

**Racial and Socioeconomic Segregation:
*A Case Study in Milwaukee, WI***

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Objectives

Despite Milwaukee's historical status as a city of immigrants, today it remains one of the nation's most segregated cities (Reeves and Rodriguez, 1). The source of this segregation is debated within the academic community. People of different incomes should, theoretically, live in neighborhoods and houses that correlate with their income level. As Richard Rothstein reports, "Since wealth largely comes from housing investments, and home values have increased dramatically over the decades in many areas, those policies have exacerbated income and wealth disparities. Black Americans earn about 60% of what White Americans do, and accumulated wealth among typical Black households is a mere 6% of the typical White household" (Kent and Frohlich, 1). One theory suggests that people who share a cultural heritage choose to live with other members of their own ethnic group. Segregation by race rather than income may in some cases be a choice determined by comfort of familiarity, but often times, such segregation is the polar opposite of this; Black Americans are not always accepted into primarily White neighborhoods. Uncovering the racial makeup and range of incomes within neighborhoods in Milwaukee reveals the root of segregation. This study aimed to determine if race or income is ultimately a stronger determining force to where people live in Milwaukee, Wisconsin.

Introduction

Milwaukee, Wisconsin is the largest city in the state of Wisconsin and the 5th largest city in the Midwest. The city is located on the shores of Lake Michigan and is about 90 miles north of Chicago and about 80 miles east of Madison, the capital city of Wisconsin. Milwaukee is historically a city formed by its immigrants. For many years, immigrants of different European backgrounds came to the city, searching for industrial work and a new home. However, people who share a culture heritage often chose to live with other members of their own ethnic group, which also resulted from chain migration and subsequent formation of ethnic enclaves (Lackey and Petrie, 89). Many African Americans helped shape what Milwaukee is today when many migrated from the southern US migrated to Milwaukee during the "Great Migration" (c. 1910-1970) and settled in many vibrant middle class communities (Geib, 231). The recent arrival

of Latino Americans and other ethnic groups have likewise transformed many Milwaukee neighborhoods over the past few decades.

As an immigrant focused city, this did not allow for the Milwaukee to develop a city-wide middle class. The self-segregated ethnic enclaves mixed with other forms of apparent racial discrimination such as redlining housing practice created deep racial and ethnic lines in the city. Today, “more than half of the city’s population lives in a zip code where at least 80% of residents share the same skin color” and there are radical differences between the white and the black communities in Milwaukee (Kent and Frohlich, 1). The median household income difference between the races is over 40,000 dollars more for white households than black households. And, on average, “three-quarters of all people that a white person sees on the street in the Milwaukee metro area are white, and 60% of people a black person sees are black” (Kent and Frohlich, 1). These factors contribute to the radical racial isolations that many residents in Milwaukee face.

The unequal distribution of wealth and opportunity, racial discrimination, and hostile housing policies such as redlining severely limited residential mobility for many minorities, particularly for those who lived in Milwaukee’s core. In particular, the choices that Black families make today are often constrained by a legacy of racism that prevented their ancestors from buying quality housing. When Black households try to cross color boundaries, they are not always welcomed. A study, conducted in 2009, by the National Institute of Health, shows that White individuals prefer to live in communities where there are fewer Black people, regardless of the Black person’s income (Eligon and Gebeloff, 1). In this project we look into the relationship between where people live, their race and their annual household income in the city. This research looks at patterns in wealthy/poor neighborhoods as well as within primarily White/minority communities. Our ultimate goal is to decide whether each neighborhood in Milwaukee is either race or income driven, in terms of residents.

Methodology

This study aims to determine if race or income has a stronger determining force to where people live in Milwaukee. To simplify the analysis, we begin by splitting the research question

into two parts: the income and the race of neighborhoods in Milwaukee. In order to define this data and establish thresholds for each category, this study, first determined the definitions and data sources of variables involved. In the second part of the study, we approach the analysis through Geographic Information Systems (GIS) by overlaying these variables to determine if race or income has a more significant impact on where people live in Milwaukee. Data sources in this study include census data for previously collected neighborhood demographics and literature review for defining cut-offs of race and income in Milwaukee.

