Ideal Library Location in Akron, Ohio

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Decision Criteria and Project Goals

Note: all tables use the same order for the census tracts being displayed. For the sake of clarity, all tracts are referred to by their index.
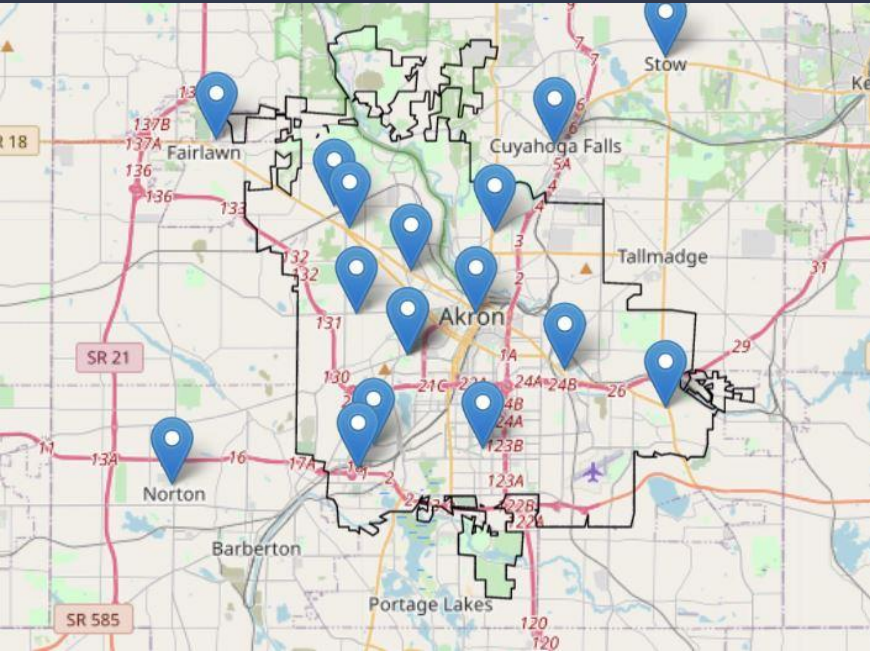
The goal of my project determine where to place a new public library in Akron, Ohio to benefit the residents of Akron as much as possible.

My Criteria include proximity to an existing public library, current Broadband Internet Access, Percentage of residents below the poverty line, and what percent of residents over the age of 25 have graduated high school or earned a GED.

Current Locations of Libraries in and around Akron

First, I used Foursquare to determine the locations of libraries in and near Akron, before marking their locations on a folium map with the city limits of Akron from a geojson file.

As can be seen from this map, there are already many libraries in and near Akron, but South-East Akron has very few libraries nearby.

Distance to Nearest Library in Kilometers

	Census Tract	Distance to Library in Kilometers
0	532901	7.660222
1	532902	5.171389
2	533400	4.264885
3	508000	3.981595
4	531101	3.834180

I chose this as a criterion because I want to make sure that the library will not be built right next to another library.

As can be seen from this chart, the census tract at index 0 is over two kilometers further from the nearest library than the second tract on the list, making it the furthest from a library by far.

High School Graduation Rates by 25

	Census Tract	% Graduated from Highschool by 25
0	532901	98.1
1	532902	94.2
2	533400	94.5
3	508000	99.1
4	531101	87.1

High School graduation rates are an important factor to include as job search related services may be more valuable to people who have trouble finding work, which would likely be more common among people without a high school diploma or GED.

From the table, it is clear that graduation rates are very high in the tracts at index 3 and index 0, while the census tract at index 4 has a relatively low high school graduation rate, potentially indicating a greater need for help in residents searches for jobs or in seeking a GED if they want to.

Broadband Internet Access at Home

	Census Tract	% With Broadband Internet
0	532901	83.1
1	532902	83.1
2	533400	75.1
3	508000	89.1
4	531101	79.0

Since a library can be a source of internet access for the residents of the surrounding area, areas without widespread internet access may benefit more from a library's services.

Overall, the tract at index 2 has the lowest amount of internet access, with the tract at index 4 being a close second. Index 3 has by far the highest rate of internet access.

Poverty Rate

	Census Tract	% In Poverty
0	532901	6.9
1	532902	8.6
2	533400	8.5
3	508000	9.9
4	531101	11.3

Poverty rate is important for the same reason that graduation rates are important, as those in poverty may be more in need of help with job services and they may need access to technology and resources to further their education.

While the tracts at index 4 and 3 have the highest poverty rates, tract 0 has the lowest poverty rate among all tracts in consideration.

Which Census Tract Should the Library be Built in ?

Why did I choose tract 531101 at index 4?

1. This census tract has the highest rate of poverty and the lowest rate of high school graduation.
2. The tract is also the tract with the second-lowest rate of broadband internet access.
3. While it is closest to a library of the tracts being considered, it was among the five furthest from a library.

Why did I not choose the other tracts?

1. While the tract at index 0 is clearly the furthest from the nearest library, its residents are among the most likely to be above the poverty line, to have graduated high school, and to have broadband internet.
2. The other three districts in consideration were often not doing as well in these factors as index 4, but this was generally only for one metric rather than across the board like with index 4.

Data and image sources

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