# Creative Hub Worcester: Art for Main South

**A Proposal for an Interactive Qualifying Project**
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**Submitted by:**
Franck Coly
Abdah St Fleur

**Sponsoring Agencies:**
Creative Hub Worcester

**Advisors:**
Chickery Kasouf
Elizabeth Long Lingo

# Abstract

This project, sponsored by the Creative Hub Worcester, gives insight into the population living in the Main South neighborhood of Worcester and their needs and interests in the arts. Current art programs offered around Worcester and their problems were evaluated. The main problems faced by the Main South district were found to be accessibility and affordability of art programs. The WPI IQP team assisted the Creative Hub in determining the needs and interest of potential users, as well as profile the users and their families. Additionally, the team mapped the surrounding programs and similar organizations to help Creative Hub develop their programs and identify potential sponsors.

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# Executive Summary

The Main South neighborhood of Worcester is experiencing a lack of affordable and accessible art programs. Having an accessible program in the Main South neighborhood would allow parents to take their children to a place where they can explore multiple genres of art. This issue became increasingly important as the government continues to take money away from school art programs. This was in an effort to raise scores in the subjects of Math and English.

To solve the issue of a lack of affordable and accessible art in Main South, Creative Hub Worcester is opening in the Main South neighborhood. Our IQP team was tasked with profiling the Main South population, find the needs and interests of the families and create a map containing similar programs in the city of Worcester. By gaining the knowledge of what other programs have done and who lives in Main South, our sponsors were able to provide programs that accommodated all needs while avoiding common mistakes that others programs have made in the past.

To profile the Main South population, our team relied on data from the Worcester Public School website. Using their data, we were able to compile information about races/ethnicities, genders and the accommodations needed from each of the 40 schools in the target area. We used this data to create a profile of neighborhood residents. To find the needs and interest of the community, our team conducted interviews with 20 individuals. Interviewees included parents, teachers and program administrators. Their answers were used to find patterns and trends about the needs and interests of the children and their families. To create a map that represents similar organizations in the city of Worcester, our team relied on secondary research to get information such as pricing, their hours of operation and what accommodations they offer.

In our research, we found Main South to be predominantly Hispanic/Latino, who make up 50% of the population followed by the White community who make up 22% of the population. Compared to the target area, the area outside this target area is equally made up of Hispanic/Latino who make up 35% and Whites who also make up 35%. In our interviews, our team found that the Main South families need a reliable transportation system to safely get children from school to their programs after school. We also discovered how much financial assistance is needed in the community and how the art community is lacking translated materials for bilingual and non-English speaking families. In addition, our team found a strong interest in student led classes and how the children in Main South love learning about each other's culture through the art programs. An assessment of other programs revealed that many do not offer transportation or translations, which are one of the many accommodations requested by parents.

The data on this project was collected for the purpose of being used by Creative Hub in order to understand who lives in Main South thereby being able to better tailor programs. In combination with the needs and interests, the mapping of experienced programs around Worcester would help Creative Hub to better navigate the choices they need to make based on what others have done.

# 1. Introduction

For children in the Main South district of Worcester, Massachusetts, there is a lack of affordable and accessible art programs for children (Laura Marotta, personal communication, November 17, 2017). Creative Hub Worcester (CHW), a nonprofit organization founded in 2015, seeks to bring affordable and accessible art programs to this area. Under CHW's guidance, our IQP team's goal was to help CHW understand their potential users in order to offer affordable and accessible programs that are missing in the district.

This project is important for our sponsors because across the United States, many areas still struggle to balance art programs with the economic interests within a specific area. This challenge is partially due to the creation of the No Child Left Behind Law (NCLB) (Marsh, 2008). The NCLB, passed in 2001, does not require public schools to offer a variety of arts programs in order to qualify for federal funding. Instead, school funding is based on their overall proficiency in math and English. As a consequence of NCLB, art programs are not as prominent and students are losing skills such as: cognitive ability, critical thinking, and verbal skills (Smith, 2009).

Since Worcester Public schools are not required to offer art education, both the art teacher positions and the arts budget have remained stagnant over the last five years (Worcester Public Schools, 2017). Therefore, children in the City of Worcester have to look elsewhere to participate in art programs, such as the Worcester Art Museum and ArtReach.

Additionally, the median household income in the City of Worcester was $45,599 as of 2016, which is $21,500 below the average income compared to the rest of Worcester County and $25,355 below the state average (United States Census Bureau, 2016). To address this problem,

Creative Hub plans to offer children in the Main South district art programs with lower prices, through government subsidies and additional scholarships. Furthermore, CHW hopes to re-energize the city's arts culture by providing a variety of high-quality arts programs to help replace the current unaffordable and inaccessible programs for the city's underprivileged youth.

Our IQP team reached our goal using a three-pronged approach. First, we identified the needs and interests of prospective Main South participants. Second, we profiled potential participants based on demographics. Third, we created a collaborative opportunity mapping of similar organizations and competitors to identify where and how CHW can best design their programs to meet the needs of the community.

## 2. Background

Currently, art classes are scarce in Main South, Worcester. This is the result of the No Child Left Behind (NCLB) law passed in 2001. The effect of the act on the nationwide art programs has created an ongoing fight to keep art alive in many communities.

### 2.1. Broad problem with the art system

In 1994, the Goals 2000 Educate America Act declared art to be part of a school's curriculum. However, the No Child Left Behind Law(2001) changed educational assessment. In order to verify that the quality of education met standards, the states began testing children in grades three to eight in elementary school and in high school. This new system for checking and verifying that the quality of education was up to standards began affecting the way local districts evaluated curricula. These districts started looking for ways to improve their test scores. Schools began to reallocate their funds from art, music, Social Studies, physical education, and even science and focused them on math and English/language arts. More than four years after the law was put in place, 22% of districts around the country had reported cutting art and music instructional time significantly from their curriculum (Center on Education Policy, 2006).

### 2.1.1. Benefits of art

Research has found that children who attend classes with art integrated into the curriculum produced better results in exams compared to children that were not exposed to any art. In one experiment by Brezovnik (2015), 105 students were tested across four math tests in equations, inequations, powers and perimeter. On average, the control groups scored an average

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of 7.20 while the experimental group, who had classes with integrated arts, averaged 9.51 (Brezovnik, 2015). However, only a small percentage of students received art integrated learning. Most schools teach and expect the students to only learn basic skills through memorization, which takes away from the students' creativity. Posner, Rothbury, Shees, and Kieras (2006) concluded that motivation keeps students focused. When teachers integrate artistic content into the curriculum, students are more motivated compared to simply learning math or language arts. Also, arts integrated into the curriculum helps students to retain more content over time.

The integration of arts into the education of young children results in significant benefits in their character development. By keeping young children engaged with art, they gain personal and social communication skills, problem solving skills and other critical skills. According to Coates (1993) children around the age of four can successfully start developing ways to communicate what they are able to see if they are involved in the arts. For children, being engaged in different types of art lets them evaluate the subject, learn additional concepts portrayed by the subject, and relate these concepts to their environment.

The benefits of art are not just for children, stress release, for example, has been observed to take place when participating in art, which leads to happiness and/or "life satisfaction," all of which improves health. Smith (2009) explains that students involved in art programs improve their math, reading, cognitive ability, critical thinking, and verbal skills. Additionally he claims, art improves motivation, concentration, confidence, and teamwork. The arts subject also encourages people to be involved in social activities. The arts improves low income communities with ethnic minorities and at-risk youth and teaches then the diversity of cultures (Guetzkow, 2002). Guetzkow also explains how art benefits the community economy. When individuals

venture to artistic events, they become tourists of these communities which impacts the local economy. Based on Guetzkow's observations, the arts clearly have a profound impact on both people and communities.

## 2.2. Attempts to fix the art system

Currently, it is assumed by educators that course availability and student participation are directly proportional (Ruppert & Nelson, 2006). However, this assumption appears to be inconsistent and often untrue. When more classes are available, we sometimes see less student participation (Ruppert & Nelson, 2006). Additionally, there are times when Ruppert & Nelson (2006) noticed a lack of offerings and an increase in interest. These observations make it necessary for policymakers to find a balance between children who have access to arts and do not utilize them versus children who do not have access to them at all. Knowing the difference between the two mindsets could make the difference between misleading data on art accessibility and accurate data on who truly cannot take art classes.

Although there are categories that need to be handled more delicately, others are more straightforward. For example, it is not surprising that the relationship between course offerings and school resources is directly proportional as well as the relationship between course offerings and school size. Therefore, sufficient access should not be determined by a basic course count. States with a large proportion of rural districts often reinforce this type of thinking. For example, the non-rural high schools in certain Texas School districts offer an average of 33 arts courses. However, they are nearly four times the size of the average rural school, rendering these statistics misleading. In order to avoid these obscurities, practitioners and arts education researchers do not consider high schools offering one or two arts courses, regardless of participation levels.

Widespread student participation in the arts across a wide array of disciplines happens in many schools with limited resources. By failing to include these types of student population measures ignores a fundamental aspect of an art-rich environment

In order to define a successful art, we need to first define an "arts-rich" environment. While organizations like Arts Education Partnership, who provides access to information and research on art for all organizations, gives data on the number and range of art course offered in schools, Ruppert & Nelson (2006) do not provide criteria for defining an arts-rich environment. Ruppert & Nelson's findings point to an unequal distribution of both course offerings and participation in arts education.

**2.3. Practices in Worcester that have addressed the problems**

Organizations, such as the YMCA and the Boys and Girls Club, provide children a community center where they can go and try multiple activities such as swimming, basketball and more. They offer classes all year round at low cost. These organizations do not just offer classes, but they offer a place for children to gather and do activities.

The Worcester Art Museum (WAM) has received awards for their strides in expanding access to its collections and programs to underserved populations. The fact that it needed to do so, however, speaks volumes about access issues across Worcester (Worcester Art Museum, 2016). WAM offers CHW a blueprint for success in developing innovative and accessible program. Since an enormously diverse facility such as WAM feels the need to expand, the need for a multipurpose visual arts facility such as CHW is more relevant than ever. The CHW plans to solve this issue by becoming a hub for beginner level arts programs and community events,

providing a platform for more experienced students to transition to other centers such as WAM or the Worcester Crafts Center.

## 2.4. Demographics of Main South

A clear understanding of participants in any new project is critical to the success of the project itself. Understanding who these people are, what they need, and how we can service those needs is of high importance. Without this information, we could face the issue of developing programs that do not fit the culture of the community or that are uncomfortable for users. Defining the demographics, lifestyle and values of Main South will give us a strong representation of the population we plan to serve and help CHW tailor their programs to meet Main South's demographic needs.

### 2.4.1. Specific problem to Main South Worcester

Figure 1 shows a map of Worcester. The highlighted area in Figure 1 represents the Main South area; the red dots are the community centers that children can go to. Although there are many community centers in Main South, they do not offer arts programs. The closest community center that offers art is the Central Community Branch YMCA, but what they offer is limited. Other organizations that offer art classes are Worcester Art Museum, Sprinkler factory, and Art Reach. Yet these organizations are located between two to four miles from the Main South district. This map shows the lack of arts within the borders of the Main South (Google Maps, 2017).
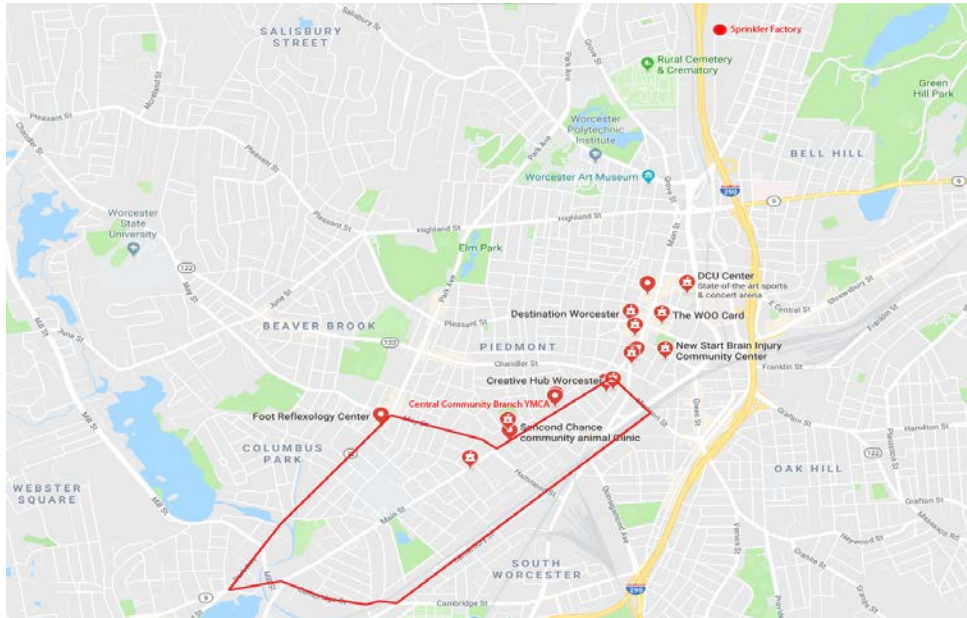
Figure 1: Map of community centers in Worcester

As summarized in table 1, the class prices shown may be too high for some families on a tight budget or with many children that have to pay other bills. The classes are usually held for two hours/day. For example, a 10am to 12pm class costs $25 per person. If a parent has, multiple children it can get very expensive to send these children to multiple art classes. In addition, the time offered for these classes are not convenient for children since they may be in school. The Sprinkler Factory offers longer classes, but those classes are more expensive. For a seven-week class, it costs $263 per person. At, Art reach a seven-week class costs $49. Although Worcester has art programs, they are not affordable and accessible.

| Course | Start/ End Date | Time | Cost |
|---|---|---|---|
| Paintastic | 12/27/17-12/27/17 | 10 am - 12 pm | $25 |
| Art and Bookmaking | 12/28/17-12/18/17 | 12:30 am-2:30 pm | $25 |
| Painting Without a Brush | 12/29/17-12/29/17 | 10 am - 12 pm | $25 |
| Pen and Ink | 12/28/17-12/28/17 | 10 am -12 pm | $25 |
| Clothed Figure Painting | 12/27/17-12/29/17 | 10 am - 2:30 pm | $66 |

Table 1: Worcester Art Museum class prices (Worcester Art Museum, 2018)

With the price point often being a critical decision factor of whether a parent will invest in art education for their children or not, CHW needs to understand what constitutes an affordable price for the Main South population. The efforts of CHW will easily be overshadowed if the price point is not chosen considerably and thoughtfully. The ideal situation is to find the price point that best fits the users but also brings income to the Hub.