Census data

This study utilizes census data collected from the United States Census Bureau's American Fact Finder. The census data was published in 2016, and includes data collected during 2015. This is the most recent census data available, and as a result provides the best possible analysis of modern demographics in Milwaukee. The census data was obtained in the form of block groups, which was the most granular level of data available from American Fact Finder. Block groups are a selected number of blocks combined into a larger area, or group. These block groups include numerical data on population, race, and income. Since the data is not available at a finer grain, such as by household or by block, it is limited in its accuracy to a degree. The error thresholds were removed for population, race, and income data that was included in the block groups, as they were unnecessary for this project. Despite removing the error threshold, the census data provided an excellent data source for joining to a block group shapefile for the city of Milwaukee. In a future GIS project, improvements could be made by obtaining more finely grained census data.

Neighborhood selection

Selecting the number and locations of neighborhoods in the study proved to be one of the more challenging tasks. There are many different definitions for neighborhoods in Milwaukee, with some of these ranging from as few as ten to more than a hundred neighborhoods in the city. Before determining neighborhoods, we studied the locations and sizes of our census block data. The data that was available is of the block group level, which combines multiple city blocks into

one larger figurative block of data, referred to as a block group. As a result, we were unable to analyze a large number of the known small neighborhoods in the city because their boundaries were more restricting than our data would allow for analysis; in some cases, a single block group comprised an entire small neighborhood. We ultimately selected neighborhoods defined by the University of Wisconsin-Milwaukee. These neighborhoods hold historical significance and have defined Milwaukee since 1885. The neighborhoods are split into the following twelve selections: Far Northwest Side, Northwest Side, Far North Side, West Side, Far West Side, Near North Side, East Side, Downtown, Near South Side, Southeast Side, Far South Side, and Southwest Side. The map shown below illustrates these neighborhoods' placement around the city.



1. Far Northwest Side
2. Northwest Side
3. Far North Side
4. West Side
5. Far West Side
6. Near North Side
7. East Side
8. Downtown
9. Near South Side
10. Southeast Side
11. Far South Side
12. Southwest Side

Image 1: Map of Milwaukee's Historic Neighborhoods according to UW-Milwaukee

Map Source: UW-Milwaukee Map Collections

Block groups within neighborhoods

By overlaying our block groups and neighborhoods, we determined the following map, which displays the block groups within each neighborhood. We followed these determined

neighborhood boundaries as closely as the block group designations would allow. However, the two do not always share common border lines. In order to most accurately represent the demographics of the neighborhoods, some block groups are included in the analysis of two neighborhoods if the neighborhood boundary line bisects the block group. This allowed us to consider the demographics of these block groups in the evaluation of both neighborhoods. When delegating block groups to neighborhoods, one block group particularly stuck out as an anomaly. Not only did it appear to belong in three separate neighborhoods, but upon further inspection of the block data it was discovered to have null values for population in both data tables. The location of this block group was determined to correspond with the city parks that run along the shore of Lake Michigan on the city's East side. We decided to exclude this block group from neighborhoods that it would otherwise fall within by determining it to be the 13th neighborhood. However, we do not perform an analysis on this neighborhood because there is no data linked to the block group.

Image 2: Map of Block Groups within Neighborhoods



Race classification

Although Milwaukee is ethnically diverse, this study aims to understand the segregation of White versus African American households in Milwaukee. Other ethnicities are acknowledged, but labeled as ‘other’ for the purpose of this study. We used literature to set the definitions for a primarily White, Black, or mixed neighborhood. Defining the race of a neighborhood is complicated. We recognize the diversity of Milwaukee and recommend a further study beyond this one that considers other races in its study of racial diversity within neighborhoods.

There are many ways to determine the segregation levels within neighborhood boundaries. One way in which to do it based only on the census breakdown of the city. Since there are fewer than fifty percent Black Americans living in Milwaukee, Meghan Ashlin Rich argues that assuming racial makeup by majority alone looks at the data too simply and does not consider the overall population’s perception and experience (837). In order to get a better estimation for what should be considered mixed in Milwaukee, we look at how the total of those who identify as either black or white compare to the overall population of Milwaukee. To gain this evaluation, we used the census data linked to the block groups we included in our neighborhoods.

