VACANT LOT GREENING SERIES

CITY OF BALTIMORE

Baltimore, Maryland

U.S. Environmental Protection Agency Region 5 researched current practices on vacant lot greening as a resource to communities on issues of stormwater management, construction specifications, job training, property maintenance and funding.

BALTIMORE AT-A-GLANCE:

Population Trends

From 2000 to 2010, Baltimore's population decreased from **651,154 to 620,961**[1] → **4.6%** DECLINE ↓

Vacancy Snapshot

14,000 VACANT LOTS → **25%** CITY-OWNED

Mayor Stephanie Rawlings-Blake's **Growing Green Initiative (GGI)** is a city-led effort by the Office of Sustainability to find sustainable, innovative and cost-effective practices for reusing vacant land, reducing stormwater runoff, growing food and greening neighborhoods to help mitigate the negative impacts of vacant properties and set the stage for future redevelopment. **GGI** partners with a number of city agencies, local non-profit organizations and community groups to transform vacant lots.

GGI SINCE 2014: 197 VACANT LOTS TRANSFORMED

GGI City Partners and Programs

Side Yard Program

Department of Housing and Community Development (HCD) created the Side Yard Program that allows sale of city-owned vacant lots to adjacent owner occupants for a fixed price of $500 for up to 1,500 square feet ($0.33 per add'l square foot). Non-owner occupants can purchase adjacent lots for a fixed price of $1,000 for up to 1,500 square feet ($0.66 per add'l square foot).

An example of HCD's Side Yard Program.

Adopt-A-Lot

Managed by HCD, the Adopt-A-Lot program allows constituents to adopt lots in their neighborhood and transform them into a variety of community-managed open spaces. Residents can apply for a lot online at www.baltimorehousing.org/vtov_adopt. Residents can also apply for the Water Access Program to gain access to water for a flat rate of $120 for the nine-month growing season using the same link.

The "Power In Dirt" initiative offers aid on how to adopt lots and how to successfully transform green spaces. Coordinators at the Parks & People Foundation can help residents find funds, make design plans, locate plants and trees, and move through the Adopt-a-Lot process.

Stormwater Management

As part of Baltimore's MS4 Permit, the Department of Public Works has developed a watershed implementation plan to restore 20 percent of the city's impervious surfaces (approx. 4,000 acres) by creating functional long-term green infrastructure. One approach uses vacant lots for stormwater management through impervious surface removal.

An example of a vacant lot transformed into a community park with pervious walkways and pervious parking area.

TreeBaltimore

TreeBaltimore is a mayoral initiative led by the Baltimore Department of Recreation and Parks in partnership with Blue Water Baltimore, the Parks & People Foundation, and the Alliance for the Chesapeake Bay (non-profit partners maintain trees for two years). To reach the goal of 40 percent tree canopy cover by 2030, TreeBaltimore partners with GGI as well as individual homeowners, communities, schools and businesses .

EPA United States Environmental Protection Agency

All information, data and images cited within this report were obtained from an interview with the Baltimore Office of Sustainability unless otherwise stated.

[1] U.S. Census, 2010 Census, 2000 Census, Total Population, www.factfinder.census.gov, accessed 3/16/2015.

GGI: Sustainable Practices and Innovations

Green Pattern Book

The *Green Pattern Book* presents greening techniques for land asset management and sustainable economic development. Created to encourage the greening of vacant land by city agencies, community-based organizations and individual residents. The tool provides local examples of greening practices, guidance on site selection, guidelines for implementing projects and resources, including grants and potential funders.

The tool promotes eight green "typologies" for reusing vacant land:

Clean and Green
Community-managed Open Space
Urban Agriculture
Stormwater Management
Green Parking
Urban Forests
Parks and Open Space
Mixed Greens

Urban Agriculture, *one of the green typologies for reusing vacant land.*

Design Competition

A total of $300,000 in grants was awarded to seven teams for stormwater-related projects that will be implemented in 2015. Sites were pre-selected and teams attended public workshops before entering. Baseline data will be collected.

The competition was funded through EPA (Urban Waters); Chesapeake Bay Trust; Baltimore Department of Planning, Office of Sustainability; Department of Housing and Community Development (5 percent of Blight Elimination Funds for post-demolition greening activities); and Department of Public Works (stormwater fee).

The Baltimore Wildflower Project*, conducted by UMBC.*

Local Support

University of Maryland, Baltimore County has conducted a Baltimore Wildflower Project to study the biodiversity of wildflower mixes on vacant lots and a Daikon Radish research project to determine stormwater benefits on vacant lots.

Community Engagement

GGI funds a Community Organizer position at the Parks & People Foundation that complements the community greening work underway at the Parks & People Foundation, including their management of the Power in Dirt program. This position focuses on fostering community support for Community-managed Open Spaces and using the Green Pattern Book to implement post-demolition greening projects with residents.

Challenges and Lessons Learned

Limited Space

Narrow row-house-sized lots present a greening logistics challenge for the city. One solution has been to approach demolition in clusters with a strategically planned whole-block demolition model rather than a scattered site approach, then follow demolitions with innovative greening techniques.

Strategic Approach

The city has expressed the need for a greening network plan for Baltimore City. The plan would help set community expectations and show how targeted parcels relate to the existing park system.

Additional Information

Resources:
Baltimore Office of Sustainability, Growing Green Initiative:
www.baltimoresustainability.org/growinggreen

City of Baltimore Contact:
Jenny Guillaume, Growing Green Initiative Coordinator,
Jenny.Guillaume@baltimorecity.gov

VACANT LOT GREENING SERIES

BUFFALO SEWER AUTHORITY

Buffalo, New York

U.S. Environmental Protection Agency Region 5 researched current practices on vacant lot greening as a resource to communities on issues of stormwater management, construction specifications, job training, property maintenance and funding.

BUFFALO AT-A-GLANCE:

Population Trends

From 2000 to 2010, Buffalo's population decreased from **292,648 to 261,310**[1] → **10.7% DECLINE** ↓

Vacancy Snapshot

5,000 VACANT HOUSING STRUCTURES

17% PARCELS CONSIDERED VACANT LAND

Buffalo Sewer Authority (BSA) *is a public benefit corporation created to protect local waterways from sewage pollution. BSA engages in lot greening through* ***green infrastructure implementation in accordance with the Long Term Control Plan (LTCP), green street projects, residential downspout disconnection, rain barrel installation programs*** *and by* ***partnering with local non-profits*** *such as People United for Sustainable Housing and Buffalo Niagara Riverkeeper.*

FROM 2001 TO 2013: **5,400** DEMOLITIONS **$20,000 =** CITY'S COST PER DEMO

Green Infrastructure Master Plan

In order to comply with the stormwater reduction associated with Buffalo's combined sewer overflow settlement, BSA is continually working to improve stormwater management within the city. Through projects outlined in the Green Infrastructure Master Plan, **BSA is able to get legal credit for demolition and greening work as contributions to the LTCP implementation.**

From 2001 to 2013, **the city demolished structures on nearly 5,400 residential and commercial lots at an average demolition cost of $20,000 per structure.** Traditional demolition specifications were used for these parcels, including 60 percent minimum clay-fill graded to street level with no erosion and sediment control. The stormwater benefit associated with these demolitions is achieved primarily through removal of impervious surfaces on the sites. The BSA and proposed city green code require that all new developments manage stormwater on-site. The BSA partnered with University of Buffalo to inspect historic demolitions using a tablet app developed under an EPA technical assistance grant.

