

GIS Analysis of Erie County Socioeconomic Status and Education by School District

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ADS807: Geographic Information Systems and Research

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How did my research start?

I initially wanted to explore:

- Does the zip code in which an individual lives impact the student's decision to pursue higher education?
- Does the zip code in which an individual lives impact the persistence and graduation rates of individuals attending colleges or universities?
- What, if any, is the connection between demographic features (socioeconomic status, ethnicity, etc.) and the decision to pursue higher education?
- What, if any, is the connection between demographic features (socioeconomic status, ethnicity, etc.) and the persistence and graduation rates of individuals attending colleges or universities?

What has changed?

I narrowed down my topic to explore:

- Which public school districts have the highest percentage of economically disadvantaged students?
- Does the public school district in which an individual lives impact the persistence and graduation rates of students?
- Does the location of the higher education institution have an impact on the overall percent of Pell Grant recipients attending the institution?

Why did my research change?

Simply put, it was too much data to sort through for a five-week class!

There are 86 zip codes in Erie County, but only 28 school districts. Since I am focusing on education, it made sense to make that adjustment early on in my research. The demographic and socioeconomic information is readily available on the NYSED website.

Demographic data for each of the 28 school districts and 12 colleges was available, but combined with the socioeconomic data and graduation rates that I also wanted to explore, I was trying to do too much.

However, this certainly remains an area of interest and there is a lot of potential for future research projects.

Erie County School Districts

Generally speaking, the public school districts with a higher percent of economically disadvantaged students have a lower four-year graduation rate. This can be seen with districts like **Buffalo CSD** and **Lackawanna CSD**, both of which have a population of economically disadvantaged students **over 80%** – the highest rate in Erie county – and a graduation rate **under 85%** – the lowest rate in Erie county. On the opposite end of the spectrum, there are districts like **East Aurora** that have the lowest population of economically disadvantaged students at **13%** and one of the highest graduation rates at **97%**.

