

The Perilous Intersection of Housing Precarity and Climate Change in Delaware

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One particularly hazardous form of housing precarity is homelessness. The State of Delaware has seen an upward trend in homelessness since 2019, increasing from a point-in-time count of 921 that year to 2,369 in the year 2022.¹ In 2022, 43% of the homeless were in New Castle County, followed by 34% in Sussex County, and 23% in Kent County.¹ The total county population breakdown in Delaware is 58% in New Castle County, 24% in Sussex, and 18% in Kent, reflecting a slightly higher skew in homelessness in the southern counties.² The vast majority (93%) of homeless live in emergency shelters in Delaware, while 7% are unsheltered.¹

Though official counts of death among the homeless are not done by the federal government and estimates are based on regional and other assessments that can vary widely, the homeless experience increased risk of mortality and various types of morbidity compared to the general population, including higher rates of diabetes and cardiovascular disease, while also suffering from the co-existence of psychological disorders, substance use, and infectious diseases at rates higher than the general population.^{3,4}

In the coming decades across the state of Delaware, scientific forecasts suggest a variety of continued climate change consequences, such as additional sea level rise and stronger storm surges. Another notable climate change outcome is rising temperature. In Delaware, “average temperatures... are projected to be 3.5 to 8 degrees F warmer by 2100 compared to the same base period of 1981 to 2010. In addition to average temperatures rising, extreme temperature events are also projected to become more frequent.”⁵ This change in temperature has the potential to worsen the existing urban heat island effect in places like Wilmington, Dover, Newark, and other heavily developed areas lacking green space. Heat islands are urban areas characterized as “highly efficient at absorbing and storing heat from the sun, a lack of vegetation limiting the cooling effect of evaporation from the soil and plant transpiration (evapotranspiration), and trapping of heat released by human activities (e.g., transport, lighting, air conditioning).”⁶

When urban homelessness and climate change outcomes converge, the potential for deadlier weather to create and exacerbate long- and short-term health conditions that disproportionately affect the homeless comes into clear and calamitous view. Urban heat islands are associated with a variety of negative health outcomes, including heat-related illnesses like exhaustion and heat stroke,⁷ worsening asthma due to poorer air quality,⁸ and increased risk of hospitalization or death.⁹ Moreover, the unsheltered and those utilizing emergency and temporary shelters can be disproportionately affected by more frequent and intense storms and storm surges.¹⁰ The need to examine these specific issues in Delaware is paramount.

Projects that redevelop existing urban landscapes offer generational opportunities to both adapt to global warming and lessen our carbon footprint. Examples include housing, commercial, park and open space, and transportation system redevelopment projects that mitigate urban heat and flooding impacts. Such efforts not only make cities more livable for current and future residents, but they combat unsustainable suburban sprawl by supporting a more concentrated infill land

development. These efforts, illustrations of which are provided below, both directly and indirectly alleviate climate change burdens (such as rising temperatures and increased flooding) that can disproportionately impact homeless residents.

The transportation sector, the largest contributor to Delaware's greenhouse gas emissions, is an instructive example. While the decarbonization of our vehicle fleets and selecting more heat and flood-resistant pavements are important steps to reduce emissions and adapt to warming, so too, simply, is street design. City streets account for more than a quarter of land used in North American cities.¹¹ During the past century, Delaware's streets were largely designed to prioritize fast and efficient vehicular movements. This has led, however, to the proliferation of impervious surfaces that exacerbate heat and flooding concerns and a worsening public health crisis in road safety. A more nuanced approach to street design exchanges some existing pavement for green landscaping, community art, and bicycle lanes. These more "complete streets" also result in reduced vehicle travel speeds, reducing the number and severity of crashes.¹²

Along the Route 9 corridor, between Wilmington and the City of New Castle, a pair of projects are taking this approach. The Route 9 Master Plan, adopted by the Wilmington Area Planning Council (WILMAPCO) in 2017, calls for the strategic removals of travel lanes in favor of more green space and separated, safer, pathways for people to walk and bike.¹³ Another WILMAPCO-led effort, the Southbridge Transportation Action Plan, is currently examining the extension of Route 9's planned "road diet" northwards into the City of Wilmington through traffic modeling and community engagement.¹⁴

While the state department of transportation is very supportive of both efforts, and recently received a \$6 million federal grant to kickstart additional outreach and design work to realize the Route 9 project, it currently does not have the policy, funding, or staff to support the maintenance of the planned intensive landscaping. A local body, such as a municipal government or community group, must agree to do so before the first tree is planted along the state's right-of-way. While a pair of small community development corporations along the Route 9 corridor are examining the feasibility of their entering into such an agreement, reversing this policy to allow for state maintenance of more intensive landscaping may help Delaware maximize the greening potential of its streets and highways.

Two other major transportation projects in the City of Wilmington are also examples of urban greening and climate resilience. The I-95 Cap project aims to construct a new park on top of I-95 between 6th Street and Delaware Avenue, reconnecting neighborhoods split by the interstate's construction in the 1960s. The project would cover the sunken highway with a public green, community amphitheater, gardens, pathways, a dog park, and 500 trees -- increasing area softscape by a dozen acres. The 12th Street Connector, meanwhile, would build a new roadway connection between Northeast Boulevard and 16th Street, facilitating both infill redevelopment, new park space, and better shoreline protection along the Brandywine River. Both projects^{15,16} are currently unfunded. If they proceed, while their climate benefits are clear, care must also be given to ensure they do not inadvertently result in green gentrification, or the eventual displacement of current residents when the value of real estate, rents, and other costs of living increase because of the renewed environmental conditions in the area.¹⁷

As a coastal state with several urban centers connected by commercial corridors and flanked by sprawling suburbs, the state of Delaware is and will continue to experience many of the most notable, devastating climate change impacts. These repercussions will affect different areas,

infrastructure, and social groups in both general and more acute ways, as will negative health consequences depending on race, age, veteran status, and other significant socio-demographic characteristics of the homeless. Throughout the region and the state, we need to bolster a commitment to the well-being of the housing precarious and help protect them from climate change consequences and the worsening health outcomes associated with them. We are hopeful that the policy and land use recommendations provided in this commentary will ameliorate negative health impacts of climate change on the homeless throughout the state.

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