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Background

Following the onset of the coronavirus pandemic at the beginning of April, After School Matters surveyed 2,982 teens[1] to better understand their needs and experiences. Access to technology was identified as a key barrier to equitable participation as the organization began re-envisioning summer programs to provide safe, equitable, and innovative remote learning opportunities. This report applies a geographic lens to explore technology access gaps and highlight differences in teens' abilities to access online programming across the city of Chicago.

Figure 1

Map of Regions Analyzed

Summary

- **Teens in nearly every Chicago zip code participated in the survey.** The highest concentration of responses came from teens in the southwest and southeast regions of the city (Figure 1).[2]
- **Teens residing in the north reported WiFi access more frequently than teens in any other region,** while teens living in the west report internet access the least.
- Teens living in the west parts of the city report using cell phone data at higher rates than other regions, and teens in the west, southwest, and southeast regions are more than twice as likely to rely on mobile hotspots than their north side peers.
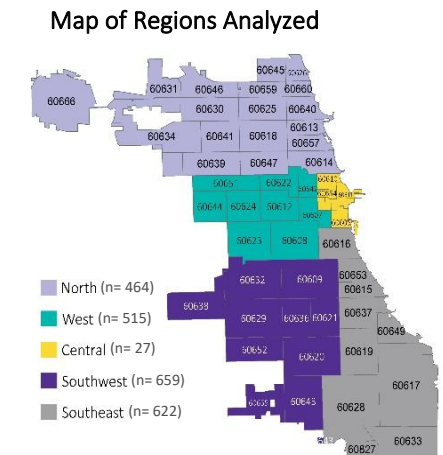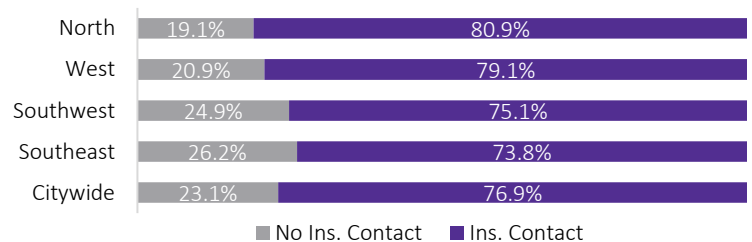
Spring Program Participation

Most spring programs had completed only four out of ten weeks of the session before the citywide shelter-in-place order was issued. A smaller subset of "March start" programs had not yet met in-person and had only distributed introductory information regarding program enrollment. Due to the abrupt and unexpected transition to remote engagement in the wake of the pandemic onset, program instructors and staff shifted to focus solely on maintaining contact with teens to provide positive support and varying levels of remote engagement around content, instead of pursuing planned program content or skills instruction.

Although a large majority of teens citywide reported contact with their instructors, teens residing in the north and west parts of the city report being in contact with their instructor more often than teens from any other region. Over half of teens who reported being enrolled in a spring program at that time were from the southeast and southwest regions of the city, however at least a quarter of teens living in those regions reported having no contact with their instructor at the time of the survey (Figure 2).

Figure 2

North, west teens more likely to report contact with instructor

	No Ins. Contact	Ins. Contact
North	19.1%	80.9%
West	20.9%	79.1%
Southwest	24.9%	75.1%
Southeast	26.2%	73.8%
Citywide	23.1%	76.9%

