

Data Presentation

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Introduction

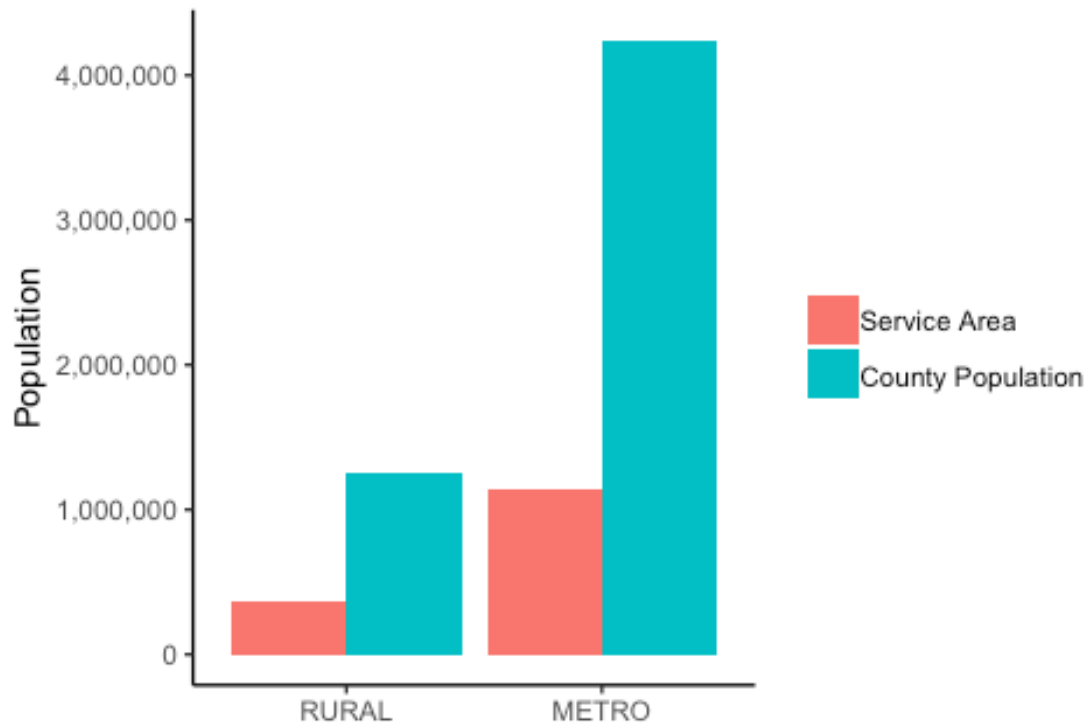
Database: IMLS Retrieved from <https://data.imls.gov>

For this assignment, I chose to focus on rural libraries in Nebraska. My criteria for “rural” library inclusion was a county population of less than 35,000. I felt that this boundary provided a good balance between smaller and larger libraries. I also chose the county population over the service area to make sure the whole population was covered. In doing this, I noticed a discrepancy between the two and have not been able to account for the difference.

In the IMLS data, the total population for all Nebraska counties is considerably more than that of the service populations. This could indicate that there are regions in the state where library services are not available or are not reported. It makes me wonder if these regions are “book deserts” or if there may be minority populations (eg. native Americans, Amish, etc.) who do not participate in local communities.

Service Area Compared to County Population

Why aren't they equal?