BSA funds demolition and greening work through a combination of state and federal grants, and the city's capital fund and general operating fund commitments. Publicly held lots are mowed twice per growing season by the Department of Public Works at an average cost of $500 per lot per year.

While BSA currently receives stormwater reduction credit through the removal of impervious surfaces on the lots, they are pursuing opportunities to expand lot infiltration through alternative demolition practices.

Greening Demolition

In order to maximize the stormwater management benefit achieved through the existing demolition program, **BSA is piloting a green demolition protocol on 230 lots in Buffalo.**

With funding from the New York State Environmental Facilities Corporation (NYS EFC), BSA has contracted for landscaping services **to regrade the sites to minimize water flow off the lot, utilize a topsoil mix that promotes infiltration and plant growth, and plant a deep-rooted turf grass.**

Due to the switch to a low-growing grass seed mix, the lots will only need to be mowed once per season.

BSA is funding these demolition improvements through funding from NYS EFC. Other key partners include the City of Buffalo's Office of Strategic Planning, Office of Permits and Inspections, Department of Public Works, Community Foundation of Buffalo, and Niagara Riverkeeper.

EPA United States Environmental Protection Agency

All information, data and images cited within this report were obtained from an interview with the Buffalo Sewer Authority unless otherwise stated.

[1] U.S. Census, 2010 Census, 2000 Census, Total Population, www.factfinder.census.gov, accessed 3/16/2015.

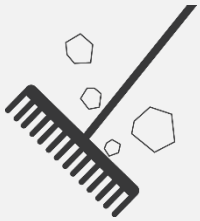
Greening Pilot Projects Specification Highlights

BSA's parcel greening approach is split into two distinct processes, often involving two separate contractors due to differing approaches and equipment: **demolition** and **landscaping.**

Demolition

Regrading

Parcels are regraded as close to level as possible and left at 4-inches below grade.



Debris Removal

After regrading, lots are raked to remove stones or debris larger than 1 inch diameter.

Landscaping

Break Up Soil

The surface of the lot is scarified, or broken apart and loosened, to maximize infiltration.

Topsoil

Any remaining debris is removed, and a mix of:

- 50% sand
- 25% topsoil
- 25% compost

is filled to grade.

Ground Cover

The lot is seeded with a low-mow, deep-rooted grass seed mixture.

Maintenance

The lot is mowed once per growing season.

Sustainable Practices + Innovations

Stormwater Management

BSA is one of the first entities to receive stormwater reduction credit for demolitions to count toward green infrastructure outlined in Buffalo's LTCP.

Green Street Projects

BSA is engaged in several green street projects that involve the installation of rain gardens, infiltration basins and pervious pavement along streets. One effort directs street runoff to city-owned vacant lots that are functioning as green infrastructure and can manage the stormwater on-site.

Data Collection + Technology

Through a partnership with the University of Buffalo, engineering students will use a tablet application to cost-effectively collect data on soil type, compaction and infiltration rates at legacy demolition sites. This process will help to measure the performance of vacant lots as green infrastructure and can inform greening treatments in the future to maximize stormwater infiltration.

Challenges + Lessons Learned

Contractor Training

For street greening projects, BSA found that more contractor training was needed to effectively construct the roadside green infrastructure installations. To ensure the quality of contractor work, BSA now conducts extensive post-construction inspections.

Expect Hiccups Along the Way

Organizations and entities like BSA are continually innovating to creatively address multiple challenges including stormwater management, blight reduction and vacant lot management. Numerous variables in lot greening and redevelopment work inevitably result in unexpected complications, so BSA is using the 230 lots in the *Greening Demolition* pilot projects to work through these challenges.

Additional Information

Resources:
Buffalo Sewer Authority: bsacsoimprovements.org/

BSA Contact:
Julie Barrett-O'Neill, General Counsel,
JONeill@sa.ci.buffalo.ny.us

Additional Sources:
Buffalo Sewer Authority, *Long Term Control Plan,* January 2014
bsacsoimprovements.org/cso-control-plan/january-2014-ltcp/
RainCheck, raincheckbuffalo.org

VACANT LOT GREENING SERIES

KEEP CINCINNATI BEAUTIFUL

Cincinnati, Ohio

U.S. Environmental Protection Agency Region 5 researched current practices on vacant lot greening as a resource to communities on issues of stormwater management, construction specifications, job training, property maintenance and funding.

CINCINNATI AT-A-GLANCE:

Population Trends

From 2000 to 2010, Cincinnati's population decreased from **331,285 to 296,943**[1] → **10.4%** DECLINE ↓

Vacancy Snapshot

$5.8M MOVING OHIO FORWARD FUND

Keep Cincinnati Beautiful (KCB) is a nonprofit organization that decreases litter and blight, promotes sustainability, and cultivates community pride through education and beautification.

KCB AT WORK:

- **300** LOTS GREENED IN LAST 5 YEARS
- **10,000** VOLUNTEERS ENGAGED IN 2014
- **500** COMMUNITY PROJECTS

Treatment Highlights: **Future Blooms**

Future Blooms is KCB's signature community-based greening program. These grassroots, community-led projects eliminate blight by transforming vacant lots into natural, beautiful and functional neighborhood green spaces.

Lots are selected from blighted and nuisance properties using a set of selection standards. KCB developed a **blight index** (modeled on Keep America Beautiful's Litter Index) that utilizes **windshield surveys** to collect property data and to measure the impact of the program on blight in each neighborhood. After baseline conditions are assessed, additional windshield surveys are conducted after 90 days and after one year to provide a visual assessment of neighborhoods and measure change over time.

Through the Moving Ohio Forward Fund, 700 homes were demolished in Cincinnati. KCB then triaged the lots and selected 200 for remediation through the Future Blooms program, using CDBG funding for the lot treatments. Each treatment costs KCB about **$2,000**. The contractor is responsible for removing debris (including cutting down woody debris), grading the site for mowing, then installing a small picket fence, one or two trees, and sometimes a small gardening bed.

Through funding from Keep America Beautiful, KCB was able to learn about The Pennsylvania Horticultural Society's Clean and Green Program. KCB modeled PHS's process for remediating properties and borrowed language from the specifications they use from grading to greening, including fence installation. KCB also learned how to ready a site for easy maintenance.

KCB works to transform vacant lots through the Future Blooms program.

EPA United States Environmental Protection Agency

All information, data and images cited within this report were obtained from an interview with Keep Cincinnati Beautiful unless otherwise stated.

[1] U.S. Census, 2010 Census, 2000 Census, Total Population, www.factfinder.census.gov, accessed 3/16/2015.

Funding Highlights

Banks
KCB received a three-year $100,000 grant from the Fifth Third Foundation. The flexibility over three years has been valuable.

Foundations
In addition to grant funding, local foundations provide in-kind support, such as materials for cleanups. KCB receives continued support from The Greater Cincinnati Foundation.

Corporate
Sometimes companies donate small amounts of money ($500, $2,000, $3,000, etc.) or volunteer time. Lowe's gave KCB a $10,000 grant, then doubled it the following year.

Metropolitan Sewer District (MSD)
Through a contract with MSD, KCB's LawnLife youth training program conducts maintenance of properties that have been demoed in the Lick Run stormwater management project. There may be future opportunities to partner with MSD for mitigation of runoff.