**2.5. Understanding the collaborative opportunity mapping**

Determining the theoretical position of an organization within the market is not easy. Senior executives who cannot map the positions of their company's brands and their competition end up confused and dismayed. Few know the primary benefits their product offers; and they all

overestimate the benefits of their own offerings while underestimating those of rivals (D'Aveni, 2014). This dynamic, directly in relation to rapidly changing high tech industries, still holds weight due to the unique structure of our project.

CHW is a developing project, scheduled to open within the next 18 to 24 months (Laura Marotta, personal communication, November 2017). A collaborative opportunity mapping would provide a valuable tool to assist their development, giving them the opportunity to tailor their programming, rates and offerings to their community's needs. Additionally, it will provide a guide to determine where the CHW project could assist in bridging the gaps in the current market.

Next, we turn to the methods we used to understand the needs and price points if potential Main South participants, profile their demographics, and develop our community opportunity mapping.

## 3. Methodology

In this project, our team wanted to achieve the goal of helping CHW better understand its potential users and where it will potentially stand amongst similar organizations once it is complete and operational. This was done by completing the following:

1. Determining the needs and interests of its potential users

2. Profiling the users based on demographics

3. Creating a comparative mapping of similar organizations to CHW

These analyses focused on Main South and the broader area within a two-mile radius of Creative Hub Worcester. Our team used formal interviews with art teachers, community center administrators, and parents in order to give us insights into their needs and interests. This allowed us to give CHW the data needed to help them properly structure their programs with the right accommodations for families. We interviewed program coordinators from similar programs around Worcester to learn, document, and answer the questions of the challenges they have faced, how they overcame them (see Table 2).

| Issue | Info Required | Method |
|---|---|---|
| - Programs (Content/experience)<br>- Accomodations | - Needs: Accommodations for children and parents and other needs that might be provided by a community center.<br>- Interest (types of creative experiences)<br>- Factors stopping them from participating in arts | - Interviewing art teachers, parents and community center administrators, similar organizations and other community outlets |
| - Price point | - What content are similar organizations offering for the price they are being offered at.<br>- Demographic willingness of users to pay | - Research on other organization like Boys and Girls Club<br>- Interviewing teachers, guidance counselors and administrators in similar organizations<br>- Talk to parents from other community outlets about pricing |
| - Best practices<br>- Opportunity to collaborate | - Best techniques and other factors that promote success in this industry<br>- Willingness of other programs to collaborate with CHW | - Interview with program coordinators of similar organizations<br>- Research similar cities |
| - Challenges | - Red flags and issues that have caused problems in similar programs<br>- How to overcome failures or avoid them | - Interview with program coordinators of similar organizations |
| Demographics around CHW | - Who lives there<br>- What is the ethnic mix in the areas surrounding CHW<br>- Family size | - Census Data<br>- Talk to board of Ed. |

Table 2: Methodology Overview

### 3.1. Determine the needs and interest of CHW potential users

### 3.1.1. Interviews

The first objective our team has satisfied is finding the needs and interests of the families in the neighborhood surrounding CHW. To meet the objective, our team interviewed art teachers, program directors, and parents. We chose to interview those individuals because they are constantly with children in the community, and over the years, they have gained valuable experience and knowledge about their communities. Knowing their needs and interests will allow CHW to create a welcoming and sustainable environment for their users.

In order for us to gain valid qualitative data, a few study authors have found that the majority of data patterns found using interviews are found within 6 to 12 interviews. In their study, the authors explored the number of interviews needed to make data valid. They found that between 80% to 92% of new concepts were found in the first 10 interviews (Morgan, Fischhoff, Bostrom & Atman, 2002). A few years later, more studies were conducted in which 60 in depth interviews were analyzed (Guest, Bunce & Johnson, 2006). They found similar results where 70% of trends were observed in the first six interviews and 97% of the trends could be found after 12 interviews (Namey, 2017). Based on the data collected in these experiments, our team aimed to interview a total of 6 to 10 art teachers, 6 to 10 program administrators, and 6 to 10 parents. This would gave us a minimum of 18 interviews and a max of 30 interviews.

To interview program directors, we chose community centers and art class focused programs that were either located in a two-mile radius of CHW or are similar to CHW in terms of what they do and offer. We called directors and administrators to see if they were willing to participate in our project. We then proceeded to set interview times with each contact. We interviewed program directors from all around Worcester about what their experience in the

industry and get their opinions on how it could be used in Main South. All the programs provided us with a place to conduct the interview. The interviews lasted between 20 to 30 minutes, they were all recorded on a voice recorder and another team member took notes for backup. To ensure we conduct an ethical interview, we disclosed who we were, where we are coming from, and our purpose in our initial first contact as well as before the interview. The interviewees were also told that the data we collected in our interviews may or may not be used in CHW's marketing campaign. This done in case they wished there was any questions they wanted off the record.

To interview art teachers, we contacted some principals in Main South schools to help us get in contact with the art teachers in their schools. Once we had contact for art teachers, we set interview times with them. We interviewed five out of the six art teachers at the school that they are working at. The six teacher is now the Art Liaison for all of Worcester, but she was a former teacher at one of the schools in Main South; we interviewed her at her office. The interviews for the teachers lasted the same as the interviews for the program directors.

To interview parents, we attended a fashion show that was conducted by University Park Campus School and a multicultural dinner conducted by Claremont Academy. Our team pulled parents aside to a quiet part of the building and did the interviews during intermissions. All the interviews were recorded and were written down as notes. All the interviews lasted 5 to 10 minutes. Their interviews were shorter because parents were more difficult to talk to given the event context in which we were interviewing.

**3.2. Profile the users based on demographics**

We profiled the Main South population by doing research on the Worcester Public School (WPS) website. We picked the WPS website because it has all the information we needed on the students. We profiled population using the distribution of races and ethnicities, genders and accommodations needed. All of our demographic information was found online.

**3.2. Create a map of the creative ecosystem**

In order for our team to show Creative Hub where they will stand in comparison to similar organizations, our team constructed a mapping of similar organizations in Worcester. Our team used secondary research and interviews with program directors to collect our data. We conducted research on the program websites to search for what they offered prices, and accommodations. We interviewed eight program directors and was able to ask questions about their best practices, challenges they have faced, their strength and their weaknesses.

**Best practices**

Uncovering best practices, is a key component to the validity of our collaborative opportunity mapping. By uncovering best practices, we are able to provide enough insight to propel CHW in their program development and increase their chance for success. Additionally, allowing them the best opportunity of completing their goal of bringing innovative programs to the Main South district.

**Challenges**

Finding the challenges these businesses have faced or overcome was also be a key component to the validity of our mapping. Addressing the challenges the industry has faced will only increase CHW's ability to keep them from reoccurring, or stop them as soon as they do. Thereby, allowing them the best opportunity of completing their goal of bringing innovative programs to the Main South district. By uncovering challenges, we were able to primarily discover a gap in the current processes of our competitors and additionally give CHW the best opportunity to flourish.

**Strengths and weaknesses**

Uncovering the strengths and weaknesses of other programs would allow CHW to improve their program development. By finding where each organization excels and where they may have downfalls, we were able to give our sponsor enough information for them to be able to make choices about their organization. Strengths and weaknesses were determined by researching:

- Prices

- Hours of Operation

- Accommodations offered (transportation, financial services, etc…)

Using the factors listed above, our sponsors are able to determine where other organizations are thriving and where they lack.

**3.3. Analyzing the data**

Profiling the Main South population required our team to analyze quantitative data. By using the Worcester Public School administration website, our team recorded data on races and ethnicities, gender distribution, and accommodations needed. This data was individually collected for all 48 schools. Since the data found was in percentages, our team converted all data to number form in order to calculate the totals for each subcategory. The data was then converted back to percentages. Totals were calculated for the target area and area outside the target area

With most of our data being qualitative, our team had to manually analyze the data. To avoid any time wasted, our team wrote up transcripts for every interview we performed. By doing so, we saved time in week five and six by simply having to read and look for patterns and trends in our data. In analyzing the interview data, we looked for keywords in our transcripts. For example, when we asked a parent "What is your primary mode of transportation?" our team looked for keywords like "car," "drive," or "bus." Once we found these keywords, we added them to a list of trends as a way to organize our findings.

To create a map of the organizations in Worcester, our team began by finding what factors Creative Hub would need. Our team decided to look at factors such as prices, hours of operations, and accommodations needed. Then, we created a list of organizations and organized them under community centers, art class based programs and incubator spaces. Each organization had factors researched and recorded. Creative Hub is able to see what programs belongs to which categories and what each offers.

### 3.4. Conclusion

In conclusion, our main method to obtain our data about the population was to conduct online research on the Worcester Public school website. To find the needs and interests of students and parents, interviews were used to achieve our goal. Then we conducted our online investigating of the market to cultivate an accurate understanding of the creative ecosystem. Once we gained as much information from our online research as possible, we progressed to on-site investigation through contacting administrators to specifically fill the gaps lacking from online investigating. All of which helped us achieve our overall goal of helping Creative Hub Worcester understand its potential users and where the gaps are in terms of classes being offered at other similar organizations.

# 4. Results

When our team began our project, our goal was to help CHW better understand its potential users and where it will potentially stand amongst similar organizations once it is operational. In order to complete the goal, our team:

1. Profiled the Main South population based on demographic

2. Found their needs and interests in the arts

3. Provided a landscape of similar organizations that shows the opportunity to collaborate

We collected demographic data for the public schools in the target area and outside that target area. For our needs and interests, we conducted interviews with art teachers, administrators, and parents of students in the target area. Additionally, our team was tasked with creating a map of organizations in the area that gives a sense of what the opportunity to collaborate with other organizations is.

## 4.1. Profiling the population

In order to profile the Main South population, our team collected demographic data on the students in public schools located within the target area and outside that area. For the purpose of our research, the target area was deemed to be Main South public schools and any public school within a two-mile radius of CHW. In total, our team analyzed data from a total of 48 public school. Our target area contained 20 schools while the area outside the target area contained the remaining 28.

To profile the students, our team chose three categories: races and ethnicities of students attending each school, the distribution of genders and the accommodations needed. Races and

ethnicities are broken up into: African American/Black, Asian, Hispanic/Latino, Multi-race or non-Hispanic, Native Americans and White. Genders were determined to be male and female. We looked for accommodations needed such as English language learners, economically disadvantaged students, students who do not speak English as their first language or those who have disabilities. English language learners refers to students who are currently learning the language and are not fluent in it while those who do not have English as their first English may be fluent in English. Economically disadvantaged students are students whose families' make less than the average income of Worcester (see Section 1).

Once calculated, the data was added to a total and compared to the total number of students that was provided by the Worcester Public School online data. Having this demographic data will allow our sponsors to see who its target users are and who they need to accommodate.

### 4.1.1. Profiling all of Worcester

The data gathered is a culmination of both the target area and the area outside of its bounds. Profiling the entire population was meant to give our sponsors an overall idea about what the student demographic around Worcester looks like. In Worcester, Hispanics and Latinos make up 41% of the 27,618 students, which is the majority. Whites making up 30% of the population follow them, African Americans/Blacks making up 18%, Asians making up 4% and Multi-race or non-Hispanics making up 4% (see Appendix). In terms of gender 51% of students are male and 49% are female (see Appendix). In the student population, 56% of the students are economically disadvantaged, 53% do not speak English as their first language, 33% are English language learners and 17% have disabilities. The race and ethnicity calculations had a 0% error (see Appendix).