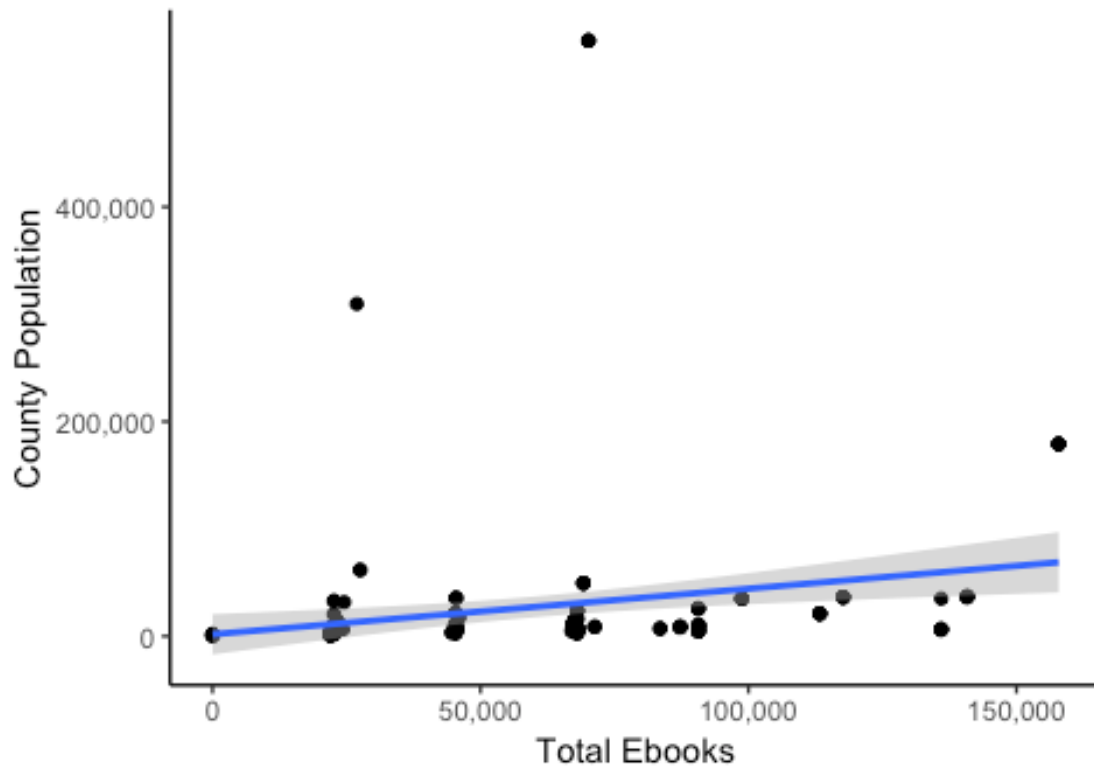


Story 1: Are rural libraries behind in using electronic resources?

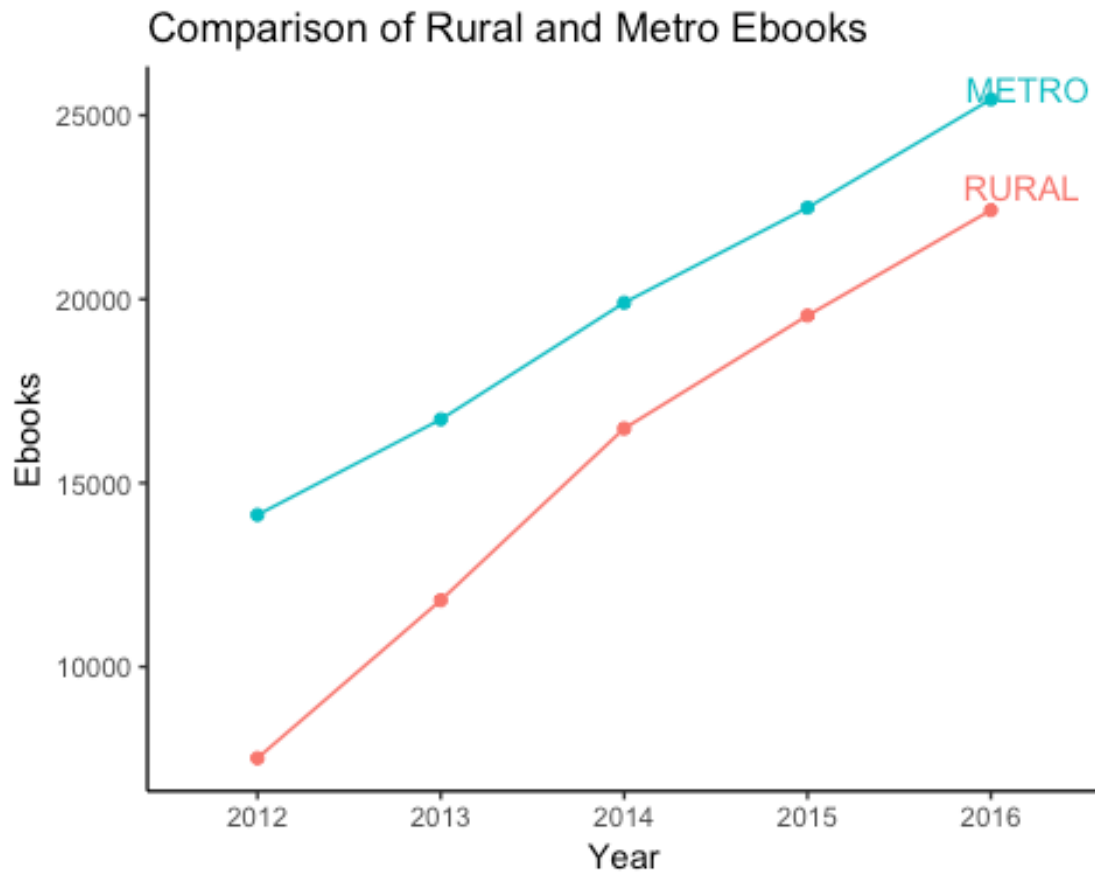
In the first part of this report, I will be looking at the electronic resources for rural libraries in Nebraska, in particular ebooks. This single attribute was chosen because it is representative of electronic resources and is consistently labeled in the data for all the years considered (2012 - 2016).

