RUTGERS
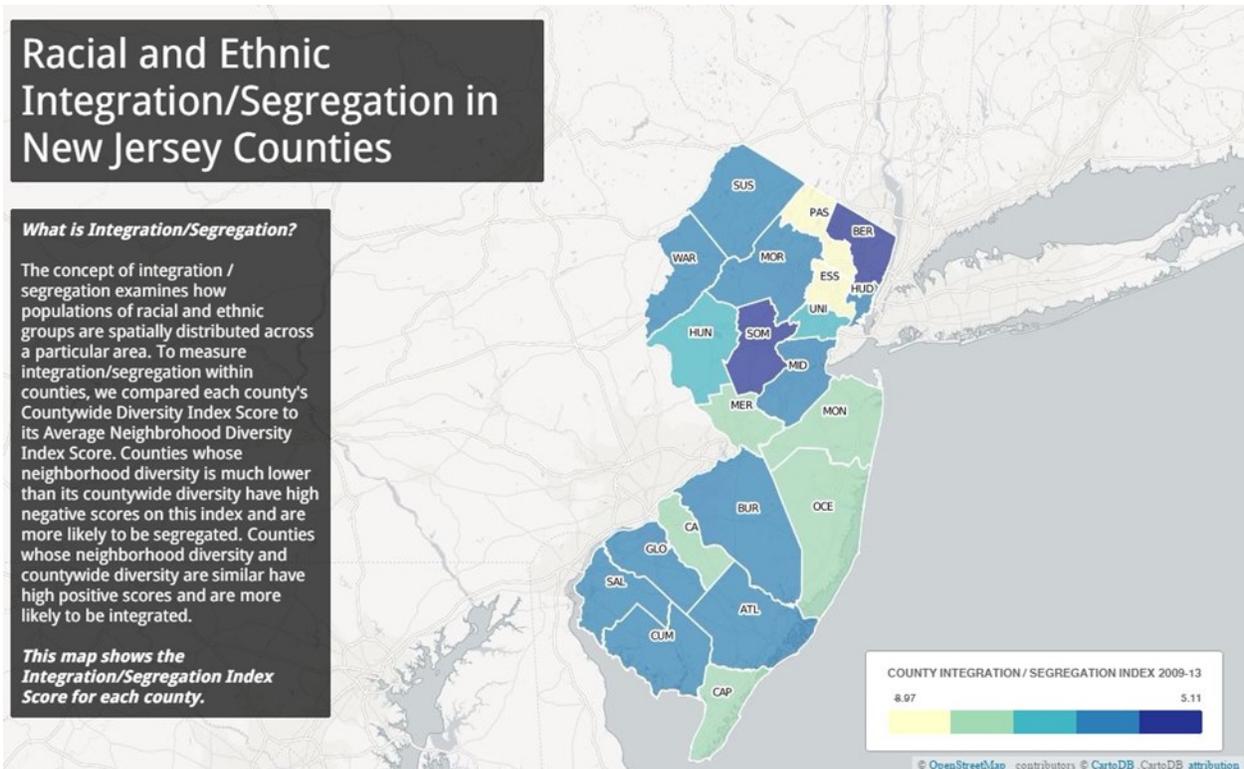Joseph C. Cornwall Center
for Metropolitan Studies

The Joseph C. Cornwall Center for Metropolitan Studies at Rutgers University-Newark is pleased to present "Map of the Week"—a weekly blog series designed to explore some of the community and economic development and social equity issues present in the Newark, New Jersey region through the use of maps and infographics. The Cornwall Center uses research and demonstration to address key urban and metropolitan problems in Newark and the surrounding region.

New Jersey's Diversity Paradox:

Why Diversity and Integration Aren't Quite the Same Thing

Post 1.3: December 1, 2015:

How Integrated or Segregated are New Jersey's Counties?

Racial and Ethnic Integration/Segregation in New Jersey Counties

What is Integration/Segregation?

The concept of integration / segregation examines how populations of racial and ethnic groups are spatially distributed across a particular area. To measure integration/segregation within counties, we compared each county's Countywide Diversity Index Score to its Average Neighborhood Diversity Index Score. Counties whose neighborhood diversity is much lower than its countywide diversity have high negative scores on this index and are more likely to be segregated. Counties whose neighborhood diversity and countywide diversity are similar have high positive scores and are more likely to be integrated.

This map shows the Integration/Segregation Index Score for each county.

COUNTY INTEGRATION / SEGREGATION INDEX 2009-13

-8.97   5.11

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To complete our discussion about racial and ethnic diversity in New Jersey, we are exploring integration and segregation within counties. There are many ways of measuring integration and segregation.[i] But, rather than introducing new concepts and formulas, we wanted to measure this simply by using our previous calculations of the Diversity Index which describe the overall diversity of a county and the average diversity of a county's neighborhoods.