**4.1.1. Profiling the population in the target area**

Our target area was determined by our sponsor and who they wanted their target audience to be. The target area is made up of 20 public schools and 10,670 students. Our research concluded that the Main South student population had a majority of Hispanics or Latinos who make up 50%. The white population makes up 22% of the population, African Americans or Black students make up 17% of the student body, Asians make up 7% and Multi-raced students or non-Hispanics make up 4%. (See Appendix). The 10,670 students contain slightly more males than females with the males making up 52% of the population while the females make up 48% (see Appendix). This area was found to be made up of 43% English language learners, 64% economically disadvantaged students, and 61% had another language as their first language (see Appendix).

**4.1.2. Profiling the population outside the target area**

When our team researched the student population outside the target area using secondary data, we found 28 schools, that included 16,948 students. Our team found that the White population as well as the Hispanic/ Latino population equally made up 35% (see Appendix). African Americans and Blacks made up 18%. Compared to the target area, males and females were found to be equal at 50% each (see Appendix). Our team found that 27% of the student population outside the target area were English language learners, 50% are economically disadvantaged, 18% had disabilities and finally, 49% of them did not have English as their first language (see Appendix). The race distribution calculations were all within 3% of the actual total.

**4.2. Needs and interests of Main South**

In order for our sponsor to create their programs, simply knowing the demographic of their target audience will not suffice. Knowing the needs and interests of those they hope to attract is equally, if not more important. To determine the needs and interests, our team interviewed 20 individuals. These individuals included six parents, six teachers, and eight program administrators. The six parents interviewed lived in Main South or had children who attended Main South schools or programs. Teachers that were interviewed were all from Worcester Public Schools located in Main South. The eight program administrators interviewed were all from organizations around Worcester. All interviews were recorded for the exception of all interviews were transformed into transcripts for analysis.

**4.2.1. Needs**

In the scope of this project, needs refer to services that are essential for the population. Needs were determined to be important if they came up as a trend in more than one interview. Our team determined these needs to include transportation, financial assistance, and translated materials.

**Transportation**

The issue of transportation is a problem that we observed from our teacher and organization interviews. The biggest issue Main South faces is that there are multiple organizations that are not able to get the students to their programs after school. Eight interviewees mentioned transportation as a problem. The main problem with transportation stems from the fact that there is no dedicated bus/transportation system to get children to specific programs after school. Although a few programs in the area have transportation systems, others

have mentioned that they are "not in a position to provide transportation." The few available transportation services are very limited in resources and therefore have a lot of difficulty branching out in order to help others. Our research and interviews suggests that the main issue is the lack of money in non-profit organizations combined with the expense of running such services. Our research also found a solution for this issue to be a collaboration with the Worcester Public Schools in order to use their already existing bus lines to move children.

**Financial assistance**

The need for financial assistance has been a recurring theme with the majority of teachers and some program directors that were interviewed. Based on demographics, 64% of the Main South population is economically disadvantaged (see Section 4.1.2). As a result, this translates directly to the ability of families to pay for programs that are being provided. Currently, existing programs provide financial assistance through various scholarships that are awarded to the students based on their needs. In some cases, like the YMCA of Central Mass, they offer assistance by lowering tuition costs and making up for the money deficit by allocating funds from other departments of their program.

**Translated materials**

With 61% of the population not speaking English as their first language and 64% currently learning English, it was found and reported by multiple interviewees that the differences in languages spoken posed a problem (see Section 4.1.2). For parents and students who may not be fluent in English, it may become challenging to interact with teachers or instructors. Translated materials would mean distributing ads in multiple languages, offering bilingual staff in as many places as possible, and installing translated signs in the CHW building. This would allow a system that is easily navigable by everyone in the community. To solve this

problem, certain interviewees have explained that they were forced to informally rely on students to translate at times, which can be very unreliable. To solve this common problem, certain interviewees explained that they were able to get a translator on site where needed.

## 4.2.2. Interests

For CHW, knowing students' interest is a way for them to structure classrooms so that incoming children can easily personalize their art to their liking. In order to achieve this goal, Creative Hub would need to find a way to create a student led environment and expose their students to different cultures so that they may use that as tools of self-expression.

**Student led classroom**

> "... we like to give the kids a chance , um , and we scaffold it for them because
>  some of them are more confident in doing it and have seen our model and are
> more readily able to just jump into that model . And other students were like ,
> could we show you the steps and you can help us teach it , help us break it down.
> Um , but we like to put a lot of that in their hands…" (Personal interview, 2/2/18)

As explained in the quote above, teachers reported that art is better taught and conveyed when students "own" their art. Allowing children to "own" their art means allowing them to get involved as leaders of their own art instead of having teachers lead their project. In this system, teachers mostly act as mentors. For our sponsors, this system would benefit them as well. Since they are new to this industry, allowing the children to lead the structure of certain classes would give them a better insight on what they should aim to provide.

**Exposure to different cultures**

With such a diverse population in the Main South community, our research concluded that students are very open and willing to learn about other languages. By using tying this into the arts, teacher shave found that it allows students to make a better connection. Learning about different cultures in Main South could be a great asset for Creative Hub. Doing so could be done by making connections with local churches and other groups in order to access the youth attending those places. Once this is in place, they would be in a position to teach about these cultures with the help of the community.

**4.3. Mapping of the creative ecosystem**

Our team's third objective was to create a map of the Creative Ecosystem in Worcester. This map includes all programs in the area and what each offers. Using the information about what each offers, our team was able to determine their ability to collaborate with CHW. We found our information using secondary research and filling the gaps of information using interviews with eight program administrators. Our team looked at 10 programs. We looked at four community centers, four classes and two incubator spaces.

For research, Google was used as a primary search engine to find each organization's website. All information found was directly taken from each organization's respective websites. Having a map of the programs in Worcester gives CHW an idea of what is being offered to the public. They can then use that knowledge to offer services that will complement the already existing programs around Worcester rather than compete with them.

### 4.3.1. Community centers

In Worcester, we analyzed four community centers: Girls Inc., YMCA of Central Massachusetts, Boys and Girls Club, and YWCA. Although they aim to focus on offering art courses, Creative Hub hopes to expand their services to other disciplines. Therefore knowing what community centers in the area offer is important for them.

**Transportation**

With transportation being such an issue in Main South (See section 4.2.1), we researched the community centers we chose to determine who offered transportation. Out of the four organizations, only the YMCA offers transportation from school to their facility (see Appendix). However, the YMCA can only provide limited transportation. To get children to the facility, the YMCA relies on the school buses to drop children at the program. At the end of the day, parents must come pick up their children. Transportation is too expensive for nonprofit organizations who do not always have money to put to endlessly spend. In order for organizations to provide transportation, they would need to buy many vehicles, find and pay drivers and maintain those vehicles over time.

**Prices**

Membership price for the community centers means how much an individual will have to pay in order to get access to the facility. All prices are around the same per month with Girls Inc., and the Boys and Girls Club asking for $25 and $20 for the YMCA (see Appendix). The YMCA incorporates its financial assistance through its price where they lower prices for those who live in a certain radius of their facility. YWCA's price was not included in our analysis. Even as a community center, it is a program primarily designed to adult women and does not

focus on children. However, it does offer after school services for children, which our sponsors have an interest in.

Along with the rest of the organizations, the YWCA offers an afterschool program. On a weekly basis, parents at the YWCA and YMCA can expect to pay $95 a week while Boys and Girls Club will charge $75 and parents get the lowest offer of $60 at Girls Inc. (see Appendix).

**Other accommodations**

Other trends in the accommodations were found in physical, mental, or financial services and whether or not they translate materials. In terms of physical or mental services, none of the organizations were found to provide them (see Appendix). These organizations also fail to provide translations for students and parents. With more than half of the student population speaking another language as their first language, the lack of such a services handicaps everyone involved (see Section 4.1.2). On the other hand, all of the organizations offer financial accommodation as demographics show how economically disadvantaged the neighborhood is (see Section 4.1.2).

**4.3.2. Art class focused programs**

Organizations that focus on art classes are ArtReach, Worcester Center for Crafts, Worcester Art Museum, and AS220 Youth. These programs mainly focus on offering art classes at varying prices. All of the program researched are located in Worcester for the exception of AS220 Youth. AS220 Youth is located in Providence, Rhode Island. Our sponsors use AS220 as a model that they closely follow since AS220 represents what CHW wants to be for Main South. For that reason, AS220 has been included in our research. Similar to the community centers, we researched what they are offering using their specific websites as sources.

**Transportation**

Out of all four programs researched, ArtReach was the only organization to offer transportation to its users. However, the amount of transportation offered was found to be limited. ArtReach is only able to offer transportation for their afterschool program (see Appendix).

**Other accommodations**

When our team looked at the physical, mental, and financial services offered, we found that all organizations offered financial help. For those who offer physical accommodations, they do it in a very limited sense and offer it by making their facility handicap accessible. Only Worcester Center for Crafts offers mental help, they have lounges for the people to go and rest. Lastly, we found no organization that offered translated materials.

### 4.3.2.1. Hours

For the Art Focus organizations, both Worcester Center for Crafts and Worcester Art Museum open every day during the mornings and afternoons. AS220 on the other hand opens only during afternoons on the weekday (see Appendix). This could be simply because they aim to attract teens who may only available after school. Art Reach structures their times differently and opens their facility only when there are classes or workshops scheduled.

### 4.3.3. Incubator spaces

Incubator spaces are often organizations that assist and help new companies by providing them with a space where they can grow as a small company. CHW currently rents studio spaces for experienced and professional artists to rent. Using a similar model, our sponsors have shown

interest in incubator spaces. Therefore, we have researched other incubator spaces in Worcester. We found two incubator spaces: Technocopia and Worcshop. Through secondary research, we were able to find information such as incubator space prices, spaces offered and benefits to each.

**Prices**

Prices in the incubator space sector are offered based on the level of access an individual wishes to have. Individuals can either get a membership that allows for access during the weekdays, weeknights and weekends or get access all the time. For weekday access, Technocopia charges $75 a month while Worcshop charges $80. Weeknights and weekend access will cost you $75 at Technocopia and $80 at Worcshop. For those who wish to get access at all times, they can expect to pay $125 at both organizations.

**Spaces and benefits offered**

The two incubator spaces observed each offer something that the other does not. Technocopia offers a 50 square foot studio bay that costs $75 per month and a 100 square foot studio bay that costs $150 per month. Renting a studio bay with Technocopia will give users access to common tools as well as light duty machinery like laser cutting wooden, acrylic or light metals as well as tools for printmaking or 3D printing.

Unlike Technocopia, Worcshop only offers a 92 square foot studio bay that will cost $210 a month. Renting this studio bay will give you access to a full pallet rack with four rails, access to common tools and heavy duty machinery such as drills, CNC cutting machines and other machinery that can handle heavy metals. The access to these heavy-duty machines is what allows Worcshop to charge a premium price for their spaces. Worcshop also provides varying office spaces at $2.10 per square feet. Additionally, in order for someone to get a space in Worcshop, they must pay for a membership price as well as the price of the rented space.

### 4.3.4. Where is the gap?

There are many gaps in the creative space of Worcester. When we refer back to the needs for translation, financial help, and transportation in the Main South neighborhood, it is obvious that many of the organization do not offer those services even though they may be the biggest issues and roadblocks in Main South.  For community centers, there is a gap in the organizations who welcome all ages (see Appendix). Girls Inc. only accepts grades K through 6, YMCA only accepts ages 13 or older and Boys and Girls Club accepts ages 8 through 18. With that in mind, our team observed that no organization is able to welcome students from Kindergarten all the way to the age of 18.

An ideal space for Main South would be a space that is friendly to those who speak more than one language, makes accommodations for students who have disabilities, provides transportation and welcomes all ages. Having a space that provides those services would allow CHW to fulfill the needs of the community.

### 4.4. Other findings

Although our interviews yielded for many trends, our team found a few points that were not considered trends but were considered significant enough to mention. Throughout the interviews, our team found that Clark University is a major help to Main south. We learned that a few schools in the neighborhood use the resources offered by Clark University to help them when it comes to the arts. Students from Clark have been used by art teachers to teach and provide lessons for the students in disciplines such as dancing and digital art. Other times, teachers have informed us that they have been able to utilize spaces that were offered by Clark for performing arts. This brings us to the next problem that certain Main South schools face: the lack of space. With certain schools being located in small spaces, it is not uncommon for

teachers to rely on non-traditional ways of getting the space they need. This ranges from using classrooms as practice rooms all the way to using a cafeteria that doubles into a stage area. For CHW, offering dedicated spaces for these teachers and students to use would open a door for collaboration with the Worcester Public Schools.

### 4.4.1. Marketing

During our interviews and research, it quickly became known that marketing plays a large role in how well an organization is able to attract a population. With this knowledge, our team aimed to find the best marketing strategies that have worked for other organizations in Worcester. The three best strategies that we found in our interviews are social media, mail, and email. The two social media platforms that work best are Facebook and Instagram. It is easy to get the information to the public on social media because most people have a Facebook or an Instagram. Certain organizations utilized mail to distribute pamphlets to the nearby homes and neighborhoods in a specific radius, which have been effective in certain cases. The last strategy is email. This strategy was found to be a preference by most parents. Parents largely rely on email to get alerts and emails from schools and therefore if CHW can tap into this network, they will be able to be quickly reach parents when new programs are advertised.