The other way to determine segregation is to look at the dissimilarity index. This is what we used for this study. The dissimilarity index is the most commonly used measure of neighborhood segregation. It measures the “evenness with which two groups are distributed across the component geographic areas that make up a larger area” (Frey and Myers, 1). This dissimilarity index allows us to not only look at the evenness between two groups but also consider how much the different groups are geographically isolated. The equation is below:

$D = \frac{1}{2} \sum_{i=1}^n \left \frac{w_i}{W_T} - \frac{b_i}{B_T} \right $	Where: n = number of tracts or spatial units w _i = number of Whites in tract i W _T = total number of Whites in the city b _i = number of Blacks in tract i B _T = total number of Blacks in the city
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Obtained via: <http://www.dartmouth.edu/~segregation/IndicesofSegregation.pdf>

For this project’s study area, the city of Milwaukee, the dissimilarity index is calculated to be 71.4. Using this dissimilarity index, neighborhoods made up of resident group blocks of 71.4% or more of one race alone are considered segregated by race. When the percentage is less than 71.4% one race, then the neighborhood is considered mixed.

Table 1: Race Data

Neighborhood	# of Block Groups	Majority White	Majority Black	Majority other	Percent White	Percent Black	Percent Other	Mixed?
Far South Side	33	33	0	0	100	0	0	No
Southeast Side	37	37	0	0	100	0	0	No
Southwest Side	41	41	0	0	100	0	0	No
Near South Side	74	47	0	27	63.51351	0	36.48649	Yes
Downtown	8	7	1	0	87.5	12.5	0	No
Far West Side	14	14	0	0	100	0	0	No
West Side	78	17	59	2	21.79487	75.64103	2.564103	No
Near North Side	76	13	63	0	17.10526	82.89474	0	No
Far North Side	71	2	69	0	2.816901	97.1831	0	No
East Side	31	31	0	0	100	0	0	No
Northwest Side	78	24	53	1	30.76923	67.94872	1.282051	Yes
Far Northwest Side	35	11	24	0	31.42857	68.57143	0	Yes

Income classification

Income thresholds are defined in this study using data and analysis researched and assembled by the Pew Research Center. Pew reviews and distributes public and scientific ideas on demographics and trends that shape the United States and the world. The Pew Research Center defines middle income households as “those with an income that is two-thirds to double the U.S. median household income” based on a three-person household. The national range for this in 2014 was about \$42,000 to \$125,000. So, using those numbers, above \$125,000 is defined as upper class and below \$42,000 is defined as lower class (Fry and Kochhar, 1).

Income ranges can vary by state and metropolitan area. As a result, the Pew Research Center accounts for these variances before classifying an income level to a household by considering a household state, metropolitan area, household income before tax, and number of people in the household. According to this calculation, a Milwaukee household of three people will have a middle income range of \$40,000 to \$119,000 (Fry and Kochhar, 1). Based on the

income categories available in the Census data, the determined income cut-offs in this study were created to be as close as possible to the Pew range. The Census gave income brackets at \$40,000 and at \$125,000 so it was determined that between these brackets constituted the middle class in Milwaukee. The lower class is defined by having a median household income of less than \$40,000 and upper class is defined by having an income level over \$125,000 a year. The chart below further details these income categories by neighborhood.

Table 2: Income Data

Neighborhood	# of Block Groups	Majority Low Income	Majority Medium Income	Majority High Income	Percent Low Income	Percent Medium Income	Percent High Income	Mixed?
Far South Side	33	15	18	0	45.45455	54.54545	0	Yes
Southeast Side	37	7	30	0	18.91892	81.08108	0	No
Southwest Side	41	11	30	0	26.82927	73.17073	0	No
Near South Side	74	64	10	0	86.48649	13.51351	0	No
Downtown	8	3	5	0	37.5	62.5	0	Yes
Far West Side	14	5	9	0	35.71429	64.28571	0	Yes
West Side	78	68	10	0	87.17949	12.82051	0	No
Near North Side	76	70	6	0	92.10526	7.894737	0	No
Far North Side	71	60.5	10.5	0	85.21127	14.78873	0	No
East Side	31	16	12	3	51.6129	38.70968	9.677419	Yes
Northwest Side	78	35	43	0	44.87179	55.12821	0	Yes
Far Northwest Side	35	19	16	0	54.28571	45.71429	0	Yes

Results

Once thresholds and classification for race and income are determined, the study determines which of the following four categories a neighborhood fits in: income driven, race driven, race and income driven, or neither race nor income driven. Income driven neighborhoods are those that have a single income level and mixed races living there. The race driven neighborhoods are those that have a single race but mixed income levels. Those driven by both had only race and only one income level present and those driven by none were the neighborhoods that had mixed races and mixed income levels present. Ultimately, we found that race is more of a driving factor than income in determining segregation in Milwaukee. The full results are below and a more in depth analysis follows in the discussion section.