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[1] 2,287 responding teens reported a zip code within Chicago city limits. Some responses included zip codes that were missing digits, not valid, or corresponded to geographies beyond city limits and were excluded from this analysis.
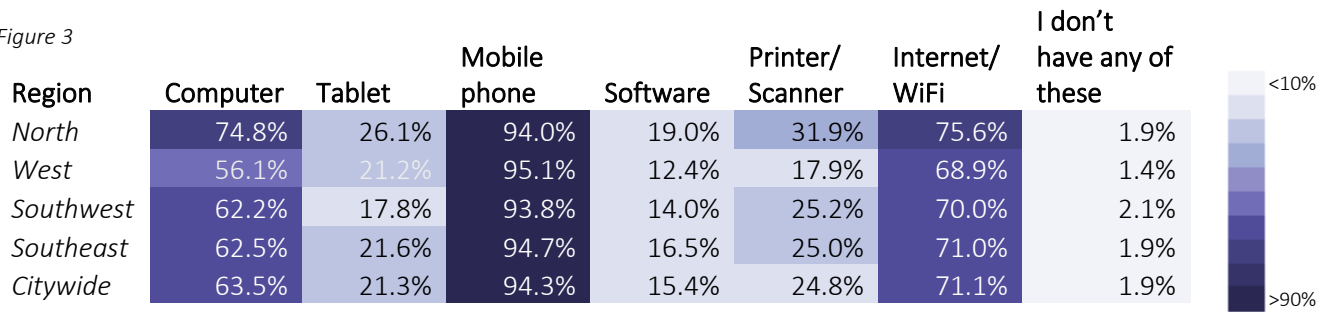
[2] Chicago zip codes were coded to reflect five main regions based on community area boundaries, as shown here: https://www.thechicago77.com/chicago-neighborhoods/

Technology Access

Data collection took place prior to any device distribution by Chicago Public Schools or After School Matters (devices were provided to teens to foster successful participation in Summer programs). Results from the teen survey suggest that at baseline, without any interventions or targeted support, teens have varying access to technological resources. Nearly all teens report having access to a mobile phone, and most teens citywide do not have tablets.[3]

Figure 3

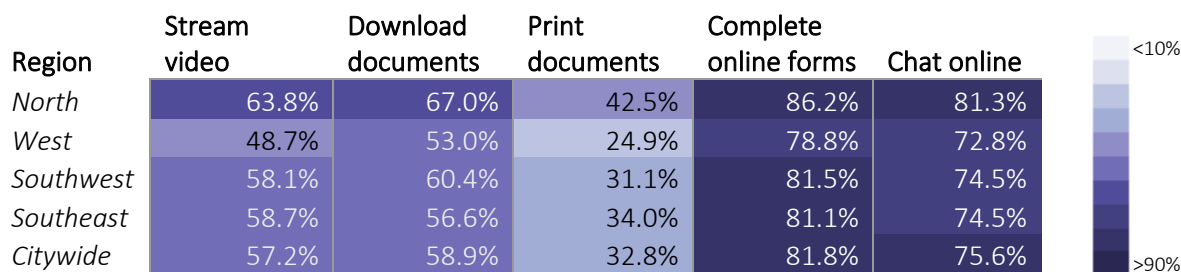| Region	Computer	Tablet	Mobile phone	Software	Printer/ Scanner	Internet/ WiFi	I don't have any of these
North	74.8%	26.1%	94.0%	19.0%	31.9%	75.6%	1.9%
West	56.1%	21.2%	95.1%	12.4%	17.9%	68.9%	1.4%
Southwest	62.2%	17.8%	93.8%	14.0%	25.2%	70.0%	2.1%
Southeast	62.5%	21.6%	94.7%	16.5%	25.0%	71.0%	1.9%
Citywide	63.5%	21.3%	94.3%	15.4%	24.8%	71.1%	1.9%

<10% → >90%

North side teens report the greatest access to technology across device type. There is a large gap in access to computers when looking across regions, with teens living on the west side reporting significantly less computer access than teens in any other region. Internet access is also a large barrier for teens, with west side teens reporting the least access (Figure 3).