# 5. Final conclusions

**Making a connection with the Main South population**

The relationship between Creative Hub and the population in Main South is essential to its success. In programs that we researched and had interviews with, the relationship between the users and the program stood out as one of the more important aspects of connecting into the community successfully. When our team arrived in to Main South, we were able to immediately recognize that there was a large number of Hispanic and Latino students. This was later backed up by our demographic data (see Section 4.1.2). In Main South, the Hispanic and Latino community makes up 50% of the population compared to only 35% outside the target area. CHW has many opportunities on how to pursue this goal including visiting local churches or popular community locations.

**Transportation**

To solve the transportation issues our team suggests collaborating with other organizations that has some form of transportation like the YMCA. Buying a few vans for the younger children is also another option that our sponsors could pursue, but it's worth noting that running a private transportation system can be expensive and not always sustainable. The last strategy they could try is talking to the Worcester Public School bus system so that children can be dropped off at CHW instead of their assigned drop off.

**The gap in Worcester (where does CHW fit)**

Research into accommodations that all programs offered revealed that there is space for Creative Hub to occupy in the creative space. As previously discussed, offering transportation as a service is something that everyone is in search of. In addition to that, there is a lack of services

for physical and mental help especially in community centers. Since there is a small percentage of students with disabilities (see Section 4.1.2), some would argue that mental and physical help services are being overlooked. Creative Hub Worcester should also look to create an environment that reflects the people they are looking to attract. To accomplish this, Creative Hub could look into employing staff who speak the same languages found in the neighborhood. This is lacking in all program that were observed and is a need that needs to be addressed as soon as possible. Having staff that is able to easily communicate with the users will reduce the language barrier. Offering these services in one space that lacks them is where Creative Hub could step in and provide what the population is looking for.

## 5.1. Scalability

When CHW will be settled and operational, one of the things they must consider is the ability to scale their organization. Scalability in this business could ensure that they reach more people around Worcester or even in other cities. However, scalability is not a matter of when but a matter of how. Before Creative Hub can grow as a business, they must consider two key issues: where do they get their money and how they use that money.

Growing a business like CHW will require more funds from its investors. Our sponsors will have to do more fundraising which isn't always easy for nonprofit organizations. If successful raising more money, CHW would need to also ensure that they are not over spending their money. If they grow, certain luxuries may no longer be in their reach. In their current state, finding volunteers to work for them would not be an issue. However, a growing business would need more staffing to manage the space. A large staff will not be sustained with regular volunteers and could force CHW to start paying staff to work full time. Paying employees would require CHW to allocate a part of their budget in order to pay them. CHW would also need to

worry about other services that they would need to buy if they grow. A growing business might need an accountant, for example, to handle finances that might have been otherwise handled by an administrator. This could take up another part of their budget.

The examples mentioned above are just a few examples of what our sponsor would need to consider in order to successfully grow. Their future growth will rely largely on their ability to utilize their resources more efficiently. Furthermore, growing their incubator space model specifically would give them an upper hand over other incubator spaces in the area. With Creative Hub being in Main South and just a few minutes from downtown Worcester, they are already in a better position to serve artists looking to settle in Worcester. Current incubator spaces are hindered by the fact they may be too far away in the outskirts of town or limited in space. An expansion in the incubator space model would allow CHW to gain more income that could be recycled in order to fund other much needed and costly projects such as transportation.

**Challenges and shortcomings**

Like most projects, our team ran into a few setbacks and roadblocks. Our team ran into the problems of getting access to students, getting contacts to respond or meet and talking to parents. At the start of the project, our team aimed to get access to children and speak to them. When we started planning for our interviews, we realized that we needed to get CORI checked. CORI checks take about three weeks and would have taken too long. Our team had to redesign how we are to obtain the needs and interests. Our second problem was that the contacts we had sent emails to did not always get back to us. For program administrators and teachers, time is limited. Knowing this, getting emails back from contacts became challenging and we had to rely on follow-ups to get them interested in our project. Our last major setback was the language

barrier between our team and the Main South parents. With more than 60% of the population not speaking English as their first language, it was inevitable to that we came across parents who did not speak English well. This slowed down the amount of parents we were able to find.

Our major shortcoming that our team had was being able to speak to children directly. Our team set out to find the needs and interests of students in the Main South. Due to time restrictions, we were not able to set ourselves up to get access to children. Although teachers were able to give us good feedback and data, getting children's opinions would have been even better for our project. This is where future projects could improve upon and go into deeper detail.

Ultimately, Creative Hub Worcester is taking steps into better understanding their users. Knowing their users will lead to programming that fits the needs and interests of the students in Main South. Using the mapping of the creative space around Worcester, our sponsors will know how to properly set prices and offer help to families in the area through multiple accommodations. A collaboration between Creative Hub and other organizations could allow for issues like transportation to be resolved. Once they are settled and successfully attracting their users, Creative Hub could look into growing their business and expanding their space. With Main South being an art rich neighborhood, Creative Hub has many opportunities to bring the talent in the spotlight.

# Works Cited

1. After School/School's Out. (n.d.). Retrieved from https://www.ymcaofcm.org/after-school-schools-out/

2. U.S. Census Bureau. (2010, October 05). Community Facts. Retrieved from https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml?src=bkmk

3. AFTER SCHOOL IMMERSION, CLASSES, VISITING ARTISTS & WORKSHOPS. (n.d.). Retrieved from http://www.artreachstudioafs.com/after-school-immersion--classes--visiting-artists---workshops.html

4. CLASSES. (n.d.). Retrieved from http://www.artreachstudioafs.com/classes.html

5. AS220 Youth – Live Arts. (n.d.). Retrieved from http://youth.as220.org/programs/livearts/

6. AS220 Youth – Visual Arts. (n.d.). Retrieved from http://youth.as220.org/programs/visualarts/

7. AS220 Youth – About Us. (n.d.). Retrieved from http://youth.as220.org/about-us/

8. School Aged Child Care. (2014, October 21). Retrieved from http://www.bgcworcester.org/school-aged-child-care

9. Brezovnik, A. (2014, November 30). The Benefits of Fine Art Integration into Mathematics in Primary School. Retrieved from https://eric.ed.gov/?q= benefits of arts&id=EJ1128967

10. Coates, E. (1993). The Language of Appreciation through Talking and Making. Educational Review, 45(3), 251-262. Retrieved 18.04.2011 from http://www.informaworld.com/smpp/ title~content=t713415680

11. D'Aveni, R. A. (2014, August 01). Mapping Your Competitive Position. Retrieved from https://hbr.org/2007/11/mapping-your-competitive-position

12. Rentner, D., Scott, C., Kober, N., Chudowsky, N., Chudowsky, V., Joftus, S., & Zabala, D. (n.d.). *From the Capital to the Classroom: Year 4 of the No Child Left Behind Act*(Publication).

13. After School Drop-In Program. (2018, March 05). Retrieved from http://www.girlsincworcester.org/programs/after-school-drop-program

14. Google Maps. (n.d.). Retrieved from https://www.google.com/maps/dir/Main South, Worcester, MA/ARTREACH, 322 W Boylston St, Worcester, MA 01606/@42.2775481,-71.8419716,13z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1s0x89e40682986755e9:0x4193c03f7a56c958!2m2!1d-71.8185895!2d42.2531996!1m5!1m1!1s0x89e407a301908ac5:0x314d47ace3d7df76!2m2!1d-71.8004862!2d42.302615!3e0?hl=en

15. Guetzkwo, J. (2002, June 7-8). How the Arts Impact Communities: . Retrieved November 08, 2017, from https://www.princeton.edu/~artspol/workpap/WP20%20-%20Guetzkow.pdf

16. Join the Club. (2013, January 29). Retrieved from http://www.bgcworcester.org/join-club

17. Marsh, J. (n.d.). Budget Cuts: Let's Support the Arts in Schools. Retrieved from http://www.academyofart.us/budgetcuts.html

18. Namey, E. (2018, February 15). Riddle me this: How many interviews (or focus groups) are enough? Retrieved from https://researchforevidence.fhi360.org/riddle-me-this-how-many-interviews-or-focus-groups-are-enough

19. From Anecdote to Evidence: Assessing the Status and Condition of Arts Education at the State Level. (n.d.). Retrieved from https://files.eric.ed.gov/fulltext/ED516745.pdf
20. Smith, F. (2009, January 28). Why Arts Education Is Crucial, and Who's Doing It Best. Retrieved November 14, 2017, from https://www.edutopia.org/arts-music-curriculum-child-development
21. Join. (n.d.). Retrieved from http://technocopia.org/join/
22. Worcester Art Museum honored for accessibility. (n.d.). Retrieved March, from http://www.worcesterart.org/information/PR/worcester-art-museum-honored-for-accessibility.html
23. Worcester Art Museum. (n.d.). Retrieved December 15, 2017, from https://portal.worcesterart.org/classes/youth-classes/
24. Teen Classes. (n.d.). Retrieved from https://portal.worcesterart.org/classes/teen-classes/view-all
25. Worcester State University. (n.d.). Retrieved from https://www.worcester.edu/Youth-Craft-and-Creativity-Classes/
26. ANNUAL BUDGET FISCAL YEAR 2018. (n.d.). Retrieved from http://worcesterschools.org/sites/default/files/Department/Chief Financial and Operations Office/fy2018/worcester_public_schools_-_fy18_recommended_budget_-_complete_version_with_cover.pdf
27. School Age Program Service Fees Learning 4 ... - ywcacm.org. (n.d.). Retrieved from http://www.bing.com/cr?IG=D2C9364F7875449DB16F66C0A86157BB&CID=1F81AC2D31BF6E2B2CD9A79730106F28&rd=1&h=SWOJmg-AZVV5vX1zOe6nGmJUei2GHSKp5FnihP6926I&v=1&r=http://ywcacm.org/wp-content/uploads/2017/10/Fees-Learning-for-Fun1.pdf&p=DevEx,5054.1

# Appendix A

**Determine the needs and interest of CHW potential users interview Protocol**

To begin, we will introduce ourselves as a team from WPI and we will briefly explain the purpose of our project and why we need to interview them and then verify that the interviewee is still willing to participate in the interview. Our interviews will last 20 to 50 minutes depending on who we are interviewing. Each interview will be semi-structured because our team has questions that we intend for our interviewee to expand on. Interviews will be conducted in each school for the teachers, guidance counselors and administrators and locations for parent interviews will be determined at the time of planning and scheduling once the team established contact with the parents. We plan on having the interviews with parents complete by the end of the fifth week.

With the data, our team will be able to find all the interests and needs of the children and parents. Once in a report and submitted to CHW, our sponsor will know the  type of art that children in Main South will be interested in. They will also use this report to create accommodations for children and parent such as

- Would they need to offer food for the children?
- Do they need bilingual teachers or instructor?
- This information will tell them exactly what needs to be included in their program in order to attract the students.

Interview question for art teachers:

1. CHW wants to uncover the span of art disciplines available in nearby schools or similar programs, what arts does your school/program provide?

   a. What specific discipline of art is the trend towards and why do you believe it's so popular? (3-5mins)

   b. What courses are lacking from the curriculum/program that you would like to see more of? (3-5mins)

2. As a teacher, why do you see art as important to children?

3. As CHW thinks about offering programs that meet the needs of the Main South students, are there cultural differences or languages at your school/program that they need to keep in mind as they design their programs? what should they be aware of? (5 mins)

4. With art being such a hands-on experience, what is the ideal class size to ensure that everyone gets the attention needed to succeed in their work? (1-3 mins)

5. In order for CHW to be successful, we need the opinions of parents, do you know of any parents in the community that you would be willing to put us in contact with for an interview? (5 mins)

Interview questions for staff of community centers,

1. From your perspective, how could a community art center, like CHW, be a benefit especially to the Main South community and the children in that area?

   a. What would they have to offer? (5-10 minutes)

   b. Why is it currently missing in the community? (5-10 minutes)

2.  As CHW thinks about offering programs that meet the needs of the Main South students, Are there cultural differences or languages at your program that they need to keep in mind as they design their programs? what should they be aware of? (5 mins)

3.  Given your unique mix of students, are there certain types of learning styles or programming approaches that you would recommend? Or approaches that do not work?

    a.  What would help CHW anticipate the needs of their students?  (3-5mins)

4.  We want to help CHW be a success. What have you found as the most difficult things for you to accomplish that might be a challenge for CHW in their efforts? (3-5mins)

5.  What have you found as the most difficult things for you to accomplish especially important to marketing and getting students to attend programs? (3-5mins)

6.  Your programs are structured to end at specific times in a day, how do you go about determining what the best times are in order to cater to the parent and children's schedule?

7.   Once the programs are developed, what is the best way to reach families and share with them what is offered? What is the best way to get students to enroll? (2-4 mins)

8.  Given the geography and weather in Worcester, what is the best type of transportation to bring children to and from your programs that have worked? (2-4 mins)


Interview questions for parents

1.  How does your child like to spend their time afterschool? (3-5 mins)

2.  From your perspective, would a community art center that offers art, music, theatre and other arts all in one place be beneficial and helpful for you and your family

    a.  If so how would it be beneficial? (5-10 minutes)

      b.  If not, why not? (5-10 minutes)

3. Given the geography and weather in Worcester, what is the best type of transportation to get your child  to and from school or other programs they may participate in that you have used?

