



How Demographic Patterns are Shaping Sustainability Education in US Cities

LOCAL POLICY TEAM RESEARCH PUBLICATION

This research publication explores different demographic factors that affect the emphasis of environmental education and legislation in cities. We explore different levels of education, age, and political affiliation, and their role in shaping environmental awareness and initiatives implemented in different cities throughout the United States.

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I. Introduction

Climate change is on an upward trajectory, affecting more and more lives every day. Over 40 percent of US counties were vulnerable to climate-related disasters in 2021 (NOAA). Being knowledgeable about climate change and sustainable practices is a crucial way to empower people to vote for sustainable policies, engage with environmental advocacy, and fight for the specific changes they want to see in their communities. Now is the time to uplift political voices through community engagement, advocacy, and participation in local governments. By comparing the cities of Los Angeles, Chicago, and Port Huron, we argue that differences in income, educational attainment, and political ideologies strongly shape the implementation of sustainability education and reinforce socioeconomic disparities.

A decade ago, the United Nations came together to address issues such as climate change, poverty, and equity, creating 17 Sustainable Development Goals. Three of these goals are quality

education, climate action, and fostering sustainable communities and cities (UN COP27). The United States should start working towards these goals with an emphasis on local-level action. Even if national governments pledge specific climate targets, they cannot be achieved without strong community and city-level policies. A key aspect that combines all three of those UN goals is focusing on our education system. Education on sustainable practices will instill students with a sense of power on topics that are more important than ever. We examine three cities and three demographic factors across the United States to better understand how sustainability education can be more effectively implemented in schools and the effects of socio-economic factors, including political affiliation, income, educational attainment, and age.

Los Angeles

This analysis intends to compare the cities of Port Huron, Chicago, and Los Angeles in terms of how sustainability is integrated into education systems and how income and educational

attainment shape whether schooling is geared toward sustainability. Education inequalities are strongly interconnected as demographic factors influence access and success. The Los Angeles Unified School District (LAUSD) is the second-largest public school district in the US, resulting in a diverse mix of socioeconomic levels. Educational inequality is the notion that schools have unequal distributions of academic resources and opportunities across different student groups. When analyzing sustainability education, we see these types of inequalities. Better-funded schools with more teachers, classes, or resources will lead to a better education on sustainability. Income plays a significant role when analyzing LAUSD, as around 80 percent of students come from families living in poverty (LAUSD, 2020). Although income levels in schools vary, overall, a very high percentage of LAUSD schools have low-income students.

In Los Angeles, the income breakdown looks slightly different, with around 50 percent in the middle-income tier, 31 percent in the lower-income tier (14 percent below the poverty line), and 19 percent in the upper-income tier (Los Angeles Almanac). Income inequality in LA is significant as well, with a 2020 Gini coefficient of 0.5 (LA2050). These percentages are based on the US Census Bureau's definition of low,

middle, and high income levels. City-level income inequality is extremely relevant to school funding as they are largely funded by local tax bases, meaning wealthier areas are able to invest in their schools' classroom sustainability and educational access. When a student attends a higher-income school, their academic opportunities are much more enriched. For example, better extracurricular activities, Advanced Placement (AP) or International Baccalaureate (IB) courses, and safer environments. Classes like AP Environmental Science teach students about topics such as climate change and sustainability. According to a research study conducted by UCLA postdoctoral scholars, teachers in higher-poverty schools were much more likely to report problems at school, resulting in less time to focus on teaching, interruptions in class, insufficient substitutes, classroom lockdowns, and less access to technology or libraries (Rogers et al.).

It is not to be ignored, however, that LAUSD has done an extensive job at implementing sustainable practices and infrastructure changes within its district. In 2015, the district won an award from the US Department of Education for upholding these three pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental education

(USDOE). They have also launched multiple initiatives to foster students' interest in sustainability, such as the Sustainable Environment Enhancement Developments for Schools (SEEDS) Program and Nature Explore classrooms in early education centers (Board District 6, 2022).