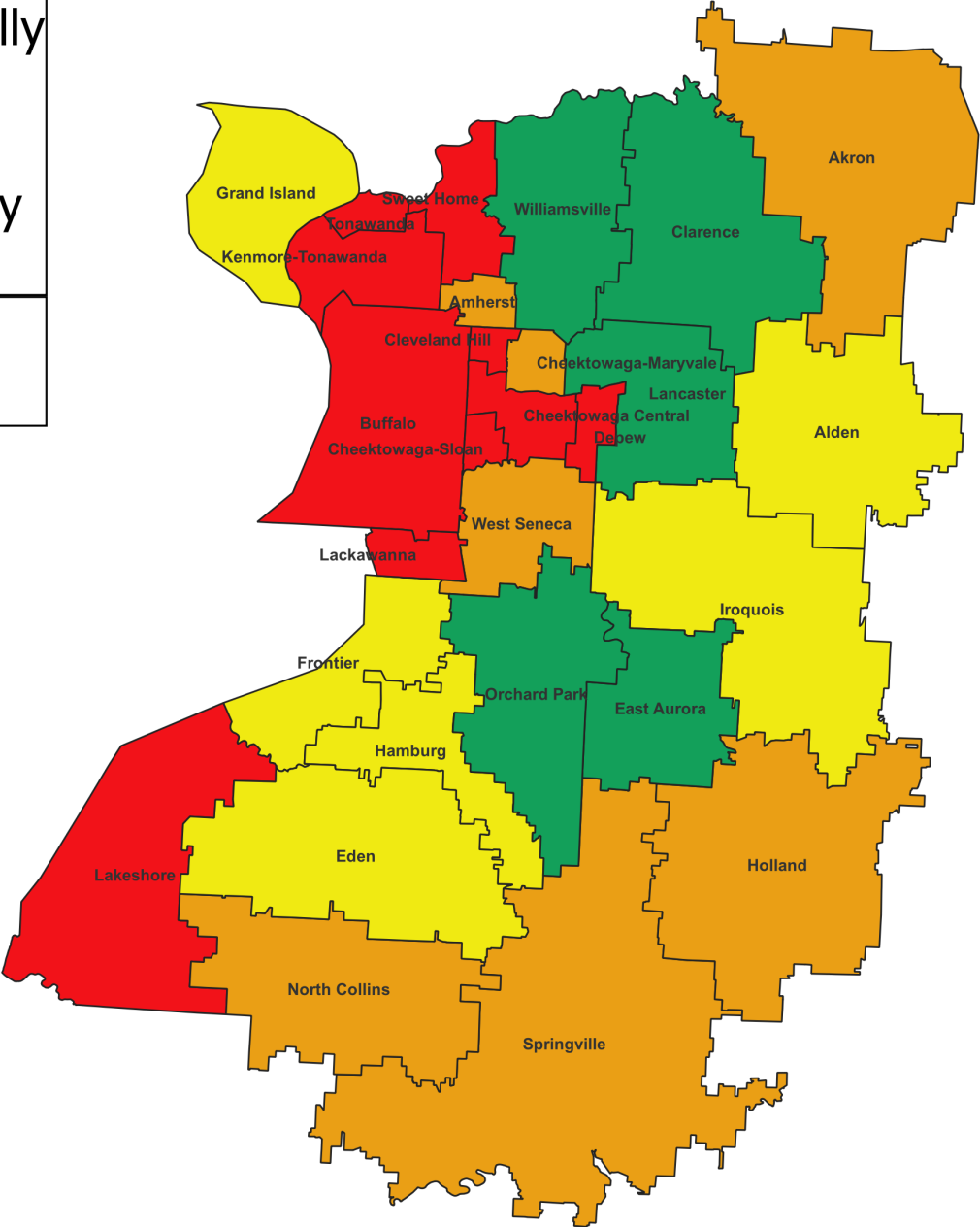
Districts in Erie County	Total K-12 Students	Economically Disadvantaged	Economically Disadvantaged %	4 Year Graduation %
Akron CSD	1334	584	44%	95%
Alden CSD	1581	495	31%	96%
Amherst CSD	2925	1012	35%	93%
Buffalo CSD	30674	25117	82%	76%
Cheektowaga CSD	2138	1480	69%	87%
Cheektowaga-Maryvale UFSD	2087	977	47%	87%
Cheektowaga-Sloan UFSD	1232	684	56%	86%
Clarence CSD	4228	602	14%	95%
Cleveland Hill UFSD	1254	785	63%	85%
Depew UFSD	1784	902	51%	85%
East Aurora UFSD	1758	220	13%	97%
Eden CSD	1307	338	26%	88%
Evans-Brant CSD (Lakeshore)	2179	1196	55%	90%
Frontier CSD	4612	1470	32%	91%
Grand Island CSD	2869	744	26%	95%
Hamburg CSD	3321	831	25%	92%
Holland CSD	829	318	38%	95%
Iroquois CSD	2127	448	21%	98%
Kenmore-Tonawanda UFSD	6648	3366	51%	88%
Lackawanna CSD	1790	1482	83%	82%
Lancaster CSD	5631	1095	19%	95%
North Collins CSD	547	224	41%	92%
Orchard Park CSD	4649	746	16%	97%
Springville-Griffith Inst CSD	1647	614	37%	96%
Sweet Home CSD	3261	1701	52%	94%
Tonawanda CSD	1729	929	54%	93%
West Seneca CSD	6214	2548	41%	91%
Williamsville CSD	9913	1711	17%	95%