4. How do you think about the decision to enroll your children (or not to enroll) in supplemental art classes?

      a.  What factors are most important to you in this decision and why?

      b.  What has kept you from enrolling in the past?

5. CHW plans to install a voucher program where you'd get reduced pricing whether you qualify for a full or half cost reduction based on income level, how (if so?) would this affect your thought process on enrolling your child?

6. Are there any accommodations that you or your family need in day to day activities? (e.g. handicap accessibility, transportation) (5 mins)

7. CHW will be starting an afterschool program in 3 months, what's the best way for CHW to reach you in order to inform you about the programs?

## Collaborative opportunity mapping interview Protocol

During the data collection portion of our project, our team will be performing interviews. These interviews will follow a standard protocol. Once settled in a room with our interviewee, we will begin the interview by reading the following introduction:

"We are [names] and we're from WPI currently on our Interactive Qualifying Project or IQP with the Worcester Community Project Center. We are doing research for Creative Hub Worcester, an emerging community arts center that is in development trying to bring affordable and accessible art programs to the city of Worcester.

Our interview today will run for about an hour or less. Any information you give may or may not be used for the CHW advertising campaign. Any information you to wish to be held will be left off record upon request. This interview will be recorded and notes will be taken as backup if our equipment is to fail. If you agree, please repeat 'I agree'."

This opening statement will serve as a brief introduction of our team and our sponsor to our interviewee. The second paragraph will be a statement to let our interviewee know about the terms of the interview. The interviewee will be able to skip a question or stop the interview whenever they wish. In addition to that, we will let them know that the interview will be recorded for use when we analyze our data as well as if we do need a statement for our video. The interviewee's personal information will never be attached to your information. Our interview will then conclude with:

"This will conclude our interview. As a reminder, we want you to know that your opinions and knowledge are very important to us and our project. Thank you for taking the time to participate in our interview. At this time, do you have any questions that you'd like to ask?

Thank you and have a great day."

Questions for program directors
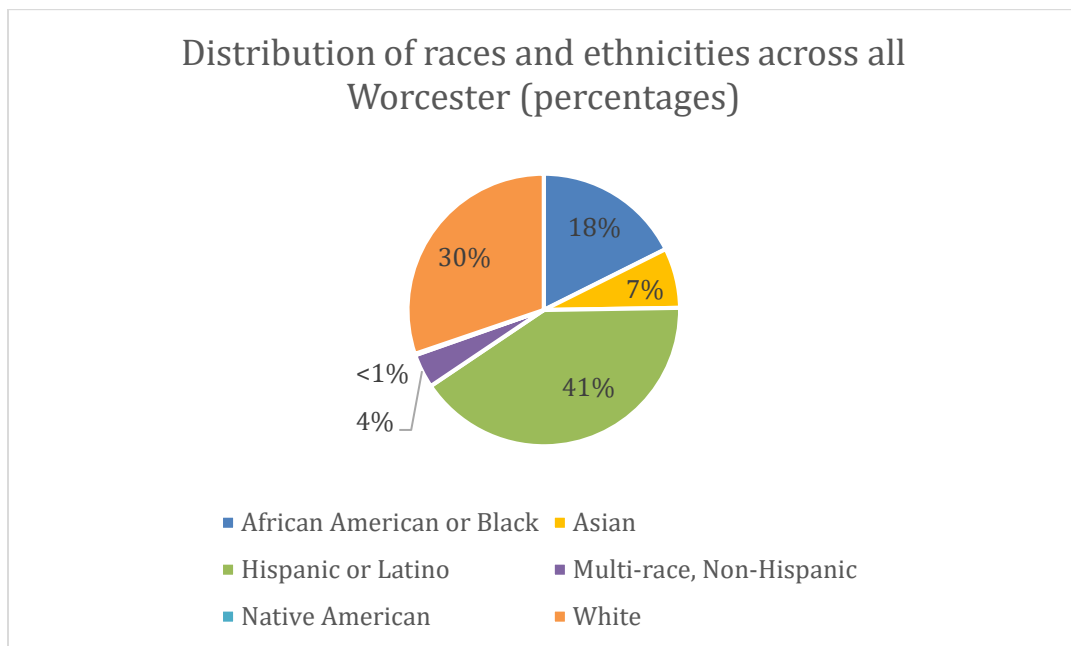
1. From your perspective, would a community art center, like CHW, be a benefit especially to the Main South community and the children in that area?

    a. If so how would it be beneficial? (5-10 minutes)

    b. If not, why not?

2. In your opinion what would you deem the most attractive quality of your organization, why do you believe people come here? (3 mins.)

3. As CHW thinks about offering programs that meet the needs of the Main South students, Are there cultural differences or languages at your program that they need to keep in mind as they design their programs? what should they be aware of? (5 mins)

4. The comfort of a client is an essential part of programs like this, does your organization offer any accommodations whether that be financial, physical, mental or otherwise?

    a. If so, what are they? (5 mins.)

    b. If not, why not?

5. Has your organization found any challenges in transportation to get clients to and from your programs? (2 mins.)

    a. If so, what?

    b. If not, what have you noticed as the popular means of transportation?

6. Does your organization have a target audience such as upper middle class, middle class, underserved population? If so what and why? (5 mins.)

7. Marketing strategy differs based on your target audience, how do you reach your target audience to inform them about the programs and opportunities you offer? (5 mins.)

    a. If you lack a target audience, why? And how do you market to the general public?

8. Once a program has been put in place, what factors go into determining the price? (3 mins.)

9. CHW wants to work with other organizations in order to create a network for artists, focusing programming toward beginner level artist and outsourcing upper level talent.

    a. How do you see your organization partnering with CHW?

    b. What would CHW need to have/be/become for your organization to become willing to collaborate? (5 mins.)

10. Given the unique mix of clients in Worcester, are there certain types of learning styles or programming approaches that you would recommend? Or approaches that do not work? (5 mins.)

    a. What steps have you taken to meet the needs of your clients?  (2 mins.)

11. What are some of the barriers/challenges you've found in producing and sustaining a strong program? (7 mins.)

12. What would you say are strengths and weaknesses of your programs that a new program like CHW should look to learn from in order to be successful? (7 mins).

# Appendix B
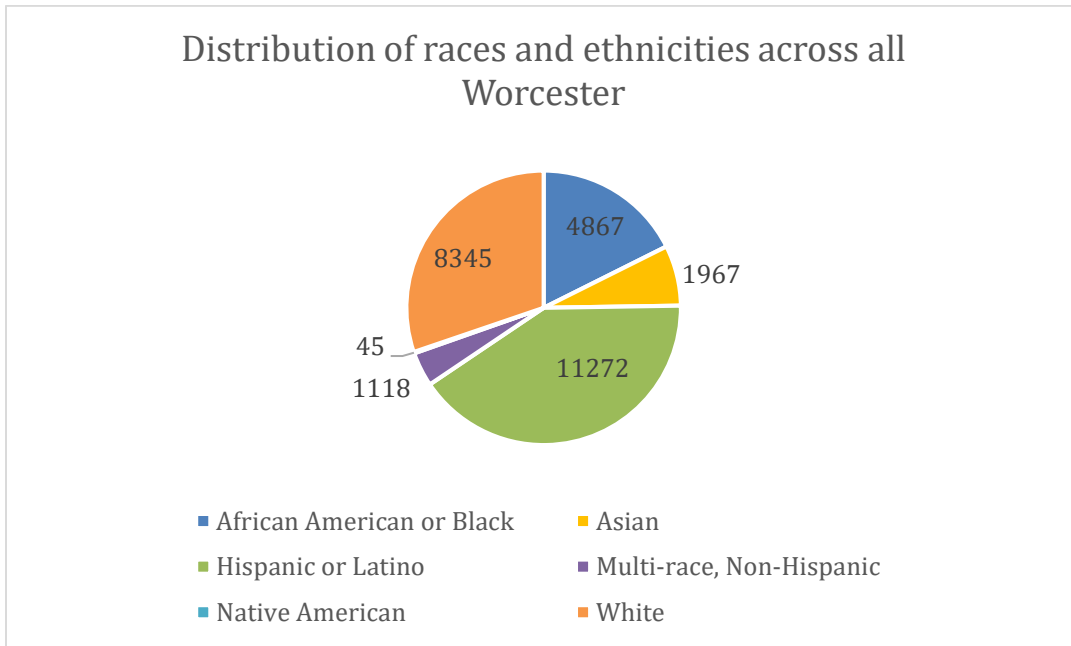


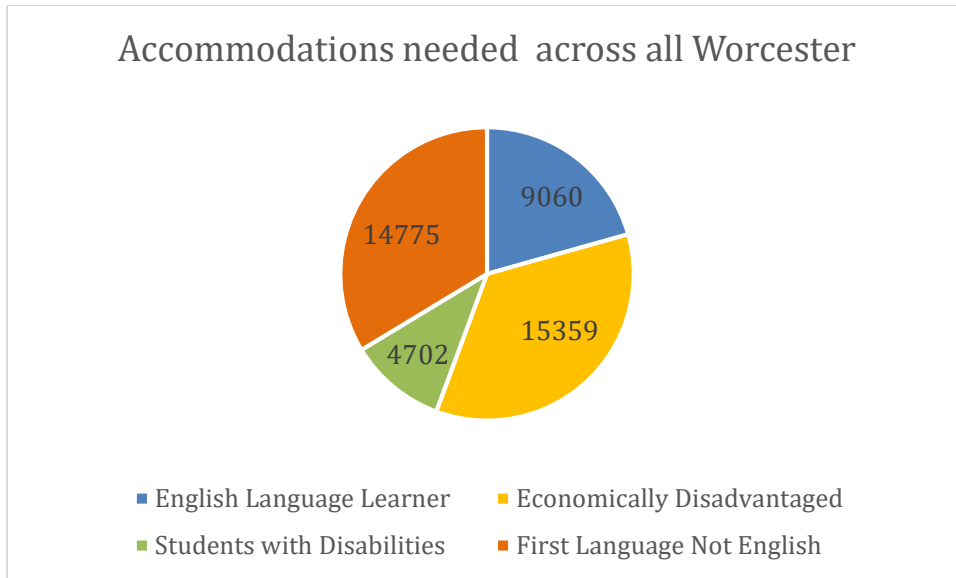Figure B1: Distribution of races and ethnicities across all of Worcester

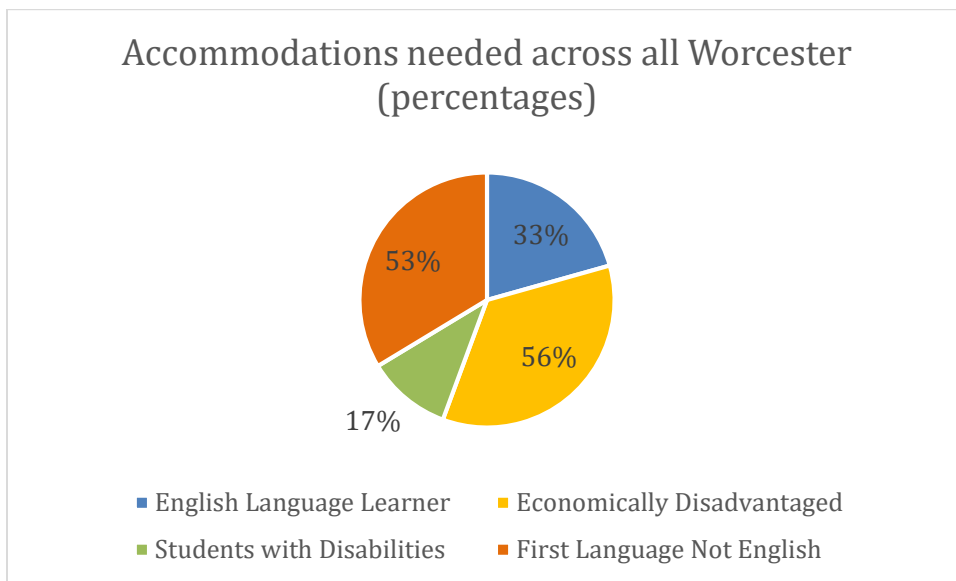**Distribution of races and ethnicities across all Worcester**

- African American or Black: 4867
- Asian: 1967
- Hispanic or Latino: 11272
- Multi-race, Non-Hispanic: 1118
- Native American: 45
- White: 8345



Figure B2: Distribution of races and ethnicities across all of Worcester in percentages