Chicago

Chicago is similar to LA in its diverse, rich culture. Still, it has taken a different approach to sustainable education, being much less affected by climate change than Los Angeles. The median household income in Chicago is around \$75,134, with about 43 percent of residents in the middle-income tier (DATAUSA). The overall poverty rate of the city is around 17 percent, which is above the national average and that of Los Angeles. Neighborhoods on the South and west sides have the highest rates, with some neighborhoods reaching 50 percent in poverty, half of that number being children in poverty (Bailer, 2025). One in four children in Chicago lives in poverty and still must get an education while facing these extreme barriers. The education system in Chicago also makes it difficult for students to succeed, with 50 Chicago public schools closing in 2013. This led to a decline in student enrollment, further reducing funding and resources (Bailer, 2025). In recent years, CPS

(Chicago Public Schools) has faced significant budget deficits. Nearly 58 percent of school buildings are considered underutilized, meaning they have less than 70 percent of their ideal enrollment capacity (Vallas, 2025). These funding inequities are highly relevant to the unequal access to a curriculum based on sustainability. CPS lower-income schools will deal with outdated science equipment, a lack of environmental science classes, or a lack of elective options. Since sustainability is not a core subject taught in schools, it is unfortunately only taught when a school already has extra resources, such as teacher specialization or partnerships with nonprofits or universities. When a school is simply trying to get students to show up, sustainability education is low on the priority list. This is why we must see policy change that is interconnected between the multiple socioeconomic pressures creating these cycles.

Port Huron

Port Huron differs from LA and Chicago because it is more suburban and much smaller. The median household income is around \$49,377, and about 22.1 percent of residents live below the poverty line (DataUSA). The Port Huron Area School District (PHASD) serves around 7,147 students, which is significantly smaller than Los Angeles' 200,000 students (US News). The

income and resource disparities are important because they shape how much the PHASD can invest in instructional needs beyond the fundamental curriculum, thereby influencing what a school can offer in specialized programs. Port Huron exemplifies how smaller cities have fewer schools, leading to fewer programs, especially sustainability programs that are not as often ingrained or considered relevant in curricula. Chicago and Los Angeles have one of the largest districts in the U.S., meaning they must serve many more students. Big districts have the opportunity for more expansive programs, whereas Port Huron has more limited resources. However, bigger districts do not necessarily mean an even distribution of those resources.

Port Huron's education has certain gaps in its sustainability education. The city lacks cohesive programs steered towards sustainability. The state of Michigan, however, does have a program in place called the Michigan Green Schools Program. It is in place to further students' understanding of sustainability and to support stewardship of Michigan's environment (Kozak, 2025). Further, the program offers a Green School certification, which encourages schools to improve their recycling, energy use, environmental protection, etc. The Lake Huron Coastal

Centre is also working to improve the community's coastal literacy by providing educators with education kits. For example, their Living Beaches program is geared toward elementary and middle schoolers to learn more about the Great Lakes and coastal systems (Lake Huron Coastal Centre). These are great steps towards institutionalizing sustainability programs. The issue is that these are programs schools must choose to opt into, and if people do not know about them or do not want to teach these topics, they will not be taken advantage of. Policy should be steered toward creating programs that are required in the curriculum to ensure that these topics can be taught to students. When comparing Port Huron to Chicago and Los Angeles, the gap lies in scale and size. Although income and poverty rates in LA, Chicago, and Port Huron vary widely, they still strongly affect all three cities' ability to keep school district sustainability education at the forefront. This is because in bigger cities, larger tax bases allow districts to fund more initiatives, but these tax bases depend on overall income. Although Los Angeles and Chicago experience much poverty, their larger districts also receive substantial income from wealthy residents, which flows into their funding.

II. Political Affiliation

Political affiliation is a key demographic

factor shaping how cities prioritize sustainability, develop environmental legislation, and integrate climate issues into school systems. Affiliation with political parties, organizations, and movements has the potential to create and support new opportunities to establish a sustainability curriculum or hinder the process. Across cities with different majority political affiliations, those with strong Democratic voting patterns often support climate action, environmental justice, and renewable energy initiatives, creating more opportunities for students to engage with sustainability education. In contrast, conservative regions tend to emphasize economic stability and local stewardship, creating a different educational environment with fewer broad climate-focused programs. This difference often shows up through policy mechanisms like school board priorities, district budgets, and whether sustainability is written into curriculum goals or supported through partnerships and grants. When leadership prioritizes sustainability, schools are more likely to fund programs, adopt curriculum integration strategies, and expand opportunities for student involvement.