Percent of Economically Disadvantaged Students by School District in Erie County

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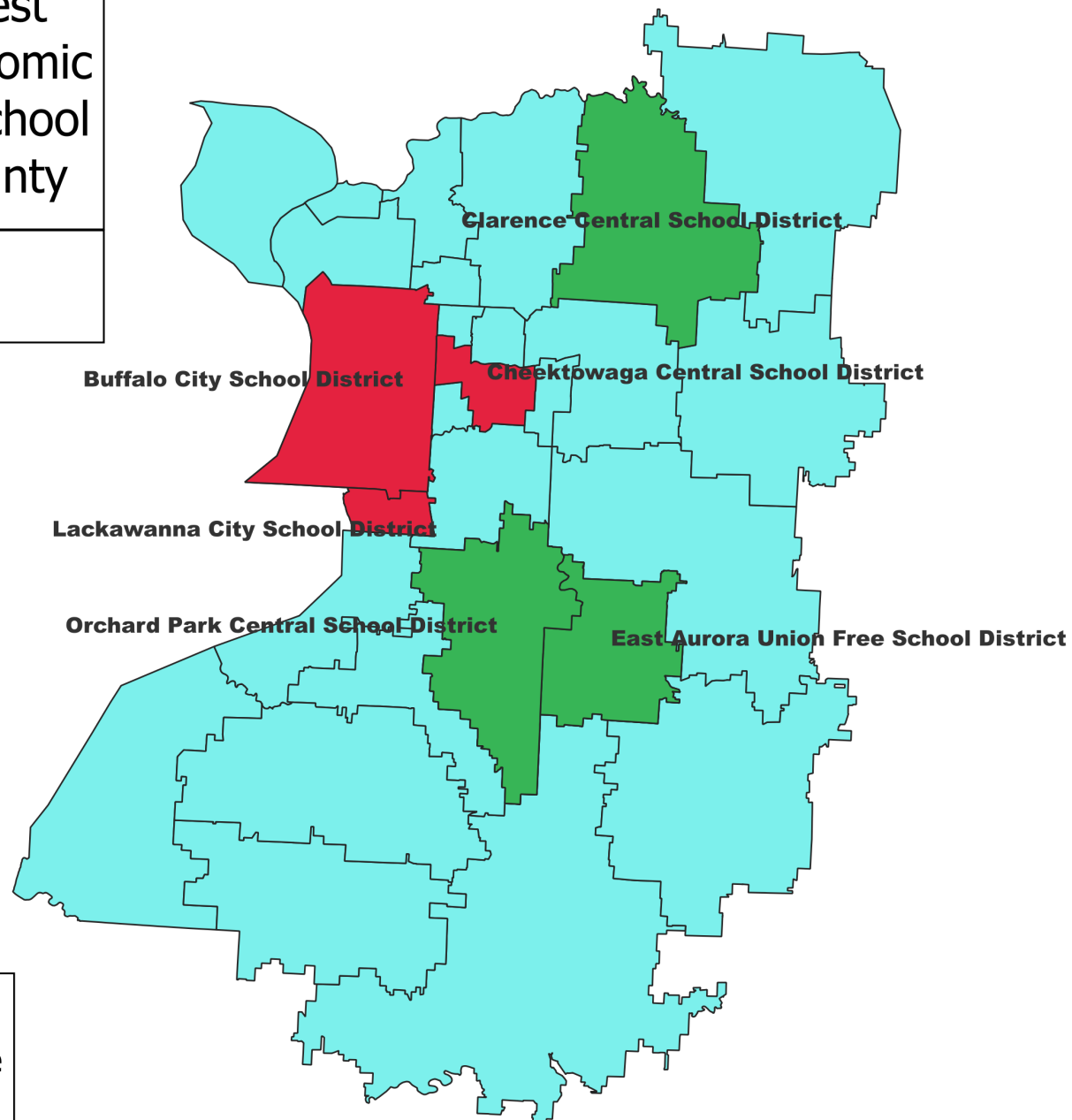
Percent of Economically Disadvantaged Students

- 50% or greater
- 35-49%
- 20-34%
- less than 20%



Highest and Lowest Percentage of Economic Disadvantage by School District in Erie County

