

The Connecticut Youth Opportunity Atlas

by

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Connecticut Voices for Children

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Introduction

How are youth faring across Connecticut? The extreme income disparities and racial segregation across Connecticut mean that relative opportunity differs greatly across the state. Although the state government and municipal governments make a range of investments in children and families, the disparate distribution of youth opportunity presents a challenge for engaging, supporting, and motivating youth.

In this report, we set out to explore youth opportunity on a town-by-town basis. For each town, we assess data related to positive and negative outcomes for youth and the adequacy of resources needed to promote youth's chances for academic achievement, societal respect, and personal health and wellbeing.

This report provides our findings related to four different questions about youth opportunity across the state:

- First, how do municipal demographics relate to indicators of youth opportunity?
- Second, how do municipal demographics and indicators of youth opportunity predict negative youth outcomes?
- Third, which towns have implemented successful policies that decrease negative youth outcomes?
- Fourth, what do indicators of youth opportunity look like in each municipality in Connecticut?

Our goal is to understand how the distribution of factors setting the stage for youth opportunity relates to youth outcomes and to pinpoint towns whose public policies may help provide buffers against negative outcomes and support youth in achieving positive outcomes.

Methodology

The Connecticut Voices for Children Youth Opportunity Project builds on previous studies of adolescent wellbeing, school dropout, and disconnected youth in Connecticut and nationwide by utilizing multiple methods to examine 14 different community, peer, and educational indicators.

- First, we use correlation to examine how town demographic factors, including income distribution, population and population density, and residential segregation, relate to community, peer, and educational indicators.
- Second, we use regression modelling¹ to explore the multiple factors that predict three negative youth outcomes that are likely to have a lasting effect on an individual's success: school dropout, teen pregnancy, and juvenile arrests.²

¹ In these models, we use town demographic factors and youth opportunity indicators to predict the number of youth who experience negative outcomes. This allows us to determine the facets of youth opportunity that relate to the likelihood youth will experience negative outcomes *above and beyond* the effects of income distribution and racial segregation.

² Research by Richard Lerner and Nancy Galambos indicates that negative youth outcomes that most impact development across youth lifespans include: substance abuse, unsafe sexual activity and teen pregnancy, school failure and dropout, and delinquency and crime. Substance abuse data for youth is often extrapolated from self-report data, so we chose not to include this outcome in our report.

- Third, we examine youth opportunity indicators at the town level to identify successful town-level public policies. We highlight municipalities that successfully decreased negative youth outcomes.
- Fourth, we map income distribution and the 14 indicators across all towns in Connecticut. This is a useful tool to help policymakers and advocates identify town-level successes and challenges.

We examine how 14 indicators of youth opportunity correlate with key municipal demographics including per capita income, population, population density, and residential segregation. We selected indicators of youth opportunity based on an extensive review of national opportunity indices and research literature. Examining these indicators together can inform policymaking so that efforts to improve youth outcomes are holistic and address the needs of youth within the multiple contexts of families, peers, communities, *and* schools.

To determine town demographics and indicators, we aggregated data from the following four sources to compute indicators for each town in Connecticut:

1. American Community Survey
2. Connecticut Department of Emergency Management and Public Safety
3. Connecticut Department of Public Health
4. State Department of Education

As indicators of youth opportunity, we collected the following measures:

Community Indicators	Peer Indicators	School Indicators
<ul style="list-style-type: none"> • Percentage of children below the Federal Poverty Level • Percentage of residents (ages 25+) with bachelor's degrees or higher (used as a proxy for potential mentors) • Percentage of residents without health insurance • Percentage of housing units rented (used as a proxy for residential stability and family assets) 	<ul style="list-style-type: none"> • Percentage of "disconnected youth:" youth aged 16-19 who have dropped out of school and are unemployed • Percentage of youth aged 16-19 who have dropped out of school and are employed • Juvenile arrest rates (arrests of youth under age 18 per 100,000 residents) • Teen birth rate per 1,000 births • Percentage of students eligible for Free and Reduced Price Lunch 	<ul style="list-style-type: none"> • Combined out-of-school and in-school suspension rate per 1,000 students • Four year graduation rate • Percentage of students chronically absent • Achievement measured by averaging Math and English Language Arts scores on the District Performance Index • Percentage of students with Pre-kindergarten experience (used as a proxy for school readiness)

Community and peer indicator data was collected for each town, and school indicator data was collected for each school district. Town and district boundaries align, but there are some exceptions, including the regional school districts, where a district's boundaries may cover several towns.³ In addition to the challenge of aligning town and district boundaries, several towns send students to high schools operated by different districts, either by regional or neighboring districts. We have

³ In Connecticut, there are several options that allow a student to attend school in a district that differs from their town. Our analysis excludes Open Choice and Charter School enrollments, Agriculture Science and Technology Education (ASTE) programs, Magnet Schools, Inter-district Cooperative Arrangements, Connecticut Technical High School System, Endowed and Incorporated Academies, Alternative Education Programs, and Special Education Programs.

made data substitutions for many towns without their own high school by using the enrollment and suspension data for the regional or neighboring school district associated with their town.⁴

Main findings

Youth opportunity is shaped within the context of multiple community, peer, and educational influences. These influences vary greatly across Connecticut, resulting in some youth having more opportunity and some youth having less. Community income and residential segregation are key components in understanding youth opportunity in Connecticut. Youth growing up in wealthier communities are more likely to be surrounded by high-achieving peers and role models. Youth growing up in poorer communities and communities with more residential segregation are more likely to face housing insecurity and school climates marked by exclusionary discipline. Communities where schools rely more heavily on exclusionary discipline also have significantly more youth who disconnect from their schools and communities. Fortunately, an examination of low-income communities reveals that when state and city officials work together to reduce negative outcomes for their youth, policies that span multiple systems and involve coordinated efforts can significantly decrease youth disconnection.

Variation by Community Characteristics

In our analysis of indicators related to youth opportunity, we find strong correlations between youth opportunity and community characteristics: per capita income, residential population and population density, and residential segregation.⁵

Per Capita Income

The correlation of community per capita income with youth opportunity comes as no surprise. Greater per capita income is strongly related to positive indicators of youth opportunity, including more adults in the community with college education, higher graduation rates, more children with pre-kindergarten experience, and higher academic achievement. The municipalities with the greatest per capita income are chiefly located in Fairfield County, including Darien, Greenwich, New Canaan, Weston, Westport, and Wilton. Conversely, lower per capita income is significantly linked to negative indicators of youth opportunity, including higher child poverty rates, fewer insured residents, less stable residential arrangements, more disconnected youth, more youth who have dropped out of school but are employed, higher juvenile arrest rates, higher teen birth rates, more students receiving Free and Reduced Price Lunch, higher suspension rates, and more students who are chronically absent. The municipalities with the lowest per capita incomes are largely urban cities, including Bridgeport, Hartford, New Britain, New Haven, New London, Waterbury, and Windham.

⁴ In cases where the local district reported data on all its educational indicators, we used those data. When those data were not available, whenever possible, data substitutions were made from the district of the high school that those students attend, because our indicators focus on older youth. Some substitutions were made for the following variables: suspension rates, graduation rates, FRPL, DPI averages, chronic absenteeism, and preschool experience. Please see the full technical report for details.

⁵ We use the percentage of non-white residents—including Latino residents of all races—as an indicator of residential segregation.

Population and Population Density

Population density exhibits patterns opposite those of per capita income. Greater town density is associated with higher populations and with increased levels of negative indicators of youth opportunity for 5 out of 14 indicators. Specifically, higher population density is correlated with higher levels of child poverty, less residential stability, increased percentage of students eligible for Free and Reduced Price Lunch, increased rates of chronic absence, and lower achievement rates. Growing up in a smaller, wealthier, less dense community is more predictive of greater youth opportunity; growing up in a larger, poorer, denser community is more predictive of lesser youth opportunity.

Residential Segregation

The differences between Connecticut towns go beyond per capita income and population density to include dramatic residential segregation by race. Connecticut has a history of zoning, lending, and real estate practices that have contributed to creating high levels of residential segregation; this has led to a pattern where suburban and rural towns have predominantly white residents, and urban areas have a higher concentration of non-white residents for reasons other than non-white residents choosing to live in segregated areas.^{6,7} In addition to the practices that created and sustain high levels of racial segregation, lower property values, and a reduced tax base have led to a decline in resources and opportunities in communities with high concentrations of non-white residents. While many people attribute opportunity disparities that children of color face exclusively to economic disparities, our analysis finds that many youth opportunities are influenced by *both* income and racial segregation while others are influenced only by income.

When adjusting for the effects of population density, population, and income; residential segregation is significantly correlated with 12 out of 14 indicators;⁸ that is, for 12 out of 14 indicators, the correlation of racial segregation on youth opportunity cannot be explained exclusively by income disparities.⁹ **Higher levels of residential segregation correlate more strongly than per capita income with higher school suspension rates, higher juvenile arrest rates, less stable residential arrangements, and more child poverty.** This pattern is consistent with the research that shows that residential segregation is a major barrier to youth opportunities.¹⁰ Indicators that do not significantly correlate with residential segregation after adjusting for income, population, and population density include the percent of residents with college degrees, the percent of disconnected youth, and the percent of children with pre-kindergarten experience.

⁶ “Connecting to History.”

⁷ Several surveys actually indicate that people of color have a stronger preference for living in integrated neighborhoods than white people. Massey and Denton, *American Apartheid*.

⁸ Adjusting for variables within correlation matrices and regression models allows us to determine that a relationship is not explained by a third factor. For example, by adjusting for the effect of income, we can see that the relationship between more residential segregation and less stable residential arrangements is not explained by average income in a town. When two towns have similar per capita incomes, towns with more residential segregation have less homeownership than towns with less residential segregation.

⁹ See Appendix A.

¹⁰ Feder, Iverson, and Oppenheimer, “Unequal Schools: Connecticut’s Racial, Socioeconomic, and Geographic Disparities in Kindergarten Class Size and Teaching Experience.” Also refer to the research from the Open Communities Alliance (<http://www.ctoca.org/>).

Summary of Community Characteristic Findings

Simply put, in towns where residents earn more money, children are more likely to encounter better funded schools and more protective factors in their communities and schools. In towns and cities where residents earn less money, children are more likely to attend schools with less funding, more likely to encounter risk factors in their communities and schools, and more likely to have peers that may be academically disengaged. Therefore, growing up in a smaller, wealthier community is more predictive of greater youth opportunity, and growing up in a larger, poorer community is more predictive of lesser youth opportunity. In addition, racial isolation of people of color has a stronger impact than income on disparities in suspension rates, juvenile arrest rates, child poverty, and residential stability. These inequalities could be due in part to racial bias in school discipline practices, criminal justice practices, and housing markets.¹¹ Future work will examine these patterns in greater detail.

Predictors of Youth Outcomes

Examining the correlations between collected indicators paints a picture of how town income and demographics relate to protective factors and risk factors youth encounter across Connecticut. In the analyses that follow, we use regression analyses to examine how these protective and risk factors relate to three negative outcomes for youth that impact success throughout the lifespan: teen pregnancy, youth disconnection and juvenile arrests.

Teen Pregnancy

To understand which of our indicators are uniquely related to teen birth rates, we first created a statistical model to determine which indicators predicted teen birth rates, measured as the number of babies born to teens per 1,000 births.¹² We included town population, population density, per capita income, residential segregation, and our other community, peer, and school indicators as predictor variables. We used this same method to examine rates of employed dropouts, rates of unemployed dropouts (what we call “disconnected youth”), and juvenile arrest rates. We did not include high school graduation rates within these models because we had 13 towns with unreported data, and we did not include the percent of students on Free and Reduced Price Lunch because it was too highly correlated with teen birth rates.¹³ Removing these variables did not significantly impact the models.

Even when including all predictor variables, **teen birth rates were strongly predicted by town population, residential segregation, percent of housing units rented, and poverty rates.** As these variables increased, so did the number of babies born to teenagers. In Connecticut, urban centers—which have the highest populations, high rates of renters as opposed to homeowners, and higher child poverty rates—had the highest teen birth rates. We also found that education is an important protective factor against teen pregnancy; both school academic achievement and the percent of adults in the community with higher education degrees significantly predicted fewer teen

¹¹Massey and Denton, *American Apartheid*; Alexander, *The New Jim Crow*; Ricks, “Persistent Racial Inequality in School Arrest Rates in Connecticut”; Skiba et al., “The Color of Discipline.”