Los Angeles

Los Angeles is one of the most politically liberal cities in the United States, and its voting patterns reflect this. According to

the Los Angeles County Registrar-Recorder, more than three million registered voters identify as Democrats, while only one million identify as Republicans (Los Angeles County Registrar-Recorder). This makes Democratic voters the clear majority in the region, and these numbers have been consistent across previous election cycles. The California Secretary of State further reports that seventy percent of Los Angeles voters supported Joe Biden, the Democratic candidate in the 2020 presidential election. The Democratic Party has long valued environmental policies that prioritize climate action, public health, and community resilience, which in turn directly shapes sustainability education throughout the Los Angeles Unified School District (LAUSD). Democratic leadership in the city and county has supported widespread environmental initiatives, including renewable energy investments, emissions reduction requirements, and green infrastructure development. LAUSD has also implemented district-wide sustainability goals that align with California's climate mandates in its school curriculum. As a result, students in Los Angeles often encounter environmental and sustainability concepts across subject areas, from science courses that emphasize climate systems and pollution to humanities courses that

examine environmental justice.

Chicago

Chicago, like Los Angeles, reflects a very similar political leaning, with strong Democratic support shaping public life and local education policy. The Cook County Clerk reports that over seventy-four percent of voters supported Democratic candidate Joe Biden as the presidential candidate in the 2020 election. Although Illinois does not register voters by party, election outcomes provide a reliable measure of political affiliation. For example, the Chicago Board of Election Commissioners has consistently recorded Democratic victories across mayoral and federal races for several decades. This political landscape influences Chicago Public Schools by encouraging sustainability initiatives aligned with the city's broader climate goals. Chicago has adopted multiple climate plans, including the Chicago Climate Action Plan and subsequent resilience frameworks, which emphasize greener transportation, cleaner energy, and reduced urban heat. These policy priorities spill into educational spaces, where schools often incorporate sustainability through community garden programs, outdoor learning spaces, and environmental science electives.

However, Chicago's dominant

Democratic political affiliation does not eliminate systemic disparities. Significant inequities across neighborhoods continue to shape what sustainability education looks like. Schools on the North Side, where funding and enrollment are stable, are more likely to offer specialized coursework and environmental field opportunities. Whereas, schools in lower-income areas on the South and West Sides tend to lack access to updated facilities or academic resources, making it harder for students to engage deeply with climate science or environmental justice initiatives.

Port Huron

Port Huron offers a contrasting political environment to cities like Chicago and Los Angeles. Located within St. Clair County, the region leans heavily conservative, and decades of records have proven this. The Michigan Department of State reports that more than 66 percent of voters in St. Clair County supported Donald Trump in the 2020 presidential election; similar margins were seen in the 2016 election. Data from the Port Huron City Clerk support the same trend, where local offices also reflect conservative leadership and legislative movements. These long-standing patterns indicate that political ideology in Port Huron prioritizes more conservative values, like

economic responsibility, community stability, and gradual rather than extensive policy change.

This political context shapes how sustainability education is approached in Port Huron schools. Unlike Los Angeles or Chicago, which center on environmental justice, Port Huron tends to frame environmental topics around community priorities rather than government-rooted policies and initiatives. Local schools emphasize stewardship, recycling, and conservation rather than implementing statewide or national climate policy. For example, the Port Huron Area School District regularly promotes community clean-up events, school-wide recycling initiatives, and local environmental volunteer activities. These programs reflect values consistent with the region's political identity: community-driven environmental learning rather than policy-oriented climate instruction.

Since Port Huron has a smaller population than major urban areas, sustainability education progresses more slowly. The focus remains local: maintaining parks, protecting waterways, and supporting conservation through student involvement. While these programs raise environmental awareness, students may have fewer opportunities to explore climate science, environmental justice, or renewable energy policy.

