



# How Zoning Drives Educational Inequality: The Case of Westchester County (Appendix 1)

JULY 17, 2023 – THIS APPENDIX WAS PREPARED BY VICKI BEEN AND COLLEAGUES AT THE NYU FURMAN CENTER.

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Appendix 1. Comparison of Scarsdale to Port Chester: Key Indicators

Indicator	Scarsdale	Port Chester
<b>Land Use:</b>		
Population density, 1,000 people/square mile, 2020	2.7	12.4
Share of lot area, existing structure of residential use, 2021	63.3%	60.4%
Share of lot area, existing structure classified as single-family year-round residence, 2021	63.1%	36.1%
Share of lot area, existing structure classified as two to three families or apartments, 2021	0.2%	23.5%
Housing units authorized by new building permits, 2014–2021 <sup>1</sup>	218	58
Single-family housing units authorized by new building permits, 2014–2021 <sup>2</sup>	218	34
Share of total number of units authorized that are single-family housing, 2014–2021	100%	59%
Wharton Density Restriction Index	4 (minimum lot size with largest > 2 acres)	1 (minimum lot size < 0.5 acre )
Wharton Approval Delay Index (average months)	10.667	12.875
Wharton Land Use Index Composite	1.233 (just under 90 <sup>th</sup> percentile; highly regulated)	1.254 (just under 90 <sup>th</sup> percentile; highly regulated) (outdated) <sup>3</sup>
<b>Demographics:</b>		
Population size, 2020	18,253	31,693
Growth of population, 2010–2020	6.3%	9.4%
Share of population Hispanic, 2021	6.5%	64.2%
Share of population non-Hispanic Black, 2021	1.7%	5.2%
Share of population non-Hispanic Asian, 2021	15.7%	1.4%
Share of population non-Hispanic white, 2021	71.2%	27.7%
Share of population aged 65 years old or above, 2021	13.6%	12.3%
Share of population foreign born, 2021	24.1%	45.5%
Median household income, 2021	Above \$250,000	\$88,093
Poverty rate, 2021	2.4%	10.9%
Unemployment rate, 2021	4.3%	7.2%

<sup>1</sup> Scarsdale permitted no housing other than single-family housing, but Port Chester had a mix of single-family housing and multifamily housing units permitted

<sup>2</sup> Same as footnote 1.

<sup>3</sup> See discussion in Appendix 2.

Population aged 25 years old or above without a high school diploma, 2021	2.3%	21.7%
Population aged 25 years old or above with a Bachelor's degree or above, 2021	90.7%	31.1%
Share of occupied housing units, occupied by renter, 2021	9.5%	56.6%
Median single-family housing price, 2020	\$1,648,925	\$592,242
<b>School Characteristics:</b>		
Share of students performing at grade level in English, 2019 <sup>4</sup>	87.1%	32.0%
Share of students performing at grade level in Math, 2019 <sup>5</sup>	90.3%	34.5%
Four-year high school graduation rates, 2021	98.9%	84.1%
Share of students qualifying for FRPL, elementary schools, 2021	0%	74.6%
Share of students qualifying for FRPL, middle schools, 2021	0%	76.5%
Share of students qualifying for FRPL, high schools, 2021	0%	72.0%
Student–teacher ratio, elementary schools, 2021	7.4	10.1
Student–teacher ratio, middle schools, 2021	12.1	12.5
Student–teacher ratio, high schools, 2021	11.9	15.3
Teacher turnover rate, 2021	4.0%	9.0%
Per-pupil expenditure, 2020	\$20,591	\$15,119
Share of students who are Asian, elementary schools, 2022	26.2%	1.0%
Share of students who are Black, elementary schools, 2022	0.9%	2.5%
Share of students who are Hispanic, elementary schools, 2022	7.6%	85.2%
Share of students who are White, elementary schools, 2022	56.3%	10.1%
Share of students who are Asian, middle schools, 2022	23.8%	1.9%
Share of students who are Black, middle schools, 2022	0.9%	2.9%
Share of students who are Hispanic, middle schools, 2022	8.0%	83.6%
Share of students who are White, middle schools, 2022	59.9%	10.4%
Share of students who are Asian, high schools, 2022	20.3%	1.8%
Share of students who are Black, high schools, 2022	1.0%	3.3%

<sup>4</sup> Data for 2021 is available, but comprises a much smaller data set, as the test was optional during the pandemic.

<sup>5</sup> Same as footnote 4.

Share of students who are Hispanic, high schools, 2022	7.8%	81.7%
Share of students who are White, high schools, 2022	65.3%	12.6%
Share of teachers in their first or second year of teaching, 2017	0.7%	17.7%

Indicator	Methodology
<b>Land Use:</b>	
Population density, 1,000 people/square mile, 2020	Population density is calculated by dividing a geographic area’s population by its land area and is reported in thousands of people per square mile. The U.S. Census Bureau advises that American Community Survey (ACS) population estimates should be compared with caution across years.
Share of lot area, existing structure of residential use, 2021	Percent of lot area of parcels with residential structure.
Share of lot area, existing structure classified as single-family year-round residence, 2021	Percent of lot area of parcels with one family dwellings constructed for year-round occupancy (adequate insulation, heating, etc.)
Share of lot area, existing structure classified as two to three families or apartments, 2021	Percent of lot area of parcels with two or three family dwellings constructed for year-round occupancy, or apartments.
Wharton Density Restriction Index	<p>The Density Restriction Index (DRI) measures if there is a minimum lot size regulation in the jurisdiction, and if so, what range the minimum lot size requirement falls in.</p> <p>More specifically:</p> <p>DRI = 0 if there is no minimum lot size regulation anywhere in the jurisdiction</p> <p>= 1 if there is a minimum, but it is no larger than 0.5 acres</p> <p>= 2 if there is a minimum, and the largest one is from 0.5–1.0 acres</p> <p>= 3 if there is a minimum, and the largest one is from 1.0–2.0 acres</p> <p>= 4, if there is a minimum, and the largest one is for more than 2 acres.</p> <p>For more details for the survey methodology, please review <a href="#">Gyourko et al., 2019</a>.<sup>6</sup></p>
Wharton Approval Delay Index (average months)	The Approval Delay Index (ADI) is a metric that combined the average review months for residential projects, rezoning requests involving multiple unit types