¹² We used a stepwise linear regression model in this analysis. Linear regression is a statistical method that models the relationship between multiple predictor variables (x1, x2, x3, etc.) and a predicted variable (y). By analyzing how predictor variables relate to each other in addition to the predicted variable, linear regression allows us to determine the strength of the contribution of a predictor variable above and beyond the contribution of the other predictor variables.

¹³ When variables are too closely related, it becomes impossible to determine *which* of the variables is responsible for an effect and lessens the likeliness of either variable being statistically significant.

births.¹⁴ This is consistent with other research showing that success in school and the presence of mentors are protective factors against teen pregnancy.

Youth Disconnection

Teen birth rates, along with the percentage of housing units in a community that are rented, had unique and significant relationships with the rates of youth dropping out of school and finding employment. Previous research has found that teen pregnancy is the leading cause of girls and young women dropping out of high school.¹⁵

The relationship between the percent of housing units rented in a community and the outcomes of youth dropping out of school is a notable relationship as well. We find that youth who live in areas with more homeowners are more likely to be employed if they drop out of high school. These findings are consistent with recent research linking residential stability rates with employment stability for low-wage workers,¹⁶ likely due in part to the psychological toll of forced mobility¹⁷ or to the close relationship between homeownership and accumulated wealth of resources.¹⁸ Considered in tandem with our findings about a relationship between this indicator and teen birth rates, we urge public policymakers to include housing specialists in conversations about programs to decrease negative outcomes for youth.

The story of youth who drop out of school and do *not* find employment—disconnected youth—is quite different. **The only variable uniquely related to rates of disconnected youth was suspension rates. Communities where schools use more exclusionary discipline, such as suspensions, are also more likely to have higher rates of youth that disconnect from school and employment.** These findings build upon previous research about the achievement gap showing that even when accounting for individual, family, and school factors, the number of suspensions a student receives is directly tied to the chance that the student will drop out of school.¹⁹ Building on this, we find that exclusionary discipline is connected with other negative outcomes such as being less likely to find employment after leaving school.

Youth Arrests

We find that **suspension rates are also a unique predictor of juvenile arrests.** Even when adjusting for other factors that influence involvement with the justice system, such as poverty and residential segregation, suspension rates have a strong and positive correlation with rates of juvenile arrests. These findings in Connecticut are consistent with national studies showing that youth are more likely to be arrested on days they are suspended from school, often as a result of “zero tolerance” or “three strikes and you’re out” policies.²⁰ Considered together, we find that exclusionary discipline practices in schools are linked with some of the most negative outcomes for youth.

¹⁴ Kirby and Lepore, “Sexual Risk and Protective Factors.”

¹⁵ Freudenberg and Ruglis, “Preventing Chronic Disease: October 2007: 07_0063.”

¹⁶ Desmond and Gershenson, “Housing and Employment Insecurity among the Working Poor.”

¹⁷ Stokols, Shumaker and Martinez, “Residential Mobility and Personal Wellbeing.”

¹⁸ Joint Center for Housing Studies, “America’s Rental Housing: Meeting Challenges, Building on Opportunities.” Oliver and Shapiro, *Black Wealth/White Wealth: A New Perspective on Racial Inequality*.

¹⁹ Carpenter and Ramirez, “More Than One Gap.”

²⁰ Monahan et al., “From the School Yard to the Squad Car.”

Summary of Youth Predictor Findings

These findings suggest three important directions for policy research. First, we must better understand the relationship between residential stability and employment stability. We must include housing experts in conversations when creating systems to support youth who have dropped out of school as they strive to become productive members of their communities. Second, we find that keeping kids in class is a key component of keeping kids in school. Exclusionary discipline practices that remove students from the classroom are linked with youth not only dropping out of school but also with youth struggling to find gainful employment and with juvenile justice involvement. Third, communities with more residential stability, more financial resources, and a higher percentage educated adults to serve as potential role models have lower rates of teen pregnancy. This implies that, in addition to programs that help youth with education about reproductive health and access to birth control, a social context that provides role models and mentors to guide youth on a path toward future success helps diminish the rates of negative outcomes, like early pregnancy, for youth.

Key Variation by Community

While many youth opportunity variables are correlated with per capita income and residential segregation, each community is different and has its own successes and challenges. Our 14 measures of youth opportunity provide an opportunity for communities to identify areas of success and areas where they can further grow.

When we review the individual indicators in the urban cities, which are among the least economically advantaged and most residentially segregated, we find indications that programs and policy matter. Looking at the peer and school indicators, we observe some outliers—towns that are doing better on some measures than otherwise similar towns.

Lowest rates of both suspensions and juvenile arrests: New Haven

Over the last several years, New Haven’s local government, justice system, law enforcement, and public school system have worked together to reduce punitive measures against youth. This may account for New Haven’s place among Connecticut’s five large urban centers as the city with the lowest suspension and juvenile arrest rates. New Haven has a combined in-school and out-of-school suspension rate of 165 suspensions per 1,000 students, in contrast to the rates ranging from 394 to 658 per 1,000 students in the other large urban cities. Similarly, New Haven’s juvenile arrest rate of less than 1,476 per 100,000 residents falls almost 20 percent below Hartford’s and over fifty percent below Waterbury’s, two urban centers similar to New Haven in population and wealth.

New Haven’s Juvenile Review Board, founded in 2006, was one of the state’s first efforts to use restorative justice practices to keep youth out of the juvenile justice system. By bringing involved parties face-to-face, youth were able to make amends as an alternative to involvement in the justice system.²¹

Efforts like this were repeated within the schools as well. 2014 saw the initiation of the Youth Stat program, which brought juvenile justice and school officials together to identify and develop

²¹ Appel, “Juvenile Review Board Coming to Town”; Tuhus, “Juvy Review Board Celebrates Success”; Mendel, “Juvenile Justice Reform in Connecticut: How Collaboration and Commitment Have Improved Public Safety Outcomes for Youth.”

intervention plans for youth at risk of juvenile justice system involvement. Shortly after, the New Haven Federation of Teachers won a grant to implement restorative practices, and 37 teachers and additional administrators were trained to use this system in their schools.²²

This trend towards restorative practices is also reflected in the introduction of a socio-emotional learning curriculum in four elementary schools. The use of this curriculum is credited for a decrease in those schools' suspension rates.²³ Moreover, the district's Superintendent began to emphasize the role of school-based law enforcement, School Resource Officers, in reducing arrest rates as the student arrest rate trended down from 2010 to 2014.²⁴ Programs such as these may have contributed to the comparatively low rates of suspensions and juvenile arrests in New Haven.

Lowest teen birth rate: New London

New London was a far outlier in teen birth rates among urban centers due to intensive teen pregnancy prevention projects in the last six years. At a rate of 23 births to teens per 1,000 births, New London's teen birth rate was less than half that of the highest of the group, Hartford, which had a teen birth rate of 47 teen births per 1,000. New London's distinction emerged after significant attention in the early 2000s about the city's high teen pregnancy rate. But from 2008 to 2013, New London's pregnancy rate among 18 and 19 year olds dropped nearly 50 percent.²⁵

To achieve this progress, the city's Department of Health established a cross-sectional Teen Pregnancy Prevention Task Force of hospitals, faith-based organizations, and others to address the problem. The Task Force's initiatives included the introduction of a comprehensive sex education course (2008), provision of birth control (2012) at New London High School, teen support groups at community health centers like Planned Parenthood, and parent education about healthy sexuality.²⁶

Mapping Youth Opportunity

Below we provide maps and an analysis of per capita income and our 14 youth opportunity indicators. Each map explains the importance of the indicator and discusses the distribution of this indicator in Connecticut, the correlation of this indicator with other factors, and positive outliers that could be the starting place for identifying effective policies to improve youth opportunities.

²² Dubin, "Learning to Switch Gears."

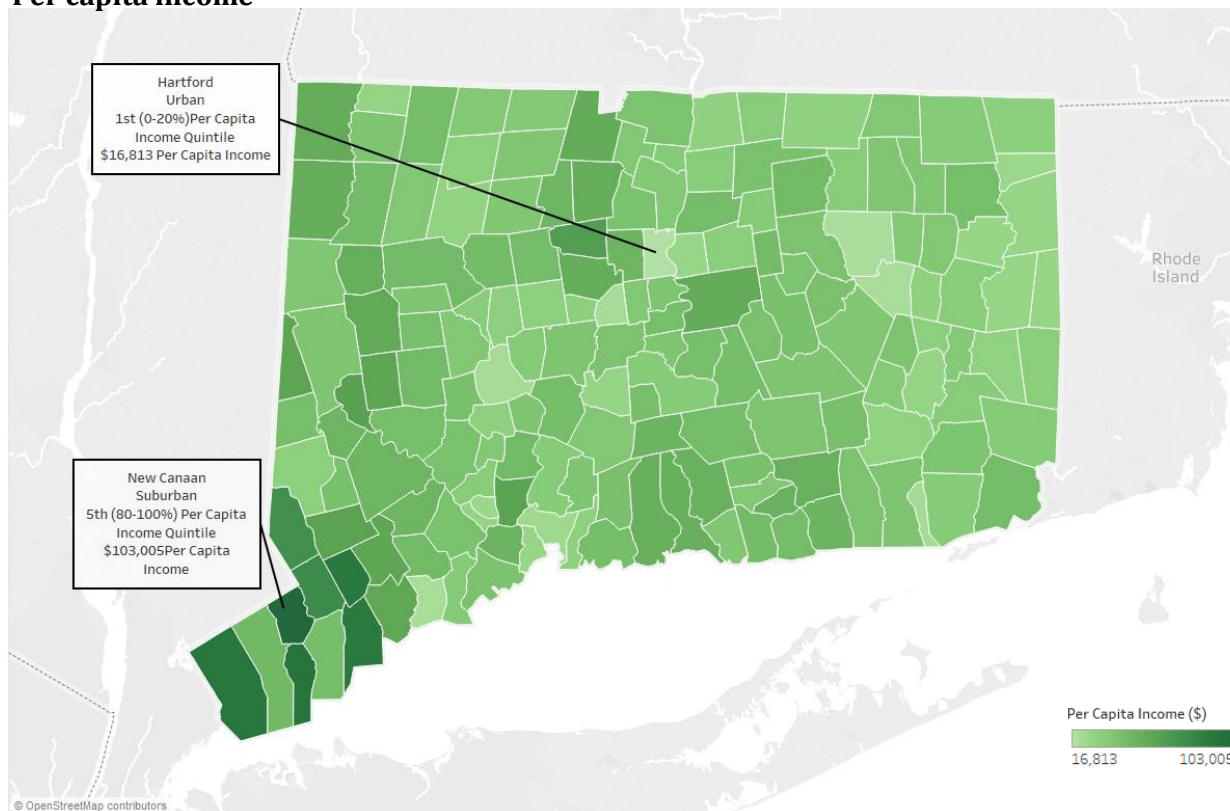
²³ Zahn, "Officials: Social Emotional Learning Curriculum Increasing Educational Outcomes in New Haven Schools."

²⁴ Zahn, "New Haven Public Schools See Decrease in Student Arrests."

²⁵ "How Teenage Pregnancy Rates Are Plummeting in Connecticut."

²⁶ Gendreau and Greene, "High School Clinic to Offer Birth Control | NBC Connecticut"; Levy, "Sex Education Key to Solving New London's Teen Pregnancy Problem, Experts Say"; "State of Connecticut Department of Public Health Updated State Plan for Maternal, Infant, and Early Childhood Home Visiting Programs."

Per capita income



Research suggests that low educational attainment, low lifetime earnings, poor physical health, high chances of teen parenthood, and high arrest rates are just some of the outcomes that youth in low-income areas experience more than peers.²⁷

Within Connecticut, per capita income varied widely. Hartford had the lowest per capita income of \$16,813. This put the lowest per capita income six times less than the highest, in New Canaan where it was \$103,005.²⁸ Towns within the same category—rural, suburban, or urban defined by their population—had substantial variation.²⁹ The 92 suburban towns had the widest range from Windham’s \$20,126 to New Canaan’s state high.³⁰ The 72 rural towns ranged from \$24,639 in Putnam to \$63,029 in Bridgewater. The five urban towns had the smallest range, from the state low in Hartford to \$46,074 in Stamford. As such, the mean average per capita income in urban towns (\$25,675) was much lower than the other categories, which had similar averages of \$42,235 in suburban towns and \$41,901 in rural towns.