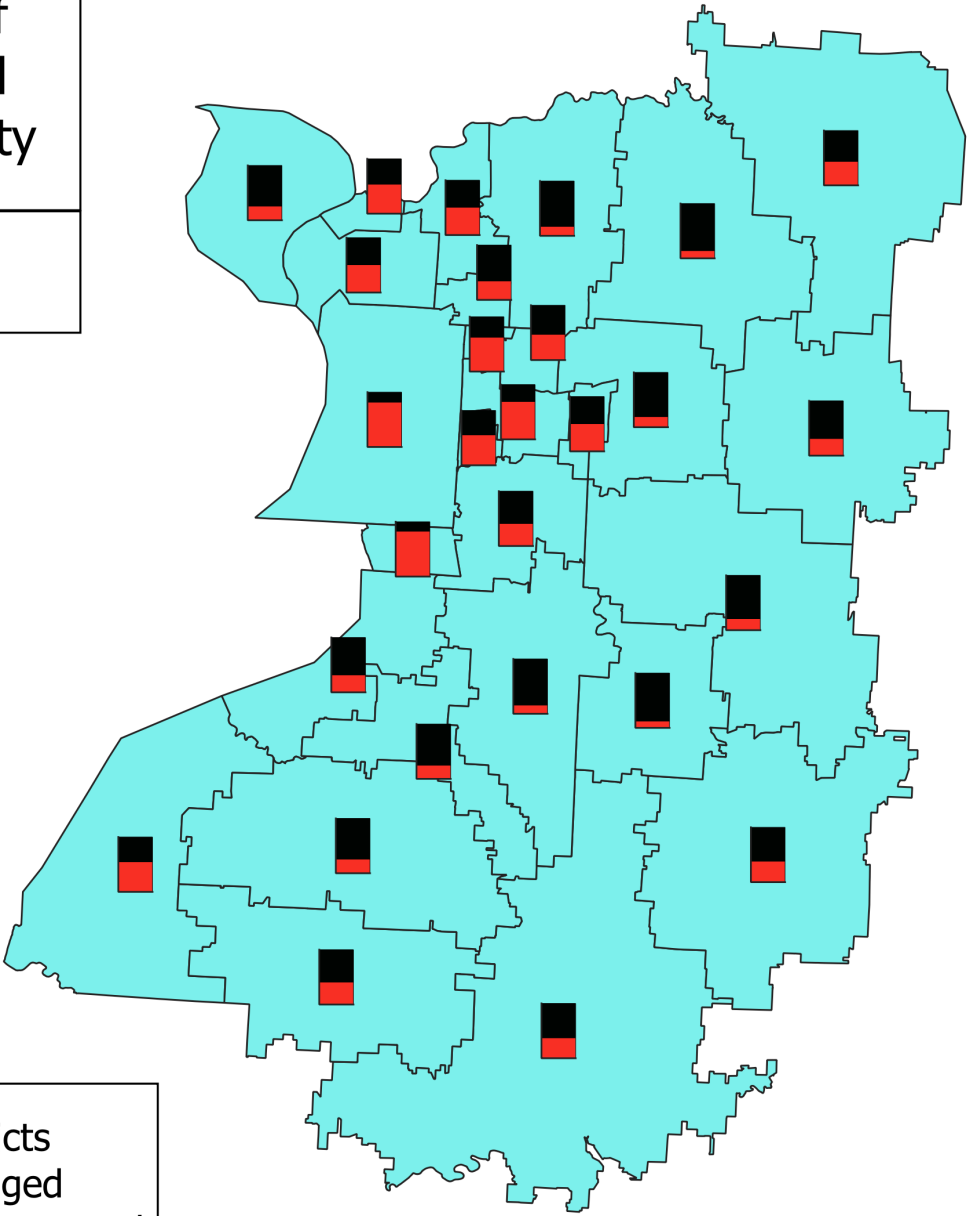
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Lowest Percentage of Economic Disadvantage
Highest Percentage of Economic Disadvantage

Economic Status of Students by School District in Erie County

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- Erie County School Districts
- Economically Disadvantaged
- Non-Economically Disadvantaged

The schools with the highest percentage of economically disadvantaged students are:

- Lackawanna CSD: 83%
- Buffalo CSD: 82%
- Cheektowaga CSD: 69%

The schools with the lowest percentage of economically disadvantaged students are:

- East Aurora UFSD: 13%
- Clarence CSD: 14%
- Orchard Park CSD: 16%

Erie County Higher Education Institutions and Pell Grants

The top table is outdated and missing information. This information has been updated in the bottom table and will be incorporated into my final maps and analysis, along with graduation rates. HOWEVER, the incorrect data was used for the following maps so I am still including it here.

