Arts Incubators, Entrepreneurial Activity, and Digital Inequality in the COVID-19 Age: A Digital Divide Report

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Introduction

The aim of this report is to assist arts organizations to assess how the digital divide affects the artists they serve and to provide a tool to do so in the form of an interactive map2. This study is based on an in-depth investigation of sixteen arts incubators that act as engines of equity, focusing on digital divide issues and how those arts incubators addressed them in the face of the COVID-19 pandemic. This report uses various layers of data made available to the public in order to construct the interactive map and the last section of this document provides directions on how to best use this tool. It can be maneuvered to analyze, understand, improve, and address problems related to broadband and device access as well as broadband usage rates. Finally, this technical report provides many useful resources that can be accessed by clicking on the various hyperlinks throughout this document.

Arts Incubators: A Definition

Incubators and accelerator programs supporting the cultural sector assist and develop creators from a wide range of art forms including music, film, theatrical arts, dance, creative writing, and video game design. These programs nurture small and emerging arts organizations and/or individual artists by delivering training in business and entrepreneurial skills and mentorship to support artistic and creative innovation. While each is uniquely tailored to meet the needs of its community, all arts incubators provide developmental assistance to artists, arts organizations, and/or creative enterprises in the early stages of development. They can be entire organizations or facilities, or they can be programs/platforms that operate under the umbrella of a larger organization (including virtual incubators). They can be nonprofit, for-profit, or government entities, or have a hybrid legal status. Sometimes arts incubators are programs operated by local arts agencies. Many arts incubators don't have "incubator" in their name, but they typically recognize their status as an incubator, are referred to by others as an incubator, and/or view themselves as eligible to seek funding meant for incubators. In addition to delivering training and mentorship, most arts incubators also provide one or more of the following:

Networking—create opportunities to interact with other arts organizations and/or artists to exchange information and develop professional or social contacts.

Facilities—provide access to low-cost or subsidized office space and/or artistic facilities (i.e., space for creating, exhibiting,
or performing art).

Services—offer business services (e.g., cooperative marketing initiatives, bookkeeping, joint reception, shared office equipment).

Funding—offer funding opportunities via grants, loans, and/or equity investment.

Fiscal Sponsorship—offer their tax-exempt status to groups engaged in activities related to their mission.3

An Overview of Digital Divide

In the last few years, the definition of digital divide has changed in such a way to include not only the access to broadband services, but also the knowledge necessary to use and take advantage of such services4. Digital skills create value for organizations and employers, which in some cases are willing to pay wages 38% higher than the average for such skills and knowledge. The same is true for entrepreneurs, and non-conventional entrepreneurs such as arts-entrepreneurs5. Therefore, the gap between people who have access to broadband service and digital resources and those who do not have such access or knowledge leads to further economic, social, and political disparities for low-income and underserved populations. Many artists face lack of access to the resources and information they need to succeed including digital service providers (DSPs)6 and non-fungible tokens (NFTs)7 marketplaces that are crucial for distributing and selling their art online. Infrastructure investments to deliver affordable broadband access to underserved communities is a crucial step in bridging the digital divide, however it is not sufficient. Those investments in infrastructure are not relevant unless there is a sufficient effort to train communities through digital inclusion programs8.

Methodology & Data Collection

The Arts Incubation Research Lab currently hosted at the University of Texas at San Antonio is a National Endowment for the Arts Research Lab that partners with the American for the Arts. The lab studies sixteen arts incubators across the United States (Cf. Table 1 & Figure 3). Its focus is on programs that develop the entrepreneurial skills of the artist participants. The data gathered for each arts incubator includes the organization’s name, program name, program cost and duration, address, art forms served, social media handles, date founded, form of incorporation, contact information, and number of cities served.

In addition, the lab collected data associated with 1087 past participants of entrepreneurship-centric programs offered by 15 of the 16 incubators studied (Cf. Figure 4).

3 This definition was created by the Arts Incubation Research Lab Research team in conjunction with the Americans for the Arts, https://airlab.utsa.edu
The data for each participant is publicly available from the arts incubators’ websites. For each participant, data collected includes the name of the participants, art form practiced and genre if available, website, social media handles, city and state of residence, name of the incubator affiliated to as well as program name, and year of participation in the program. That data was used to assess where those individuals reside and understand the connection between location of residence (city/state) and digital divide issues.