Technology Function

As with trends in technology access, north side teens more frequently report being able to complete technological functions like streaming video or downloading documents. Teens in the west city regions were less likely to report ability to complete any of the technological functions asked about in Figure 4. Across regions, all teens are better equipped for certain functions, like completing online forms or chatting online, and less equipped for others, like printing documents.
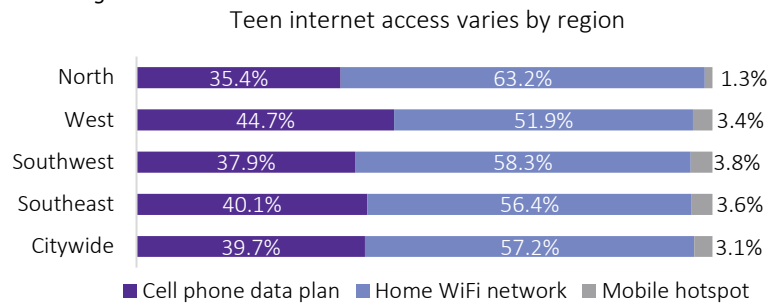
Figure 4

Region	Stream video	Download documents	Print documents	Complete online forms	Chat online
North	63.8%	67.0%	42.5%	86.2%	81.3%
West	48.7%	53.0%	24.9%	78.8%	72.8%
Southwest	58.1%	60.4%	31.1%	81.5%	74.5%
Southeast	58.7%	56.6%	34.0%	81.1%	74.5%
Citywide	57.2%	58.9%	32.8%	81.8%	75.6%

<10% → >90%

Internet Access

Citywide, internet access is a challenge for all teens, as nearly 30% of respondents indicated they do not have access to WiFi internet. This is likely under representative of the actual number of teens lacking technological access, since teens without WiFi or other wireless technology were less likely to be able to submit a response to this online survey.

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[3] A very small number of teens reported their zip code as being that of ASM's downtown office. These records have been excluded from the comparative regional analysis for clarity.

Although teens living in the north region of the city report access to a home Wifi/Internet connection more frequently than teens in any other region of the city, more than one in three north side teens do not have access to Wifi internet. Nearly half of west side teens do not have Wifi internet access. More teens living on the west side of the city report using cell phone data than in other regions. Teens in the west, southwest, and southeast areas of the city are more than twice as likely to use mobile hotspots as teens in the north (Figure 5).

Figure 5

Teen internet access varies by region

Region	Cell phone data plan	Home WiFi network	Mobile hotspot
North	35.4%	63.2%	1.3%
West	44.7%	51.9%	3.4%
Southwest	37.9%	58.3%	3.8%
Southeast	40.1%	56.4%	3.6%
Citywide	39.7%	57.2%	3.1%

Conclusion

Teen survey responses suggest that the baseline technology gaps for Chicago teens vary across the city. Access to a mobile phone is most commonly available, and the vast majority of teens do not own tablets. Findings indicate that teens living in the north region of the city consistently report higher levels of technology access, functionality, and internet access than teens in any other region of Chicago. Meanwhile, responses from teens in other regions, especially the west, often fall below the average, indicating a technological and internet gap across city geographies.

These findings align with an analysis of Census data released in May by Kids First Chicago, which found that 1 in 5 Chicago children do not have access to broadband internet at home. According to Kids First Chicago, these gaps in internet access are especially visible on the south and west sides of the city, and disproportionately affect Black and Latinx households.[4] This is an especially salient finding, given that in the 2019 Fiscal Year, 55.8% of ASM teens identified as Black/African American and 33.5% of teens identified as Latinx.

While responses from teens living in the southwest and southeast regions about technology access are similar to the mean, these teens were more likely to report having no contact with their instructor after the pause in programming began despite targeted efforts to reach them. This may suggest that there are barriers beyond lack of access to technology or internet that keep teens and instructors from connecting remotely in the southern city communities. Further exploration may be necessary to identify additional challenges or factors that may contribute to greater isolation for teens on the south side, while the disparities in technology access for youth on the west side of the city may present additional challenges if remote learning continues into the 2020 – 2021 school year.

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[4] Kids First Chicago (2020). Digital equity in education in the Coronavirus era. Chicago, IL: Kids First Chicago. Retrieved from https://static1.squarespace.com/static/5b212dce5417fcd9ddec5349/t/5ea198c8f3110c4651d9db54/1587648715787/2-2020-Internet+Connectivity-FINAL.pdf