Correlations: Per capita income was strongly positively correlated with the percentage of adults with Bachelor’s Degrees and with the District Performance Index scores (DPI).

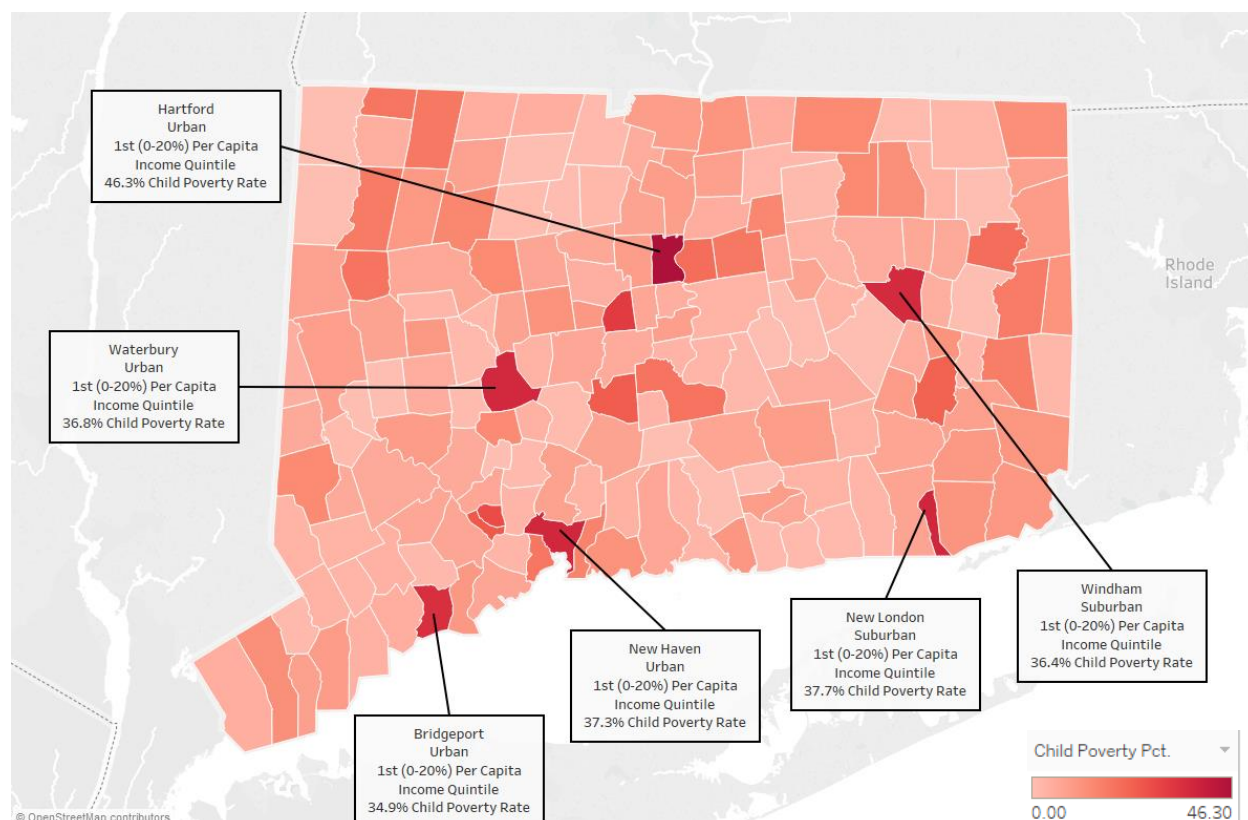
²⁷ Gose et al., “Longitudinal Influences of Neighbourhood Built and Social Environment on Children’s Weight Status”; Hedman and Galster, “Neighbourhood Income Sorting and the Effects of Neighbourhood Income Mix on Income: A Holistic Empirical Exploration”; Ludwig, Duncan, and Hirschfield, “Urban Poverty and Juvenile Crime”; Katz, Kling, and Liebman, “Moving to Opportunity in Boston.”

²⁸ Source: CT Voices’ analysis of US Census Bureau, 2010-2014 American Community Survey 5 Year Estimates

²⁹ See *methodology in the full report*. Rural towns had a population under 10,000, suburban towns had a population between 10,000 and 100,000, and urban centers had a population over 100,000.

³⁰ Mansfield excluded. For more information, see full report.

Child poverty



A number of towns across the state had an estimated 0 percent child poverty rate.³³ These towns—Canterbury, Pomfret, Marlborough, Durham, Barkhamsted, Beacon Falls, Bridgewater, Chester, Killingworth, Lebanon, Roxbury, Sharon, and Salisbury—were located across the state and all fell into the rural category. On the other hand, in six urban and suburban towns—Hartford, New London, New Haven, Waterbury, Windham, and Bridgeport—over one third of children lived below the federal poverty line. Hartford had the highest child poverty rate of 46.3 percent.

Correlations: Child poverty was strongly correlated with several other indicators. As child poverty increased, so did the percentage of FRPL-eligible students, percentage of housing occupied by renters, teen birth rates, chronic absenteeism, and suspension rates. By contrast, lower rates of child poverty were associated with higher graduation rates and higher District Performance Index (DPI) scores.

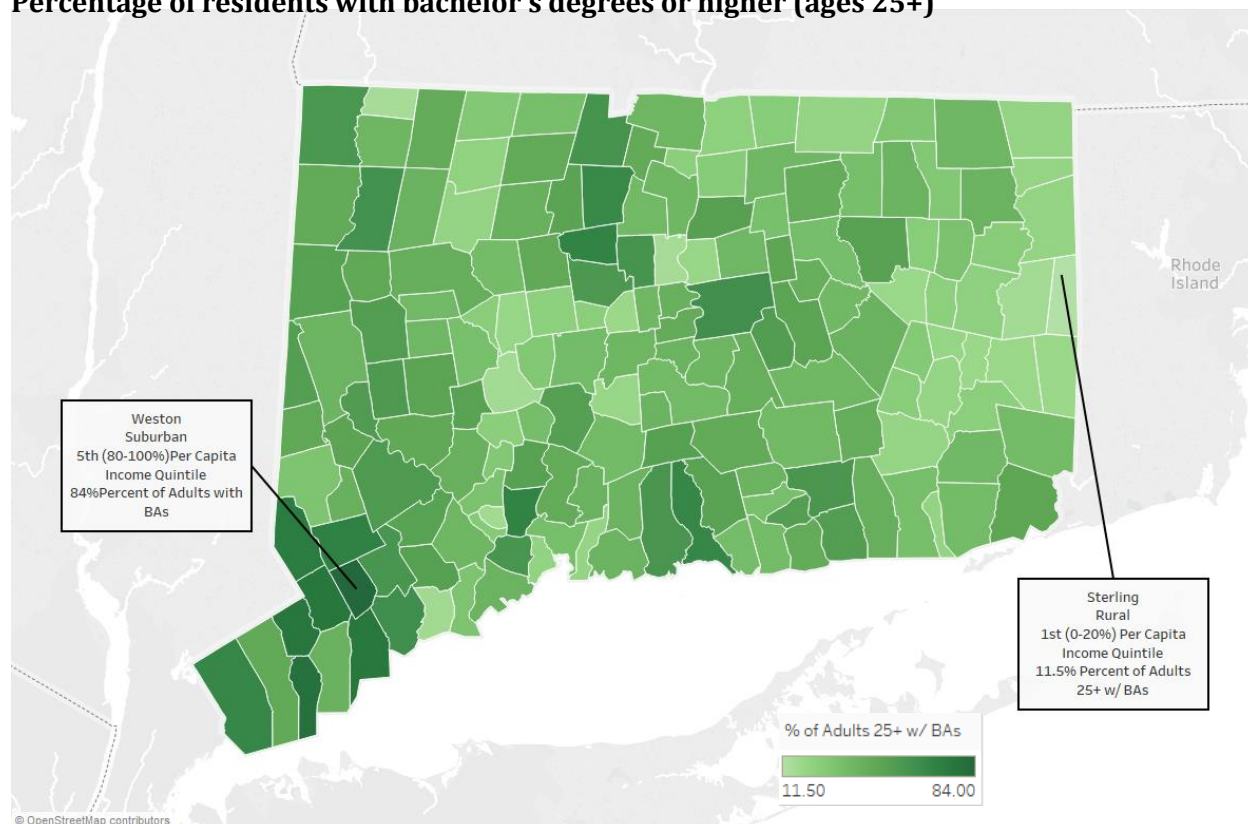
Studies have linked child poverty with both social and educational consequences. Children living in poverty have been shown to experience more depression, anxiety, and behavioral problems, as well as physical health consequences like obesity and teen pregnancy.³¹ Moreover, these children, on average, earn lower test scores and attain fewer years of education.³²

³¹ Santiago, Wadsworth, and Stump, “Socioeconomic Status, Neighborhood Disadvantage, and Poverty-Related Stress: Prospective Effects on Psychological Syndromes among Diverse Low-Income Families”; Chen, Martin, and Matthews, “Understanding Health Disparities”; Kearney and Levine, “Socioeconomic Disadvantage and Early Childbearing.”

³² Brooks-Gunn and Duncan, “The Effects of Poverty on Children”; Korenman, Miller, and Sjaastad, “Long-Term Poverty and Child Development in the United States: Results from the NLSY.”

³³ Source: CT Voices’ analysis of US Census Bureau, 2010-2014 American Community Survey 5 Year Estimates

Percentage of residents with bachelor's degrees or higher (ages 25+)



Research suggests that youth living in communities with high concentrations of college degrees and professional jobs have higher math and reading test scores and lower incidents of disconnection with schools *regardless of the youth's families' particular income or education level.*³⁴

The percentage of adults 25 years of age or older holding Bachelor's Degrees (BAs) ranged 72.5 percentage points between the highest and lowest towns across the state. In Weston, a suburban town, 84 percent of adults held BAs, while in Sterling, a rural town on the eastern state border, only 11.5 percent did.³⁵ Other towns with low percentages of BA holders—including Hartford, North Canaan, Plainfield, and Waterbury—ranged across the town types. By contrast, all of the five towns with the highest percentages of BA holders —Weston, Darien, New Canaan, Wilton, and Westport—were suburban and fell toward the top of the state's per capita income range (80th percentile or

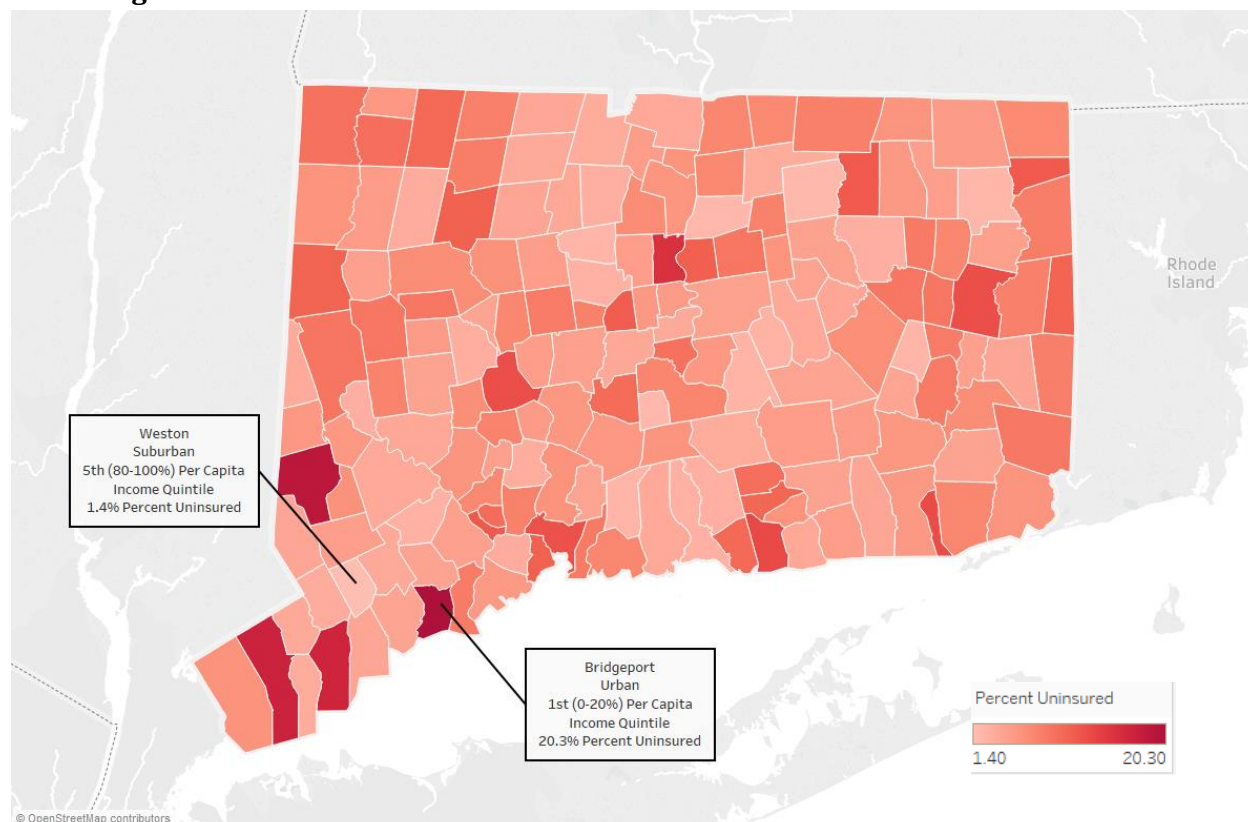
above).