Typically, as the population increases, so does the likelihood of having more ebooks. I actually expected this regression line to have a greater slope, but I can think of two reasons for it being relatively flat. First, it seems like the number of ebooks might top out at about 200,000 items. Second, I noticed that some of the larger metro areas have small towns nearby with small libraries that do not have any ebooks. This would bring the number of ebooks down for larger populations.

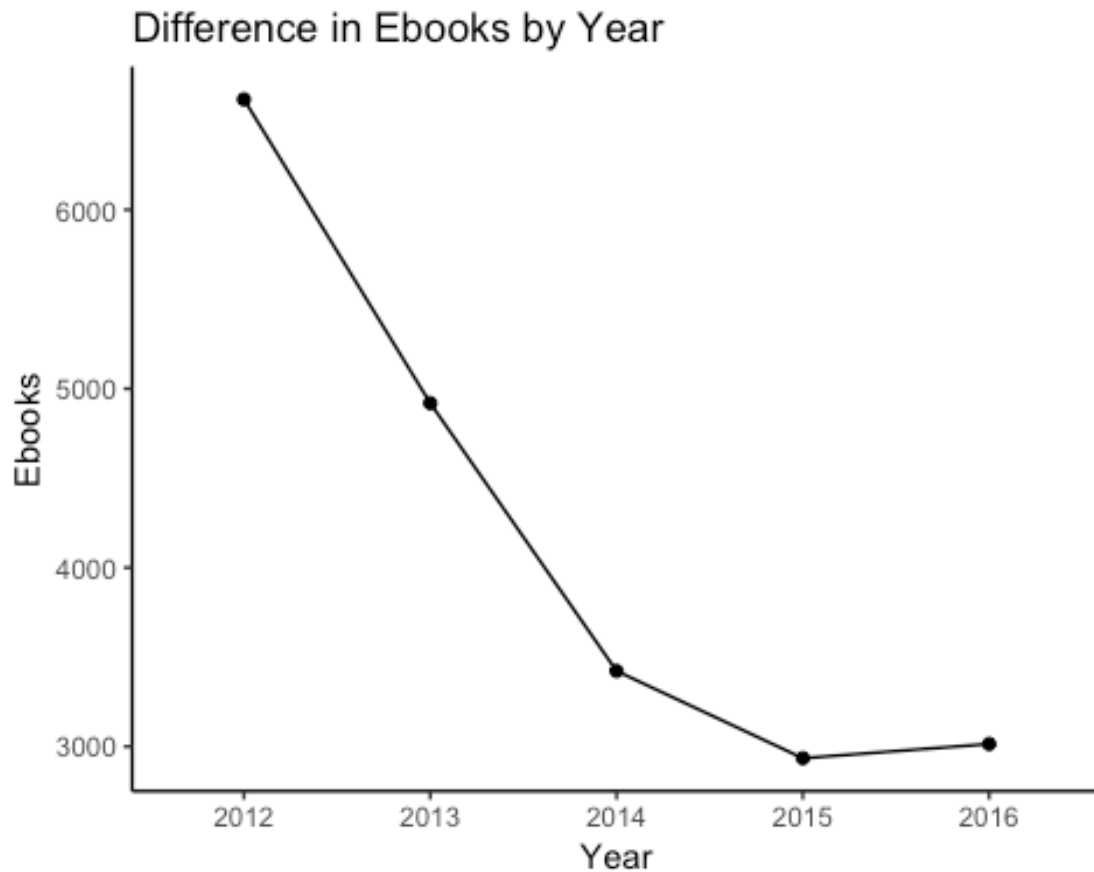
2016 County Population vs Total Ebooks Linear Regression



When comparing the rural and metro libraries year by year, the mean of ebooks for the metro libraries is always greater. You can see that the two lines tend to be converging a bit showing that the gap between them is narrowing. Did rural libraries get a late start and are now slowly catching up to larger libraries?