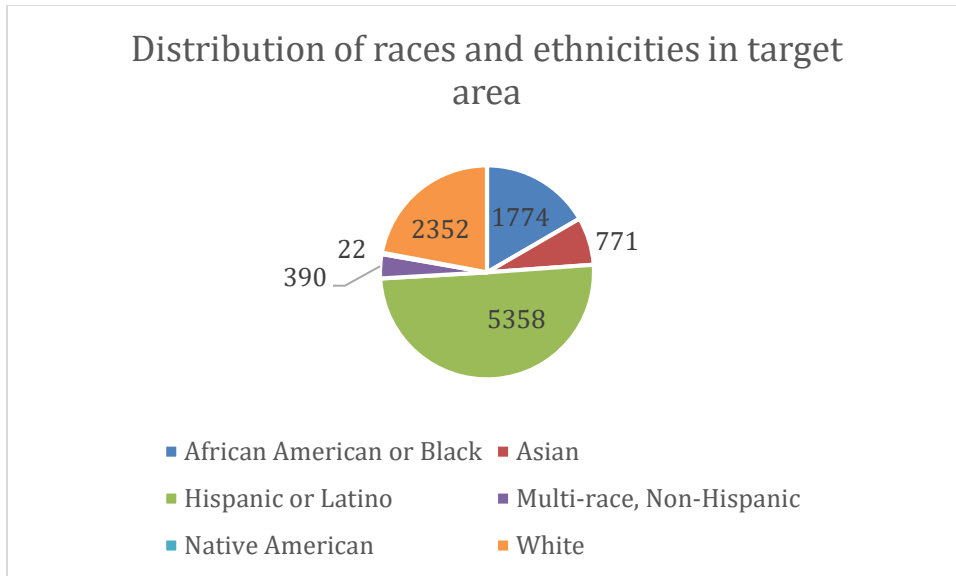**Distribution of races and ethnicities across all Worcester (percentages)**

- African American or Black: 18%
- Asian: 7%
- Hispanic or Latino: 41%
- Multi-race, Non-Hispanic: 4%
- Native American: <1%
- White: 30%
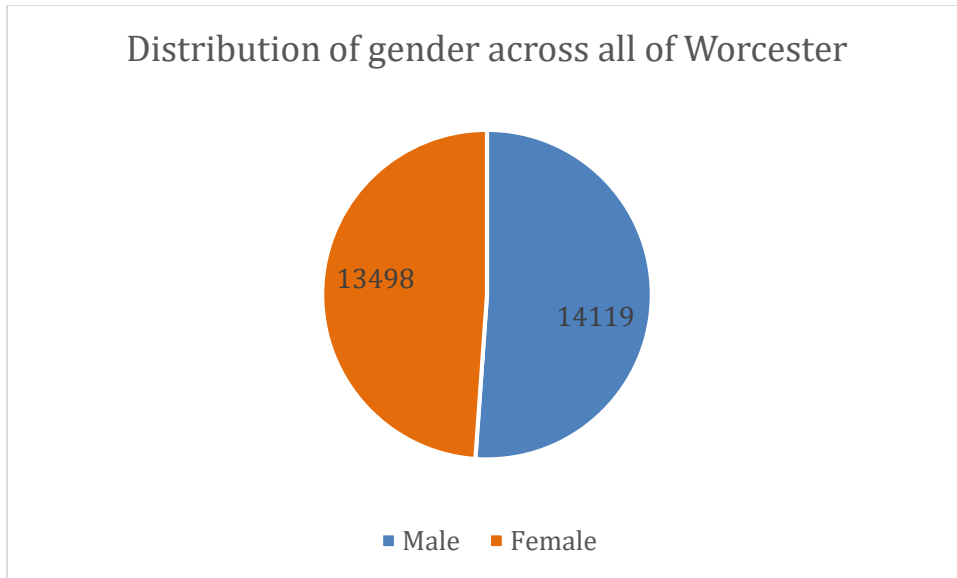
**Figure B3: Distribution of genders across all of Worcester**
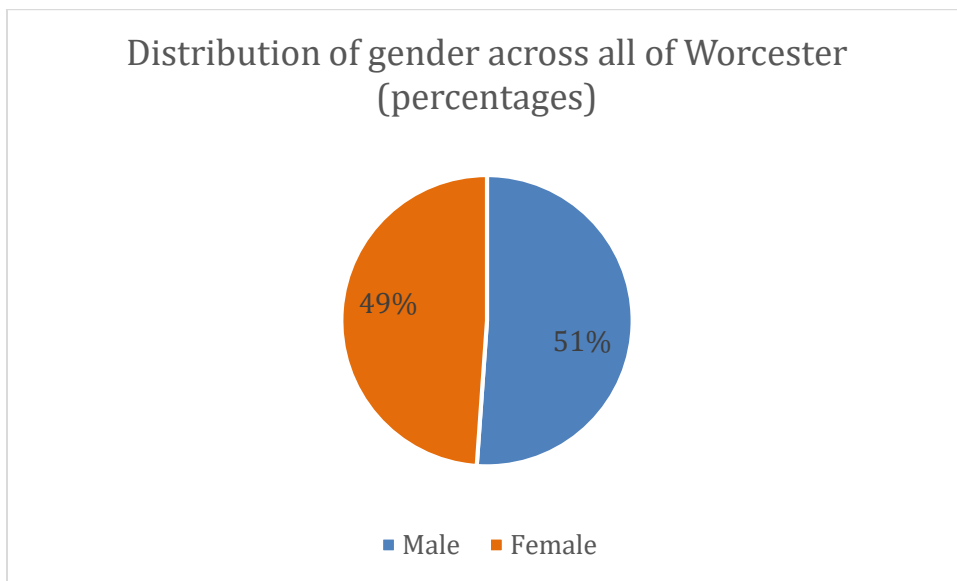


**Figure B4: Distribution of genders across all of Worcester in percentages**

**Accommodations needed across all Worcester**

9060

14775

15359

4702

- English Language Learner
- Economically Disadvantaged
- Students with Disabilities
- First Language Not English

**Figure B5: Accommodations needed across all of Worcester**

**Accommodations needed across all Worcester (percentages)**

33%

53%

56%

17%

- English Language Learner
- Economically Disadvantaged
- Students with Disabilities
- First Language Not English

**Figure B6: Accommodations needed across all of Worcester in percentages**

## Distribution of races and ethnicities in target area



**Figure B7: Distribution of races and ethnicities in the target area**

## Distribution of races and ethnicities in target area (percentages)
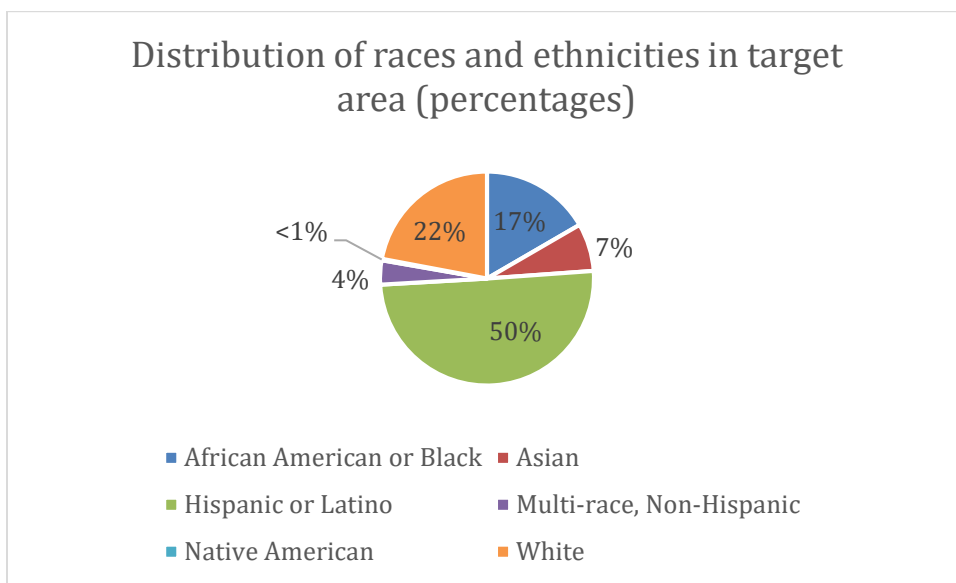


**Figure B8: Distribution of races and ethnicities in target area in percentages**
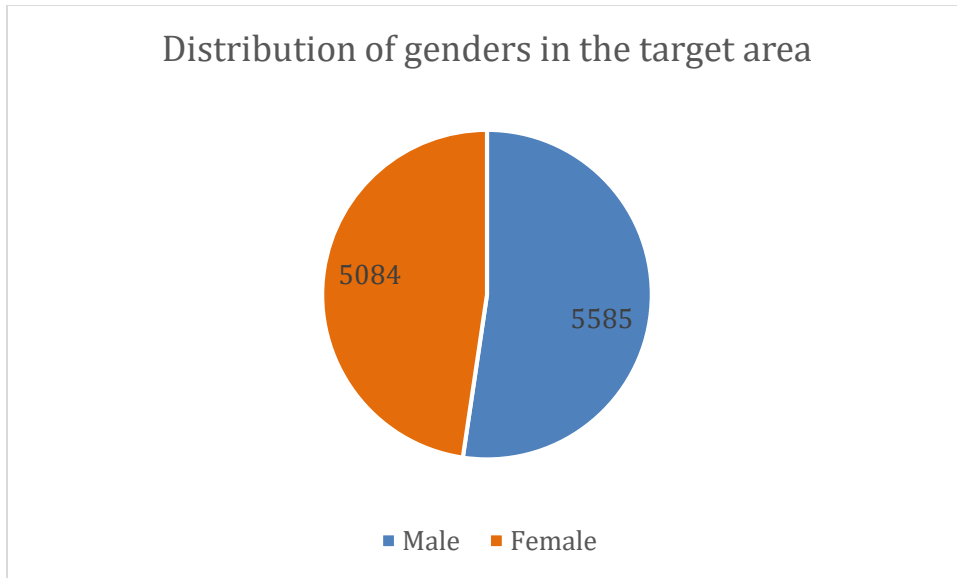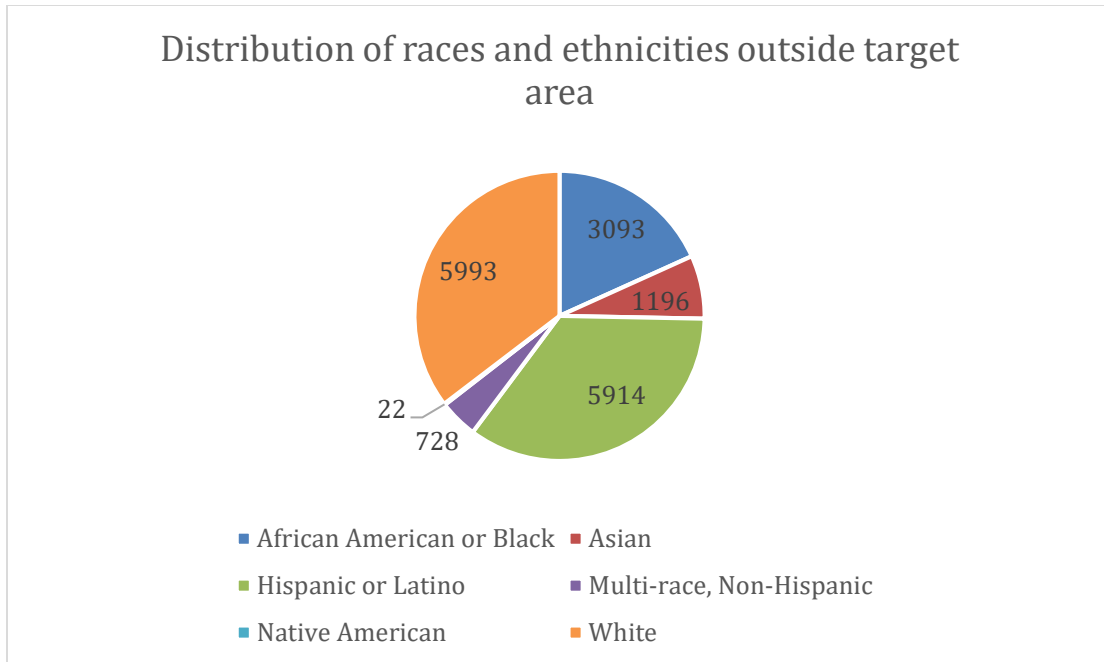
**Figure B9: Distribution of genders in target area**
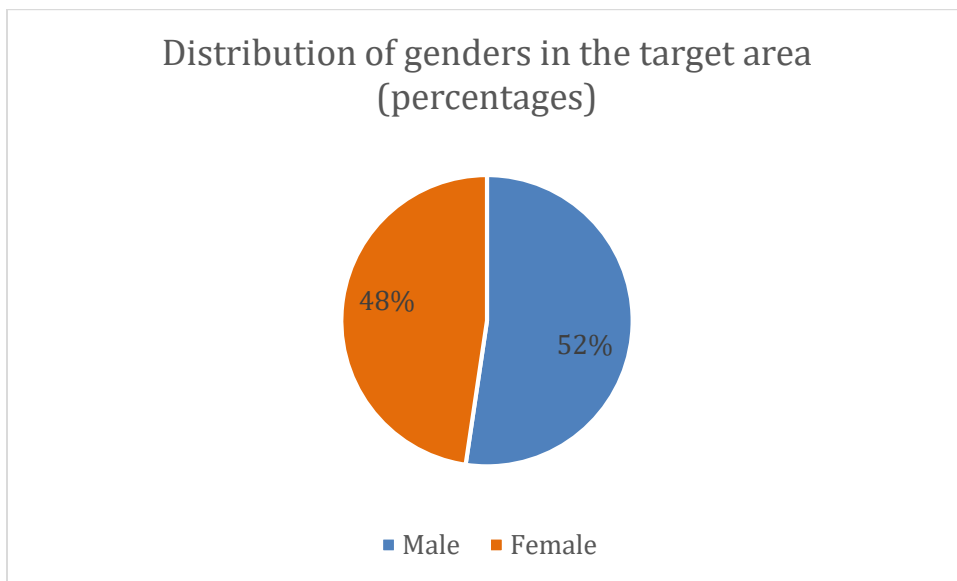