Correlations: In Connecticut, the percent of adults holding Bachelor's degrees correlated strongly and positively with per capita income and DPI scores. There was a strong negative correlation between this percentage and the percentage of FRPL-eligible students and teen birth rate.

³⁴ Logan, Minca, and Adar, "The Geography of Inequality"; Santiago, Wadsworth, and Stump, "Socioeconomic Status, Neighborhood Disadvantage, and Poverty-Related Stress: Prospective Effects on Psychological Syndromes among Diverse Low-Income Families"; Galster et al., "Adolescent Neighborhood Context and Young Adult Economic Outcomes for Low-Income African Americans and Latinos."

³⁵ Source: CT Voices' analysis of US Census Bureau, 2010-2014 American Community Survey 5 Year Estimates

Percentage of uninsured residents



Health insurance matters even before birth. Research shows that maternal health coverage during pregnancy is positively linked to better health outcomes throughout childhood.³⁶ Additionally, health coverage during childhood increases access to health care, which can impact engagement in class and academic performance through simple fixes like diagnosis of the need for corrective lenses.³⁷

Although the statewide rate of residents (of all ages) lacking health insurance was only 6.39 percent, wide disparities existed. The chances of being uninsured in Bridgeport (the highest rate) were 14.5 times higher than in Weston (the lowest rate).³⁸ In Bridgeport, 20.3 percent of residents lacked health insurance. This rate was closely followed by Danbury (19 percent), Stamford (17.3 percent), and Norwalk (17 percent). The high rates of Stamford and Norwalk are of interest, as these towns both fell in the fourth per capita income quintile (60-80th percentile). While Weston had the lowest rate of uninsured residents at 1.4 percent, an additional 101 (of 169) towns had rates less than the state mean of 6.39 percent.

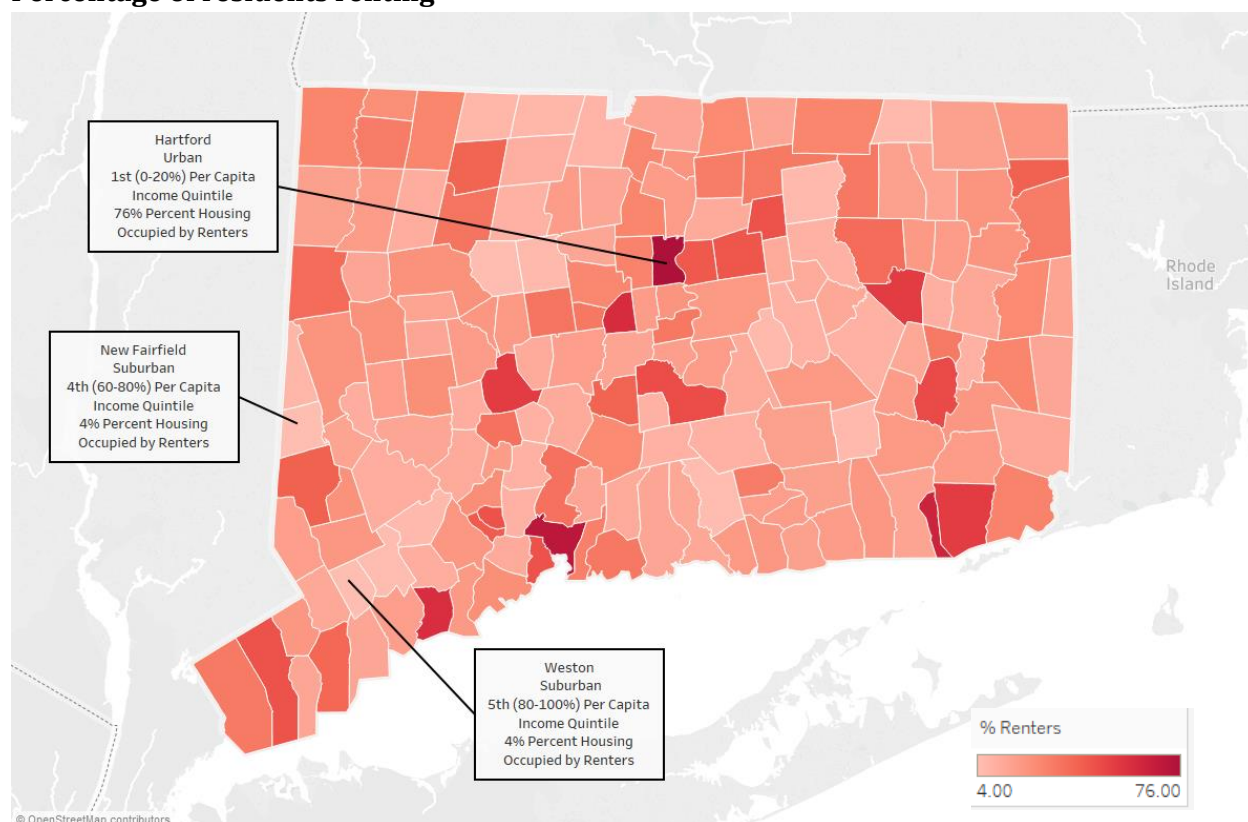
Correlations: The percent of uninsured residents in Connecticut towns had a strong positive correlation with FRPL eligibility, teen birth rate, and the percent of residents renting.

³⁶ Levine and Schanzenbach, “The Impact of Children’s Public Health Insurance Expansions on Educational Outcomes.”

³⁷ Newacheck et al., “Health Insurance and Access to Primary Care for Children”; Kenney, “The Impacts of the State Children’s Health Insurance Program on Children Who Enroll”; Currie, Decker, and Lin, “Has Public Health Insurance for Older Children Reduced Disparities in Access to Care and Health Outcomes?”; Basch, “Healthier Students Are Better Learners.”

³⁸Source: CT Voices’ analysis of US Census Bureau, 2010-2014 American Community Survey 5 Year Estimates

Percentage of residents renting



The percentage of housing units occupied by renters, used as a proxy for residential stability, was yet another indicator with substantial variation between towns, with a 72 percentage point gap between the lowest and highest rates. In both Weston and New Fairfield only 4 percent of housing was occupied by renters, while in Hartford, it was 76 percent.⁴¹ Only eight towns had more than half of their residents renting. All but one of those towns fell within the lowest per capita income quintile.

Correlations: The percentage of renters in a community has a strong positive correlation with FRPL eligibility, teen birth rates, child poverty, chronic absenteeism, the percentage of uninsured residents, and suspension rates. It has strong negative correlations with graduation rates and District Performance Index scores.

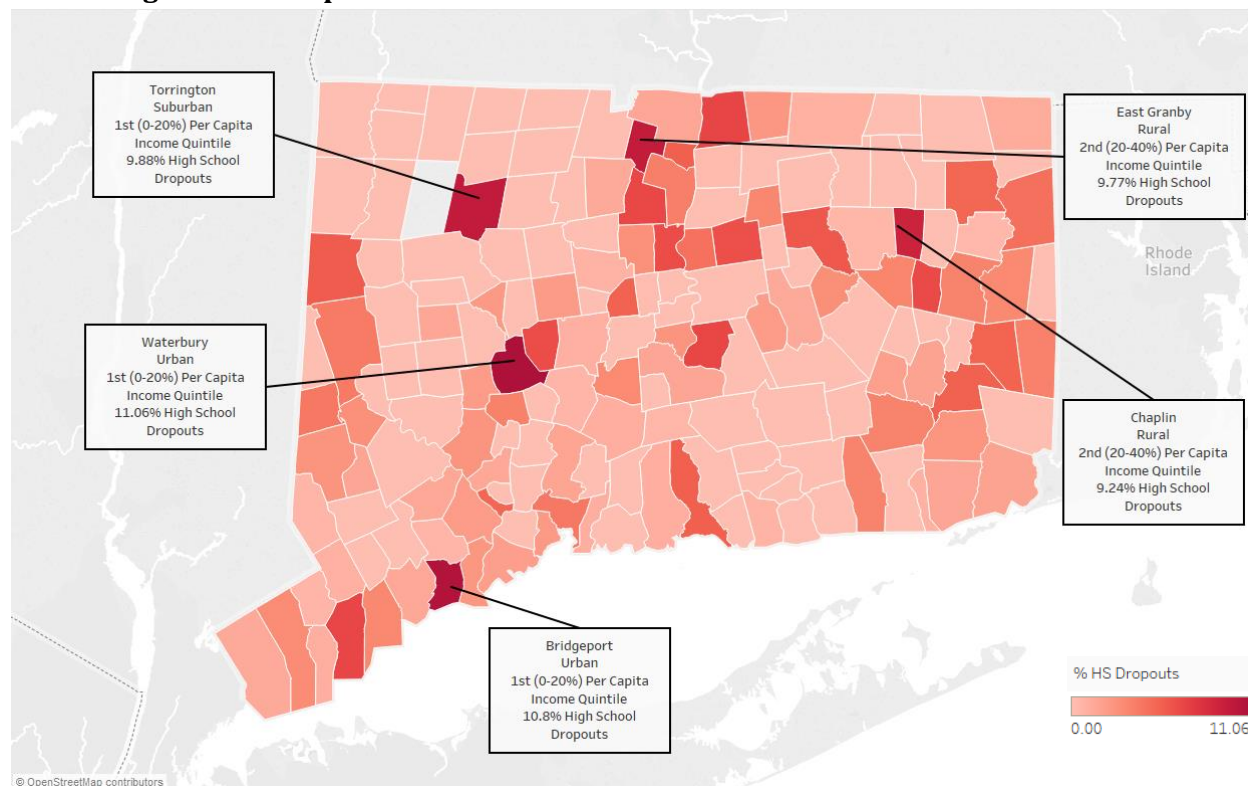
Scholars have observed effects of higher rates of homeownership versus renting in a community. For instance, higher mobility rates are associated with renting, and such residential mobility has been observed in association with lower test scores in both reading and math in comparison with peers.³⁹ Homeownership is also an indicator of greater family assets, which are associated with higher educational outcomes.⁴⁰

³⁹ Haurin, Parcel, and Haurin, “The Impact of Home Ownership on Child Outcomes”; Voight, Shinn, and Nation, “The Longitudinal Effects of Residential Mobility on the Academic Achievement of Urban Elementary and Middle School Students.”

⁴⁰ Conley, Dalton. 2009. *Being Black, Living in the Red*; Shapiro, Thomas and Melvin Oliver. *Black Wealth/White Wealth: A New Perspective on Racial Inequality*; Shapiro, Thomas. 2003. *The Hidden Cost of Being African American: How Wealth Perpetuates Inequality*.