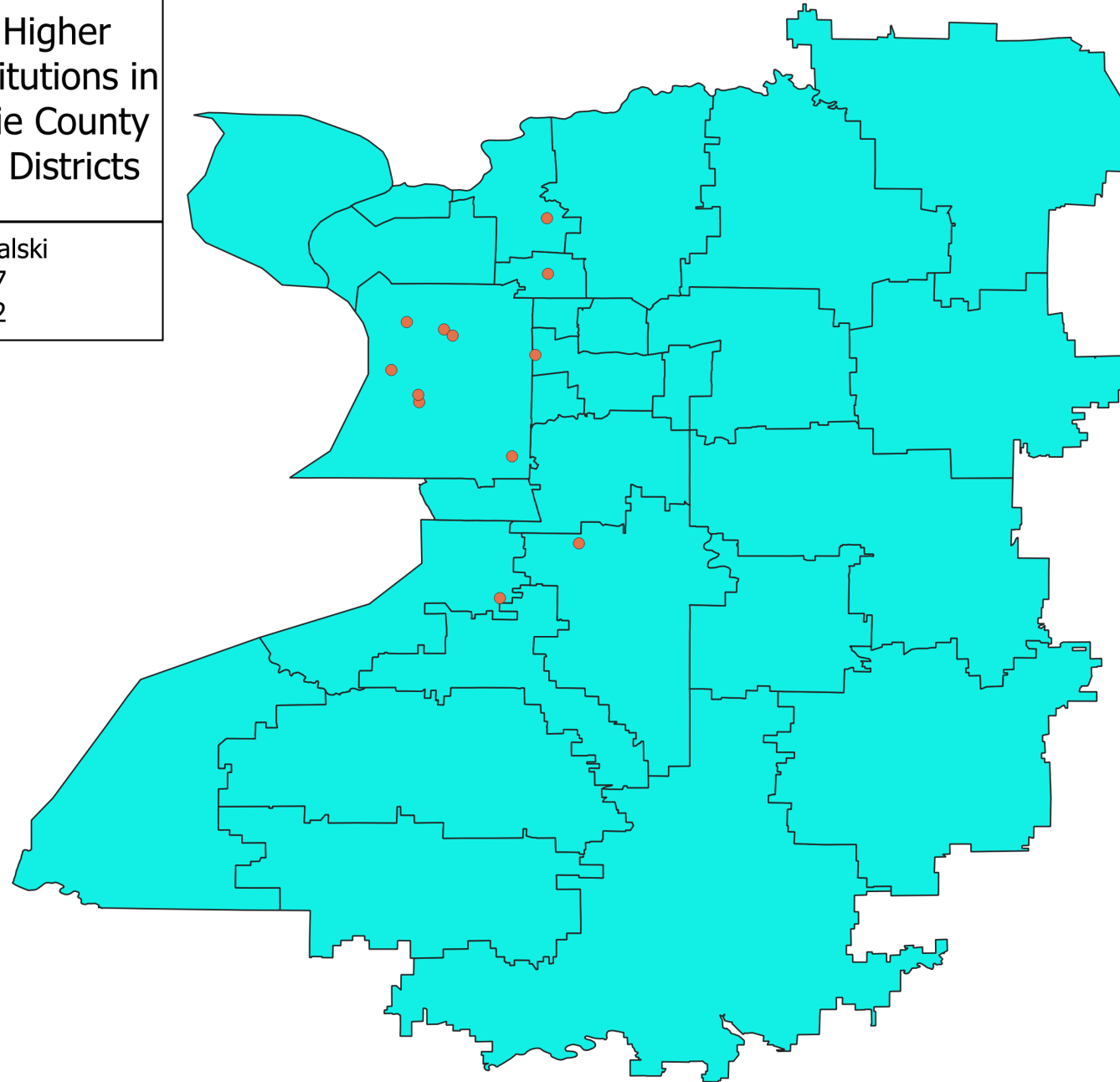
Pell Grants are being utilized to represent socioeconomic status for HEIs. Pell Grants are awarded to students who **demonstrate exceptional financial need** and do not need to be repaid.