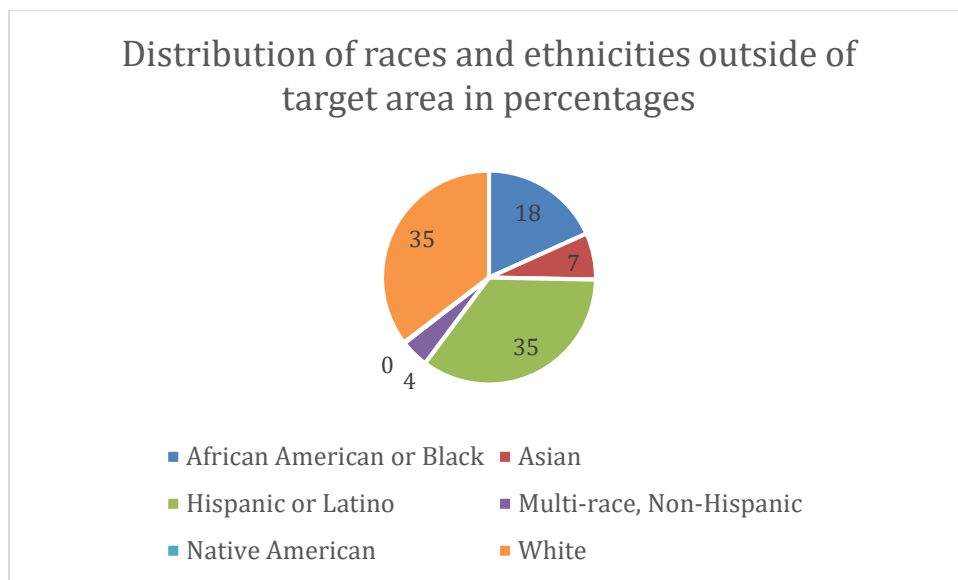**Figure B10: Distribution of genders in target area in percentages**
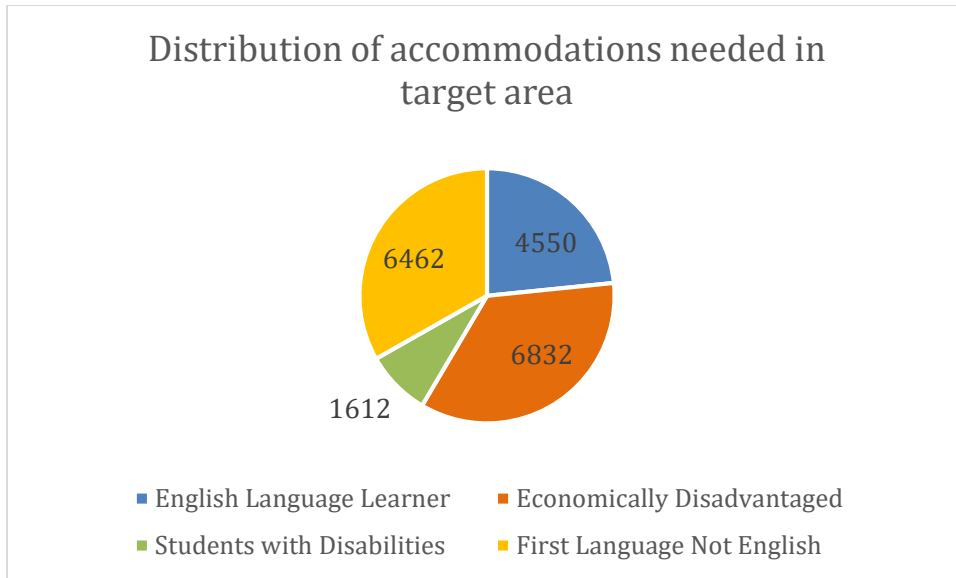
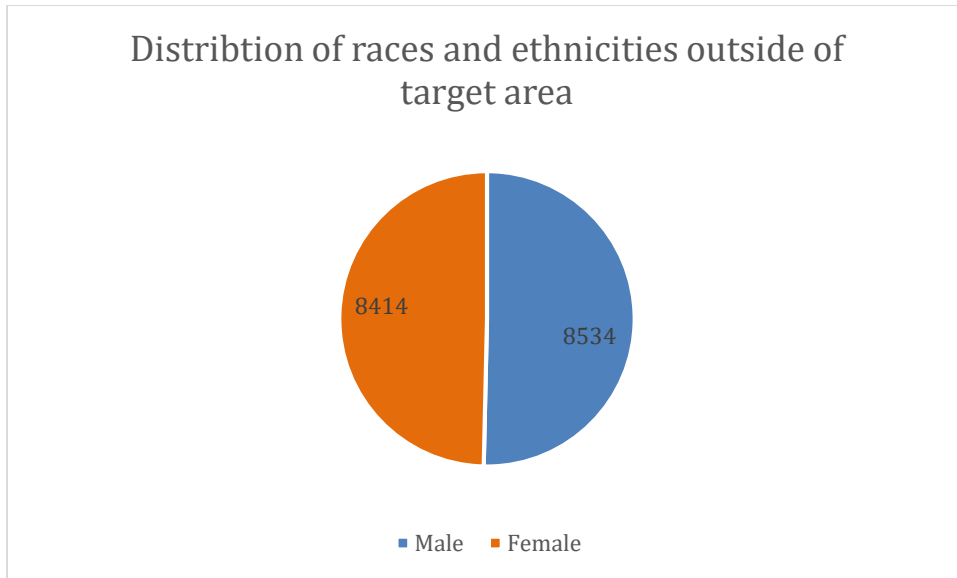**Figure B11: Distribution of accommodations needed in target area**
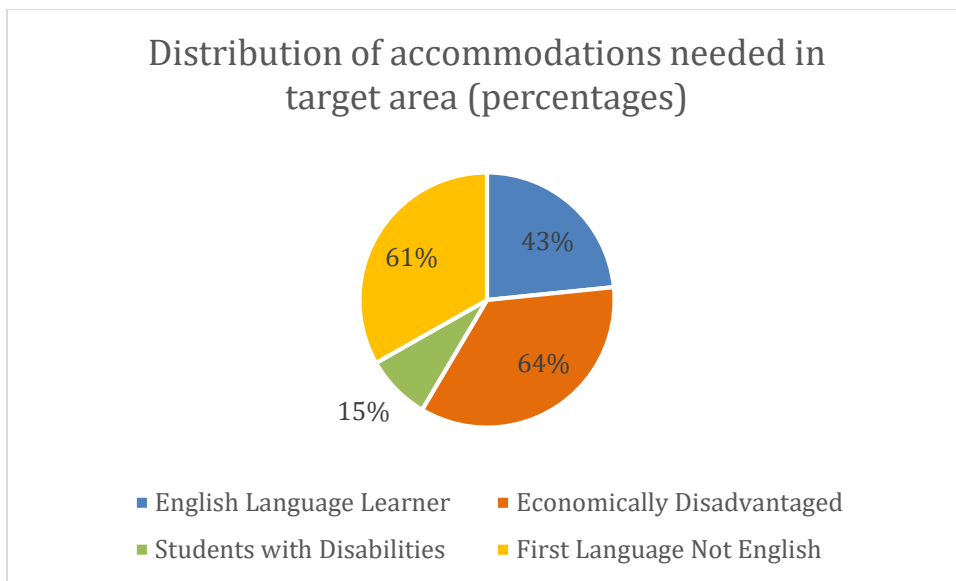


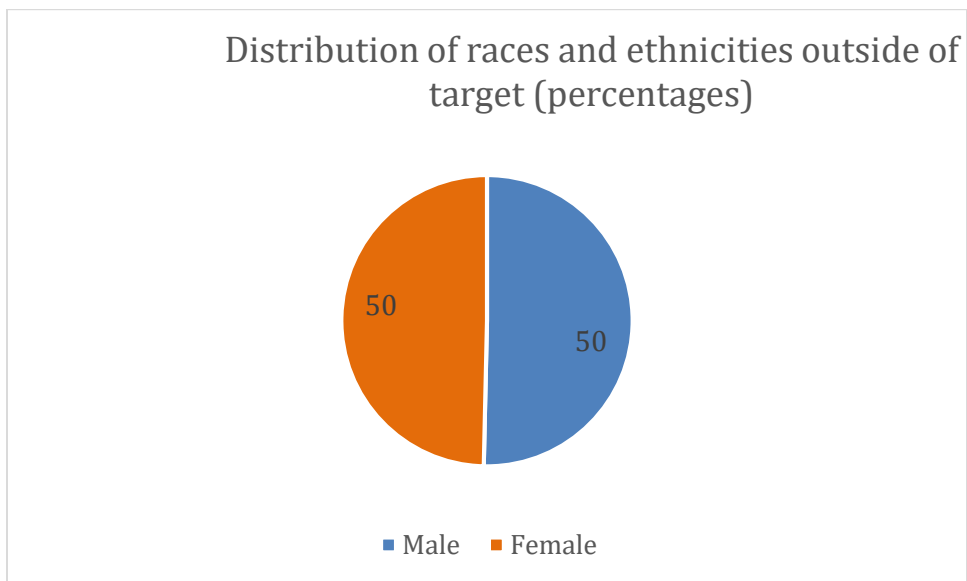**Figure B12: Distribution of accommodations needed in target area in percentages**

Distribution of races and ethnicities outside target area



**Figure B13: Distribution of races and ethnicities outside the target area**

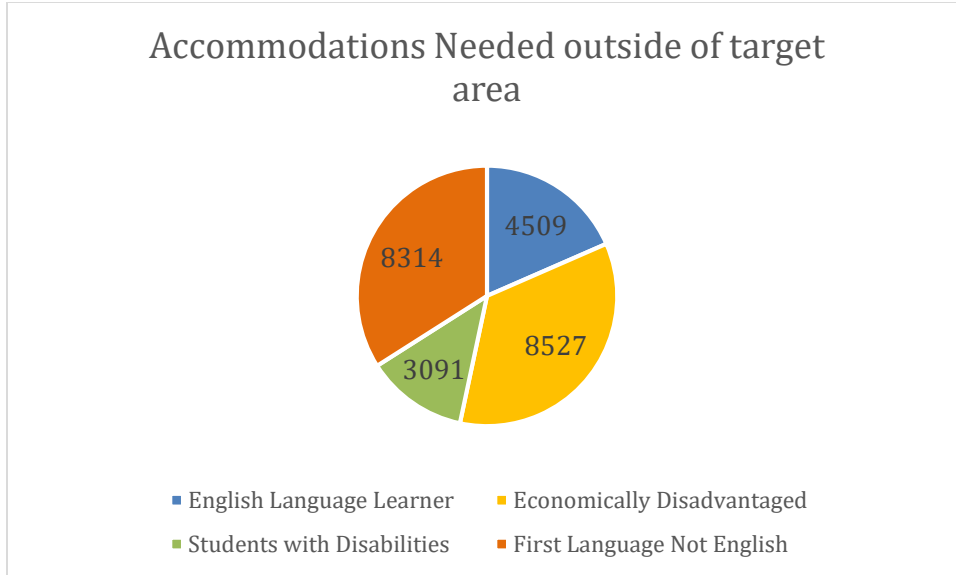Distribution of races and ethnicities outside of target area in percentages



**Figure B14: Distribution of races and ethnicities outside the target area in percentages**

**Figure B15: Distribution of genders outside the target area**



**Figure B16: Distribution of genders outside the target area in percentages**

## Accommodations Needed outside of target area



**Figure B17: Distribution of accommodations needed outside of target area**

## Accommodations needed outside of target area (percentages)
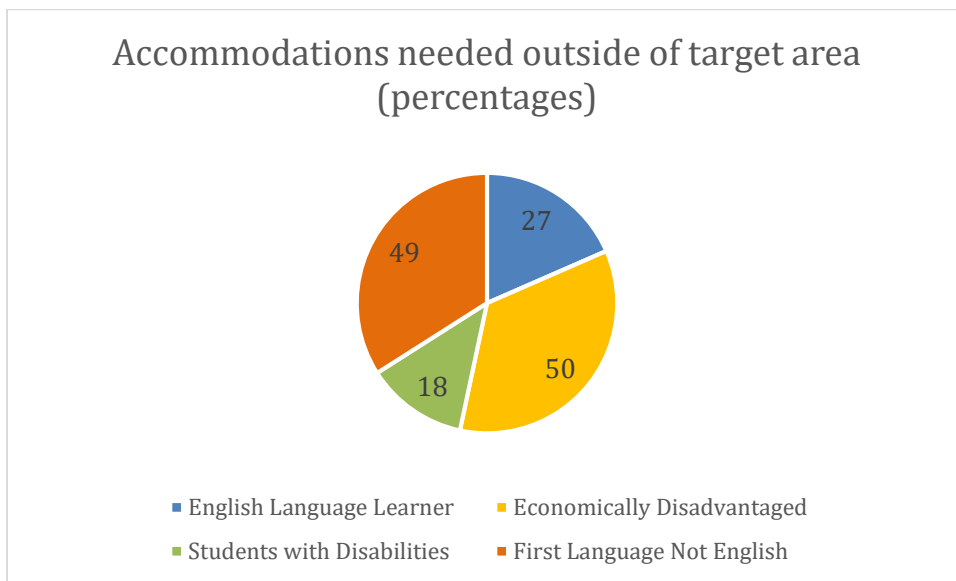


**Figure B18: Distribution of accommodations needed outside of target area in percentages**

| Membership Prices | | | |
|---|---|---|---|
| Organization | Price/Month | Price/Year | Ages |
| Girls, Inc | $ 25 | $ 300 | Grades K-6 |
| YMCA | $ 20 | $ 240 | 13+ years old |
| Boys and Girls Club | $ 25 | $ 300 | 8-18 years old |

