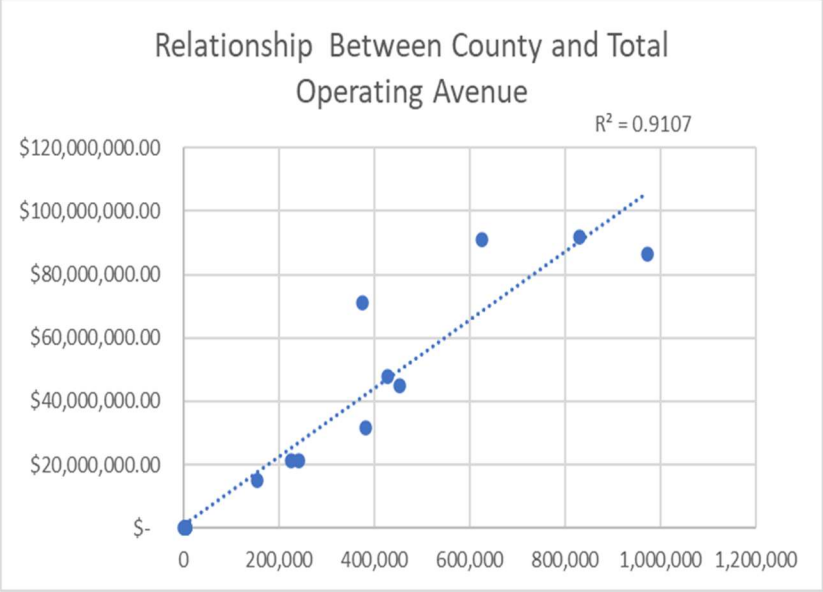
“Cash Rules Everything Around Me”

As part of my Practicum, I was tasked with analyzing Public Library Data mainly centered around database usage and how funding affects it. It was a difficult task that allowed me to learn the basics and some advanced skills for analyzing an Excel data set. The data was self-reported without any consequence for not filling it out and I do have a slight bias toward in-person insights, but this dataset still offered takeaways for libraries resources, funding, and usage.

Key takeaways:

Location Matters
Funding Matters

Starting with a large dataset I wanted to break it down into a top 10 in Total Operating Revenue (Avg = $52,277,162.00) vs bottom 10 in Total Operating Revenue (Avg = $160,246). The bottom 10 typically had 48 databases that OPLIN provides while the top 10 had on average 106 databases (including the 48).



These counties were removed due to reporting errors in databases and population of legal service area:

BELLE CENTER FREE PUBLIC LIBRARY	LOGAN	Not a Member	11,165	62	48	110	$ 127,002.00	$ 11.38
DR. EARL S. SLOAN LIBRARY	LOGAN	Not a Member	194	2	48	50	119017	613.4896907
NEW STRAITSVILLE PUBLIC LIBRARY	PERRY	Not a Member	654	2	48	50	136951	$ 209.41

Due to the disparity in outcomes and funding I wanted to gain a better overall picture. So, I switched to using data from all 251 library systems.

Money is still a key factor; but Population of Legal Service Area is another determining factor. According to Pew Research about 20% of people do not use libraries so the County that the library system serves can skew the stats. For example, 7 of the least funded counties and 7 of the most funded counties in revenue are in order below based on population of legal service area (which probably doesn't account for the people who do not use their local library).

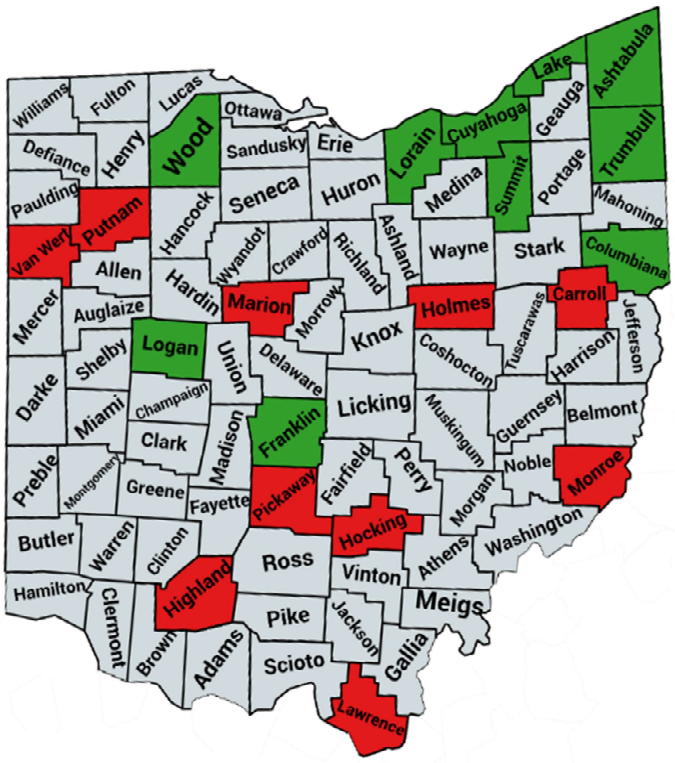
7 Least Funded (based on Total Operating Revenue)		**7 Most Funded (based on Total Operating Revenue)**	
County	**Population Served**	**County**	**Population Served**
Noble	7,923	Stark	383,604
Monroe	13,385	Lucas	428,505
Vinton	12,800	Summit	551,395
Carroll	21,721	Montgomery	532,531
Morgan	13,802	Hamilton	830,639
Van Wert	24,724	Franklin	1,344,785
Fayette	14,493	Cuyahoga	1,265,172