Sustainable Practices and Innovations

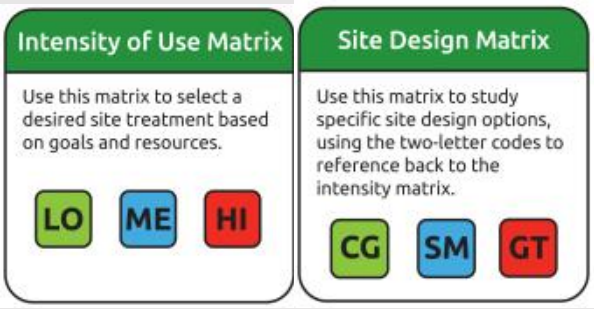
Job Training
Building Value, an extension of Easter Seals TriState, trains individuals for the landscape field as they work on KCB's vacant lots to grade the land, plant grass and trees, and install fencing. On occasion, individuals may also help with deconstruction projects.

Another program of Easter Seals TriState, **Building Ability**, teaches individuals how to construct KCB's fence panels from reclaimed lumber.

Local Support
Partnerships with city departments, particularly Public Services, and neighborhood council and beautification chairs have helped KCB sustain its blight reduction and greening work.

Vacant Lots: Occupied Resource Guide
Students at the University of Cincinnati's College of Design, Art, Architecture and Planning worked with KCB to develop Vacant Lots: Occupied, an award-winning guide designed to help cities and neighborhood organizations address and utilize vacant land. This guide includes case studies of Cincinnati neighborhoods and covers everything from possible land use to what plants to use and more.

Easter Seals TriState Building Value Program participants.



Site Level Typologies within Vacant Lots: Occupied

Challenges and Lessons Learned

Property Access
Access to property has been one of KCB's largest barriers to vacant lot cleanup and beautification. Until recently, the City of Cincinnati had no "Good Samaritan" law in the context of vacant properties, requiring KCB to acquire explicit permission to go onto a property. However, as of April 1, 2015, the City of Cincinnati now permits KCB to address lots through the Private Lot Abatement Program. While this permission only applies after citations have been issued for the property and the owner has not responded, this program will allow KCB to substantially expand its vacant lot cleaning and greening impact.

Allocation of Resources
KCB is facing funding challenges for the LawnLife youth training program since HUD CDBG funding, the program's primary funding source, was cut. KCB is working with the city to reinstate this allocation and to pursue additional, more diverse funding sources that strengthen the program's resiliency to shifting funding streams.

Additional Information

Resources:
Keep Cincinnati Beautiful, Vacant Lot Stabilization:
keepcincinnatibeautiful.org/programs/urban-revitalization/vacant-lots

KCB Contact:
Drew Goebel, Greenspace Manager,
Drew@KeepCincinnatiBeautiful.org

VACANT LOT GREENING SERIES

CLEVELAND BOTANICAL GARDEN

Cleveland, Ohio

U.S. Environmental Protection Agency Region 5 researched current practices on vacant lot greening as a resource to communities on issues of stormwater management, construction specifications, job training, property maintenance and funding.

CLEVELAND AT-A-GLANCE:

Population Trends

From peak population in 1950 to 2010, Cleveland's population decreased from **914,808 to 396,815**[1] → **56.6%** DECLINE ↓

Vacancy Snapshot

25K VACANT LOTS IN CLEVELAND

$10M HARDEST HIT FUNDING *(Cuyahoga County)*

Cleveland Botanical Garden (CBG) *is engaged in vacant lot greening and works to inspire an enduring connection between plants and people so that vibrant green communities will flourish and sustain life. Several key programs include* ***Applied Research*** *in vacant land reclamation, green infrastructure and ecosystem services;* ***Vacant to Vibrant*** *urban greening installations; and* ***Green Corps.***

CBG GREENING THROUGH 2014: **29** PARCELS GREENED FROM 1996-2014 **1.2M** GALLONS OF STORMWATER MANAGED EACH YEAR

Slavic Village Residential Parcels

CBG has worked with local, state and federal partners to green and monitor 11 parcels in Cleveland's Slavic Village neighborhood using soil treatments and natural plants to reduce stormwater runoff and help clean the city's waterways. Two of these lots utilized dredged sediment from the Cuyahoga River as a component of the soil material used to fill each site.

At **a cost of approximately $5,000 per lot,** the work was funded through a U.S. EPA Urban Waters Small Grant, with additional funding from Northeast Ohio Regional Sewer District, Cleveland-Cuyahoga County Port Authority and the Ingalls Foundation.

Key specification components included soil amendments, lot regrading and low-maintenance native plants *(see below)*. As these greened parcels serve as pilot projects for testing green stormwater management techniques, U.S. EPA and U.S. Geological Survey are monitoring and analyzing the sites' hydrological performance through 2017 and comparing results to 12 unimproved control sites.

Maintenance for the lots includes 4-inch mowings biweekly in June and once per month through October conducted by Slavic Village Development, a local community development corporation. CBG anticipates that eventually the lots will need only one annual mowing in late spring or early summer.

Slavic Village **Specification Highlights**

Regrading

Parcels are regraded to slope to a shallow depression (250-440 ft², scaled to drainage area, and 12-18 in. below grade).

Soil Amendments

Lots are capped with a 40/60% blend of compost and topsoil at a depth of 1-2 in.

Ground Cover

Low maintenance blends include: (1) a yarrow, microclover and dwarf perennial ryegrass mix at a rate of 3 lb/1000 ft²; (2) a blend of fine fescues at a rate of 1.7 lb/1000 ft², and 10 species of low-growing native flowers.

Stormwater Management

Depressions are filled with 6-in. of a biofiltration soil blend (compost/wood mulch) and native plants.

Specification details obtained from *Stormwater Management and Neighborhood Stabilization on Urban Vacant Land* report, December 2014.

EPA United States Environmental Protection Agency

All information, data and images cited within this report were obtained either from an interview with the Cleveland Botanical Garden or www.cbgarden.org/V2V unless otherwise stated.

[1] U.S. Census, 2010 Census, 2000 Census, Total Population, www.factfinder.census.gov, accessed 3/16/2015.

Vacant to Vibrant **Vacant Lot Greening**

Vacant to Vibrant (V2V) is a four-year project led by CBG in Cleveland, Ohio; Buffalo, N.Y.; and Gary, Ind., to implement urban greening treatments on small parcels that generate benefits for the surrounding community. CBG is working with local partners in specific communities to green three parcels in each city, for a total of nine greened parcels. Each city also has three control sites and one native plant nursery site.

With a $902,000 grant from the Great Lakes Protection Fund, **$18,000 has been allocated to the greening of each site.** In additional to achieving stormwater management benefits, the V2V program primarily works to stabilize neighborhoods and improve quality of life for community residents.

CBG will be monitoring soil and stormwater infiltration at each location and will work with partners to analyze social changes resulting from the greened lots. More information on V2V progress and methodology can be found on CBG's V2V blog.

The Hulda Avenue site in Cleveland's Woodland Hills neighborhood includes rain gardens, planting beds, a fence and artisan concrete paving.

Vacant to Vibrant **Community Engagement**

Intro Presentation on V2V
This initial meeting introduced the community to the Vacant to Vibrant projects and their relationship to other green infrastructure projects in the area.

Stoop Survey and Canvassing
Door-to-door neighborhood surveys were used to collect residents' opinions on potential uses for the site as well as programming suggestions or safety concerns.

Community Design Input Review Meetings
Two meetings were held to determine specific uses and site design themes and give residents a chance to review design concepts.

Follow-up Stoop Surveys
Follow-up neighborhood surveys were conducted to gain additional resident feedback on the proposed plan, anticipated use and potential add-ons to the site.

