

Environmental Resilience Institute

Gary, Indiana Installs Green Infrastructure to Revitalize Blighted Areas, Manage Stormwater

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Equity & Justice

America's water systems, and the communities that depend on them, are already feeling the strain that climate change has placed on existing water infrastructure. Low-income populations and communities of color have historically suffered from poor infrastructure and often live in areas with aging and outdated water systems that violate health-based standards established in the Safe Drinking Water Act. As a result, these populations experience higher rates of contaminated water, wastewater overflows, housing damage from floods, and increased risks of flooding. Green infrastructure solutions can address these disparities by providing low-cost mechanisms for mitigating flooding, reducing stormwater runoff, and wastewater filtration in vulnerable areas.

In a 2018 [report](https://www.epa.gov/environmentaljustice/epas-role-addressing-urgent-water-infrastructure-needs-environmental-justice), [<https://www.epa.gov/environmentaljustice/epas-role-addressing-urgent-water-infrastructure-needs-environmental-justice>](https://www.epa.gov/environmentaljustice/epas-role-addressing-urgent-water-infrastructure-needs-environmental-justice) the [National Environmental Justice Advisory Council](https://www.epa.gov/environmentaljustice/national-environmental-justice-advisory-council) [<https://www.epa.gov/environmentaljustice/national-environmental-justice-advisory-council>](https://www.epa.gov/environmentaljustice/national-environmental-justice-advisory-council) provided the US EPA with recommendations to assist communities with environmental justice concerns in developing technical, financial and managerial capacity within their water systems; and to address funding needs for infrastructure planning, design and construction.

Project Summary

The City of Gary's Environmental Affairs and Green Urbanism Department began the "Vacant to Vibrant" project in 2014 with the goal of embedding green infrastructure throughout the community to reduce stormwater runoff, catalyze community revitalization and enhance biodiversity. With support from the U.S. Environmental Protection Agency (USEPA) Green Infrastructure Technical Assistance Program, the City of Gary was able to develop community engagement tools for incorporating green infrastructure into the City's stormwater management plan. The City identified eligible "Vacant to Vibrant" sites as those that were abandoned, frequently flooded and located in neighborhoods with declining populations. Three lots were selected, two of which contained vacant, uninhabitable homes that had to be demolished; the third lot was already free of structures. Each

green infrastructure installation cost \$18,000, including labor and materials. Additionally, grant funding supported community engagement, overhead and ongoing scientific monitoring. Gary received funding from the Cleveland Botanical Garden, Indiana University Northwest and Strong Cities, Strong Communities. The USEPA's Technical Assistance Program supported community outreach efforts in the form of mailing surveys, eliciting feedback and creating and distributing informational fact sheets and handouts to the community.

How did they do it?

Action	Applicable Resources
Convene relevant partners and raise necessary funds. • The City solicited design input from the community for green infrastructure projects, informing residents of the City's plans for a neighborhood level revitalization project. • The project was initially funded through the USEPA Great Lakes Restoration Initiative Shoreline Cities Grant and further funded through the Cleveland Botanical Garden.	• The EPA's <u>Green Infrastructure Technical Assistance Program</u> <https://www.epa.gov/green-infrastructure> offers tools, funding opportunities, information, and other resources to help local governments integrate green infrastructure within their community.

Action

Applicable Resources

Conduct scenario planning and engage stakeholders to identify potential goals and strategies.

- The City launched “Vacant to Vibrant” with community engagement events, including an introductory presentation, surveys, canvassing, a community design meeting, and community mailings.

- The EPA's 2013 Technical Assistance helped the City of Gary develop their Community Engagement Framework <https://www.epa.gov/green-infrastructure/conceptual-green-infrastructure-design-and-community-engagement-gary-indiana> to integrate green infrastructure into stormwater management plans.

Apply green infrastructure strategies

- The City converted 0.37 acres of vacant land to green infrastructure, improving stormwater management on three vacant neighborhood parcels. The spaces now feature bat houses, rain gardens, and native plantings.

- Enhancing Sustainable Communities with Green Infrastructure <https://www.epa.gov/smartgrowth/enhancing-sustainable-communities-green-infrastructure> is a guide to help communities improve stormwater management while achieving economic, social, and environmental benefits.

Background

The City of Gary has many abandoned properties left behind by a declining population. With a 2017 population of 80,000 residents, Gary once supported close to 180,000 residents. The Aetna neighborhood, founded in 1881, was initially a residential neighborhood for industrial workers. When the steel industry in Gary declined, so did the Aetna neighborhood. In 2012, with support from the USEPA Partnership for Sustainable Communities program, Gary took steps to promote environmental justice and equitable development in Aetna. The first demonstration project included more than 20 green infrastructure installations, which alleviated blight and addressed concerns about flooding from stormwater. The success of the demonstration project led to the development of the “Vacant to

Vibrant” project, which aimed to mitigate flooding in basements and streets due to Gary's aging sewer system.