Income driven neighborhoods

Income driven neighborhoods are those defined as having a majority of one income level (high, medium, or low) while having an integrated race profile. Through our final analysis, it was determined that one neighborhood, the Near South Side, is income segregated. This neighborhood is classified as majority low income by a large margin, with 86.5% in the leading category, and no block groups categorized as being high income. The location of this neighborhood in the central downtown region of Milwaukee may be worth further analysis. It is possible that central Milwaukee is more income driven than the suburbs. This theory is not analyzed in this report, but could be beneficial in a future analysis.

Race driven neighborhoods

Race driven neighborhoods classify a neighborhood with the majority of one race. Majority threshold was classified from literature review as greater than 71.4% of one race within a neighborhood. Race driven neighborhoods are shown in in the final map in purple. In this study, these neighborhoods include Downtown, East Side, Far West Side, and Far South Side. Four out of twelve neighborhoods, or approximately one-third of neighborhoods are race driven. These neighborhoods tend to be on the nearest suburbs of central Milwaukee, but excluding North of central Milwaukee. The race driven neighborhoods all classify as being majority white neighborhoods. This suggests that white neighborhoods in Milwaukee are more likely to be segregated by race than primarily black neighborhoods.

Race and income driven

If a neighborhood classifies as both race and income driven, then the neighborhood shows clearly defined segregation by both income and race. This means that a neighborhood with a clear majority race also has a clear majority income level. Roughly 40% of the neighborhoods in this study classify as segregated by 'both' and these neighborhoods are shown in the below map in red. The neighborhoods include: Southeast Side, Southwest side, West Side, Near North Side and Far North Side. These neighborhoods do not necessarily follow the same patterns in regards to how they are segregated by income or race. For example, in terms of race,

both the Southwest and Southeast side neighborhoods are majority white and the others are majority black. According to the income analysis, the Southeast and Southwest sides are majority medium income level, and the West, Near North, and Far North sides are all majority low income. These patterns indicate that segregation by income and race is present at different thresholds of classification.

Neither race or income driven

The final neighborhoods were categorized as neighborhoods that are neither race or income driven. Neighborhoods that do not show any segregation are the Northwest Side and the Far Northwest side. These two neighborhoods comprise approximately 16.7% of the total neighborhoods which makes them the smallest percentage of neighborhood categories. This suggests that the majority of Milwaukee is segregated on some level of either income or race. In the case of the Northwest and the Far Northwest side, these two neighborhoods are majority Black, making up 67.9% of the population in the Northwest, and 68.5% of the population in the Far Northwest. Incomes trend from medium to low; there are no majority high income block groups in these neighborhoods. These two neighborhoods represent a more unsegregated part of the city of Milwaukee.

Table 3: Neighborhood Classifications

Neighborhood	Race driven	Income driven	Both	Neither
Far South Side	X			
Southeast Side			X	
Southwest Side			X	
Near South Side		X		
Downtown	X			
Far West Side	X			
West Side			X	
Near North Side			X	
Far North Side			X	
East Side	X			
Northwest Side				X
Far Northwest Side				X

Discussion

To answer the research question, the results show that Milwaukee is more strongly segregated by race than income. First, the racially divided neighborhoods were found to be Downtown, Far South Side, Far West Side, and the East Side. Having the Downtown neighborhood as segregated by race makes sense because it is so much smaller than the other neighborhoods that it is more sensitive to racial difference versus income difference. And the other three neighborhoods segregated by race make sense because of the overwhelmingly white population in these areas seen in our data.