When looking at the differences of the means, it is obvious they are decreasing.



In addition, for 2016, the mean of the per capita for ebooks to population (ebooks/ population) is higher for rural libraries. This is really good news because those living in rural communities often feel isolated from the world and this give them a good opportunity to connect and stay up-to-date with current information.

Per Capita (Ebooks/Population

| Rural | Metro |
|----------|----------|
| 8.938985 | 4.738287 |

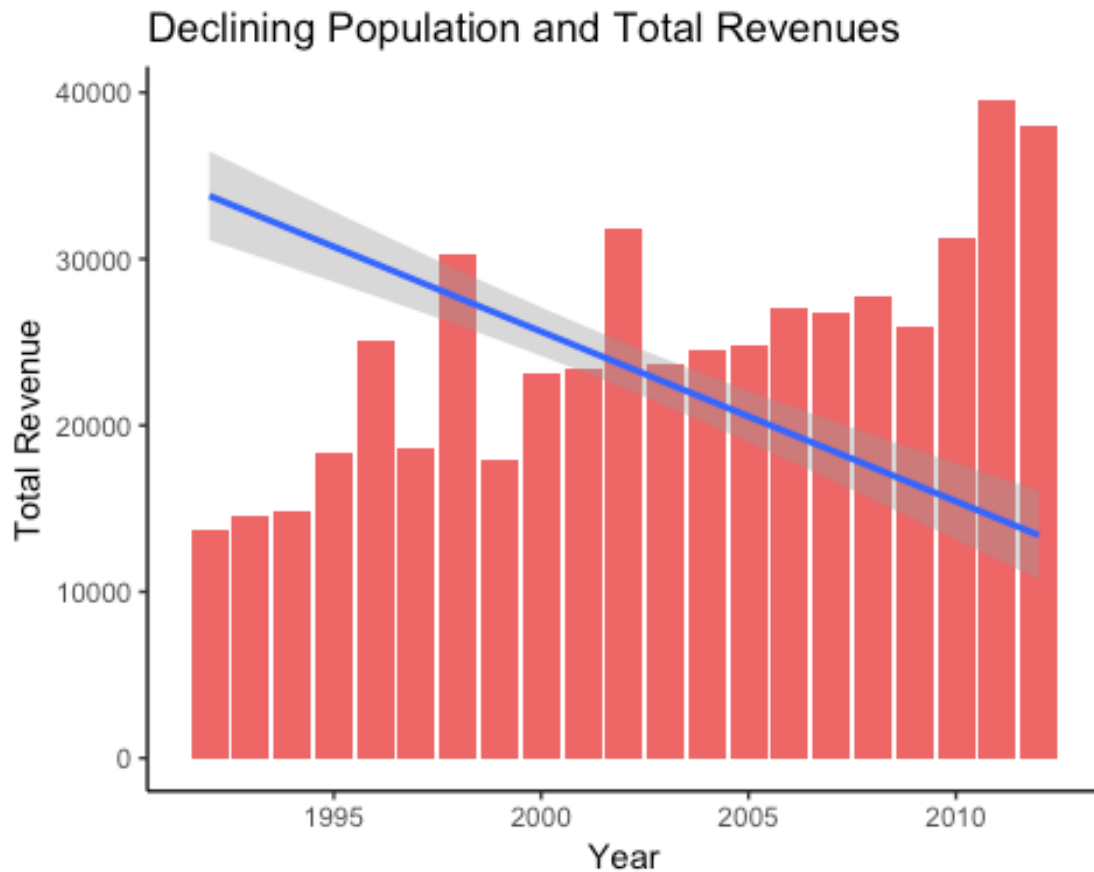
Story 2: Declining population in rural communities and its effect on libraries

In many rural towns, the population has been decreasing since the mid 1900s. I wanted to know how this affected library resources. In the second part of this report, I will be looking at one town in particular, Howells, Nebraska, located in Colfax county. I know it well because my grandmother used to live there and I visited often. I even remember going to the library in the 1960s and 70s where I would withdraw books like the Boxcar Children and Nancy Drew mysteries. I was there just recently when a local funeral reception was held at the new library location. Things had changed! The library was now two rooms instead of one and there was space for computers as well as comfortable chairs plus a children's area. Of particular interest to the funeral attendees was the shelf of old yearbooks that were stored there, revealing old classmates and spawning interesting stories about life in that small town.