What is Green Infrastructure?

Green infrastructure is the installation of plants and other natural vegetation to manage stormwater on-site. Green infrastructure is an alternative to gray stormwater infrastructure, which is typically designed to move stormwater to another location, often using underground storm sewers. The benefits of green infrastructure go beyond stormwater management. See the USEPA's description of green infrastructure and its benefits <<https://www.epa.gov/green-infrastructure/what-green-infrastructure>>.

One of the core benefits of green infrastructure is its ability to absorb and manage stormwater on-site, preventing that water from entering a stormwater or sewer system that may already be at or over capacity. The average amount of precipitation per year is expected to increase in the Midwest, and green infrastructure is one method of alleviating the impacts of increased rainwater. Gary Mayor Karen Freeman-Wilson advocates for green infrastructure because not only does it provide the community with stormwater management, but also because these green plantings offer neighborhood beautification, increased wildlife habitat and urban heat management.

Implementation



This “Vacant to Vibrant” green infrastructure site was completed in Gary’s Aetna neighborhood. Photo Credit: Waylan Cooley, cooleysvideo.com

Community engagement involved soliciting design input from the community, informing residents of the City’s plans for the project and construction, educating the community about stormwater management, communicating how the project would positively influence the community and instilling a feeling of community “ownership.”

Timeline

In 2014, the City launched “Vacant to Vibrant” with community engagement events, including an introductory presentation in February; surveys, canvassing and a community design meeting in July; and community mailings in August. All three “Vacant to Vibrant” sites were completed in 2016.

Funding Source

The “Vacant to Vibrant” project was initially funded with \$65,000 from the USEPA's Green Infrastructure Technical Assistance Program as part of the USEPA Great Lakes Restoration Initiative Shoreline Cities Grant. The City of Gary received approximately \$300,000 in financial support from the Cleveland Botanical Garden to develop green infrastructure at three separate sites throughout the Aetna neighborhood.

Outcomes and Conclusions

The City of Gary’s “Vacant to Vibrant” project converted .37 acres of vacant land to green infrastructure, improving stormwater management on three vacant Aetna neighborhood parcels. The spaces now feature bat houses, rain gardens and native plantings. Maintenance requirements include removing trash and debris, maintaining the plants, planting new plants, removing dead plants, weeding, weed whacking, mowing, watering, mulching and monitoring stormwater drainage. The Gary Storm Water Management District created the Urban Conservation Team to provide maintenance support for these and Gary’s numerous other green infrastructure installations.

After grant funding for “Vacant to Vibrant” ended, Gary’s Redevelopment Commission launched the green infrastructure model to repurpose vacant land as a blight elimination strategy and announced plans to install green infrastructure at five new sites in fall 2018. Additional green infrastructure projects underway include the Gary Green Link Corridor

<<http://www.urbanworksarchitecture.com/portfolio/gary-green-link-corridor/>> , an off-road hike and bike trail, the Grey to Green project in partnership with the National Fish and Wildlife Foundation at Gary City Hall <<https://www.usgs.gov/media/images/city-hall-gary-indiana>> , the Buchanan Street Green Gateway in partnership with the Lake Michigan Coastal Program and a stormwater master plan.

The “Vacant to Vibrant” project was a combined effort between the following organizations: Cleveland Botanical Garden, Great Lakes Protection Fund, US EPA’s Strong Cities Strong Communities, IU-Northwest and the City of Gary.

Lessons Learned

Gary Director of Environmental Affairs and Green Urbanism Brenda Scott-Henry comments that “one challenge has been finding landscapers and contractors that have the knowledge and skills needed to maintain existing green infrastructure and install new projects.” As a result, construction was

outsourced to workers outside of Gary and an opportunity to invest in local construction companies was missed. In response to these findings, the City created the Urban Conservation Team to maintain green infrastructure. The City also submitted a proposal to the Lake Michigan Coastal Program requesting funds to support an environmental education native landscaping training program.

Project Resources

- To learn more about the USEPA's Green Infrastructure Technical Assistance Program, visit their website <<https://www.epa.gov/green-infrastructure>> .

For more information about green infrastructure in Gary, contact:

Brenda Scott-Henry

Director of Environmental Affairs and Green Urbanism, City of Gary bhenry@ci.gary.in.us
(219) 882-3000

Start preparing your community

Adaptation Strategies

Start preparing your community with green infrastructure.

<../strategies/green-infrastructure.html>

Tools

See what tools are available to help your community prepare with green infrastructure.

<../tools/index.html>

Funding

See the funding opportunities available to support your resilience strategies.

<../funding/index.html>

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