Sustainable Practices + Innovations

Reuse of Cuyahoga River Sediment

Through assistance from local, state and federal entities, CBG used Cuyahoga River sediment blended with topsoil and compost as a soil resource on two parcels in Slavic Village. Large-scale demolitions in Cleveland demand large quantities of soil to fill basements. Sediment offers increased stormwater infiltration compared to traditional fill soil that contains heavy clay. While sediment is a plentiful resource in Cleveland that offers stormwater management benefits on vacant lots, this approach also poses challenges regarding sediment contamination and increased handling costs.

Site Selection Methodology

For the V2V work, CBG used a standardized methodology for selecting parcels for green infrastructure in each of the three cities. This method utilized a set of qualitative and quantitative metrics to conduct a parcel suitability analysis. More information on this methodology can be found on CBG's Vacant to Vibrant blog.

Youth Engagement + Job Training

CBG leads Green Corps, a youth training program that employs and educates dozens of teenagers that live within Cleveland to work at one of six urban learning farms.

Challenges + Lessons Learned

Demolition Coordination

Green demolition practices, particularly the type of fill soil used, can enhance stormwater infiltration on vacant lots, even if the lots are not specifically used for green infrastructure and stormwater management.

Native Flowering Plants

Complications arose with native plants when planted with the low-maintenance lawn mix. In the case of the Slavic Village treatment parcels, the native flowering plants did not do well when planted with the low-mow lawn mix, potentially due either to being out-competed by the low-mow lawn mix or not surviving mowing.

Establishment of Low-Mow Mixes

Weed suppression is required for low-maintenance mixes to establish on a site. This requires fall planting and pre-treatment of existing vegetation on the site.

Community Engagement

Despite outreach efforts, CBG discovered that they had installed a rain garden on a lot that was used by local children as a football field. After discussions with community members and failure of plantings due to foot traffic, it was decided that the rain garden would be removed. The lot was later restored to a play lawn.

Additional Information

Resources:
Cleveland Botanical Garden: www.cbgarden.org/

CBG Contact:
Sandra Albro, Research Associate, Applied Urban Ecology,
salbro@cbgarden.org

VACANT LOT GREENING SERIES

THE GREENING OF DETROIT

Detroit, Michigan

U.S. Environmental Protection Agency Region 5 researched current practices on vacant lot greening as a resource to communities on issues of stormwater management, construction specifications, job training, property maintenance and funding.

DETROIT AT-A-GLANCE:

Population Trends

From 2000 to 2010, Detroit's population decreased from **951,270 to 713,777**[1] → **24.9%** DECLINE ↓

Vacancy Snapshot

79,000 VACANT PROPERTIES

40 SQUARE MILES VACANT LAND

$107M+ HARDEST HIT FUNDING (Detroit Land Bank)

The Greening of Detroit (The Greening) works to inspire sustainable growth of a healthy urban community through trees, green spaces, food education, training and job opportunities. The Greening's city planting projects add significant economic value to the city by reducing stormwater runoff, cleaning toxic soil, and improving air quality and real estate values.

THE GREENING AT WORK: **85,000** TREES PLANTED **449,536** YOUTH EMPLOYMENT HOURS WORKED **618** ADULTS TRAINED IN GREEN CAREERS

Treatment Highlights: **Open Space**

The Greening puts resources into the hands of Detroit residents, enabling them to turn vacant lots into one of four types of open space, including **low-grow prairie grass, perennial wildflowers, rye grass, and wildflowers and trees**. Treatments cost roughly **$2,500 per lot.**

LOW-MOW PRAIRIE TREATMENT

The Greening recommends plants that grow less than 36 inches high for site security and aesthetics.

WILDFLOWER TREATMENT

Although perennial seed mixes are initially more expensive than annual seed mixes, they have been more cost-effective in the long term.

TREE TREATMENT

The Greening plants a variety of species, most of which are native to Michigan such as linden, maple, oak and hackberry trees.

Sites are selected based on ownership. The Greening is working with the **Michigan Land Bank and Detroit Land Bank Authority** as they have promised to retain ownership for an extended period of time (10 or three years, respectively). All lots are residentially zoned with demolitions being cleared years ago.

The Detroit Water and Sewerage Department (DWSD) funded 10 lot treatments in the Cody Rouge neighborhood in 2013 as part of its $50 million, 20-year commitment to green infrastructure (NPDES). The Greening is currently working with DWSD on an EPA Shoreline Cities grant to replicate the Cody Rouge vacant land restoration project. The same process of land acquisition, greening methods and maintenance used in Cody Rouge will be applied to an additional 30-50 vacant lots on Detroit's east side, with an expected completion date in spring 2016. The Greening is also working with an engineer who will be monitoring the sites to track changes in stormwater infiltration due to the lot treatments.

EPA United States Environmental Protection Agency

All information, data and images cited within this report were obtained from an interview with the Greening of Detroit unless otherwise stated.

[1] U.S. Census, 2010 Census, 2000 Census, Total Population, www.factfinder.census.gov, accessed 3/16/2015.

Sustainable Practices and Innovations

Job Training

The **Green Corps Youth Employment Program** employs 80-200 high school students each summer to water trees, which accounts for about two-thirds of maintenance needs. Green Corps members are paid hourly and receive hands-on job training and construction experience. In 2014, Green Corps watered 12,000+ city trees; maintained and helped clean up parks and greenways; and planted, weeded and harvested crops at the Greening's farm gardens. The program is primarily **corporate grant funded**, with additional support from private foundations. The Greening has found that funders often prefer to support youth employment programs over stand-alone tree maintenance programs.

Seasonal work crews composed mainly of Green Corps graduates maintain 12,800 trees every two weeks for three years and also work on more sensitive or complex projects, which accounts for the remaining third of maintenance needs. Maintenance crews have secured permission to use hydrants for the water source. The Greening has also developed a "Citizen Forester Manual" to guide specialized volunteers who work to educate, monitor and assist volunteer groups in proper tree planting techniques and tool safety.

The **Workforce Training Initiative** is a registered apprenticeship program through the U.S. Department of Labor. Adult participants are trained over eight weeks in landscape technician and safety skills, and most become certified in CPR and first aid. Many earn landscape industry certification in Michigan, and over 80 percent of graduates have found employment.

Urban Farming

The Greening supports gardens in Detroit communities and partners with dozens of schools to create garden-based curricula and nutrition education for their school garden programs. The Greening also has an Urban Agriculture Adult Apprenticeship Program.

Research

The Greening is participating in research projects that use dendroremediation, a technique that uses trees to clean toxins from the soil. Four different types of trees, including hybrid willow, hybrid poplar, white willow and cottonwood trees, are planted on polluted sites. The soil is tested regularly to measure and evaluate the effectiveness of the trees in reducing or eliminating the contamination. This type of soil remediation may take eight to 10 years.

14,000 CHILDREN
HAVE PARTICIPATED IN EDUCATIONAL PROGRAMMING
SINCE 1998

1,514 GARDENS
CREATED OR SUPPORTED
SINCE 2003

Challenges and Lessons Learned

Engagement

Community engagement is critical for greening projects—even for private property—and should start before funding is in place. Both the funder and the property owner need to understand treatment options and maintenance requirements. An upfront approach with residents regarding options, challenges and requirements helps to manage expectations and promotes long-term project sustainability.