The geographic information system (GIS) tool used to create the interactive map is the online version of ArcGIS\(^9\). After importing the incubator and participant data, it was projected against the Fixed Broadband Deployment Data from the Federal Communication Commission (FCC) published on June 30, 2021\(^10\), the Microsoft’s Airband Initiative data published November 2019\(^11\) (Cf. Figure 2 & 3), the National Digital Inclusion Alliance (NDIA) Grid dataset\(^13\) based on the 2019 American Community Survey (ACS) One-Year Estimates, and several American Community Surveys (ACS) released by the United States Census Bureau (5-year data from 2015-2019)\(^14\) (Cf. Figures 5-10).

The FCC dataset provides a rating measure for broadband deployment that has an acceptable rating equal to one hundred. In addition, it provides a median megabits per second (Mbps) measure for both downstream and upstream internet capacity. Downstream is data that is downloaded from the internet to a device. Upstream is data that is uploaded from the device to the Internet. How much downstream and upstream capacity artists need to do their work is another major consideration for arts organizations. To fully understand what minimum download speeds are needed for each level of activity please refer to the FCC Broadband Speed Guide\(^15\).

The ACS data can be accessed and analyzed at the state, county, and census tract levels, making it a powerful tool for any arts organizations wishing to assess how digital divide is affecting them and those they serve. The ACS data includes:

- Context for Emergency Response that includes number of households and population by age with complete lack of internet, smartphone, health care, and vehicle (5-year data from 2015-2019)
- Internet Access by Age and Race Variables (5-year data from 2015-2019)
- Internet Access by Education Variables (5-year data from 2015-2019)
- Internet Access by Income Variable (5-year data from 2015-2019)

Finally, interviews were conducted with fifteen of the sixteen arts incubators listed (Cf. Table 1), including twenty staff members total across these organizations. In each interview, the staff member(s) was/were asked to share how their organization has dealt with digital divide issues during the COVID-19 pandemic and how the artists they serve were impacted. A total interview time

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\(^9\) [https://www.arcgis.com/index.html](https://www.arcgis.com/index.html)


\(^11\) [https://broadbandmap.fcc.gov/#!/](https://broadbandmap.fcc.gov/#!/)


\(^14\) [https://www.census.gov/programs-surveys/acs](https://www.census.gov/programs-surveys/acs)

of 789 minutes (13 hours and 9 minutes) was generated and transcribed. To access information pertaining directly to digital divide issues, a keyword search was conducted. Words searched were “digital”, “divide”, “access”, and “internet”.

Data Analysis

The data gathered from the various sources described in the methodology section reveal significant findings (Cf. Table 1). First, fourteen of the sixteen arts incubators studied own or operate facilities regularly used by the artists they serve and act as internet access points. Those arts incubators tend to concentrate their efforts in serving fewer geographic communities. Indeed, those fourteen organizations operating facilities serve on average artists who reside in only seventeen cities, whereas the other two arts incubators that do not operate facilities provide their services to artists who live on average in seventy cities across the United States. Also, the artists associated with those arts organizations may rely exclusively on that internet service to collaborate, produce, and release their work.

Second, out of those fourteen arts incubators with facilities, five operate in an area where their internet broadband does not meet acceptable levels set by the FCC Broadband Speed Guide (Cf. cells highlighted in grey under the FCC Rating column in Table 1 & Figure 7). Of most concern is the poor upstream capacity of those broadband services that are not close to offering artists and arts incubators as well as other arts organization in those areas the means to upload various media files (i.e., audio/video files, photos, graphic works, etc.), thus hindering their ability to engage in entrepreneurial activities, program delivery, and collaborative projects (Cf. Figure 7). In addition, half of the arts incubators in the total sample are in areas served by only two internet providers, thus limiting what options are available to them and their artistic communities.

Third, the broadband speeds available to customers per county in the areas where the incubators are located is on average only 55% of what is advertised by internet providers. Three of the arts incubators from the sample are in counties that have poor or very poor broadband speeds usage, the most concerning one being First Peoples Fund (FPF) located in Rapid City, South Dakota. FPF “sustains culture and cultivates entrepreneurial initiatives and community development programs for and alongside Native artists.”

The broadband usage in Pennington County, where FPF is located is only 18%. That would imply that the median FFC rating measures, would be significantly lower than indicated. The Microsoft Airband Initiative map shows how pervasive low broadband usage rates are in the United States (Cf. Figure 1).

Fourth, the number of households in communities where the sample arts incubators are located that do not have access to an internet subscription is on average 16%, which implies that one household per 6.25 does not have access to an internet subscription.