⁴¹ Source: CT Voices analysis of US Census Bureau, 2010-2014 American Community Survey 5 Year Estimates

Overall high school dropouts



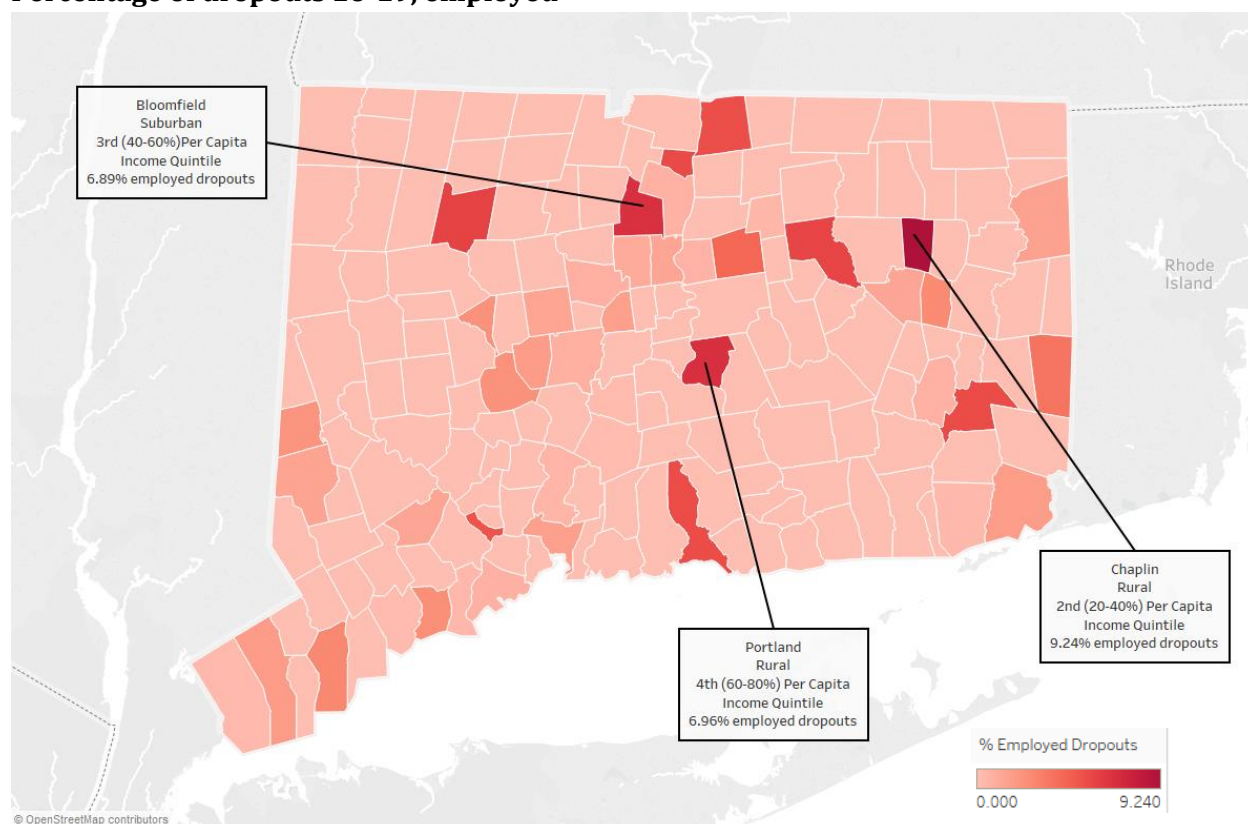
Research shows that, on average, high school dropouts make lower wages throughout their lives, tend to have a higher number of jobs and lower work satisfaction and are at greater risk of developing substance abuse disorders compared to high school graduates.⁴²

Our two indicators that follow about high school dropouts between the age of 16 and 19—employed and unemployed dropouts—paint a complex picture of youth outcomes across the state: while the rates of high school dropouts do not necessarily follow the patterns of other indicators, unemployed dropouts are more common in poor rural and urban core areas than in others.⁴³ Overall, the highest percentages of all high school dropouts in this age range were found in Waterbury (11.06 percent), Bridgeport (10.8 percent), Torrington (9.88 percent), East Granby (9.77 percent), and Chaplin (9.24 percent). While these towns are mixed in terms of their classifications—two urban, one suburban, and two rural—they were all low-income towns, falling within the first (0-20th percentile) or second (20-40th percentile) per capita income quintile. In contrast to these towns, 78 towns across the state reported 0 percent high school dropouts in this age range.

⁴² McCaul et al., “Consequences of Dropping Out of School.”

⁴³ Data from Goshen excluded because a very small sample size caused it to be an outlier.; Source: CT Voices’ analysis of 2010-2014 American Community Survey 5-Year Estimates

Percentage of dropouts 16-19, employed

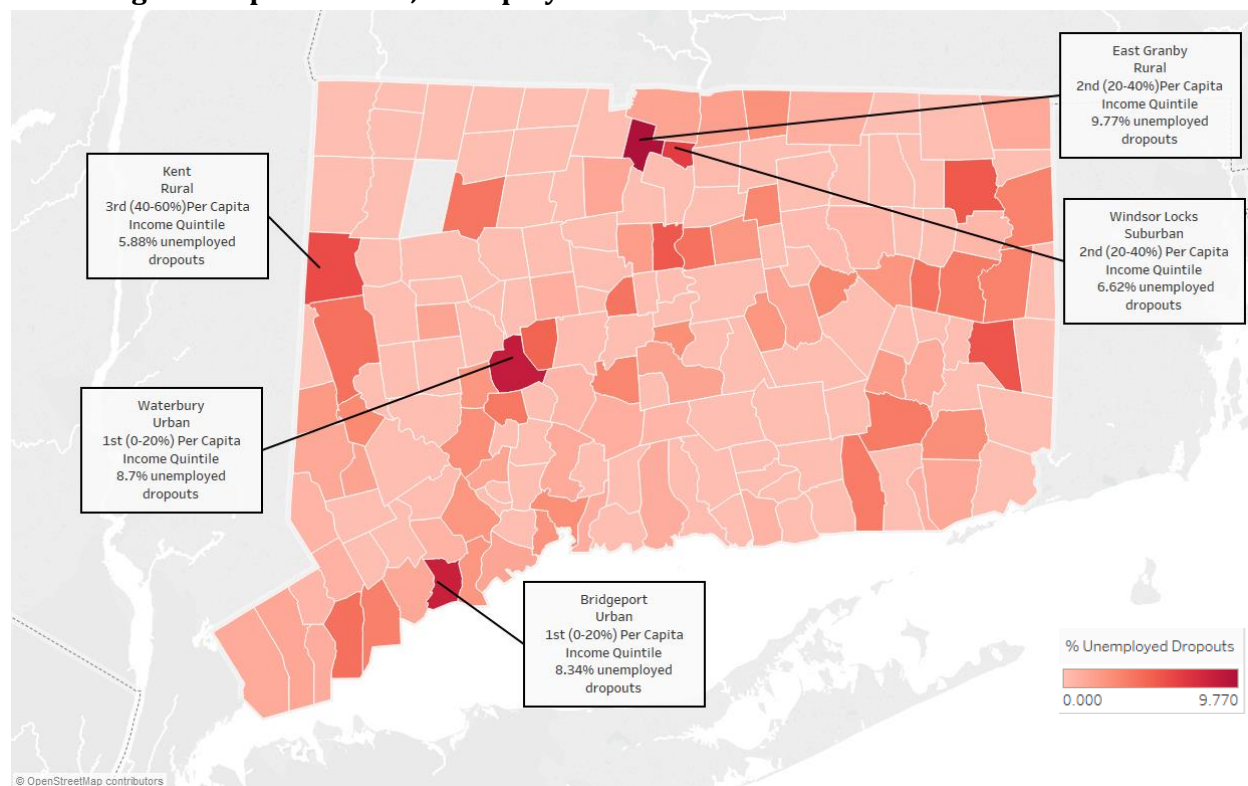


Chaplin, a rural town in the second per capita income quintile (20-40th percentile), had the highest rate of youth aged 16-19 who were employed high school dropouts at 9.24 percent. It was followed by Portland, a rural town in the fourth per capita income quintile (60-80th percentile), and Bloomfield, a suburban town in the third quintile (40-60th percentile), at 6.96 percent and 6.89 percent respectively.

Notably, the urban towns did not dominate the highest rankings of this indicator. However, as the overall rates of high school dropouts and the following indicator demonstrate, youth in the urban towns had high rates of dropping out but they often did not have jobs either. Moreover, while only 78 towns had zero high school dropouts, 125 towns had no employed high school dropouts. This means that in 47 towns all of the dropouts were unemployed, which is a very negative sign of youth wellbeing.

Correlations: The most notable correlations with youth dropping out of school but finding work were the negative correlations with graduation rates and the positive correlations with the percent of students eligible for FRPL and the teen birth rate.

Percentage of dropouts 16-19, unemployed

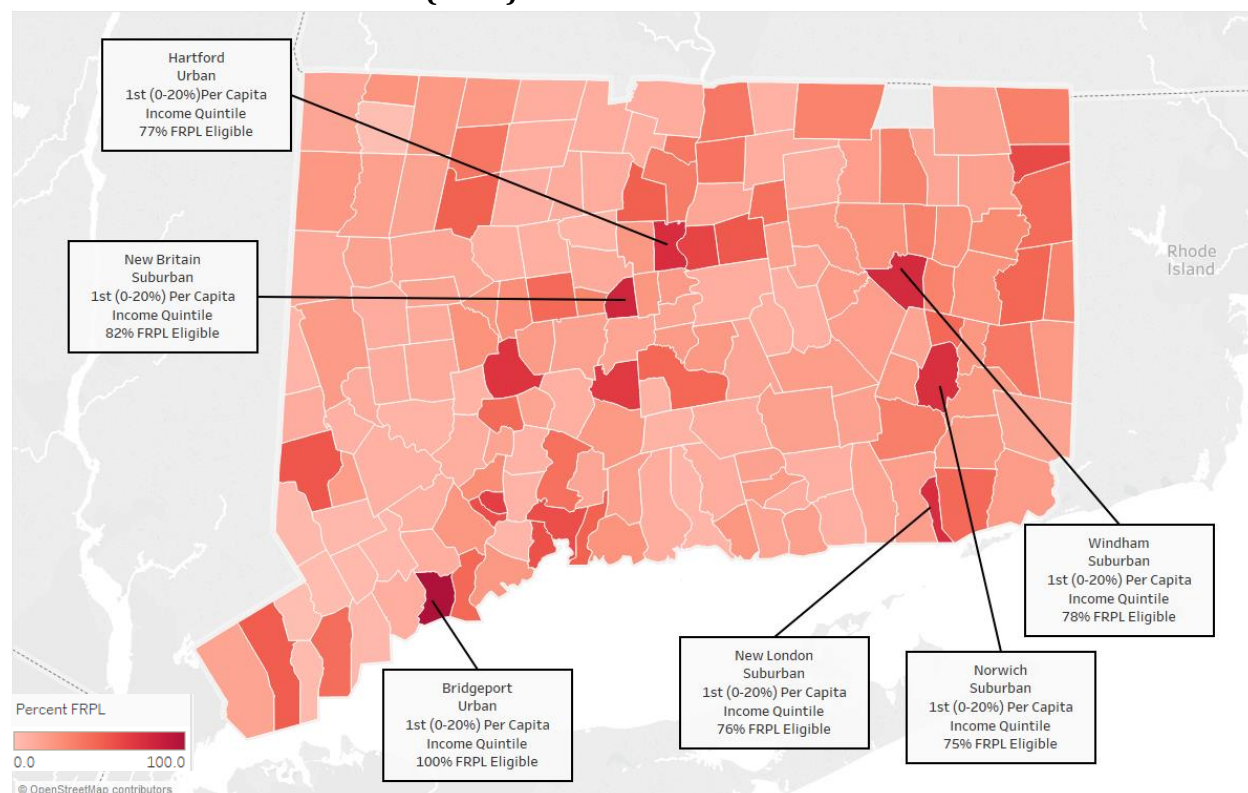


While more than half of the towns—88—had no unemployed dropouts in this age range, East Granby—a second quintile rural town—had a rate of 9.77 percent (note: this is an example of a town with no employed dropouts and a relatively high rate of overall dropouts). East Granby was followed by Waterbury (8.7 percent), Bridgeport (8.34 percent), Windsor Locks (6.62 percent), and Kent (5.88 percent).⁴⁴ For this indicator, the rural/suburban/urban categories for the top percentages varied, just as for employed dropouts. However, in this case, the highest rates were more uniformly found in low per capita income towns. Of the top seven highest percentage towns, only one—Kent—was higher than the second per capita income quintile (up to 40th percentile). Additionally, the urban towns appeared much higher on this list (in addition to Waterbury and Bridgeport, Hartford was seventh) than on the rankings of employed dropouts. This suggests that high school dropouts in these low-income and urban towns may struggle more to find employment after leaving school.

