

THE BENEFITS OF GREEN INFRASTRUCTURE FOR AFFORDABLE HOUSING

YONKERS, NEW YORK | GROUNDWORK HUDSON VALLEY



SOUTHWEST YONKERS IS VULNERABLE TO HEATWAVES, FLOODING, AND STORMWATER POLLUTION

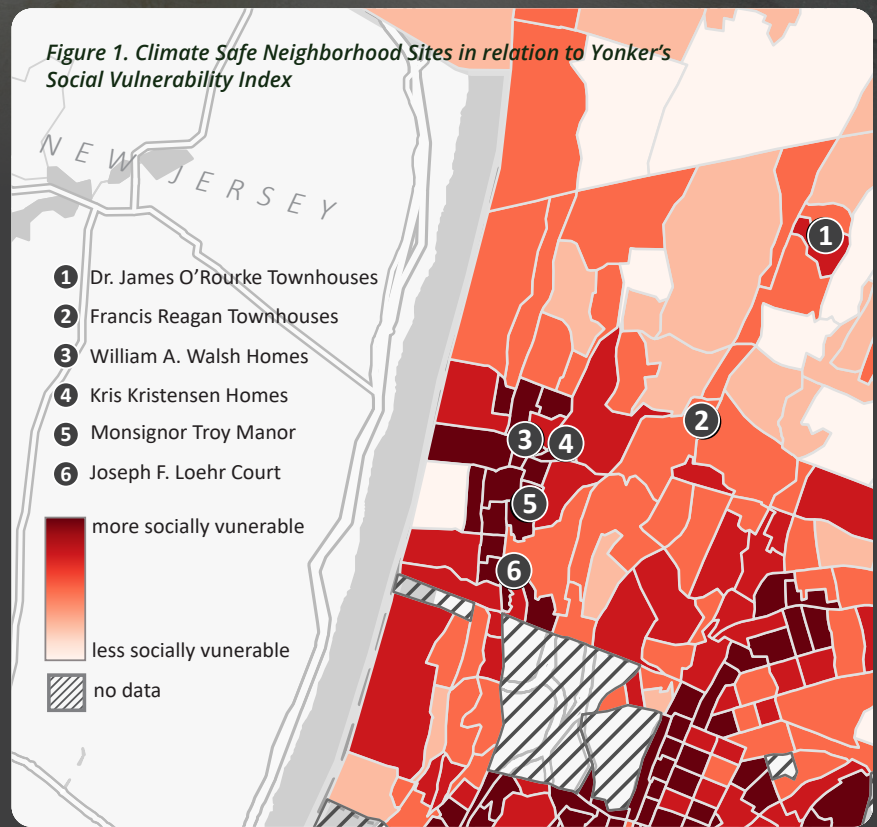
Low-income areas in Yonkers are disproportionately vulnerable to climate change impacts, including extreme heat, nuisance flooding, and polluted runoff. Discriminatory zoning practices have led to fewer green spaces and urban trees, and the extensive pavement means these neighborhoods experience urban heat island effects in the warmer months. Residents are also exposed to frequent flooding¹ and face health risks from polluted runoff and combined sewer overflows. Associated damages to property and increased healthcare costs are economic burdens for residents and the City of Yonkers.

CLIMATE SAFE NEIGHBORHOODS UNITES AFFORDABILITY WITH RESILIENCE

In 2021, Groundwork Hudson Valley joined in partnership with the Municipal Housing Authority for the City of Yonkers to reduce disparities and climate risks through Climate Safe Neighborhoods. They have completed planning to incorporate nature-based solutions at six affordable housing sites (Figure 1).²

Climate Safe Neighborhoods is the first of its kind in the region, integrating affordability and anti-displacement principles with nature-based elements such as bioretention areas and other green spaces to manage stormwater, reduce excess heat in the summer, and provide additional co-benefits for those neighborhoods.