Also, lack of access to devices such as computers and/or smartphones is still a major digital divide problem for arts organizations and artists. For instance, the ACS Internet Access by Age and Race Variables measure for the community where the arts incubator Say Sí is shows that 17.1% of the households in that community do not have access to a computer and that, of those households, 97%

16 https://www.firstpeoplesfund.org/what-we-do
of the population suffering from digital divide is Hispanic or Latino. In addition, 253 youth under the age of 18 do not have access to a computer in that same census tract area (Cf. Figure 4). This is critical information for Say Si, which serves youths at risk.

Finally, the arts incubators in the sample (N=16), are in states where 19.6% of households do not have access to smartphones. South Dakota and Pennsylvania rank the worst with 1 in 4 households with no access to smartphones.

Takeaways from Interviews

The overall takeaways from the interviews conducted are that the arts incubators studied have all been nimble and were able to continue to deliver their programming online with minimum interruption throughout the pandemic and in instances had the ability to provide hotspot devices to the artists participants as well as computers to the teaching staff who needed technical assistance (i.e., Say Si, Creative Lab Hawaii, and First Peoples Fund). In addition, all of the art incubators in the sample provided information about subsidies for artists and assisted them in applying for relief grants. In the next section, we learn how some of our arts incubators adapted in the COVID-19 age.

2112 Inc. is a 20,000 square foot facility focused on the development of businesses in the fields of music, film/video, fashion, sports, interactive/immersive technology, and lifestyle brands. Located within Fort Knox Studios, it provides a 160,000 square foot B2B creative ecosystem that houses 92 band rehearsal rooms, 32 music production studios, 6 recording studios, a 7,200 square foot film/video production facility, 4 live sound production companies, a 30-seats theater, and additional office space for the creative sector. 2112 Inc’s community has remained strong through COVID. The facility remained opened throughout the pandemic and have seen a significant shift towards media, technology, and content creation. Its Main Stage is now set up with technology to live stream and archive all its programming and performances, have formed a partnership with MediaTech Ventures in Austin\(^\text{17}\), and have recently announced a partnership with Comcast Business\(^\text{18}\) on a Startup Studio, providing free access to content creation for small businesses throughout Chicago.

The Austin Music Foundation has developed its own label to release the music of the participants in its Artists Development Program in order to support independent music artists in Austin in the advent of the digital music and the DIY revolution.

In addition, several arts incubator took the opportunity to relocate their facilities (i.e., C4 Atlanta and NewInk). Indeed, C4 Atlanta recently moved into a new facility that has more space that is compartmentalized, which includes more studio space that can be rented/subsidized to its members. This has also been an opportunity for C4 Atlanta to create new programs even though COVID-19 happened six months into that process, but they have been flexible, learning and adapting to the pandemic.

CEF Boston switched its programming quickly online. The organization has seen a shift in their selected artist cohorts to now being more attuned to working online and remotely. CEF has been able to manage moving its programming online because the artist cohort they serve is small and as a result the shift was relatively

\(^{17}\) https://mediatech.ventures/

\(^{18}\) https://business.comcast.com/
easy, taking about two months. Also, some of the artists used the funds provided by CEF to buy new laptops. CEF trains the artists they serve in order to improve the respective artist’s website design and social media campaign. Finally, CEF has developed one of its real estate projects into shared office spaces as an artist building, bringing several arts organizations into the fold as tenants.

Creative Labs Hawaii provides its artists high-speed internet at all its facilities. The incubator focuses on arts export, assisting artists with licensing their creative works. Their business model has primed their artists to succeed during the pandemic as they did not have to rely on public performances/events. Artists can access recording space, film facilities, and co-working space on a rent by the hour and/or the day model and this offers much flexibility to its members.

First Peoples Fund’s (FPF) artists live in many rural communities across the United States. Artists in rural areas are especially struggling with digital divide issues. FPF has been able to resolve its digital divide issues by creating partnerships with arts organizations around the country. FPF provides technical support, while partner arts organizations work with the individual artists in the area where they reside, thus alleviating issues of access and digital divide.

Intersection for the Arts has been preparing for reopening its building to capacity with two video conferencing rooms equipped with video equipment and high-speed internet. Its staff has been working from home. However, low broadband speeds have been an issue regardless of having high-speed internet.