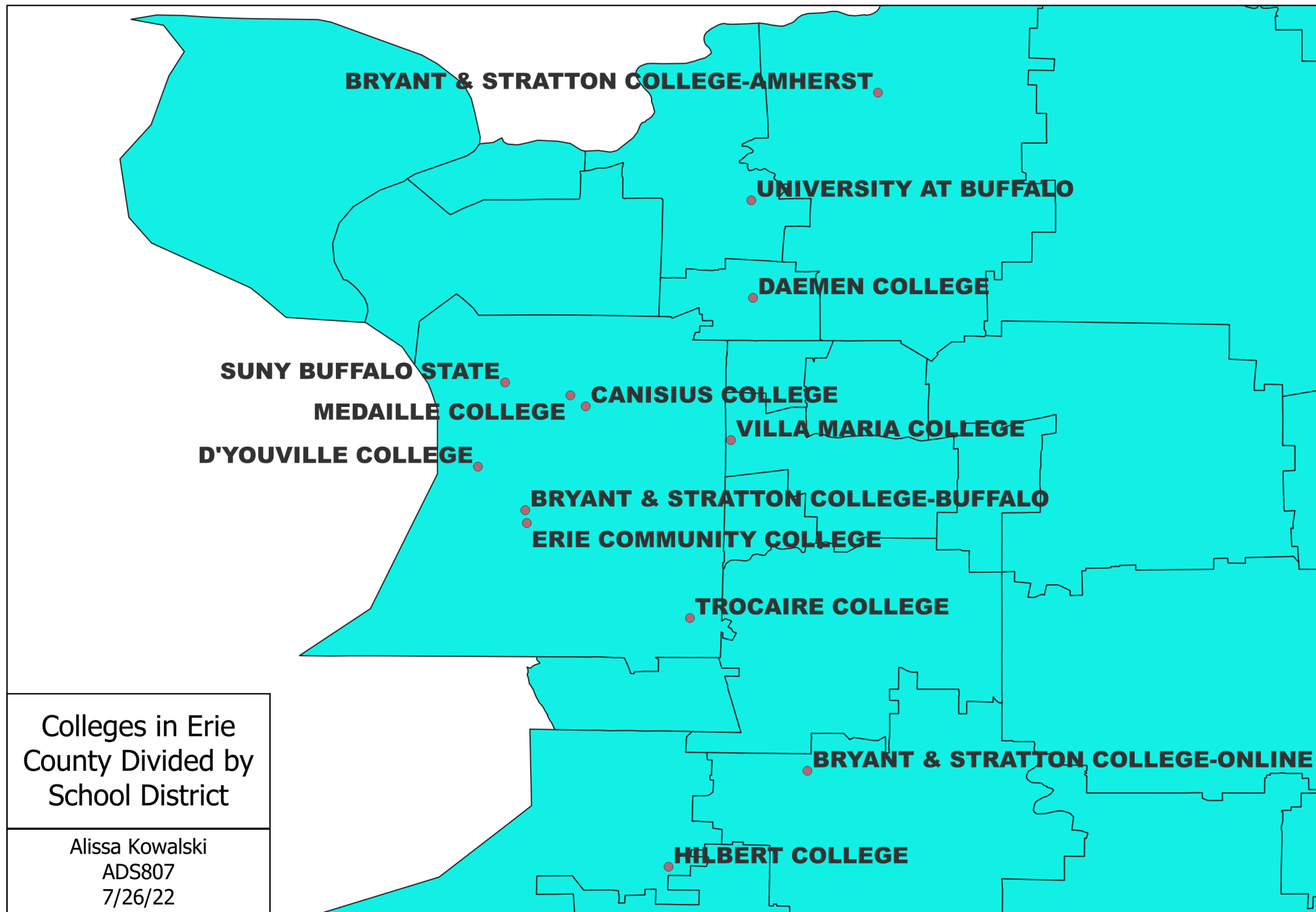
Institution Name	Total Students	Number of Pell Recipients	Number of Non-Pell Recipients	Percent Pell Recipients
Bryant & Stratton College-Buffalo	318	248	70	78%
Bryant & Stratton College-Orchard Park	1195	1064	131	89%
Canisius College	982	354	628	36%
D'Youville College	777	326	451	42%
Daemen College	924	333	591	36%
Erie Community College	1918	1189	729	62%
Hilbert College	156	81	75	52%
Medaille College	681	484	197	71%
SUNY Buffalo State	2086	1418	668	68%
Trocaire College	453	313	140	69%
University at Buffalo	8535	2902	5633	34%
Villa Maria College	75	59	16	79%

Institution Name	Full Time Students	Number of Pell Recipients	Number of Non-Pell Recipients	Percent Pell Recipients
Bryant & Stratton College-Buffalo	318	248	70	78%
Bryant & Stratton College-Orchard Park	1195	1064	131	89%
Canisius College	2298	827	1471	36%
D'Youville College	1873	786	1087	42%
Daemen College	2093	753	1340	36%
Erie Community College - All	5059	3136	1923	62%
Hilbert College	796	413	383	52%
Medaille College	1667	1183	484	71%
SUNY Buffalo State	7040	4787	2253	68%
Trocaire College	553	381	172	69%
University at Buffalo	26599	9043	17556	34%
Villa Maria College	430	339	91	79%

Location of Higher Education Institutions in Relation to Erie County Public School Districts