III. Population and Age

When evaluating the impact of demographics on sustainability curriculum, age stands out as a unique factor. It is important to consider the implications that age groups in varying concentrations can have on efforts to implement educational policies concerning environmental awareness and sustainability policy. For example, according to research, older individuals are more likely to come together to actively advocate for sustainability policies and come together to provide effective solutions (Steg & Vlek). Furthermore, certain age group concentrations in specific locations can have an impact on overall community engagement with initiatives driven by educational institutions, such as clean-up projects and recycling programs. For this analysis, we will be looking at the key age groups of Chicago, IL; Port Huron, MI; and Los Angeles, CA to understand the effects it may have on potential sustainability policies.

Chicago

Chicago is the third most populous city in the United States. Sitting at approximately 2.7 million people (Census Reporter), it is an urban environment that is considered more densely populated than most cities in the country. The median age of an

individual living in Chicago is 36.4 years (Census Reporter). According to the Urban-Rural by the Numbers, urban areas tend to have younger individuals than older ones, with urban communities having a median age of 46 years, and rural communities having a median age of 51 (National League of Cities). With Chicago being one of the most urban cities in the nation (for the sake of this evaluation, urban is being used as synonymous with “densely-populated”), it continues a correlative trend of younger people in more densely-populated areas. 66.7 percent of individuals living in Chicago are between the ages of 18 and 65 years, while 18.9 percent are younger than 18 and 14.4 percent are older than 65 (Census Reporter).

According to the US Census Bureau’s 2019 report, the percentage of the population under 18 years old in the United States is approximately 22.3 percent. This reflects that, by comparison, Chicago has a lower distribution of children relative to cities on average throughout the rest of the country. Considering this, it is then important to note how prominent college-educated young adults are in the city. Together, individuals ages 20-39 years make up approximately 35 percent of the population (Census Reporter). Furthermore, more than 70 percent of the population has more than

70 percent of the population has attained some college education or more. Considering this, it may be most beneficial to develop policies around sustainability education programs within institutions of higher learning to maximize the efficacy and reach of such policy implementations.

Port Huron

Unlike Chicago, Port Huron is a smaller city with a less urban environment. Sitting at approximately 28,724 people (Census Reporter), Port Huron is a relatively small city right along the U.S.-Canada border. The median age of Port Huron is 38.3 years (Census Reporter). While people are older on average than those in Chicago, this age still reflects a relatively young population in comparison to the rest of the country and other urban areas. In the breakdown of age-group concentrations for this city, we see a contrasting distribution. Whereas individuals in Chicago were predominantly adults aged 20-39 years (35 percent of the population), that same age range only makes up 27 percent of Port Huron’s population (Census Reporter). In addition, while children in Chicago make up 17 percent of the population, those in Port Huron make up 21 percent (Census Reporter). Furthermore, there is a greater concentration of elderly individuals in Port Huron, with 17.3 percent of the

population over 65, compared to Chicago's 14.4 percent (Census Reporter). Considering this, it is important to recognize that developing policy may need to account for this population difference. With a larger population of individuals under 18, it may be more effective to focus on new curriculum initiatives for K-12 education rather than higher education. Moreover, given that almost a fourth of the population is over 65 years old, it may be beneficial to implement policies that encourage sustainability within family structures to vitalize sustainability efforts that, as research supports, older populations are already more likely to engage with.

Los Angeles

Los Angeles is the most populated city in the United States, with approximately 3,820,963 people (Census Reporter). The age demographics of Los Angeles, as reflected in the distribution of groups, are notably similar to those of Chicago. For example, in Los Angeles, the population aged 18 to 65 makes up 67 percent of the population. This same group makes up 67 percent of the population in Chicago. Furthermore, the percentages of the population under 18 and over 65 are the same across cities, at 18.9 percent and 14.4 percent, respectively.

However, there are still key differences in

the age distributions between Los Angeles and Chicago as well. For example, individuals aged 20 to 39 make up 33 percent of the population in Los Angeles, lower than the 35 percent in Chicago. This is because Los Angeles has a slightly higher percentage of individuals in the 10-19 and 50-59 age groups than Chicago. While this difference alone may not reflect a clear consideration in policy development, it may indicate different, more significant economic, birth, and migration trends in the city compared to Chicago, which would be worth considering when developing new policies for curricula.