The Lark Theatre in New York has seen an opportunity in shifting some of its offerings permanently online to facilitate access to its programming for its handicapped members that face difficulties commuting to the facility. It has also allowed the Lark to lower its cost, maintain its playwright exchange program, and increase collaboration with its international partners.

Zoo Labs decided to increase its funding capacity for its artists and moved its programming completely online moving forward. It also stopped managing and providing a recording space to its artists. Instead, artists can choose how to spend the funds allocated to them and are free to choose if they wish to use those monies for recording space rental or not.

Discussion and Common Threads

Every single arts incubator in the sample treats artists as a startup by fostering their entrepreneurial mindset and know-how to increase their chances of success in the marketplace. However, digital divide inequality is still a problem for all involved, as it is a deeply rooted, complex issue. Each arts incubator in the sample has a unique strategy tied to its mission. Some dedicate their resources to reaching as many communities across the United States as possible, thus making digital divide issues more complex, while others concentrate their efforts in their neighboring communities (Cf. Table 1). Nevertheless each has been creative and entrepreneurial in its approach to addressing digital divide inequalities. None of these arts organizations stopped providing services to the artists they serve during the pandemic. If anything, they provide much more in assisting artists with relief subsidies.

In addition, all organizations have been nimble, adapting and maintaining their programming in order to shift content delivery online and reach a much larger audience than they had been able to pre-pandemic, which may refocus their strategies
moving forward.

Finally, we are seeing a shift that moves away from traditional public performances/exhibits to online mechanisms and licensing models. Arts incubator will be increasingly under pressure to serve as gatekeepers to the industry as they prepare the artists they serve to diversify their revenue streams away from relying on public facing, in-person events.

Study Limitations

This study has several limitations. First, it only assesses arts incubators as internet access points and does not expand the data collection into all the various communities served by those incubators. The study also defines communities as the cities where artist participants currently reside and does not capture a more granular approach to communities, particularly for arts incubators that perhaps serve a specific demographic or a very defined artist base.

Second, the sample is small (N=16 Incubators and N=1087 associated artists participants) and focuses only on programs that provide entrepreneurial training. The study could benefit to expand its data collection to the universe of arts incubators in the United States and cast a wider net to other type of programing. Currently, we can account for over 380 organizations that are considered to function as arts incubators in the United States and cast a wider net to other type of programing. Currently, we can account for over 380 organizations that are considered to function as arts incubators based on the Local Arts Agencies (LAAs) survey conducted Fall 2020 and early spring 2021 by the Americans for the Arts (AFTA)\(^\text{19}\). Results from a follow-up survey will be published Spring 2022.

Third, another limitation from our study is the strong dependence on organizations operating in the upper East Coast (Cf. Figure 3), which may skew the data.

Fourth, participant data for the arts incubators Say Sí is missing from the data pool. This data was not collected because participants in Say Sí are middle and high school age students. The lab’s Institutional Review Boards (IRBs) to conduct this study did not allow us to collect and release data of participants who are minors (underage).

Finally, as of the writing of this report, both the ACS and the Microsoft data sets are almost two years old. In addition the Microsoft broadband usage dataset seen as nodes in Figure 2 does not evenly cover the map of the United States. Thus, some information was pulled from the closest nodes to the locations of the sixteen arts incubators studied. However, we feel that they still provide important benchmarks to study issues of digital divide.

Interactive Map Instructions

To make the best of the interactive map with the various datasets, we want to provide a few instructions that they be useful. It is our hope that you find this tool helpful in your quest to assess your own digital divide situation. To get started, click on this link to access the map. Next, to access the various layers of data, first click on the Details button, then on the Content tab. This will reveal the various layers of data available to you. You are now ready to manipulate the map. To select any specific layer simply click on the boxes next to the listed layers as seen in the following figure:

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However, we suggest that you observe and analyze one layer at a time to prevent clutter on your map. Some of the layers contain a great deal of data and require for you to click on all boxes associated with those layers. For instance, the four ACS variables options each have three boxes, whereas the FCC dataset require you to click and enable all five sublayers. The Microsoft Airband Initiative one has only one layer and so does the Arts Incubators layer. The arts incubator participant data information is not included in this map in order to make it easier to manipulate. If you wish to access that specific dataset, please email us directly\textsuperscript{20}. The Legend button will show the legend. Also, if you click on each layer with the Content section of ArcGIS, you will be able to open the entire dataset associated with that layer in a table format as shown below:

To enable pop-up windows simply click on different parts of the map. Certain pop-up windows will have more than one layer. Just click on the Next Feature option to access the subsequent page as seen in the following figure:

Hovering on the histograms will provide the user additional information. For arts organizations that serve a wide range of communities across the United States, we suggest starting by observing the data at the State (Macro) level by zooming out (Cf. Figure 6) and then County level by slowly zooming in on the map (Cf. Figure 10).