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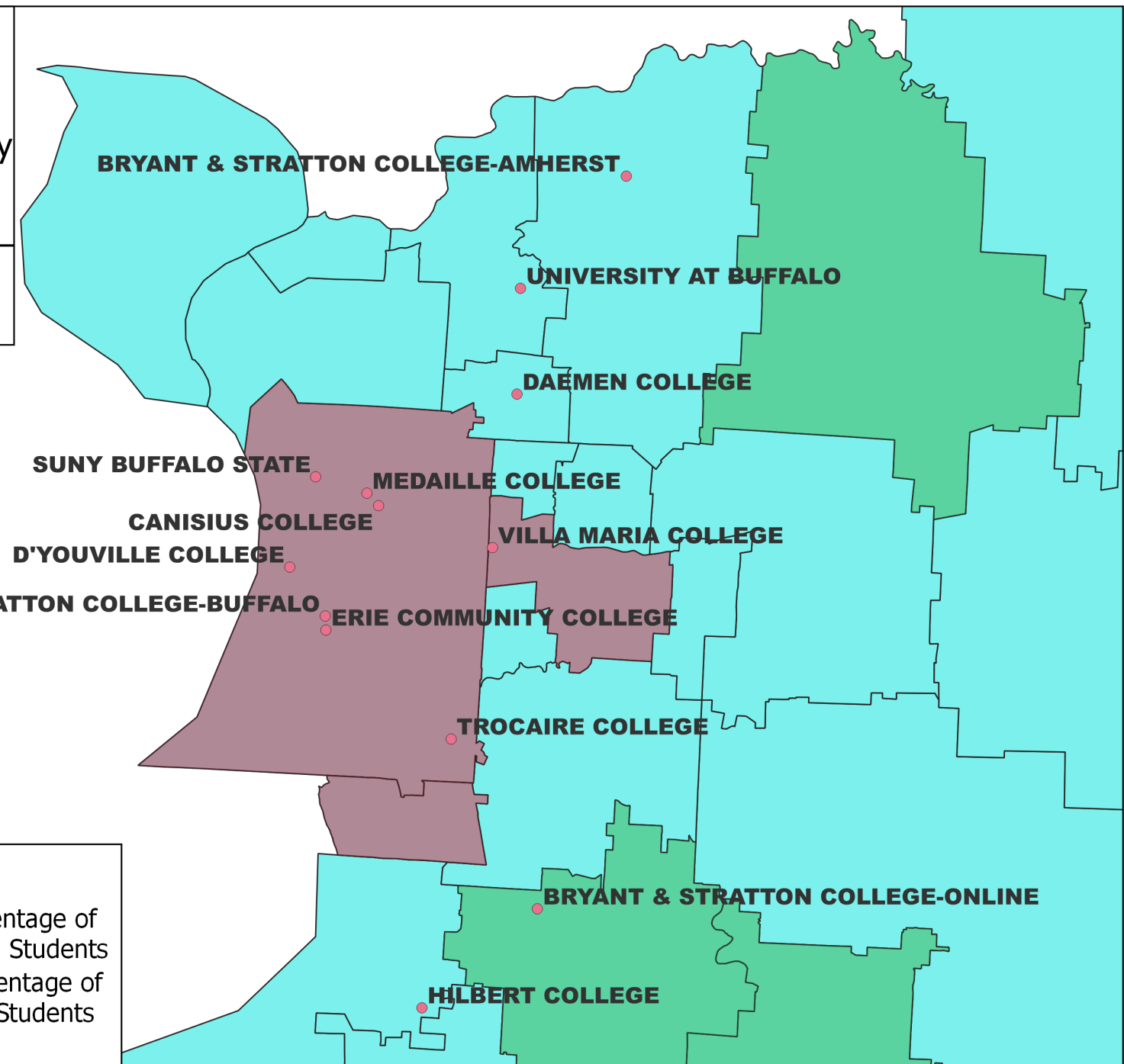




School Districts with
Highest and Lowest
Percentage of Economically
Disadvantaged Students

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- College or University
- District with the Lowest Percentage of Economically Disadvantaged Students
- District with the Highest Percentage of Economically Disadvantaged Students
- Erie County School Districts