Figure 1. Climate Safe Neighborhood Sites in relation to Yonker's Social Vulnerability Index



- 1 Dr. James O'Rourke Townhouses
- 2 Francis Reagan Townhouses
- 3 William A. Walsh Homes
- 4 Kris Kristensen Homes
- 5 Monsignor Troy Manor
- 6 Joseph F. Loehr Court

more socially vulnerable
less socially vulnerable
no data

¹ Environmental Justice of Urban Flood Risk and Green Infrastructure Solutions. 2021. Urban Systems Lab. <https://urbansystemslab.com/urbanfloodrisk>

² Climate Safe Neighborhoods. Groundwork Hudson Valley. <https://www.groundworkhv.org/programs/transforming-places/climate-safe-neighborhoods/>



NATURE-BASED SOLUTIONS CAN IMPROVE THE QUALITY OF LIFE

Nature-based solutions complement traditional infrastructure while reducing exposure to environmental hazards such as stormwater pollution, flooding, and excessive urban heat. Urban trees help to reduce stormwater runoff, while cooling nearby areas through shade and evapotranspiration. Grasses and other vegetation, infiltration areas, and other nature-based elements can reduce exposure to environmental hazards, encourage physical activity, and increase community bonds, while improving air quality and providing other benefits (see Figure 2).

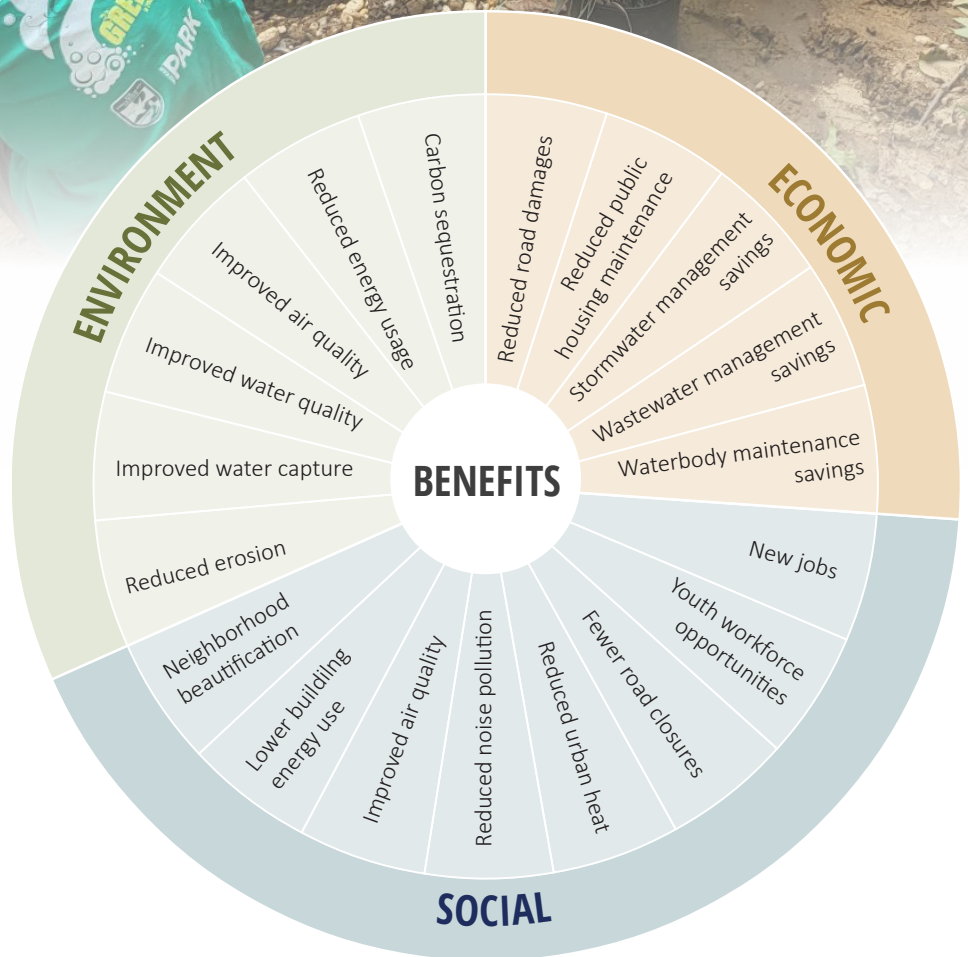


Figure 2. The co-benefits provided by nature-based solutions
Adapted from the Urban Institute