**Table B1: Membership prices for community centers in Main South**
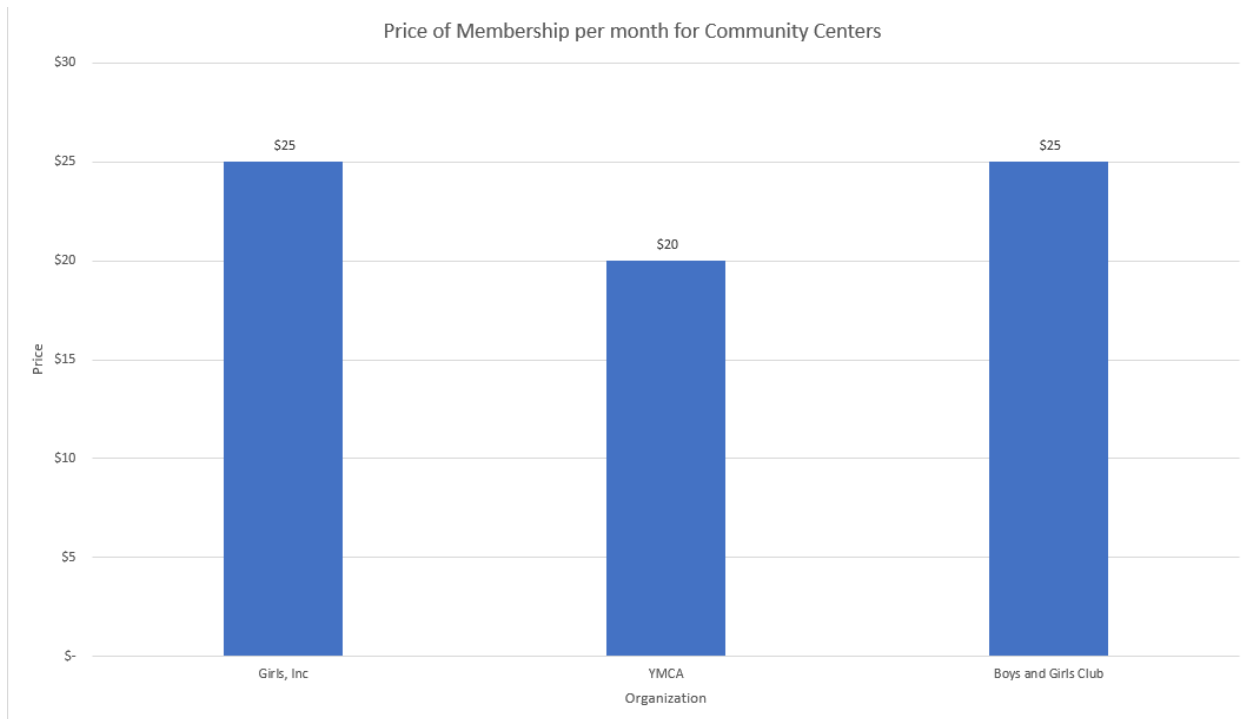
**Figure B19: Price of membership for community centers per month**
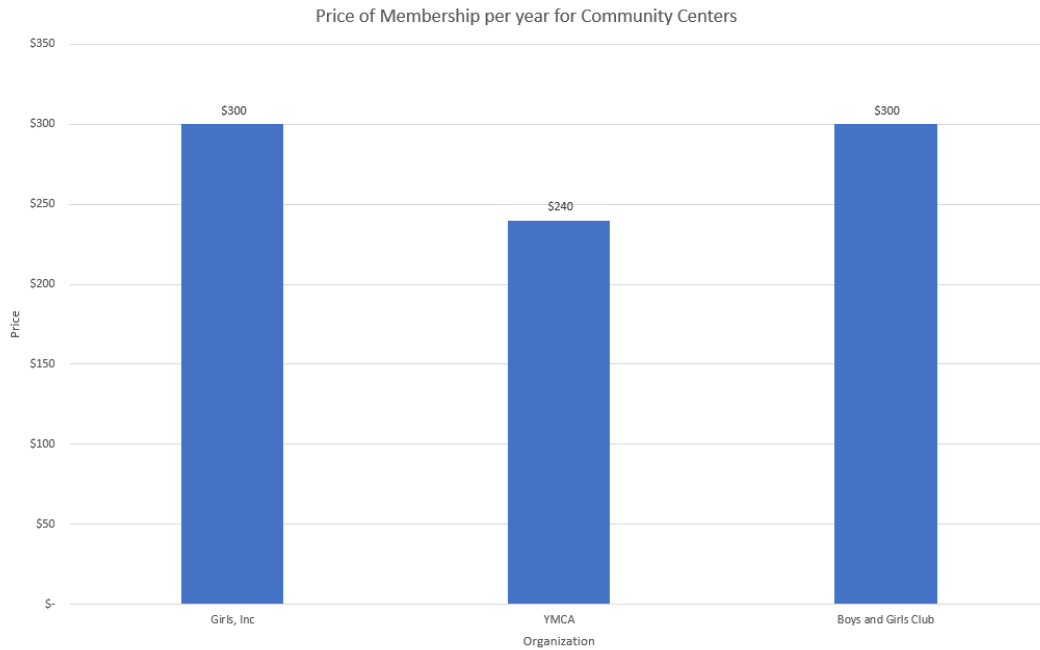


**Figure B20: Price of membership for community centers per year**

**Table B2: Hours of operation for community centers**

| Membership Prices | | | |
|---|---|---|---|
| Organization | Price/Month | Price/Year | Ages |
| Girls, Inc | $ 25 | $ 300 | Grades K-6 |
| YMCA | $ 20 | $ 240 | 13+ years old |
| Boys and Girls Club | $ 25 | $ 300 | 8-18 years old |

**Table B3: Accommodations for community centers**

| Accommodations | | | | | |
|---|---|---|---|---|---|
| Organization | Transportation | Financial Accommodations | Physical Help Services | Mental Help Services | Translation |
| Girls, Inc | NONE | YES | YES | NONE | NONE |
| YMCA | NONE | YES | NONE | NONE | YES |
| Boys and Girls Club | NONE | YES | NONE | NONE | NONE |
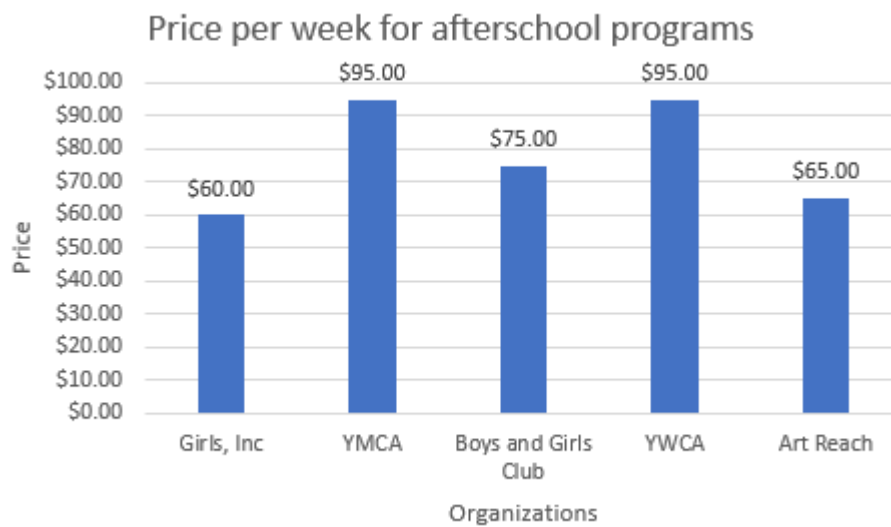


**Figure B21: Price of afterschool programs per week**

**Table B4: Accommodations for art class focused programs**

| Organizations | Transportation | Financial Accommodations | Physical Help Services | Mental Help Services | Translation |
|---|---|---|---|---|---|
| | | | Accommodations | | |
| ArtReach | YES | YES | NONE | NONE | NONE |
| Worcester Center for Crafts | NONE | YES | YES | YES | NONE |
| Worcester Art Museum | NONE | YES | YES | NONE | NONE |
| AS220 | NONE | YES | NONE | NONE | NONE |

**Table B5: Hours of operation for art focused programs**

| Organization | Weekdays | | Weekends | | Note |
|---|---|---|---|---|---|
| | Mornings | Afternoons | Mornings | Afternoons | |
| | | | Hours of operation | | |
| ArtReach | Depends on classes and workshops | | | | |
| Worcester Center for Crafts | X | X | X | X | Closed on Sunday and Monday |
| Worcester Art Museum | X | X | X | X | Closed on Monday and Tuesday |
| AS220 | Closed | X | Closed | Closed | |

**Table B6: Membership prices for incubator spaces**

| Orgnization | Weekdays | Weeknights + Weekend | Full Time |
|---|---|---|---|
| | | Price/Month | |
| Technocopia | $75 | $75 | $125 |
| WorcShop | $80 | $80 | $125 |
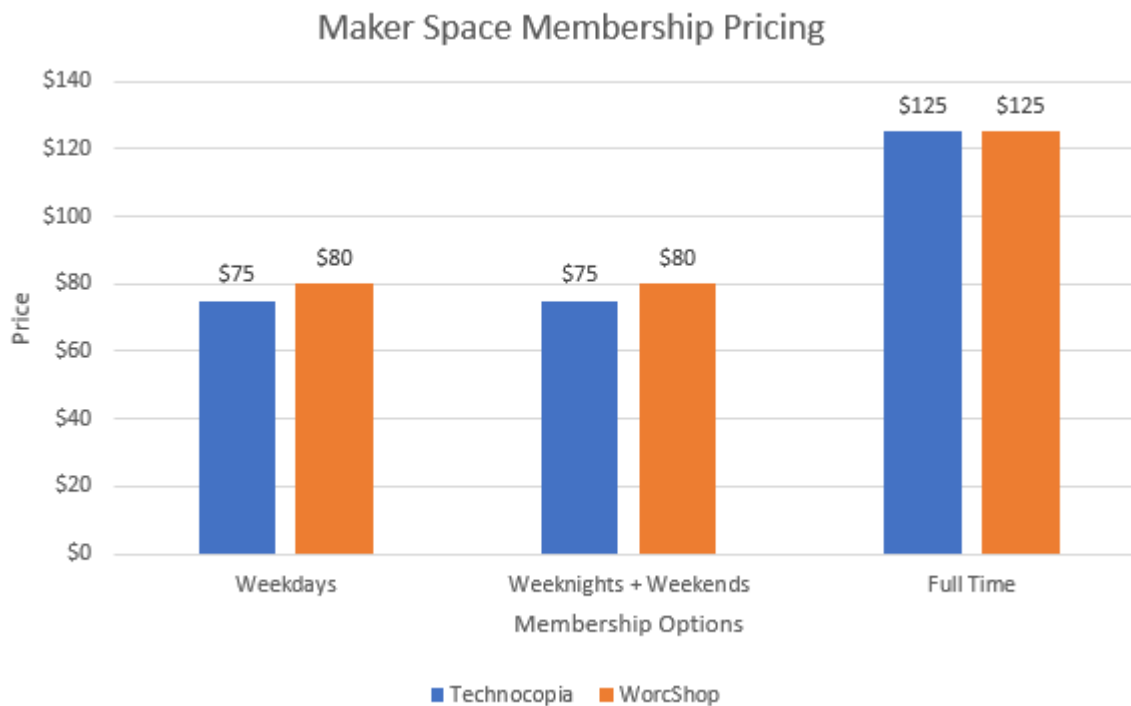


**Figure B22: Prices for incubator spaces (graph)**

**Table B7: Spaces and benefits offered at incubator spaces**

| Organization | Space and size | Price | Benefits included in price |
|---|---|---|---|
| Technocopia | 50 sq. ft. Studio Bay | $75 | Access to tools and light duty machinery |
| | 100 sq. ft. Studio Bay | $150 | Access to tools and light duty machinery |
| WorcShop | 92 sq. ft. Studio Bay | $210 | Full pallet rack with 4 rails, access to tools and heavy duty machinery |
| | Varying Office Space | $2.10/sq. ft. | None |