Invasive Species/Disease

To prevent aggressive, non-native plants from overtaking a lot, seed design must be aggressive so that species will establish quickly and crowd out invasive species. Mowing in the spring is also recommended to reduce invasives. Planting a wide variety of trees protects neighborhoods from losing their entire tree canopy if a particular type of tree falls prey to an invasive disease. Selected species are designed to be urban tolerant and grow in clay soils, ideally when the subsurface is loosely packed.

Additional Information

Resources:
The Greening of Detroit: www.greeningofdetroit.com/
Citizen Forester Training Manual – Spring 2015

The Greening Contact:
Dean Hay, ISA Certified Arborist, Municipal Specialist & Director of Green Infrastructure, dean.hay@greeningofdetroit.com

VACANT LOT GREENING SERIES

THE GENESEE COUNTY LAND BANK

Flint, Michigan

U.S. Environmental Protection Agency Region 5 researched current practices on vacant lot greening as a resource to communities on issues of stormwater management, construction specifications, job training, property maintenance and funding.

FLINT AT-A-GLANCE:

Population Trends

From its peak in 1960 to 2010, Flint's population decreased from **196,940 to 102,434**[1] → **48.0%** DECLINE ↓

Vacancy Snapshot

14,924 VACANT LOTS → **1/3** LAND BANK OWNED

The Genesee County Land Bank (GCLBA) was formed in 2004 with the mission of "restoring value to the community by acquiring, developing, and selling vacant and abandoned properties in cooperation with stakeholders who value responsible land ownership." The GCLBA supports greening and maintenance of vacant lots through its **Lots Available and Clean & Green programs, and by deploying Maintenance Crews**. The Land Bank is now planting **clover** as a low-maintenance lawn treatment after demolishing blighted structures.

GCLBA SINCE 2004: **2210** HOMES + **133** BUILDINGS SOLD **~5,000** DEMOLITIONS

Program Highlights: **Lots Available**

The Land Bank makes its Lots Available for community care and use. Lots are annually adopted for free and **leased for up to five years for $1 per year**. These lots are well cared for and often improved with flower gardens, food gardens and pocket parks.

The Land Bank has been selling **Side Lots** to adjacent homeowners for $25, plus the foreclosure year's taxes (if foreclosed in 2003 or before), a $25 administration fee and a $14 filing fee. The program brings properties back onto the tax roll while reducing the public costs associated with property maintenance.

The GCLBA has established a **Vacant Property Database** to help residents find available lots for greening or gardening projects.

*Since 2004, **701 lots** have been adopted or leased by community members.*

Sustainable Practices and Innovations

- **Cost-efficient maintenance:** Selling side lots is a very effective and cost-efficient way to ensure longer-term maintenance and care of adjacent vacant properties.
- **Benefits to residents:** Adopting and leasing lots gives residents control over the land for up to five years without requiring them to pay taxes and assessments on the lots.
- **Risk management:** The Land Bank has systems in place to mitigate risk. This includes requiring individuals who access the property to sign a liability release form and if the lot is adopted by a business or organization, the Land Bank must be covered by the group's liability insurance.

*Since 2004, GCLBA has sold **947 side lots** to adjacent homeowners.*

Challenges and Lessons Learned

Although it takes time to establish and implement systems for reviewing and approving vacant lot applications and to address conflicts around lot reuse, the agreements save maintenance costs over the long term and they help prevent the spread of blight in neighborhoods.

EPA United States Environmental Protection Agency

All information, data and images cited within this report were obtained from an interview with the Genesee County Land Bank unless otherwise stated.

[1] U.S. Census, 2010 Census, 2000 Census, Total Population, www.factfinder.census.gov, accessed 3/16/2015.

Program Highlights: **Clean & Green**

The Clean & Green Program is for community-based groups. Each participating group has its own unique service area that typically aligns with its neighborhood boundaries. The program emphasizes youth participation (900+ participants since 2004) and is primarily funded by **private grants** from local foundations.

Each Clean & Green group is required to maintain at least **25 vacant properties** in its service area (every three weeks), provide its own **tools** and **equipment,** acquire **liability insurance** to cover every individual involved in the program or have every individual involved in the program sign a liability release form, and attend the Clean & Green Kick-Off. Each individual group that participates in the Clean & Green program will receive a stipend of **at least $3,000**. The value of the stipend for each group will depend on the number of vacant properties the group maintains. Signature greening projects demonstrating new greening practices, including low-maintenance planting, are eligible for an additional stipend.

Sustainable Practices and Innovations

- **Clean & Green Network**: GCLBA works to support the vision of residents by providing needed resources, which builds trust in the community. GCLBA doesn't micro-manage projects, but instead provides groups with the flexibility to manage their own service areas. GCLBA evaluates progress, giving each team a score, which impacts funding in future years. By acknowledging and appreciating the work of these groups, GCLBA has built a strong network. Empowering youth, increasing community-based capacity, inspiring reuse of vacant land and strengthening relationships with the Land Bank are also goals of the Clean & Green.
- **Job Training**: Some of the Clean & Green Groups have evolved over the years to include a job training component, often targeting youth (450 youth employed since 2004).

Challenges and Lessons Learned

The program must be administered with care and respect to build relationships.

SINCE 2004:
65,000 MOWINGS VALUED AT **$3.1M**

Program Highlights: **Maintenance Crews**

Land Bank crews secure vacant and blighted properties with boards, clean up houses to reposition them for sale, remove trash and mow tall grass at least once a season. GCLBA does not own 67 percent of the blighted properties that it secures and maintains.

Sustainable Practices and Innovations

Job training: Not only do the crews improve neighborhood conditions, they also provide local opportunities for job training and employment. Land Bank crews have trained and employed more than 200 individuals from Flint and Genesee County since 2004

Challenges and Lessons Learned

Flexibility: In the past, GCLBA contracted with maintenance contractors, but often found there was a lack of flexibility and judgment on the ground.

*Since 2004, GCLBA has **trained and employed more than 200 local individuals**.*

Treatment Highlights: **Planting Clover After Demolition**

While grass requires consistent seasonal mowing and maintenance, clover is a slow- and low-growing ground cover that also restores nitrogen to the soil. **By the spring of 2015, the Land Bank will have seeded approximately 1,700 vacant lots with clover.**

Topsoil

Six inches of screened topsoil (with one inch or less screen) are applied to the site.

Seed Mix

The lot is seeded with 100 percent Dutch white clover seed inoculated with Rhizobium bacteria (Strain B). Not mixed with annual rye or other grass seed.

Seed Application

The seed is applied at a rate of 2 oz. of seed per 1,000 sq. ft. A cultipacker pulled by a lightweight tractor is used to ensure seed has good contact with the soil. Seed is planted ¼-inch deep.

Ground Cover

The entire planting area is mulched with straw or wood fiber to ensure proper moisture levels. Bale string is removed from the site.

Watering

The contractor must demonstrate that the site has been watered within seven days of the seeding date sufficient to allow for seed germination. The Land Bank is notified of the date of seeding.

Follow-up

The *Seeding and Watering Report* are completed. Seed tags are required for payment.

Additional Information

Resources:

Genesee County Land Bank: www.thelandbank.org
GCLB 10th Anniversary Booklet
Beyond Blight: City of Flint Blight Elimination Framework

GCLBA Contact:
Christina Kelly, Director of Planning & Neighborhood Revitalization,
ckelly@thelandbank.org

VACANT LOT GREENING SERIES

CITY OF GRAND RAPIDS

Grand Rapids, Michigan

U.S. Environmental Protection Agency Region 5 researched current practices on vacant lot greening as a resource to communities on issues of stormwater management, construction specifications, job training, property maintenance and funding.