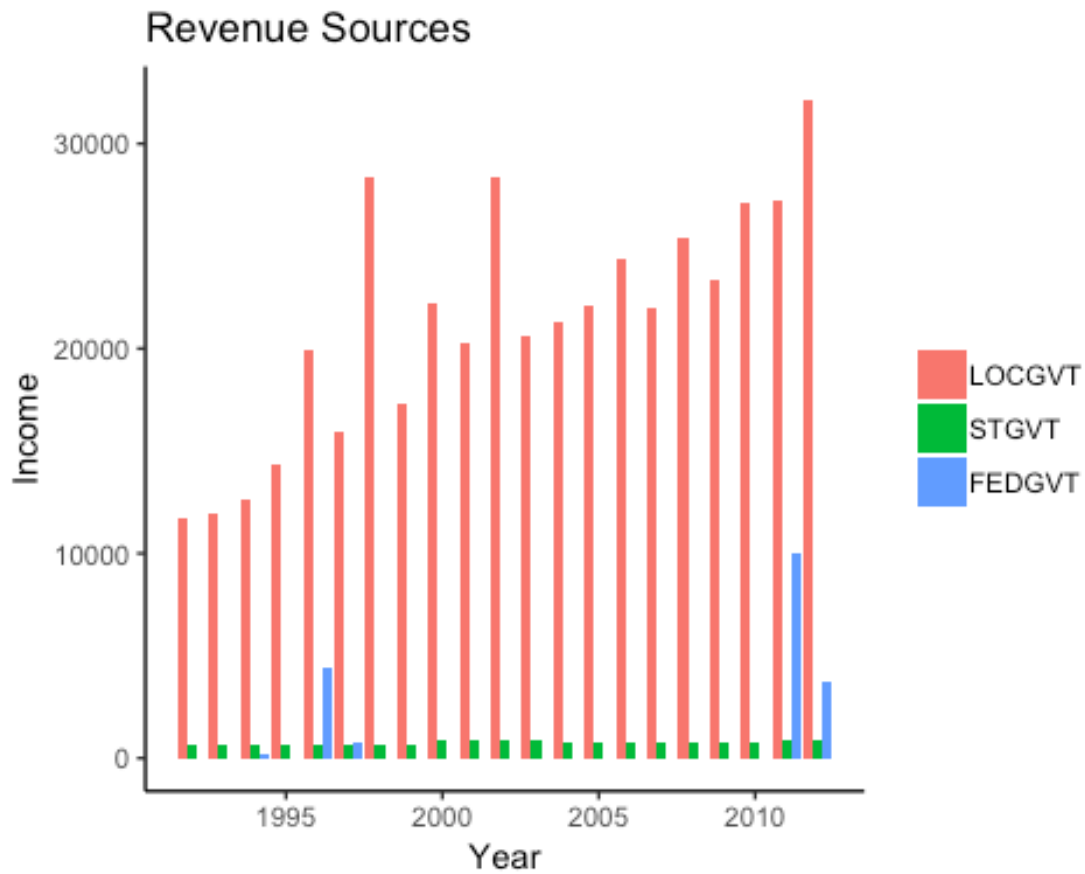
Historical population

| Census | Pop. | %± |
|------------------|--------------------|--------|
| 1890 | 197 | — |
| 1900 | 515 | 161.4% |
| 1910 | 800 | 55.3% |
| 1920 | 904 | 13.0% |
| 1930 | 952 | 5.3% |
| 1940 | 861 | -9.6% |
| 1950 | 784 | -8.9% |
| 1960 | 694 | -11.5% |
| 1970 | 682 | -1.7% |
| 1980 | 677 | -0.7% |
| 1990 | 615 | -9.2% |
| 2000 | 632 | 2.8% |
| 2010 | 561 | -11.2% |
| Est. 2017 | 552 ^[3] | -1.6% |

U.S. Decennial Census^[13]



It appears that as the population has been declining, the revenues for the library has actually increased. Does that mean that the library is actually being used more, or that the quality of the services is better? I believe that this says a lot about the community in that it places a lot of value on their library. This is even more evident when you consider the source of the revenue, which has mostly come from local government. Funding from the state has stayed the same over the past 20 years and federal money has been sporadic, but there has been a substantial and steady contribution from the local sources. This has allowed the library to thrive and provide better support for the area surrounding Howells.



By the way, I was curious if the income had gone up just because of inflation but from the following graph, one measure - the number of books have increased and then leveled off.

Book Volume by Year