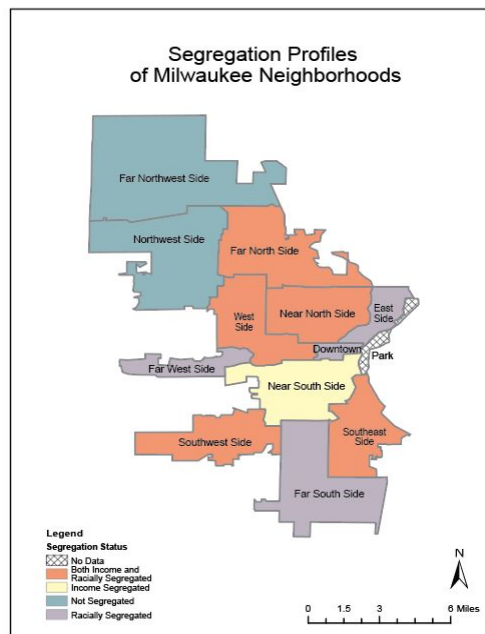
Secondly, the only income driven neighborhood is found in the city center. This location makes sense because this is where the working class populations settled in the mid-20th century (Geib, 231). These communities are those who have heavily suffered from industry leaving the city in the past one-hundred years. The most interesting statistic for the Near South Side, Milwaukee's only income segregated neighborhood, is not its income profile, however. What sets the Near South Side apart is the fact that it is not both racially and economically segregated. This is because within this neighborhood there is a Latino ethnic enclave (Lackey and Petrie, 7). This enclave is seen in the results as the high percent of "Other" race in the table. Having this population mixed with the larger Near South Side made it so the neighborhood is 'integrated'.

Next, the income and race driven neighborhoods. These neighborhoods are the Far North Side, Near North Side, West Side, Southeast Side, and the Southwest Side. These neighborhoods represent the most severely segregated neighborhoods in the city. The Far North Side and Near North Side neighborhoods are predominantly Black neighborhoods, with a 97.1% and 82.9% Black populations, respectively. It is also a majority low income neighborhood: 85.2% and 92.1% of the block groups categorized as low income. Similarly, the West Side has a majority of low income residents, but differs from the Far and Near North sides in that the racial makeup of the neighborhood is categorized as mixed. The West Side is one of only three neighborhoods in Milwaukee that has residents in all three racial categories. The Southeast Side and the Southwest Side are both 100% White, and both majority medium income neighborhoods, at 81% medium income block groups for the Southeast Side, and 73% medium income for the Southwest Side.

This grouping of neighborhoods is shows the most differentiation in areas of the city that share the same classifications; the strict segregation that is their commonality is shown in the data.

Finally, non-segregated neighborhoods, the Northwest and Far Northwest neighborhoods are important to discuss. These neighborhoods are interesting because they are not segregated by income level or racial makeup. Though this classification might seem different than what we have argued above and what the rest of our results show, these neighborhood classifications are not very shocking. These two neighborhoods in the past fifteen years have changed to include more classes, income levels, and races. When there was the middle-class white-flight away from the city in the late-1960s and early-1970s, many went to settle here, however over time these neighborhoods have also become where many middle-class and wealthier Black American families have settled as well (Geib, 231). These neighborhoods are very split low and middle income, but still have a larger presence of White Americans than Black Americans which is a look of most city suburbs. So, while these neighborhoods might seem out of place in our study, they actually help show that there are other places where ideas such as community activism can take hold.

Image 3: The Final Map



Conclusions

Overall, these results very much affirm the research questions that were laid out for this project. Most Milwaukee neighborhoods show segregation by race, income, or both. There definitely are differences between the neighborhoods but each neighborhood has many

similarities. The largest similarity between many of these neighborhoods is that they are very segregated. Whether that segregation show on racial lines, socio-economic lines, or both, most neighborhoods within the city boundaries are defined by their segregation.

Though this project's findings are not groundbreaking, this research is important to once again highlight the bigger problems of segregation within our larger society. There is an important case to be made that when "three-quarters of all people that a White person sees on the street in the Milwaukee metro area are White, and 60% of people a Black person sees are Black", it is hard to reach out to understand someone else's walk of life, their story, and their communities' struggles (Kent and Frohlich, 1). In an age where divisions between class, race, rural-urban, is more pronounced than years before, it is important to understand where these divides are occurring and hopefully this research will help further investigations on how society bridges these divisions.