Scan QR Code for more information on the analysis

Technical report can also be accessed at <https://www.groundworkhv.org/wp-content/uploads/2023/10/EE-Groundwork-Tech-Report-231005.pdf>

NATURE-BASED SOLUTIONS BRING ECONOMIC VALUE AND GENERATE JOBS

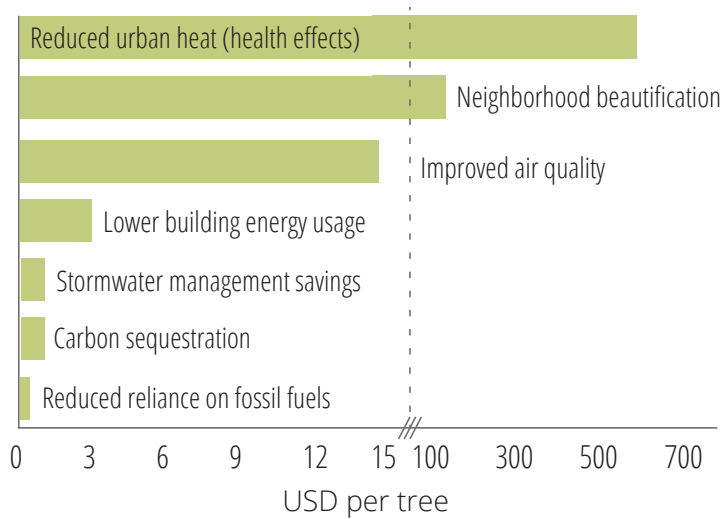
Earth Economics conducted an ecosystem services valuation of six Climate Safe Neighborhood sites, focusing on reduced runoff, stormwater management, heat mitigation, neighborhood beautification, carbon sequestration, reduced energy usage, and job creation benefits associated with both planned and implemented solutions. It is important to recognize that these projects provide many more benefits than have been estimated here (see Figure 3). Totals shown here are conservative estimates due to data gaps and other limitations.

AFFORDABLE HOUSING WITH NATURAL FEATURES PROTECTS COMMUNITIES AND ATTRACTS NEW ECONOMIC OPPORTUNITIES

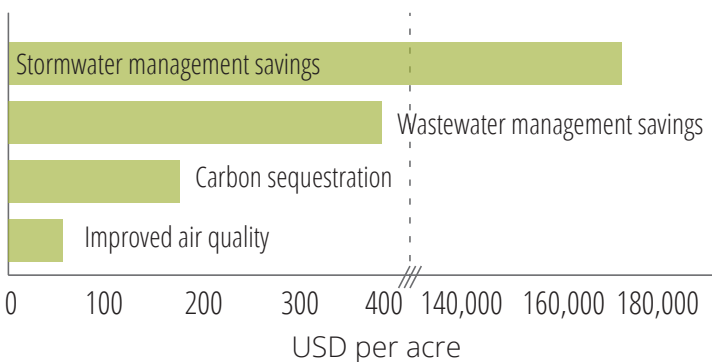
Addressing affordable housing and climate risks requires integrated approaches that link parks and urban greening with housing, transportation, and other urban services. By scaling up nature-based solutions in Southwest Yonkers, Climate Safe Neighborhoods is a cost-effective approach to enhancing ecosystem functions and strengthening resilience throughout those neighborhoods.

Figure 3. Annual per unit value estimate for selected ecosystem services (USD 2022)

Benefits per tree



Benefits per acre of bioretention



Stormwater management trench at Reagan Townhouses

Jobs created for every \$1,000,000 in spending to create bioretention areas:[†]

CONSTRUCTION
13 JOBS



OPERATIONS & MAINTENANCE
14 JOBS



[†]From Earth Economics Jobs Tool. Refer to the technical report for more information.