The denser the population the more money they will have for services, and these include databases. Accounting for the skew that can come from population Total Operating Revenue was divided by the Population served (TOR/Pop).

Bottom 10 Counties (Ascending Order)		**Top 10 (Ascending Order)**	
County	**Total Operating Revenue/ Population**	**County**	**Total Operating Revenue/ Population**
Holmes	34.38	Lorain	646.65
Highland	36.66	Columbiana	661.32
Pickaway	37.45	Wood	661.67
Carroll	40.92	Logan	679.61
Putnam	42.90	Trumbull	740.98
Marion	45.06	Summit	834.28
Lawrence	45.31	Lake	875.95
Monroe	47.51	Ashtabula	1,001.53
Van Wert	47.77	Franklin	1,274.08
Hocking	48.51	Cuyahoga	1,534.49

Making this switch accounted for a different looking funding landscape. Franklin and Cuyahoga were still considered 2 of the most well-funded counties. While Monroe, Carroll and Van Wert still fell into the bottom funding. Many of the top 10 in TOR/Pop came from Northen Counties. While many of the lower funded counties are between major cities or not near one at all.

Here is a map to better visualize this:



Green = Top 10 in TOR/Pop

Red = Bottom 10 in TOR/Pop

Population Density Map by [Ohio State University]