Correlations: There were notable positive correlations between the percentage of unemployed dropouts with suspension rate and with teen birth rate.

⁴⁴ Data from Goshen excluded because a very small sample size caused it to be an outlier.

Free and Reduced Price Lunch (FRPL)



The range of the portion of students on Free and Reduced Price Lunch (FRPL) spanned the entire spectrum.⁴⁶ While two towns—New Canaan and Canaan—report 0 percent of their students qualified for FRPL, Bridgeport had 100 percent of its students on FRPL. The statewide average was 24 percent of the students qualifying, but in six towns—Bridgeport, New Britain, Windham, Hartford, New London, and Norwich—more than three-quarters of the students received FRPL. Although Norwich, Windham, and New Britain are not classified as urban towns based on their population, they are all in the lowest per capita income quintile.

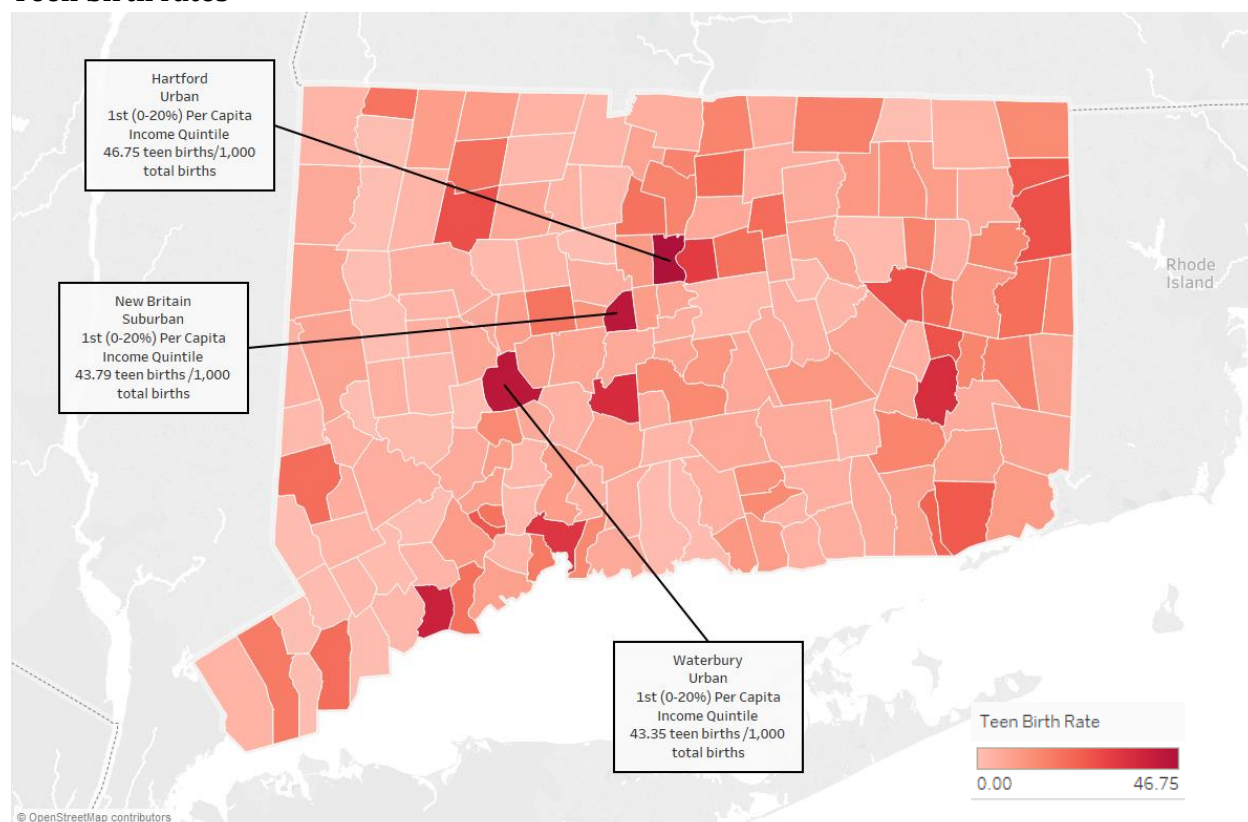
Students in high-poverty schools and districts—where the percentage of students eligible for Free and Reduced Price Lunch is high—face challenges beyond those of simply living in a high-poverty community. For example, research shows teacher retention and the percentage of teachers in their field is consistently lower in higher-poverty schools.⁴⁵

Correlations: FRPL eligibility was correlated with multiple factors. On the one hand, it had a strong negative correlation with DPI scores and the percentage of adults with Bachelor’s Degrees. On the other, it had strong positive correlations with teen birth rates, child poverty rates, chronic absenteeism, and the percentage of uninsured residents.

⁴⁵ Almy and Theokas, “Not Prepared for Class.”

⁴⁶ Source: CT Voices’ analysis of Connecticut State Department of Education, 2014-2015

Teen birth rates



Researchers describe multiple negative consequences of teen parenthood on a youth's wellbeing. Teen parents are less likely to graduate from high school or go on to post-secondary education and are more likely to live in poverty or be depressed than their peers.⁴⁷

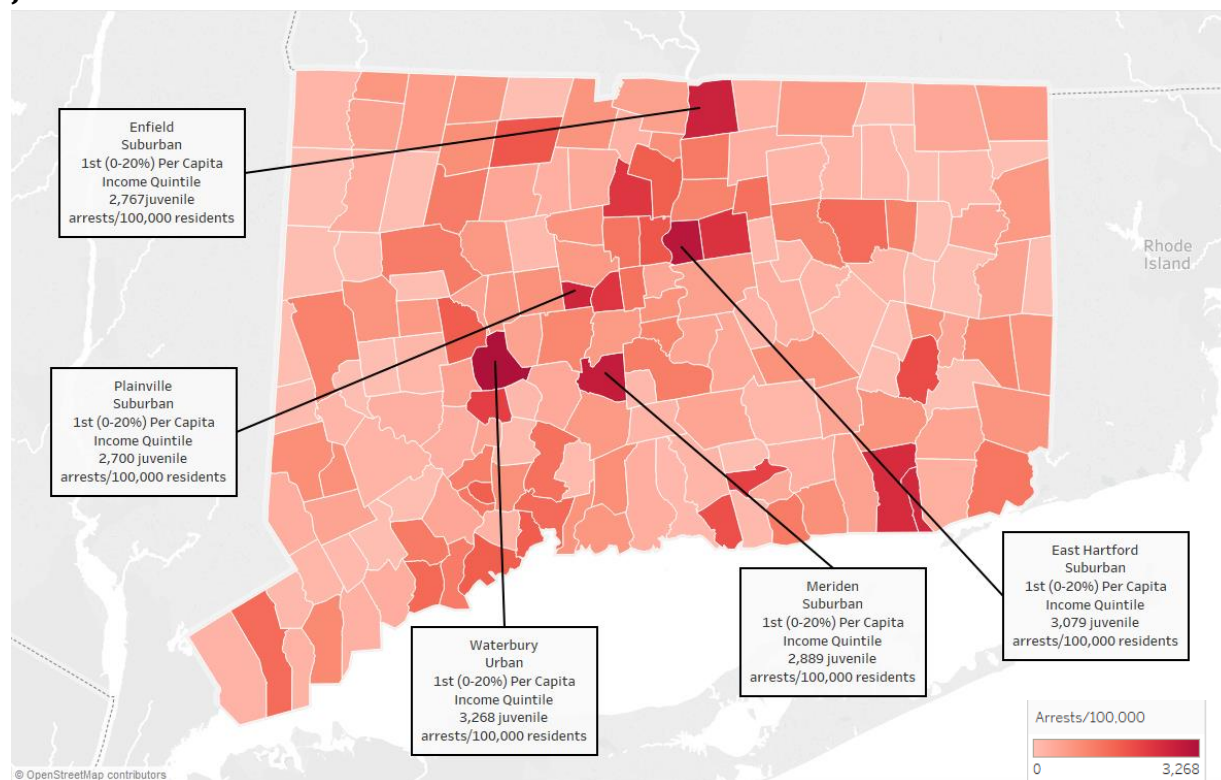
Teen birth rates across the state varied substantially. On the one hand, several towns reported zero births to teen mothers per 1,000 births.⁴⁸ These towns were Union, Bridgewater, Warren, Washington, Canaan, New Canaan, Cornwall, and Middlebury. All but two of these towns fell within the fourth and fifth (60-100th percentile) per capita income quintiles. By contrast, the 14 highest birth rates were in towns in the lowest per capita income quintile. Hartford had the highest rate of 46.75 teen births per 1,000, closely followed by New Britain (43.79 births) and Waterbury (43.35 births).

Correlations: Teen birth rate was strongly correlated with a wide variety of indicators. Strong positive correlations included FRPL eligibility, chronic absenteeism, percent of renters, child poverty, suspension rate, and percent uninsured. Strong negative correlations include DPI scores and percentage of adults with a BA.

⁴⁷Hoffman and Maynard, *Kids Having Kids*; Kearney and Levine, "Why Is the Teen Birth Rate in the United States so High and Why Does It Matter?"; Black, Fleming, and Rome, "Pregnancy in Adolescents."

⁴⁸ Source: CT Voices' analysis of Connecticut Department of Health 2009-2013 data

Juvenile arrests



Juvenile arrests were another indicator with broad deviation among the towns.⁵¹ While 22 towns had no arrests of a juvenile (youth under the age of 18), the statewide average was 720 juvenile arrests per 100,000 residents. Moreover, the town with the highest rate of juvenile arrests, Waterbury, had a rate of 3,268/100,000 residents, over 4.5 times higher than the state average. Of note, the urban towns did not have the highest rates; Hartford's juvenile arrest rate of 1,813/100,000 put it at the 17th highest rate, Bridgeport's 1,507/100,000 was the 23rd highest, and New Haven's 1,476/100,000 was the 24th highest. Instead, Waterbury was joined at the top with low-income suburban towns: East Hartford (3,079/100,000), Meriden (2,889/100,000), Enfield (2,767/100,000), and Plainville (2,700/100,000).