References


The University of Texas at San Antonio in partnership with the Americans for the Arts

A National Endowment for the Arts Research Lab

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**DOI: 10.13140/RG.2.2.35103.07845**

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### Arts Incubators by City and State

<table>
<thead>
<tr>
<th>Arts Incubators Name</th>
<th>Incubator Location by City and State</th>
<th>County</th>
<th>Number of Geographical Communities Served (In Number of Cities)</th>
<th>Form of Incorporation</th>
<th>Year Founded</th>
<th>Own or Manage Facility(ies) that provide internet to participant(s)</th>
<th>Numbers of Internet Providers (as per company name)</th>
<th>FCC Rating (100=Acceptable) and Median Mbps (Downstream/Upstream)</th>
<th>Microsoft Broadband Speeds Usage per County (in %)</th>
<th>Households Without Internet Subscription (in % per County)</th>
<th>Households with no broadband of any type including cellular data plans (in % per City)</th>
<th>Households age of 18-65 with no Computer (in % by Census Tract)</th>
<th>Households with no Smartphones (in % by State)</th>
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<td>13.93%</td>
<td>3.3%</td>
<td>25%</td>
</tr>
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</table>

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21. [https://arts.uchicago.edu/artsandpubliclife](https://arts.uchicago.edu/artsandpubliclife)
22. [https://2112inc.com/](https://2112inc.com/)
23. [https://austinmusicfoundation.org/](https://austinmusicfoundation.org/)
24. [https://c4atlanta.org/](https://c4atlanta.org/)
25. [https://creative-capital.org/](https://creative-capital.org/)
27. [http://www.dvcai.org/](http://www.dvcai.org/)
28. [https://www.firstpeoplesfund.org/](https://www.firstpeoplesfund.org/)
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<td>2</td>
<td>Score = 1243 Median Mbps = 473/18</td>
<td>58%</td>
<td>18.6%</td>
<td>16.87%</td>
<td>17.1%</td>
<td>16.6%</td>
</tr>
<tr>
<td>TOTAL or MEAN*</td>
<td>16</td>
<td>13</td>
<td>422</td>
<td>14 501(c)3s 1 LLC 1 State Initiative</td>
<td>2001</td>
<td>14 (YES 2 (NO)</td>
<td>3.6*</td>
<td>Score = 1709* Median Mbps = 323/47.5*</td>
<td>55%*</td>
<td>16%*</td>
<td>14.4%*</td>
<td>4.6%*</td>
<td>19.6%*</td>
</tr>
</tbody>
</table>

Table 1. Arts Incubators Studied as Internet Access Points (N=16) and Corresponding Broadband Usage Measures

29 https://www.newinc.org/
30 https://artsandbusinesscouncil.org/the-creative-entrepreneur-fellowship/
31 https://corzocenter.uarts.edu/
32 https://www.larktheatre.org/
33 https://www.zoolabs.org/
34 https://theintersection.org/
35 https://saysi.org/
Figure 1. Maps Showing FCC Fixed Broadband Availability and Broadband Usage Based on Microsoft Data as of November 2019.
Figure 2. Map Showing the Broadband Usage Nodes Based on Microsoft Data as of November 2019.
Figure 3. Cluster View of Arts Incubators in our Sample (N=16) Corresponding to Table 1
Figure 4. Geographic Distribution of Artists Participants Associated with 15 out of the 16 Arts Incubators Studied Corresponding to Table 1. Note: Say Si participants are not included here as they are minors (underage) and thus, data could not be collected.
Figure 5. Census Tract Level Application of ACS Internet Access by Age and Race Variables: The Case of Say Sí
Figure 6. State Level Application of ACS Internet Access by Age and Race Variables: The Case of National Arts Strategies
Figure 7. Census Tract Level Application of FCC Fixed Broadband Measure: The Case of C4 Atlanta
Figure 8. Census Tract Level Application of ACS Internet Access by Education Variables: The Case of First Peoples Fund
Figure 9. Census Tract Level Application of ACS Context of Emergency Response: The Case of 2112 Inc.
Figure 10. County Level Application of ACS  Context of Emergency Response: The Case of Creative Labs Hawaii.