GRAND RAPIDS AT-A-GLANCE:

Population Trends

From 2000 to 2010, Grand Rapids' population decreased from **197,800 to 188,040**[1] → **4.9%** DECLINE ↓

Vacancy Snapshot

100 FORECLOSURES RECEIVED BY CITY PER YEAR ON AVERAGE

80% OF FORECLOSURES REHABILITATED

*The **City of Grand Rapids' Economic Development Corporation (EDC)** works to strengthen and revitalize the economy of Grand Rapids and Michigan through a variety of economic development activities including **neighborhood stabilization** and **lot redevelopment.***

Process Highlights: **Vacant Lot + Foreclosure Redevelopment in Grand Rapids**

Approach

Thanks to a strong local housing market, Grand Rapids is able to focus on rehabbing foreclosures rather than demolishing the structures. In order to ensure that purchased property is fully valued and rehabilitated, Grand Rapids shifted its unoccupied properties sale policy from a $1 title transfer process to selling the lots at market value. The city found that this shift resulted in greater redevelopment benefits.

Foreclosure Rehab

The city works with the Kent County Land Bank Authority (KCLBA) to analyze and prioritize rehab and demolition candidates. Due to an increasing housing shortage in Grand Rapids, the city and KCLBA aim to rehab as many foreclosures as feasible. **KCLBA funds foreclosure rehabs with a $1 M+ program-related investment loan from the Grand Rapids Community Foundation.** Through partnerships with the strong network of affordable housing developers throughout Grand Rapids, unoccupied properties are conveyed conditionally under redevelopment agreements, which require developers to rehabilitate the properties for affordable housing.

Demolition + Side Lot Acquisition

Structures that cannot feasibly be rehabbed are demolished, which tends to be about 20 percent of the approximately 100 foreclosures received by the city per year. When a vacant lot becomes available, Grand Rapids targets residential neighbors for side lot acquisition. A fee of $1,050 covers the title transfer and related costs.

Lot Maintenance

Maintenance for the 100 or so vacant lots owned by the city is conducted through court-ordered community service requirements. **This maintenance strategy costs the city approximately $22,000 per year, saving nearly $50,000 per year compared to privately contracting for the work.**

Uses for Vacant Lots

The city offers temporary use permits for residents to use a vacant lot without purchasing it. In the future, the city may also utilize remaining vacant lots, generally located in undesirable redevelopment locations, for developing the city's tree canopy.

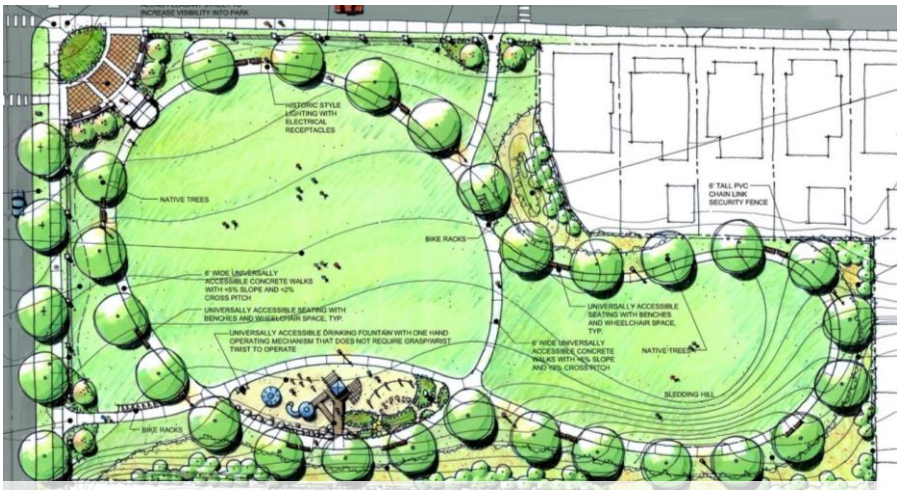
EPA United States Environmental Protection Agency

All information, data, and images cited within this report were obtained from an interview with the City of Grand Rapids unless otherwise stated.

[1] U.S. Census, 2010 Census, 2000 Census, Total Population, www.factfinder.census.gov, accessed 3/16/2015.

From Underutilized Lot to Community Asset: **Pleasant Park, Grand Rapids**

Grand Rapids' **Pleasant Park** demonstrates how underutilized land can be converted into green space, play areas, stormwater management benefits and other community assets through partnerships and innovative funding. Originally a Kent County parking lot purchased by the city, the 2.3-acre park that opened in 2014 serves the Heritage Hill and South Hill neighborhoods, communities that were designated by the city's *Green Grand Rapids* report as lacking public green space. Several key components include safety design features, native plants and community support.



Pleasant Park Concept Plan, *Green Grand Rapids.*

Playground at Pleasant Park.

Crime Prevention Through Environmental Design

Elements of Crime Prevention Through Environmental Design were incorporated into the park's design **to ensure that the space could provide the assets needed by the community with built-in safety considerations,** such as the park's gentle slope that allows anyone passing on the perimeter to see the entire park.

Native Plants + Natural Design

Pleasant Park incorporates **low-mow ground cover, a rain garden and naturalized perimeter landscaping, as well as 37 trees planted by Friends of Grand Rapids volunteers.** These natural features allow the park to serve as green infrastructure for stormwater management and a recreational asset for residents.

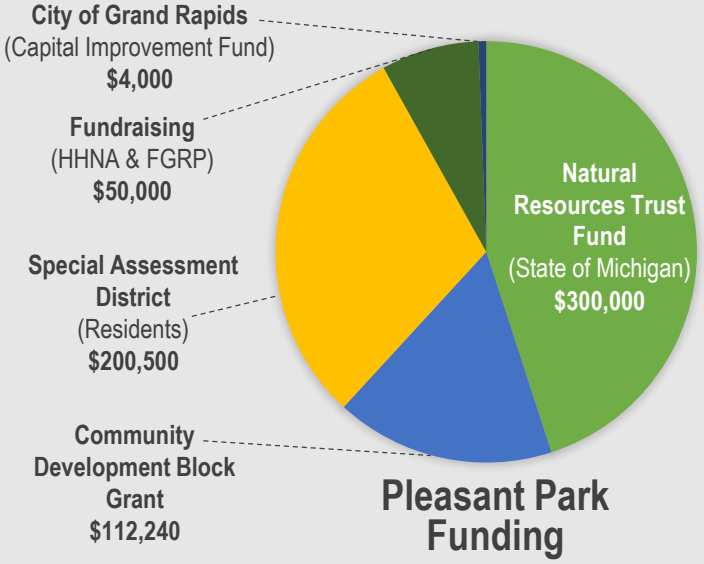
Community Support + Innovative Financing

The park concept was developed through a consensus-based community engagement process through the city's *Green Grand Rapids* work, ensuring that the needs and concerns of all stakeholders were accurately represented. Resident buy-in and contributions to the design ultimately led to an additional source of financing, as a special assessment district was instituted and supported by residents surrounding the park.

Partnerships + Funding

Numerous partnerships were critical for the park's success, including collaboration between the City of Grand Rapids, Friends of Grand Rapids Parks (FGRP), Heritage Hill Neighborhood Association (HHNA), South Hill Neighborhood Association and residents in the surrounding communities.