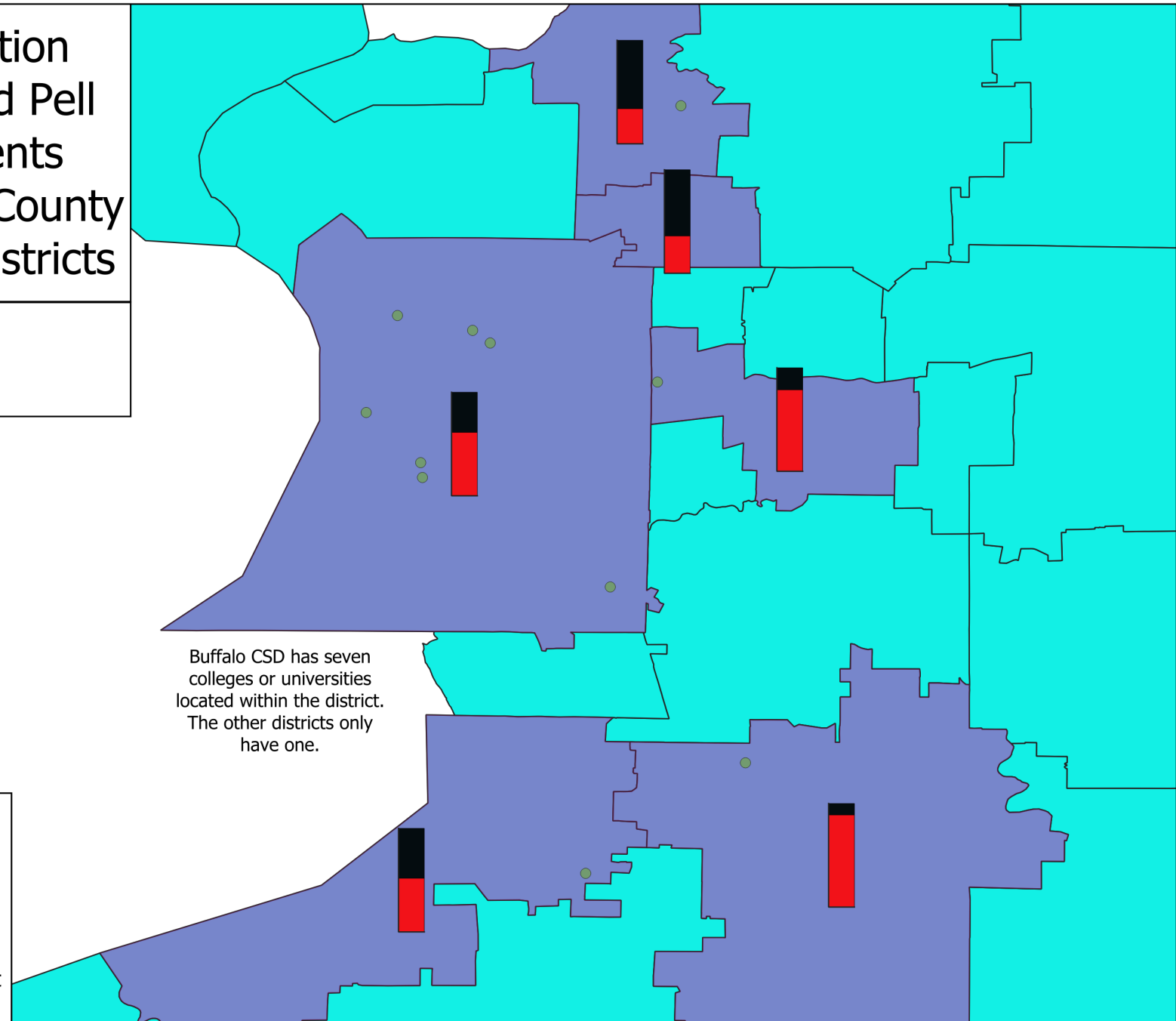


Higher Education Institutions and Pell Grant Recipients Divided by Erie County Public School Districts

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- Location of HEI
- Erie County School District With at Least One HEI
- Students With Pell Grant Financial Aid
- Students Without Pell Grant Financial Aid

Buffalo CSD has seven colleges or universities located within the district. The other districts only have one.



Future maps/table will include:

- Graduation rates of public school districts
- Graduation rates of colleges and universities
- Compilation of information for five college and universities located within the Buffalo public school district
- Comparison of socioeconomic status by school district/HEIs in that district
- Comparison of graduation rates by school district/HEIs in that district
- *UPDATED* HEI table with graduation rates
- *UPDATED* HEI location map with school district names

Preliminary findings?

The overall socioeconomic status of public school districts does not necessarily correlate with the Pell Grant awards of higher education institutions within that school district.

- For example, the college with the highest percentage of Pell Grant recipients is located in one of the districts with the lowest overall percentage of economically disadvantaged students.
- Additional information surrounding the college plans of high school graduates could potentially guide further research, connecting public school district socioeconomic data and graduation rates with college and university Pell Grant data.