Another important note when comparing Los Angeles to the demographics of Chicago is the distributions in the levels of education. In Chicago, at least 70 percent of the population over 25 years of age has attained some college level of education. In Los Angeles, this percentage is lower at 62 percent. This is due to the higher percentage of individuals without a degree in comparison to those in Chicago, 20 percent in comparison to 12 percent. Considering this, when developing policy, it may be beneficial to place greater emphasis on allowing in-school programs to center on community engagement, making initiatives more likely to reach and involve this group.

IV. Conclusion

When considering sustainability efforts throughout the United States, it is important to understand how to most effectively implement environmental awareness into the educational curriculum. Therefore, the demographics of individuals, their concentrations in areas of varying location, political affiliation, population density, and the means through which they are best able to engage with programs are all important to understand to ensure the efficacy of implemented policies. Our analysis of the demographics of these cities revealed that sustainability efforts through curriculum are context-dependent and most affected when scaled and designed appropriately to maximize engagement with teachings and programs. When reviewing the demographics of Chicago, Port Huron, and Los Angeles, we can see how these differences can affect the efficacy of intended sustainability policies and education programs. Our conclusions find that across the three cities, more generous budget allocations to school districts, as well as sustainable infrastructure, enable the implementation of sustainability curriculum more reliably.

To start, within Los Angeles, there are many district-wide sustainability

initiatives. Their school system uses more centralized policies than the other two cities, which helps offset inequalities. Given that the population of Los Angeles predominantly aligns with the Democratic platform, we see this reflected in LAUSD's implementation. A greater emphasis on Democratic economic equity policies that result in more balanced school budgets may benefit sustainability efforts across the city. However, they fail to address the core economic inequities in school funding across different areas of the city, which may prove an obstacle to communities engaging with sustainability efforts and programs. Furthermore, Los Angeles invests significantly in sustainable infrastructure. Efforts to establish a proper sustainability curriculum are often made easier when the surrounding environment and technologies provide opportunities for learning and active engagement. Considering this, such an approach might prove beneficial for cities of a similar scale and environment across the United States.

In Chicago, as in Los Angeles, the majority of the voting population is registered Democrats. This is reflected in policies implemented throughout the city, which emphasize sustainable infrastructure and climate initiatives and align with the political platform of the leading party. However, sustainability

education is of lower priority due to a lack of investment and funding. This highlights how economic instability limits a school's ability to implement sustainability education. Therefore, while value can be found in Chicago's sustainability efforts through governmental programs, there is room for improvement in accounting for inequities in funding for education related to climate-friendly practices. It is important for cities across the nation to consider the full picture when creating policies, understanding that while sustainability initiatives are beneficial, guiding people to learn how to foster environmentalism within their community is both necessary and impactful.

Port Huron offers a different context due to its scale. As a smaller, less climate-vulnerable city, sustainability education is not a top priority for the district. The majority of the region (St. Clair County) identifies as Republican, and the city government is less focused on implementing climate-friendly policy or sustainable infrastructure. Furthermore, with educational growth being less of a focus in the city, fewer opportunities are available for people to learn about environmentalism. However, it is important to note that, despite a lower focus on sustainable initiatives, people in communities are still establishing and engaging with such programs. Unlike

Chicago and Los Angeles, these initiatives don't have substantial funding from the local government. Rather, efforts are supported by fundraising and donations. Something to take away from this is that, in many cases, it is important to implement policies that complement the needs and desires of communities. When communities engage in activities to amplify efforts to solve a specific issue, it is important that policies foster such an atmosphere rather than hinder it. Creating supportive programs that cultivate community engagement can strengthen the case for a greater sustainability focus in schools.

Overall, based on our findings, it becomes clear that direct investment in education is particularly beneficial for establishing effective sustainability curricula within schools in large cities that already implement sustainability initiatives, while fostering community-driven environmentalism efforts through policy is a compelling way to make the case for greater emphasis on environmentalism in education. However, further research is necessary to understand specific actions within these efforts that prove most feasible and beneficial toward the goal of improving curricula.

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