For purposes of this discussion, a county is considered to be segregated when its neighborhoods are, on average, less diverse than the county is overall. Counties in which neighborhoods are nearly as diverse as the county are considered to be integrated. Homogeneous neighborhoods, or "pockets" of individual racial or ethnic groups are more likely to persist throughout segregated counties, limiting exposure to and interaction with different groups. In integrated counties, racial and ethnic groups are more likely to be evenly spread throughout the county.

To help us understand how well-integrated or how segregated a county is compared to other counties in the state, we created one final metric—the **Integration/Segregation Index**. The Integration/Segregation Index uses the difference between a county's Countywide Diversity Index Score and Average Neighborhood Diversity Index Score to compare a particular county's difference to the average of all counties in the state. This will tell us how integrated or segregated a particular county is, compared to the average New Jersey county.

In order to calculate the Integration/Segregation Index of each county, we graphed every county's Countywide Diversity Index Score against its Average Neighborhood Diversity Index Score. The resulting scatterplot looks like this:
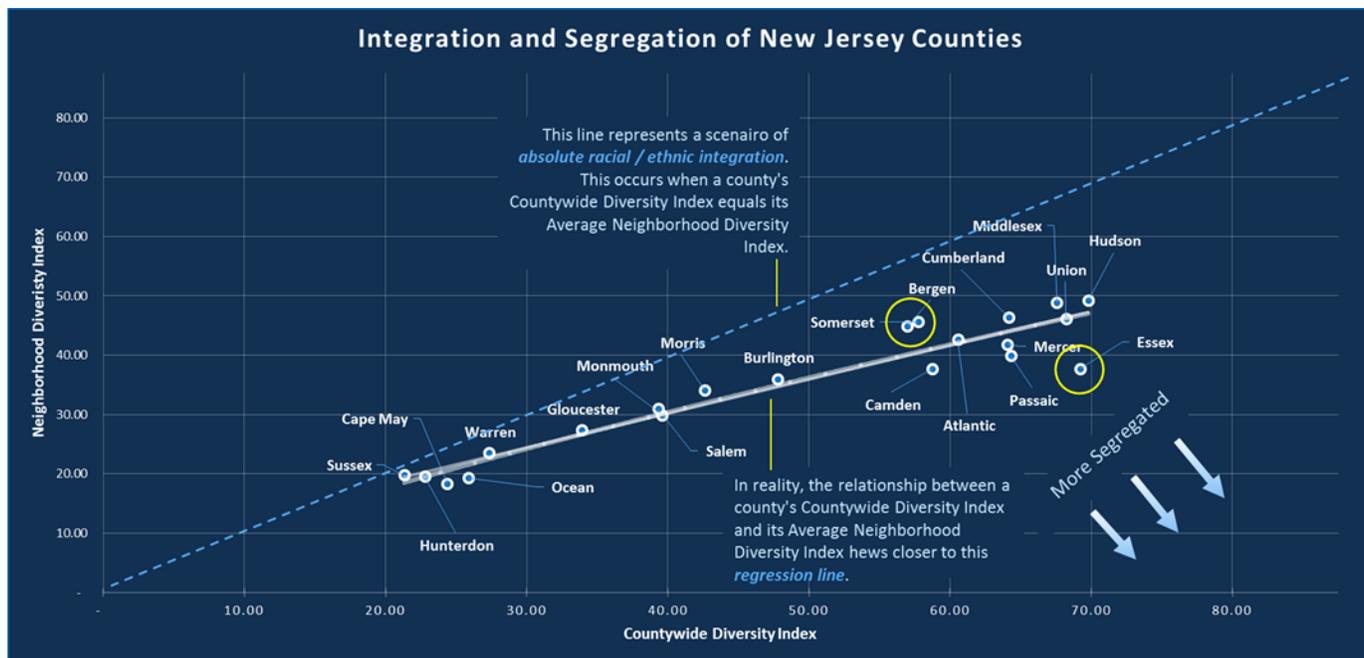
The graph above lets us calculate the Integration/Segregation Index of each county and is key in understanding this concept, so let's take a minute to tour the graph and discuss the three possible locations a county could fall:

- The dotted blue line represents a scenario in which a county is perfectly integrated—meaning its average neighborhood diversity equals its countywide diversity, or that every neighborhood is as diverse as the county. In this case, the circle representing the county on the graph would fall directly on this line. This scenario does not occur in New Jersey, or in any county in the U.S. for that matter. This means there is no county in the country in which, on average, neighborhoods are exactly as diverse as the county overall.

- The solid white line represents the true average relationship between a New Jersey county's neighborhood diversity and its countywide diversity. A county's circle on the graph falls where its two Diversity Index scores meet, representing the relationship between the two scores. For example, if a county's Countywide Diversity Index Score is 60.00, and its Average Neighborhood Diversity Index Score is 40.00, then the county would fall where those two lines meet on the graph. The solid white line represents the average of where all the counties fall. *A county's Integration/Segregation Index Score is calculated by measuring how far above or below the solid white average line it falls.*

- Counties that fall in the lower-left quadrant of the chart, such as Cape May, Ocean, Sussex, and Hunterdon, are counties that score low on both countywide and neighborhood diversity. They are more racially uniform and can't truly be defined as either segregated or integrated.

