build a robust support structure for those staff members. First, there should be online tutorials that prepare librarians for the most common questions that they are likely to face and to enhance their own digital literacy skills. Local library systems could cooperate in determining tutorial topics and joint efforts should be made to secure on-going funding for this purpose. Second, there should be an online forum specifically for librarians needing assistance with technical questions, and regular meetings (either virtual or in-person) where common problems or newly emerging technical issues can be discussed. Despite the wide variety of library systems in the region, this issue is virtually universal and could be addressed in a manner that is as efficient and thorough through collaborative work.

- Provide digital resources for common patron questions. Librarians likely face the same questions on a regular basis. It would be beneficial to both librarians and patrons if a series of short (3- to 5-minute) videos could be developed to address those needs rather than requiring the personal attention of library staff. Libraries across the region could

cooperate in determining the scope and content of this video resource and in finding the funding for their acquisition or creation. In addition to teaching basic skills, the content could include common tasks that can be done online such as setting up an email account, selecting a home internet provider, or applying to Social Security or the Veteran's Administration. These videos could then be embedded into each library's website so that both librarians and patrons stay within a familiar online environment. Although some patrons may prefer personalized help from a librarian, directing them to an online tutorial would teach them a valuable digital skill, allow them to watch the video multiple times if needed, and make it obvious to them that related information is easily available in the same manner.

- Promote libraries as an essential digital resource for the community. Most residents know that libraries exist; however, they may not know the extent to which libraries are leaders in bridging the digital divide. This role deserves to be highlighted by a campaign aimed at the segments of the community that are most likely to be underserved with broadband access and digital resources. The campaign could tout the variety of resources available to people wishing to get online and to use internet resources effectively. The promotional material should be made available in multiple languages and for re-use by a wide variety of community-based organizations, faith-based organizations, educational organizations, and local governments.

- Provide a network of organizations beyond libraries to support advanced needs. While libraries are well suited to assisting entry- and intermediate-level users, patrons with advanced needs could be referred to other organizations. This needs to be a structured support network, however, so that patrons get the answers or training they need from an organization ready for library referrals and capable of advanced instruction. Examples might include learning digital job skills, hardware repair skills, or programming skills.

For Schools

- Encourage schools to provide digital devices to students for year-round use.

- Support teacher training efforts. Districts need to expand digital training and support groups so that teachers can confidently use the technology available to them and be able to experiment with new teaching techniques. Teacher turnover rates are already growing so it is important that stress from technology not be a contributing factor.

- Provide expanded family services. School districts are understandably focused on the needs of their students, but student performance is often affected by conditions at home, particularly for students from disadvantaged backgrounds. Districts should consider offering "digital navigator" services to parents or partnering with community organizations to assist families in enrolling for eligible subsidies (such as the ACP) or

understanding how to find the best value in the range of available internet options. Adult education classes on digital literacy and digital safety should also be offered either directly or through a partnership with community organizations.

- Expand community partnerships. Schools should partner with local governments, for example, to expand high-speed infrastructure for not only their own schools but for all public facilities. Stronger partnerships with libraries could provide additional digital and educational resources, and another safe place for after-school studying. Similarly, there are a variety of community organizations that provide supplementary educational classes or workforce development training. School districts should be part of a cooperative network that uses technology to not only teach students but to make communities more prosperous.

For The Business Community - KC Rising and Area Chambers

- Support the Federal Reserve Bank of Kansas City and others to scale-up efforts to encourage companies and institutions to donate surplus computers, along with financial support, for refurbishing and reuse, in partnership with a community-based group such as PCs for People.

- Encourage local governments and other public institutions to expand public Wi-Fi and computer access, in partnership with libraries, community centers, public housing and others. If appropriate, offer public Wi-Fi locations within commercial buildings where public access is appropriate.

- Promote policies and investments to ensure that the federal and state agencies support investments in the metropolitan area's broadband infrastructure and digital access and adoption for residents.

Next Steps

Release draft broadband analysis and digital equity strategy plan reports and seek feedback in March 2023.

Incorporate the feedback and ask the two states to incorporate the findings and recommendations into their statewide plans.