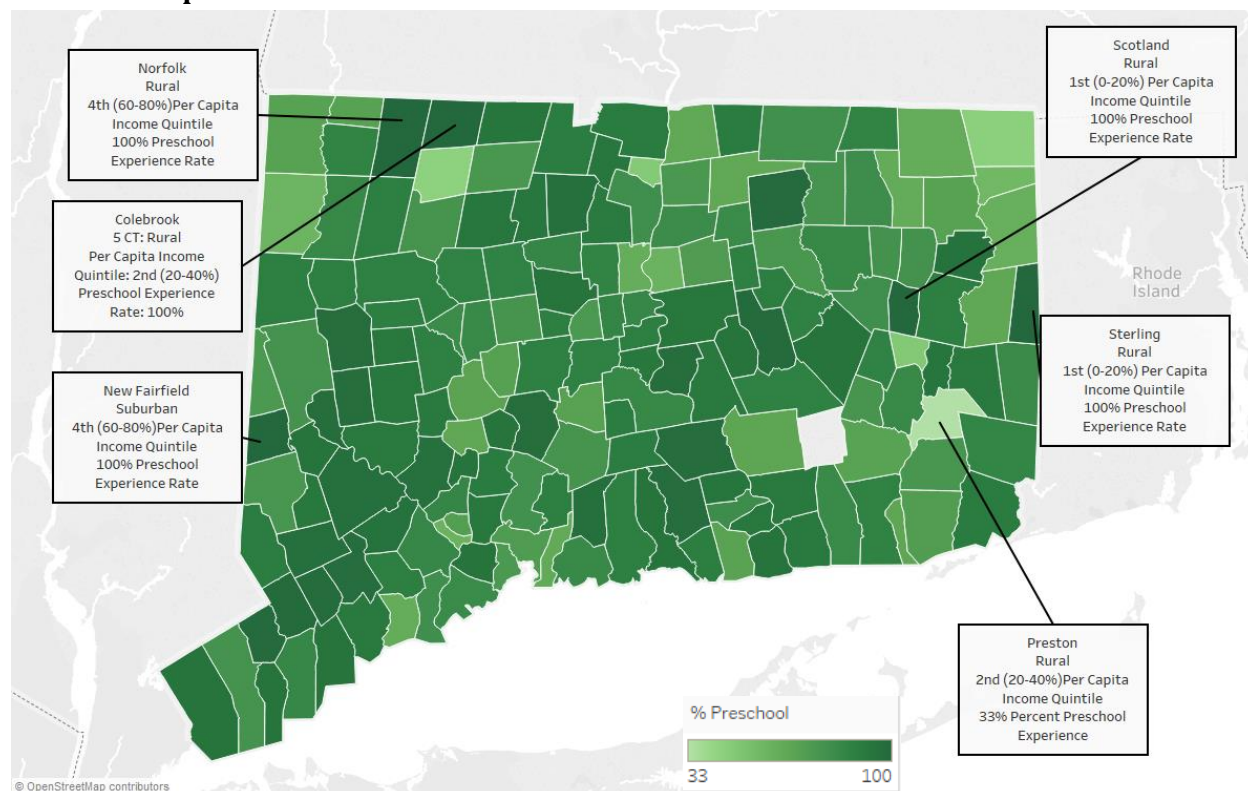
Studies suggest that juvenile arrests impact both the involved youth and the community. Individuals arrested as youth are much more likely to drop out of school than others.⁴⁹ Scholars have also suggested that high rates of crime may normalize crime and increase the chances of other youth getting involved in criminal activity.⁵⁰

Correlations: Juvenile arrest rates showed moderate and positive correlational relationships with the percent of FRPL-eligible students, teen birth rate, chronic absenteeism, percent uninsured residents, suspension rates, and rentership. In contrast, as juvenile arrest rates increased, graduation rates and DPI scores decreased.

⁵⁰Ng-Mak et al., "Normalization of Violence among Inner-City Youth."; Case and Katz, "The Company You Keep."

⁵¹ Source: CT Voices' analysis of Department of Emergency Services and Public Protection 2015 data

Preschool experience



Researchers suggest that attending preschool can have both short-term and long-term impacts on a child. Improved cognitive, social, and academic skills have been associated with preschool attendance.⁵²

Although the statewide average percentage of kindergarteners that attended some form of preschool was 83 percent, the range across towns was broad.⁵³ While Preston, a rural town, had only 33 percent preschool experience, several towns had 100 percent preschool attendance. Notably, within our Connecticut town categories there was much variation in preschool experience. Rural towns had some of the very highest and very lowest percentages of preschool experience. In the bottom five, Preston, Thompson, and Sprague were all rural towns; in the top five, Sterling, Norfolk,

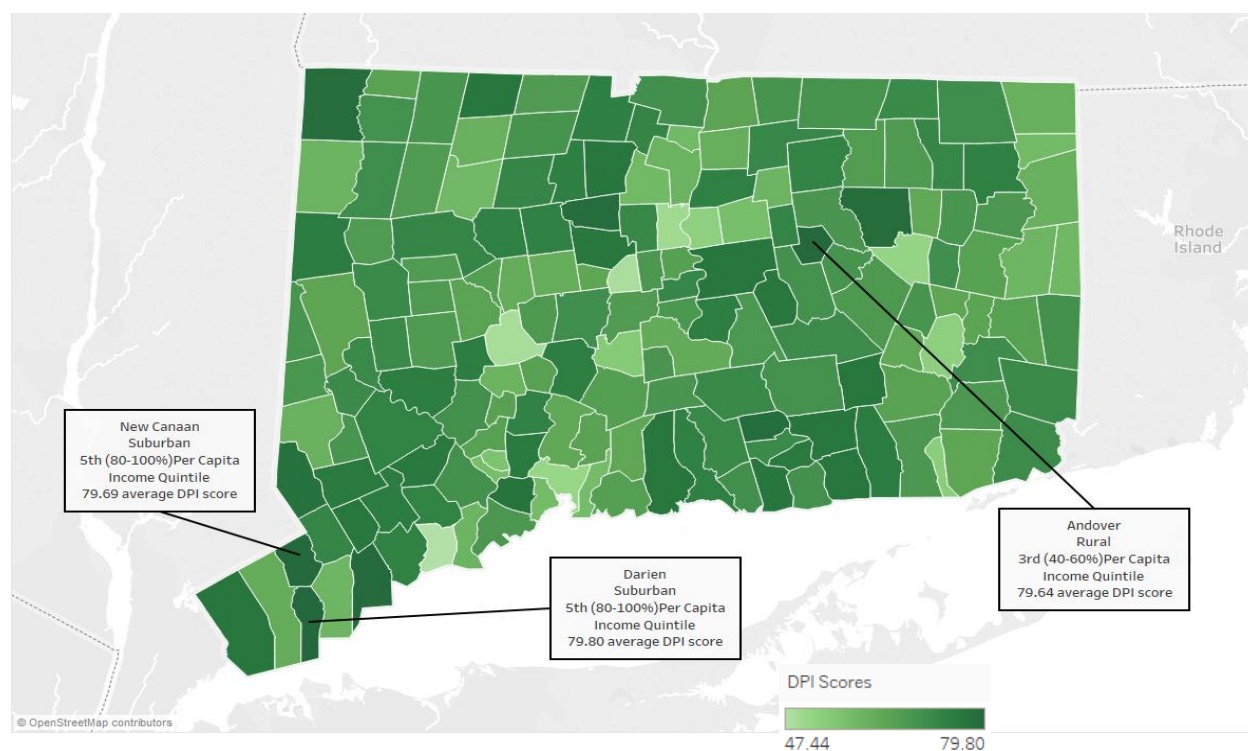
Scotland, and Colebrook (all with 100 percent preschool experience) were also labeled as rural towns. While Preston and Colebrook might seem similar—both are rural, second per capita income quintile towns—their respective preschool experience rates of 33 percent and 100 percent were the extremes. In this case, the rural/suburban/urban categorization did not determine how youth experienced this measure of wellbeing.

Correlations: Preschool experience had notable positive correlations, which were BA holders, graduation rates, per capita income and DPI scores. The most notable negative correlations were with teen birth rate, percent FRPL eligible, and the percent of housing units occupied by renters.

⁵² Anderson et al 2003; Barnett 1995; Barnett and Ackerman 2006; Yoshikawa 2013; Camilia et al 2010

⁵³ Source: CT Voices' analysis of State Department of Education CEDAR database, 2012-2013

Math and English Language Arts District Performance Index Scores



Math and reading scores on standardized tests are associated with several life outcomes. For instance, high school dropouts are more likely to have low reading test scores, and math achievement is associated with a student's future income.⁵⁴

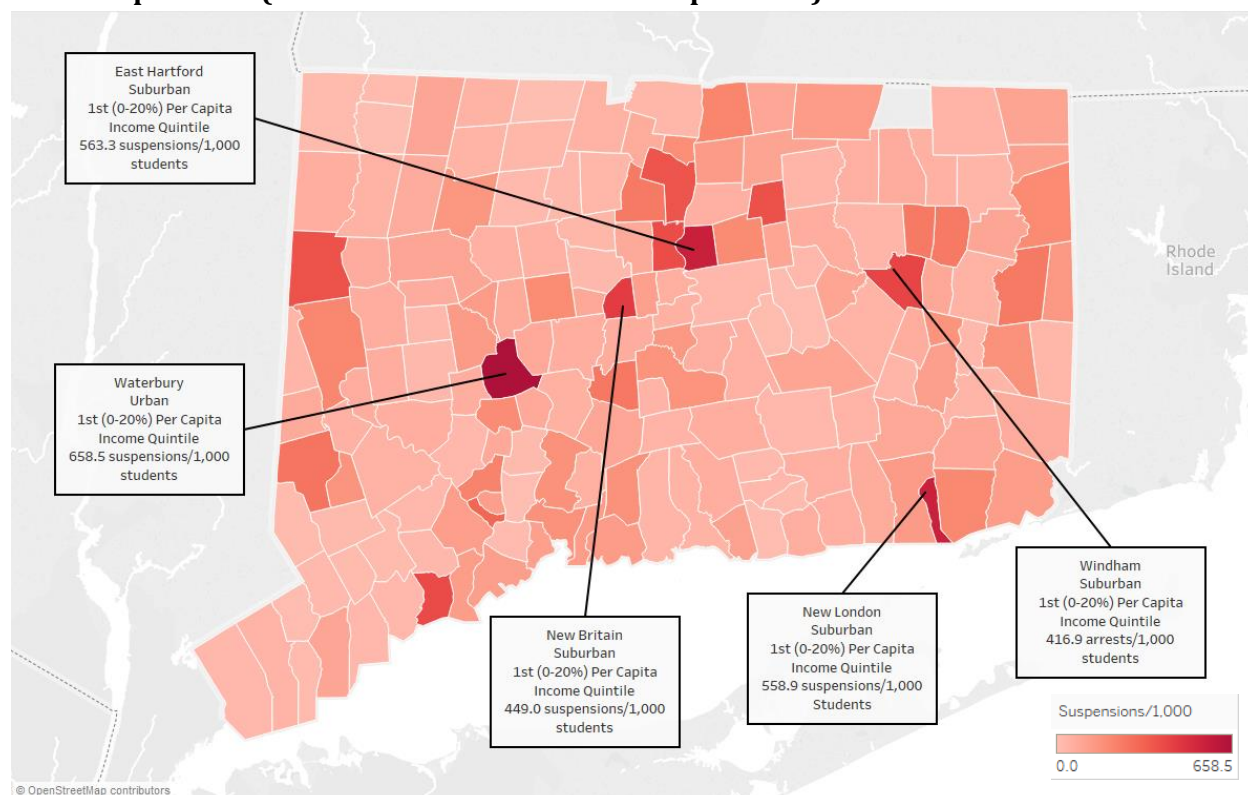
The District Performance Index (DPI), representing the scores on students' standardized tests on a scale of 0-100, contains wide gaps between the highest and lowest achieving towns in Connecticut.⁵⁵ The average of math and English Language Arts (ELA) DPI scores varied 32.4 points from the lowest to highest towns, with Bridgeport ranking lowest at 47.4 points and Darien ranking highest at 79.8. For this indicator, the four lowest-income urban towns—Bridgeport, Waterbury, Hartford, and New Haven—along with low-income suburban town New Britain had the lowest DPI scores. On the opposite end, Darien and New Canaan, the two towns with the highest per capita income, had the highest scores of 79.8 and 79.69 respectively. Notably, however, Andover, which was the third highest ranked town with only 0.4 less than New Canaan, is, in fact, a rural town in the third per capita income quintile (40-60th percentile).

Correlations: DPI scores increased with graduation rates, the percent of adults with BAs, and per capita income. By contrast, DPI scores decreased with the increase of FRPL eligibility, teen birth rates, chronic absenteeism, child poverty, suspension rates, and the percentage of renters.

⁵⁴ Neild, Stoner-Eby, and Furstenberg, "Connecting Entrance and Departure"; Rose and Betts, "The Effect of High School Courses on Earnings."

⁵⁵ Source: CT Voices' analysis of data from Connecticut State Department of Education NextGen Accountability System 2014-2015

Total suspensions (in-school and out-of-school suspensions)



The suspension rate in Waterbury, approximately 658 in-school and out-of-school suspensions per 1,000 students, stands in contrast to the rate in Canaan and Hartland, which each had 0 suspensions per 1,000 students.⁵⁹ Although the statewide average was 101 suspensions per 1,000 students, the map makes clear that several towns with suspension rates over 400 suspensions per 1,000 students stand out—in addition to Waterbury, East Hartford, New London, New Britain, and Windham all had suspension rates approximately four or five times higher than the state average.