- Counties that fall in the upper-right quadrant, such as Hudson, Middlesex, Union, Cumberland, Bergen, and Somerset, are counties which score relatively high in both countywide and neighborhood diversity. These counties fall above the solid white line and have large positive Integration/Segregation Index Scores. Neighborhoods in these counties are nearly as diverse as their county is overall. These counties can be considered both diverse and well-integrated.

- Counties that fall in the lower-right quadrant, such as Essex, Passaic, Mercer, and Camden, are counties that score relatively high in countywide diversity, but score low in neighborhood diversity. These counties fall below the solid white line and have large negative Integration/Segregation Index Scores. Neighborhoods in these counties are much less diverse than their county is overall. These counties can be considered highly segregated.

What is interesting about comparing where each county falls in relation to the average line, is that it takes the overall diversity of the county, or the Countywide Diversity Index, into account when grading a county's average neighborhood diversity. Basically, counties that are extremely diverse overall are expected to have high neighborhood diversity as well, whereas counties that aren't very diverse overall are not expected to have high neighborhood diversity. Therefore, we can use the Integration/Segregation Index as a way to judge whether or not a county's neighborhoods should be more diverse than they actually are, relative to its overall diversity. One way of understanding this is to say, neighborhoods in counties whose Integration/Segregation Index is negative are less diverse than what we would expect them to be, while neighborhoods in counties whose Integration/Segregation Index is positive are more diverse than we would expect.

Essex County, highlighted on the graph by a yellow circle, falls farther below the average line than any other county, meaning it is the most segregated county in the state. Its Integration/Segregation Index score of **-8.97** means that **Essex County is nearly nine times more segregated than the average New Jersey county**.

Somerset County is the most integrated county in the state. Its Integration/Segregation Index Score of **+5.11** means that it is **five times more integrated than the average New Jersey county**.

After all this discussion about racial and ethnic diversity and integration and segregation, you might be thinking to yourself: Why does all of this matter? In short, racial and ethnic diversity could coincide with discriminatory housing policies, other systematic social and economic barriers, or behavioral patterns. Areas that are racially and ethnically homogenous or highly segregated—meaning they are overwhelmingly comprised of one particular group—could be areas of concentrated poverty, underperforming schools, poor housing, and poor health. However, these homogenous areas could also signify areas of concentrated wealth, high-performing schools, and exclusionary housing.

The landscape of racial and ethnic diversity in our counties, and in the neighborhoods within them, is greatly influenced by land use and housing policies both past and present. Although outlawed with the passing of the Civil Rights Act (Fair Housing Act) of 1968, discriminatory housing policies such as blockbusting[ii] and redlining[iii] fueled the en masse migration of middle-class White Americans from the central cities to the suburbs in the early-to-mid part of the 20th Century,

leaving behind a landscape of homogenous and segregated communities. Modern housing policies related to the location of affordable and public housing also influence the diversity of communities. Policies that encourage the diversity of housing options can also help to increase the racial and ethnic diversity of a community.

Thank you for reading our first series of Map of the Week posts. We will be exploring more issues in upcoming posts. Until then, you can explore the diversity of neighborhoods across the state using our interactive map, here.

New Jersey County Diversity and Integration Rankings

COUNTY	COUNTYWIDE DIVERSITY INDEX	AVERAGE NEIGHBORHOOD DIVERSITY INDEX	INTEGRATION/SEGREGATION INDEX
SOMERSET	57.73	45.64	5.11
BERGEN	56.97	44.88	4.77
MIDDLESEX	67.57	48.87	3.01
CUMBERLAND	64.15	46.43	2.40
HUDSON	69.8	49.29	2.24
MORRIS	42.59	34.16	2.24
SUSSEX	21.32	19.8	1.27
BURLINGTON	47.77	36.01	1.08
SALEM	39.33	30.99	1.01
WARREN	27.33	23.53	1.01
GLOUCESTER	33.9	27.36	0.69
ATLANTIC	60.56	42.72	0.64
HUNTERDON	22.78	19.57	0.05
UNION	68.21	46.18	-0.02
MONMOUTH	39.6	29.96	-0.18
MERCER	64.07	41.83	-2.15
CAPE MAY	24.36	18.41	-2.17
OCEAN	25.88	19.33	-2.24
CAMDEN	58.73	37.67	-3.41
PASSAIC	64.3	39.92	-4.19
ESSEX	69.24	37.78	-8.97

Footnotes
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[i] Arizona State University, GeoDa Center for Geospatial Analysis and Computation. Data. Spatial Impact Data. Diversity and Social Segregation. https://geodacenter.asu.edu/%5Btermalias-raw%5D/diversity-and-s-0, accessed November 4, 2015.

[ii] BlackPast.org. Blockbusting. http://www.blackpast.org/aah/blockbusting, accessed November 4, 2015.
[iii] BlackPast.org. Redlining. http://www.blackpast.org/aah/redlining-1937, accessed November 4, 2015.