<sup>6</sup> Joseph Gyourko, Jonathan Hartley, and Jacob Krimmel, “The Local Residential Land Use Regulatory Environment Across U.S. Housing Markets: Evidence from a New Wharton Index,” National Bureau of Economic Research, working paper no. 26573, December 2019, [https://real-faculty.wharton.upenn.edu/wp-content/uploads/~gyourko/WRLURI/GyourkoHartleyKrimmel\\_NBERw26573.pdf](https://real-faculty.wharton.upenn.edu/wp-content/uploads/~gyourko/WRLURI/GyourkoHartleyKrimmel_NBERw26573.pdf).

	and subdivision requests. For more details for the weighting methodology, please review <a href="#">Gyourko et al., 2019</a> . <sup>7</sup>
Wharton Land Use Index Composite	The Wharton Land Use Index is aggregated from the sub-indices, including Local Political Pressure Index, State Political Involvement Index, Court Involvement Index, Local Project Approval Index, Local Zoning Approval Index, Local Assembly Index, Supply Restrictions Index, Density Restriction Index, Open Space Index, Exactions Index, Affordable Housing Index and Approval Delay Index. For more details for the index construction methodology, please review <a href="#">Gyourko et al., 2019</a> . <sup>8</sup>
<b>Demographics:</b>	<i>Most of the demographics in indicators used 2017–2021 ACS 5-year estimates because the localities have a small population size, and 1-year estimates are not available or have large margin of errors. However, the population size used Decennial Census 2020 data because the information is available.</i>
Share of population Hispanic, 2021	This indicator measures the percentage of the total population made up of each of the following racial/ethnic groups: Asian (non-Hispanic), Black (non-Hispanic), Hispanic (of any race), and white (non-Hispanic). The percentages of the four groups may not add up to 100 because people of other races or two or more races are not displayed.
Share of population non-Hispanic Asian, 2021	(Same as above)
Share of population non-Hispanic Black, 2021	(Same as above)
Share of population non-Hispanic White, 2021	(Same as above)
Share of population aged 65 years old or above, 2021	This indicator measures residents aged sixty-five years or older as a percentage of the entire population in a given geographic area.
Share of population foreign-born, 2021	This indicator measures the share of the population that is foreign-born. Foreign-born includes all those born outside the United States or Puerto Rico, regardless of whether they currently are United States citizens. Children born abroad to parents who are U.S. citizens are not counted as foreign-born.
Median household income, 2021	Household income is the total income of all members of a household aged fifteen years or older. The U.S. Census Bureau advises against comparing income data between the Decennial Census and the ACS due to differences in question construction and sampling, so we urge caution when comparing this indicator over time, particularly at the neighborhood level. Scarsdale median household income is top coded in the ACS data.

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<sup>7</sup> Ibid.

<sup>8</sup> Ibid.

Poverty rate, 2021	This indicator measures the number of people below the poverty threshold divided by the number of people for whom poverty status was determined. Poverty status is determined by the U.S. Census Bureau based on household size, composition, the number of children under eighteen years of age, and individual or family income. The U.S. Census Bureau advises that ACS poverty data should be compared with caution across years.
Unemployment rate, 2021	This indicator measures the number of people aged sixteen years and older in the civilian labor force who are unemployed, divided by the total number of people aged sixteen years and older in the civilian labor force. People are considered to be unemployed if they meet the following criteria: they have not worked during the week of the survey; they have been looking for a job during the previous four weeks; and they were available to begin work. The U.S. Census Bureau advises using caution when comparing the 2000 Census unemployment rate to the ACS figures because of differences in question construction and sampling.
Population aged 25 years old or above without a high school diploma, 2021	This indicator measures the population aged twenty-five years old or above who have not graduated from high school and have not received a GED, as a percentage of the entire population in a given geographic area.
Population aged 25 years old or above with a Bachelor's degree or above, 2021	This indicator measures the population aged twenty-five years old or above who have a Bachelor's degree or above, as a percentage of the entire population in a given geographic area.
Median single-family housing sale price, 2020	The median sales price for single-family properties, in 2021 dollars. Price adjusted using the Consumer Price Index from the Bureau of Labor Statistics.
<b>School Characteristics:</b>	
Share of students performing at grade level in English, 2019	These indicators report the percentage of fourth-grade students performing at or above grade level (termed “proficient”) in English language arts and math. For each locality, we aggregate the proficiency rates from each school that students in the locality could attend. For this indicator, school years are labeled according to the calendar year in which the school year ends. For example, 2019 corresponds to the 2018–2019 school year.
Share of students performing at grade level in math, 2019	(Same above)
Share of students qualifying for FRPL, 2021–22	Percent of students with families who have qualified for free or reduced-price lunch.
Four-year high school graduation rates, 2021	Percent of Class of 2021 students entering the ninth grade in the 2017–2018 school year who graduated within four years.
Teacher turnover rate, 2021	The rate at which teachers exit schools in school year 2020–2021.

Per-pupil expenditure, 2020

The aggregate current expenditures of all local educational agencies divided by the total number of children in average daily attendance for whom such agencies provided free public education. Converted to 2021 dollars.