The city was able to fund the work through a variety of federal, state and local funding sources, a special assessment district, and fundraising through the neighborhood associations and FGRP. Despite the range of funding sources utilized, when the original design was put out to bid in the fall of 2013, bids received were significantly over budget and were rejected later that year. Despite this setback, the project team was able to develop a base bid with add alternatives to allow non-essential features to be added as funding becomes available. This adjustment allowed the project to move forward, and the park opened to the public in July 2014. This funding also includes a maintenance endowment of $50,000, a requirement for any additional park in the city.



Additional Information

Resources:
City of Grand Rapids: grcity.us/
City of Grand Rapids Contact:
Kara Wood, Economic Development Director, kwood@grand-rapids.mi.us

Additional Sources:
City of Grand Rapids, *Green Grand Rapids,* grcity.us/design-and-development-services/Planning-Department/Documents/Green_Grand_Rapids_Report_LowRez_2011_10_04.pdf
Friends of Grand Rapids Parks, *Pleasant Park,* www.friendsofgrparks.org/parks/find-a-park/pleasant-park/

VACANT LOT GREENING SERIES

KEEP INDIANAPOLIS BEAUTIFUL

Indianapolis, Indiana

U.S. Environmental Protection Agency Region 5 researched current practices on vacant lot greening as a resource to communities on issues of stormwater management, construction specifications, job training, property maintenance and funding.

INDIANAPOLIS AT-A-GLANCE:

Population Trends

From 2000 to 2010, Indianapolis' population increased from **781,870 to 820,445**[1] → **4.9% GROWTH** ↑

Vacancy Snapshot

400 CITY-OWNED VACANT LOTS **$6.3M** HARDEST HIT FUNDING

Keep Indianapolis Beautiful (KIB) *is engaged in vacant lot greening and works to engage diverse communities to create vibrant public places, helping people and nature thrive. Several key programs include* ***Indianapolis Power & Light (IPL) Project GreenSpace, Community Forestry,*** *and* ***Youth Tree Team.***

KIB IN 2014: **25,000** VOLUNTEERS **650** COMMUNITY PROJECTS **3,000** TREES

Treatment Highlight: **KIB's IPL Project GreenSpace**

KIB's IPL Project GreenSpace is KIB's signature community-based placemaking program. These grassroots, community-led projects eliminate blight by transforming vacant lots into natural, beautiful and functional neighborhood green spaces.

While KIB is heavily engaged in the placemaking process, **a community member or organization is ultimately the owner of the site.** Ownership is established during the signing of the Memorandum of Understanding between KIB and the community group before work on the site begins.

KIB generally completes between **four to six placemaking projects per year,** with **key partners** including community groups (project-by-project), IPL and the City of Indianapolis. KIB also collaborates with Renew Indianapolis, the nonprofit arm of Indianapolis' land bank, to explore alternate ways of dealing with vacant land. KIB is funded through development staff fundraising, in-kind donations and a modest city contract.

Each project is unique to the site and the vision of the community group, so KIB does not utilize general specifications. However, KIB does provide sample MOU, Annual Report and Maintenance Agreement templates online. KIB also provides numerous community, native plant and green infrastructure resources online as well as workshops, webinars and on-site assistance.

Maintenance is community-driven and supported by KIB. For each project, KIB develops a customized maintenance handbook and plan with contacts for each task, helping community groups fully understand and plan for the maintenance required to sustain their site and engage their neighbors.

Baumann Park*, one of KIB's 2013 IPL Project GreenSpace projects.*

EPA United States Environmental Protection Agency

All information, data, and images cited within this report were obtained either from an interview with Keep Indianapolis Beautiful or www.kibi.org unless otherwise stated.

[1] U.S. Census, 2010 Census, 2000 Census, Total Population, www.factfinder.census.gov, accessed 3/16/2015.

IPL Project GreenSpace Community Engagement, Design, + Implementation Process

KIB's IPL Project GreenSpace projects are driven by community needs, concerns and design, making KIB's community engagement process critical to ensuring that community interests are fully represented in the site design and that community ownership is established to support the long-term sustainability of the site.

Project Initiation + Site Ownership
The community team must first identify the project and assemble a steering committee. Site ownership is then determined and an MOU is signed between KIB and the community team.

Community-Driven Design Process
KIB works with the community through a three-year design and implementation process. KIB leads community members through a visioning process for the site, and a landscape architect helps community members transform their ideas into site designs.

Implementation + Maintenance
After the site design, which typically includes all native plants, is finalized, implementation begins and KIB provides a maintenance training and site-specific handbook to the community team.

KIB's Lot Maintenance Highlights

Native Tree Maintenance

KIB recommends watering trees from May to October with **15 gallons of water once per week,** soaking the top foot of soil.

Mulching is also recommended as it can nearly double tree growth during the tree's first few years. KIB recommends **2-3 inches of mulch spread in a donut-shape** around the tree with a radius of at least 2-3 feet.

Native Perennial Maintenance

KIB recommends weekly watering and weeding, and seasonal mulching and pruning for perennials. Flower beds should receive about **1-1.5 inches of water per week** during the establishment period. Deep watering will also encourage deeper root growth to promote hardier and more drought-resistant plants.

A **2-4-inch layer of mulch** can also help conserve moisture and control weeds. Perennials and grasses should be cut back to the ground around October or November and may also need to be divided every few years.

Sustainable Practices + Innovations

Reusing Local Materials

Depending on the site design and nature of the installation, KIB often utilizes reclaimed local materials for components of site designs, including dome material from the RCA Dome and recycled seating from Hinkle Fieldhouse. These installations are created by local nonprofits such as People for Urban Progress, which works to salvage discarded materials and redesign them for public benefit.

Customized Maintenance Manuals

As maintenance is often one of the largest hurdles for sustaining greening projects, KIB provides a maintenance training for each community group, along with a customized maintenance manual. These project-specific manuals are developed for each IPL Project GreenSpace site and given to the community group associated with the site after maintenance training.

Youth Engagement + Job Training

The Youth Tree Team (YTT) is a seven-week summer job for high school students who are interested in improving their community through tree care. Along with daily work activities, YTT participates in weekly enrichment activities including a wilderness camping trip, learning financial management skills, networking with green-collar professionals and rafting on the White River.

Challenges + Lessons Learned

Community Engagement

KIB has found that a long-term community engagement strategy is critical to ensure that placemaking and greening projects are sustainable by the community. Prior to project commencement, KIB also verifies site ownership and permissions to ensure that the property owner is committed to the development and maintenance of a long-term community asset.

Water Access

Access to water and maintenance challenges have made it difficult for many community gardens in Indianapolis to succeed. KIB proactively works to mitigate these risks to ensure the success of KIB greening projects.

Additional Information

Resources:
Keep Indianapolis Beautiful, www.kibi.org

KIB Contacts:
Joseph Jarzen, Director of Community Engagement,
jjarzen@kibi.org
Emily Wood, Director of Greenspace,
ewood@kibi.org

VACANT LOT GREENING SERIES

PENNSYLVANIA HORTICULTURAL SOCIETY

Philadelphia, Pennsylvania

U.S. Environmental Protection Agency Region 5 researched current practices on vacant lot greening as a resource to communities on issues of stormwater management, construction specifications, job training, property maintenance and funding.

PHILADELPHIA AT-A-GLANCE:

Population Trends

From 2000 to 2010, Philadelphia's population increased from **1,517,550 to 1,526,006**[1] → **0.56%** GROWTH ↑

Vacancy Snapshot

40,000 VACANT LOTS → **25%** CITY-OWNED

25,000 VACANT STRUCTURES

The Pennsylvania Horticultural Society LandCare Program is a comprehensive approach to managing abandoned land by creating park-like settings that not only improve the appearance and livability of communities, but also contribute to public health and safety, raise property values and stimulate new investment.