Correlations: Suspension rates had strong correlations with several indicators, some of which were education-related and some of which were not. They were positively correlated with FRPL eligibility, teen birth rates, child poverty rates, and the percent of renters. These rates had strong negative correlations with DPI scores and graduation rates.

Research shows that the use of suspensions has negative impacts on the disciplined student and peers. Not only do suspension rates correlate with lower test scores that year but also for three years after the event.⁵⁶ Also, studies show that suspensions are a predictor of dropping out of school.⁵⁷ Finally, high levels of suspensions in a school impact the students who did not receive the disciplinary action, as high suspension rates are correlated with lower achievement for all students.⁵⁸

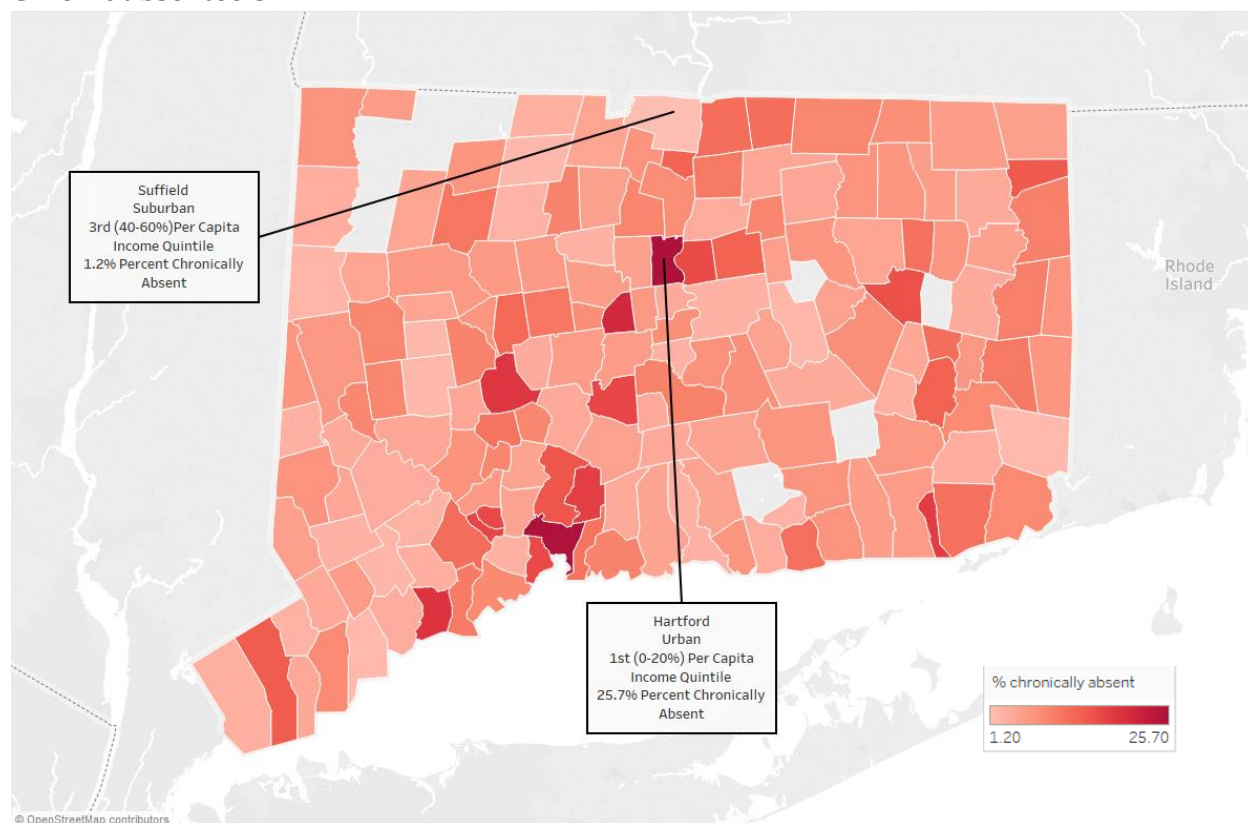
⁵⁶ Arcia, “Achievement and Enrollment Status of Suspended Students Outcomes in a Large, Multicultural School District”; Skiba and Rausch, *The Relationship between Achievement, Discipline, and Race*.

⁵⁷ Losen and Gillespie, “Opportunities Suspended.”

⁵⁸ Perry and Morris, “Suspending Progress”; American Psychological Association Zero Tolerance Task Force, “Are Zero Tolerance Policies Effective in the Schools?”

⁵⁹ Source: CT Voices’ analysis of Connecticut State Department of Education, 2014-2015

Chronic absenteeism



Studies show chronic absenteeism has connections to various aspects of the educational experience. It is associated with lower reading and math performance as well as disciplinary action and behavioral problems.⁶⁰ It is also a warning sign for dropping out; one study showed most students that dropped out had at least three years of chronic absenteeism.⁶¹

Chronic absenteeism is another indicator that showed large disparities and concentrated need in urban towns. On one hand, in Suffield, the percentage of chronically absent students was only 1.2%.⁶² However, in Hartford, the rate was 21 times higher, at 25.7 percent. Most of the other towns with the highest rates of chronic absenteeism were also urban towns, with New Haven, Bridgeport, and Waterbury joined by suburban New Britain and New London to round out the top six.

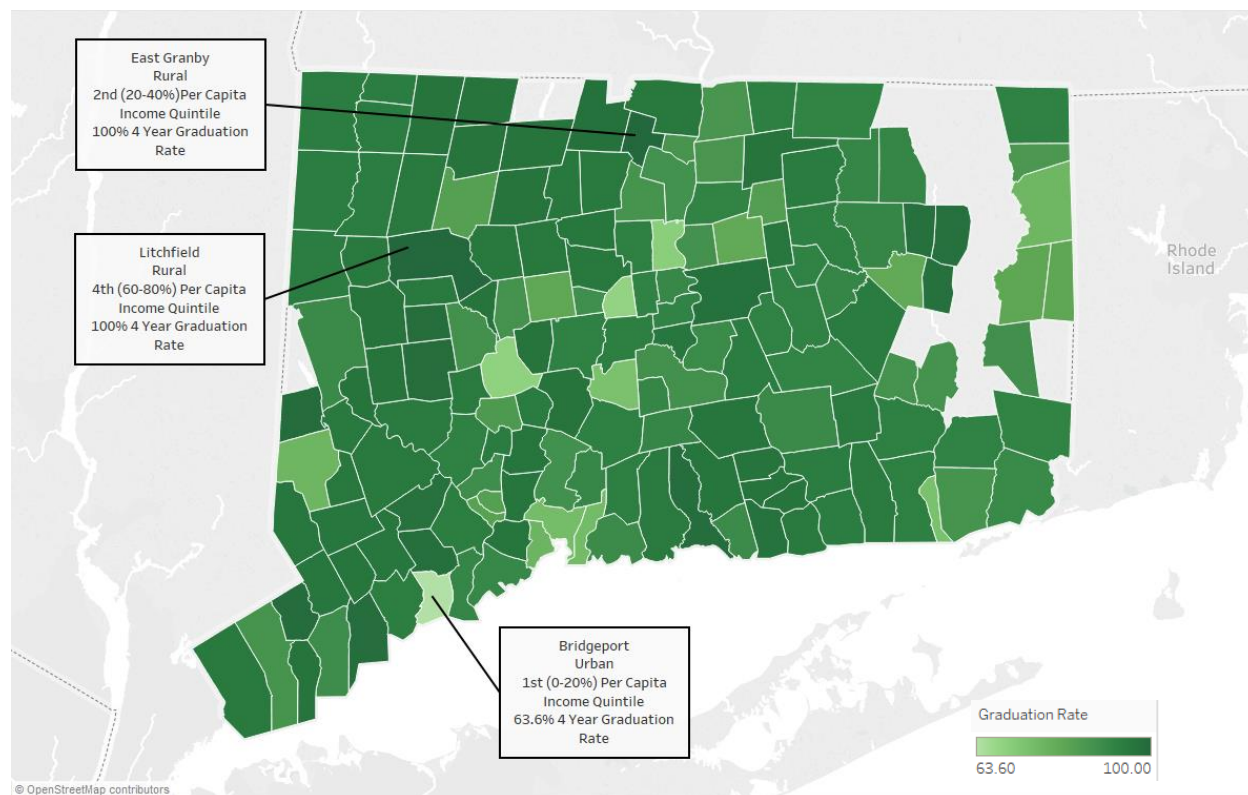
Correlations: As chronic absenteeism increased, so did FRPL eligibility, teen birth rates, the percent of housing units occupied by renters, and child poverty rates. As chronic absenteeism increased, other indicators decreased, including graduation rates and DPI scores.

⁶⁰ Gottfried, “Chronic Absenteeism in the Classroom Context Effects on Achievement”; Balfanz and Byrnes, “Meeting the Challenge of Combatting Chronic Absenteeism: Impact of the NYC Mayor’s Interagency Task Force on Chronic Absenteeism and School Attendance and Its Implications for Other Cities.”

⁶¹ MacIver, “Gradual Disengagement”; Balfanz, Herzog, and Iver, “Preventing Student Disengagement and Keeping Students on the Graduation Path in Urban Middle-Grades Schools.”

⁶² Source: Connecticut State Department of Education 2014-2015 data; excludes towns missing data (see methods in full report).

Graduation rates



Research shows graduating from high school can have enormous impacts on a youth's future. In their twenties, high school dropouts have lower employment rates, earn less in their jobs, and are more likely to fall into poverty than high school graduates. Male high school dropouts are 63 times more likely to end up incarcerated by the age of 24 than their peers who graduate from high school.⁶³

While the average 4-year graduation rate in Connecticut was 92 percent, there was a 36 percentage point gap between the lowest and highest rates in CT.⁶⁴ In two rural towns—East Granby and Litchfield—the graduation rate was 100 percent. However, in six towns—Bridgeport, New Britain, Waterbury, Hartford, New London, and Meriden—only three quarters or fewer of students graduated in four years. In Bridgeport, that rate was only 64 percent.

Correlations: Graduation rates were strongly correlated with multiple other indicators. In the positive direction, as graduation rates increased, so did DPI scores. By contrast, graduation rates were negatively correlated with FRPL eligibility, teen birth rates, child poverty rates, chronic absenteeism, percent of renters, and suspension rates.

⁶³Khatiwada et al., “The Consequences of Dropping Out of High School.”

⁶⁴ Source: CT Voices’ analysis of data from Connecticut State Department of Education NextGen Accountability System 2014-2015; excludes towns missing data (see methods in full report).

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Appendix A

Table A1: Relative influence of Per Capita Income, Racial Segregation, Town size, and Population Density on Youth Opportunity Indicators (Standardized Coefficients)

Dependent Variable	Independent Variables				R-squared	Sample Size
Indicator	Per Capita Income	Residential Segregation (percent non-white)	Town Size	Population Density		
<u>Community Indicators</u>						
Child poverty	-.26	.37	N.S.	.46	.63	169
Percent of residents with a BA	.87	N.S.	N.S.	N.S.	.77	169
Percent of residents without health insurance	-.29	.19	N.S.	N.S.	.44	169
Percent of housing units rented	-.20	.48	N.S.	.23	.68	169
<u>Peer Indicators</u>						
Percent of Disconnected Youth	N.S.	N.S.	N.S.	N.S.	.11	169
Percent of Employed Dropouts	N.S.	.35	N.S.	N.S.	.09	169
Juvenile Arrest Rates	-.20	.52	N.S.	N.S.	.46	169
Teen Birth Rates	-.41	.43	N.S.	N.S.	.63	169
Percent of students Eligible for Free and Reduced Price Lunch	-.40	.57	N.S.	.16	.80	168
<u>School Indicators</u>						
Suspension Rates	-.27	.64	N.S.	N.S.	.56	168
Chronically Absent	-.29	.33	N.S.	.45	.63	160
Average Math and English Language Arts Academic Achievement	.49	-.39	N.S.	-.20	.68	169
Percent of Children with Pre-Kindergarten Experience	.39	N.S.	N.S.	N.S.	.26	168

(* = p-value<.05; N.S. = Not significant at the .05 level or greater; Coefficients should be interpreted as a the effect of an increase of one standard deviation in an independent variable on the dependent variable adjusting for the other three independent variables.)