For further study, it would be important to address the data limitations, look into changing the thresholds for race and income, and to also look at how Milwaukee segregation has changed over time and look for patterns. First, this project's data was limited by a few factors. It was limited by which datasets was available from the Census Bureau and at what scale. The Census limited this project because the block groups themselves are larger than what the project originally planned on using. There were also limits to how to divide the neighborhoods. This project decided to use UW-Milwaukee's historical divides instead of smaller neighborhoods which could have been more effective at telling the stories of particular nuances between neighborhoods, but the data available was at a larger scale than planned.

Secondly, this project limited itself in looking at the variables and cut-offs. For the race data, there are many more than two races present in Milwaukee so it would be interesting to incorporate these other races into the dataset and see the effects on how the neighborhoods behave with more options for race. Additionally, for the income levels, using different levels to breakdown and divide levels of income could create drastically different maps. Finally, it would be important to study more about how these neighborhoods have changed over time and see what the predictions the project could have for the future. Despite these limitations, this project tells an important story of segregation in Milwaukee, Wisconsin.

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Data Sources

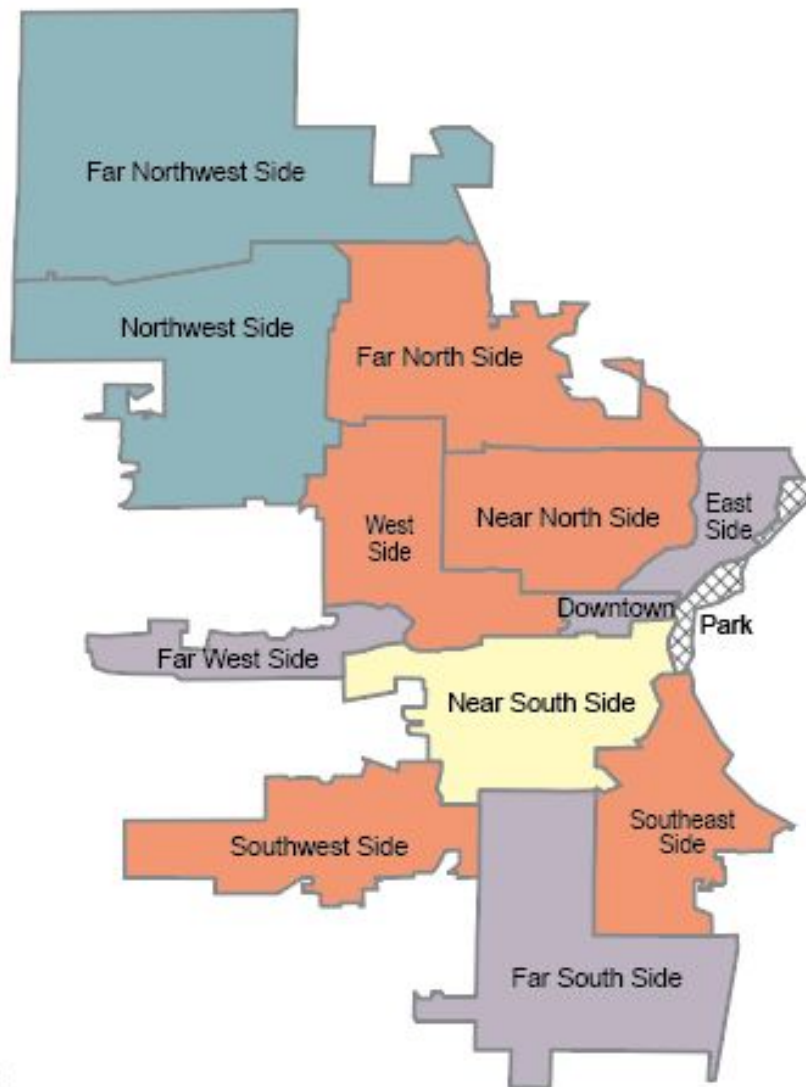
Milwaukee County Block Groups, Income

https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_B19001&prodType=table

Milwaukee County Block Groups, Population and Race

https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_B02001&prodType=table

Segregation Profiles of Milwaukee Neighborhoods



Legend

Segregation Status

- No Data (Cross-hatched)
- Both Income and Racially Segregated (Orange)
- Income Segregated (Yellow)
- Not Segregated (Teal)
- Racially Segregated (Purple)