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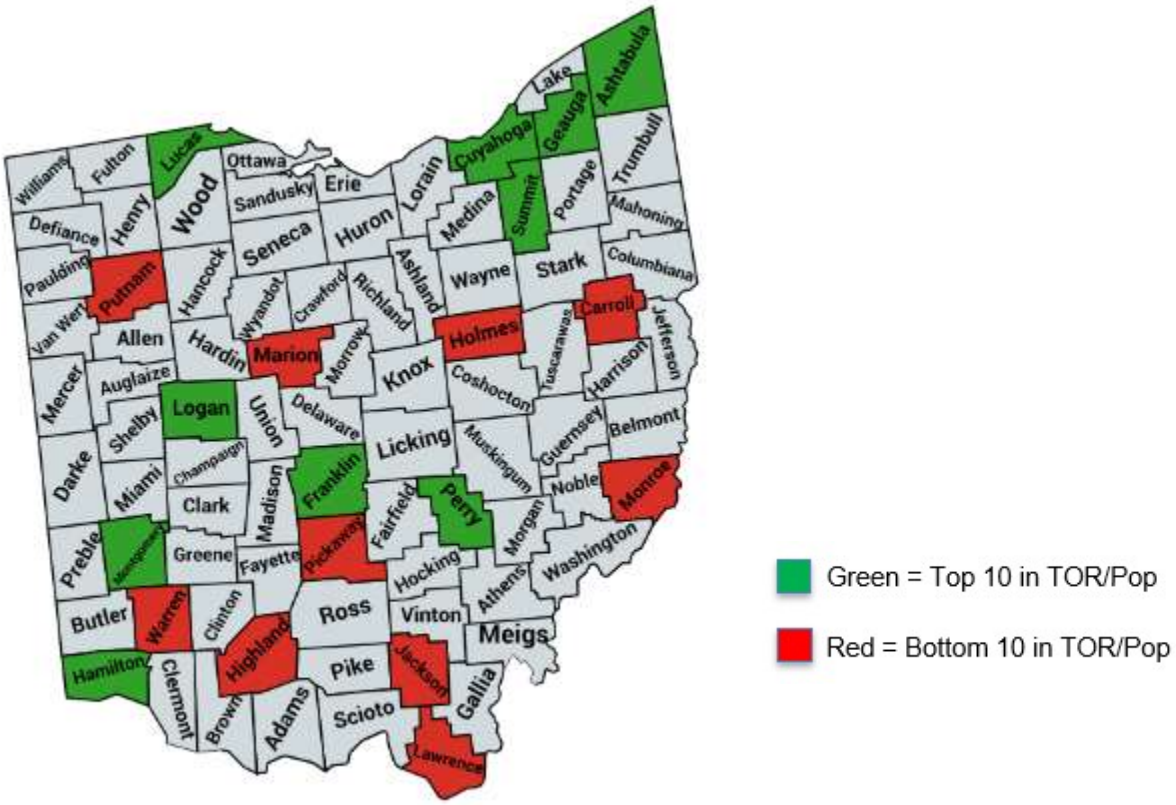
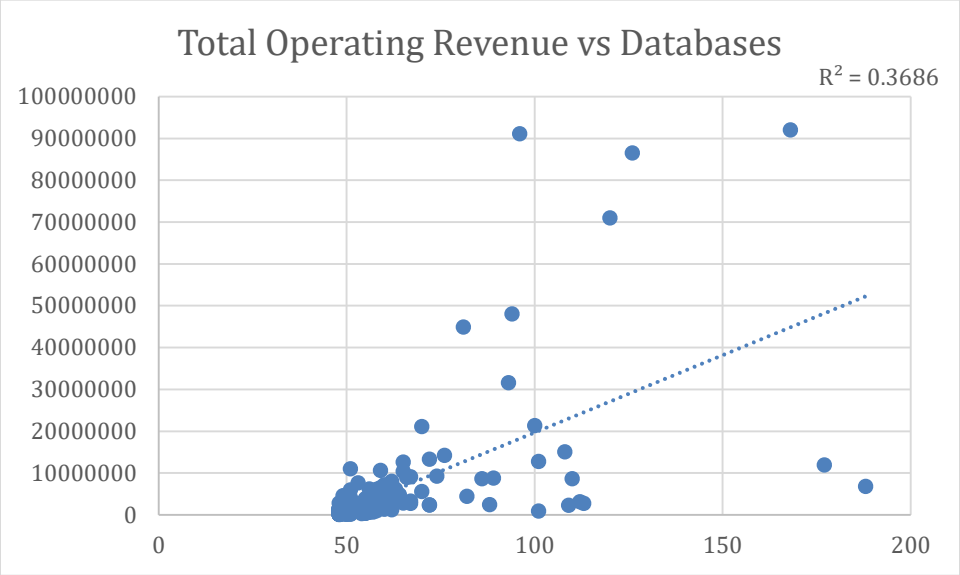
There is an overlap between the densest areas of Ohio and the areas with the top TOR/Pop. Further showing how powerful population density is, in terms of funding. An interesting thing to note is the area around Hamilton County (Cincinnati) which has one of the higher Total Operating Revenue and is one of the densest areas of Ohio did not show up in the top 10 TOR/Pop, although they were in the top 15. This is likely due to their being only one library system in the county.

When switching to averages of the counties the top TOR/Pop switches to include the major metropolitan areas of Ohio: Toledo (Lucan County), Cincinnati (Hamilton County), Dayton (Montgomery County), Columbus (Franklin County), and Cleveland (Cuyahoga County). The Area around Cleveland still is most dense and still reflects a higher concentration, and the red areas are still in rural parts either in between these major areas. The southern part of Ohio has a cluster of counties that are on the lower end of TOR/Pop.



Now that the connection between population density and funding is established how does this affect databases (DB)?

The Average amount of DB held by the 251 public libraries is 58, meaning that without the standard 48 that OPLIN provides libraries on average have 10 other databases.



There seems to be a slight relationship between Total Operating Revenue and Databases. So, funding does play a role.

However, one way to increase the number of databases is by offering computer classes. On average, libraries that offer classes have about 61 databases. This is likely due to the usage of databases, employees being more aware of what their library offers, soft marketing, and of course funding.

The “Row Labels” column is whether libraires offer computer training. Funding plays a huge role in rather or not libraries can afford to offer these training and so does Population of legal service area.

Row Labels	Average of Operating Revnue per Population	Sum of 10.16 Total Operating Revenue 10.4+.9+.15	Sum of 1.24 Population of Legal Svc Area
No	$ 76.00	$ 78,231,357.43	1,329,800
Yes	$ 95.72	$ 974,510,433.04	10,318,958

Funding is key to Library services, and if you so happen to be operating in an area that is not near a major metropolitan area or library system it's very important to secure funding for what their patrons need, be able to accurately track this, and/or partner with major metropolitan areas (as many have already done). Tracking data has become slightly easier, it is time to start moving towards data-informed decisions. Many issues could be solved by receiving more funding, which is easier said than done but a great step is beginning to learn what funding is out there and signing up for it. Some other solutions could be more staff, more creativity, more classes in computer literacy (or your libraries databases) and more in-person advertising of services. I've seen first-hand that only library people know about library services, and that is the issue. If there are resources people will use them, but if they are known resources more people will use them.