PHS AT WORK: **8,600+** PHS-MANAGED LOTS **2,100+** COMMUNITY LANDCARE-MAINTAINED LOTS **100** JOBS FOR RESIDENTS

Treatment Highlights: **Clean and Green**

Lot Treatment

The *Clean and Green* treatment includes removing all debris and weedy vegetation, grading, adding compost-enriched topsoil, and planting grass and trees to create park-like settings. A signature post and rail fence defines the land as a cared-for property. After improvements are completed, the sites are regularly cleaned and mowed during the growing season.

Site Access

The city's Department of Licenses and Inspections determines if a property is in violation of city ordinances and notifies the owner of record of the violation. **If the owner does not respond to the citation, PHS is granted right of entry to abate the nuisance on the property.** Every site is inspected, measured and photographed in preparation for bidding. AutoCAD drawings are made of existing conditions as well as planned placement of trees and fences.

Cost + Impact

The average cost to clean and green a property is $1,000-$1,300 depending on size. Biweekly cleaning and mowing during the growing season averages $150 per property, per year. *Clean and Green* properties are more attractive for development. About 850 properties have been redeveloped into new homes and businesses. Nearby properties have also increased in value significantly. Research has determined that **every dollar spent on "cleaning and greening" generates an additional $224 in housing wealth**.

*PHS's **Clean and Green** lot treatment.*

PHS Program Highlights

Starting with a pilot program in 2000, PHS LandCare was expanded to a citywide program in 2003. Annual contracts with the City of Philadelphia have allowed the program to increase its scale and scope over the past 12 years.

PHS selects contractors in collaboration with the Philadelphia Office of Housing and Community Development. Installation contractors and maintenance contractors are determined through separate processes. Selection is based on competitive cost and evaluation of past performance. **PHS selects 15-20 contractors annually and 2/3 are usually women or minority contractors.** This program has created a market for city-based contractors that had not existed previously.

EPA United States Environmental Protection Agency

All information, data and images cited within this report were obtained from an interview with the Pennsylvania Horticultural Society unless otherwise stated.

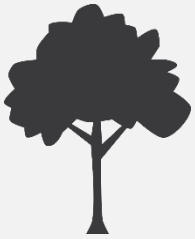
[1] U.S. Census, 2010 Census, 2000 Census, Total Population, www.factfinder.census.gov, accessed 3/16/2015.

Specification Highlights: **Clean and Green**

Site Preparation
Debris is removed, and the site is graded to keep water out of adjacent basements. Approximately 2-3" of compost-enriched topsoil are added to the site.

Seed Mix
The lot is seeded, preferably through hydro-seeding, with 20 percent clover. Although clover is expensive and harder to source, it is beneficial for pollinators, provides a good source of nitrogen and will eventually reduce required maintenance.

Fence
Fence location is marked in the field by the contractor and approved by PHS before installation.



Trees
PHS purchases trees from nurseries based on a list of urban street trees developed by the Parks and Recreation Department.

Maintenance
Cleaning and mowing maintenance occurs twice a month from April through October.

Sustainable Practices and Innovations

Community LandCare Program
Thirteen organizations are contracted to work on nuisance lots that are not selected for the *Clean and Green* treatment. Organizations meet on a quarterly basis and discuss how to share resources. PHS assists in the training of how to use equipment and how to manage a project. PHS helps to develop the capacity of organizations to bid for *Clean and Green* lots and other contracts.

Bulk Purchasing
PHS purchases all soil, seed and trees (200-400 per year) in bulk and distributes to contractors. Bulk purchasing allows PHS to control quality of materials as well as the cost.

Branding
The simple low-cost post and rail fence serves several functions; it discourages short-dumping, defines the landscape and controls access points, provides a sense of ownership and care, and attracts attention and discourages unwanted activity. A common feature of hundreds of sites, the fence has become the "brand" and most distinguishing feature of the LandCare program.

Research
PHS is working with OLIN, a landscape firm, to design, build and evaluate a pilot project of new prototypes that aim to boost ecosystem services on LandCare lots.

*A **Community LandCare Program** lot is mowed by a crew member from The Village of Arts and Humanities organization.*

Challenges and Lessons Learned

Property Control
The city does not own many of the vacant lots and has no control over what may eventually happen with them, but the city does own the problems associated with vacancy-blight, criminal activity, declining property values and environmental degradation. Once the Clean and Green treatment is installed, PHS assumes custodial maintenance until another use for the property is determined.

Demolition Coordination
The city demolishes around 500-700 properties annually. Some demolitions occur in the winter and coordination with the LandCare Program is not always possible.

Additional Information

Resources:
The Pennsylvania Horticultural Society:
phsonline.org/greening/landcare-program/
PHS Evidence of Success

PHS Contact:
Bob Grossmann, Senior Director, Vacant Land,
rgrossmann@pennhort.org

VACANT LOT GREENING SERIES

TRUMBULL NEIGHBORHOOD PARTNERSHIP

Warren, Ohio

U.S. Environmental Protection Agency Region 5 researched current practices on vacant lot greening as a resource to communities on issues of stormwater management, construction specifications, job training, property maintenance and funding.

WARREN AT-A-GLANCE:

Population Trends

From 2000 to 2010, Warren's population decreased from **46,832 to 41,557**[1] → **11.3%** DECLINE ↓

Vacancy Snapshot

1500 VACANT HOUSES

$3.2M NEIGHBORHOOD INITIATIVE PROGRAM *(Trumbull County Land Bank)*

Trumbull Neighborhood Partnership (TNP) *works to empower residents and promote sustainable community development through projects that increase quality of life. Among TNP programs are the* ***Trumbull County Land Bank, GROW Community Gardens*** *and implementation of a* ***HUD Community Challenge Grant.***

TNP IN 2014: **114** SIDE LOT SALES **$850,000** LEVERAGED FOR HOUSING REHAB **3508** COURT-ORDERED COMMUNITY SERVICE HOURS COMPLETED

Treatment Highlight: **Neighborhood Initiative**

Through the Ohio Housing Finance Agency's (OHFA) allocation of Hardest Hit Funding, TNP manages demolitions and greening for the **Neighborhood Initiative Program** in Warren. In order to strategically target resources, parcels selected for demolition and greening are within an established target area based on percentage of blight, proximity to main corridors, and assets such as schools, parks and institutions.

The Trumbull County Land Bank demolishes all structures on the property and removes all paved surfaces from the site. All foundations, other structural elements and debris are removed from the site and sent to an appropriate landfill. Foundation plantings and front yard hedges are also removed, though mature trees are preserved.

After demolition, **all land bank demolition sites are backfilled with the "Land Bank Blend" soil mix**, a product developed in Cleveland by Kurtz Brothers that includes sandier, nutrient-rich organic material to promote drainage and plant growth. Contractors are responsible for top-dressing the site and planting grass. Lot maintenance is conducted through TNP's Court-ordered Community Service Program. **In 2014, over 3,500 court-ordered community service hours were completed through TNP.**

Additional greening treatments are determined site-by-site through a community-driven design process. TNP recently developed the ***Lots to Love*** Program, which works to revitalize vacant lots in Warren through greening and placemaking. **This community-driven lot greening program allows residents to apply for funding (up to $6,000) from the Neighborhood Initiative Program to implement and maintain an installation on a vacant lot.** Treatments are designed by residents with support from TNP as well as design students from Kent State University and Parsons The New School for Design, who have been working with residents on applications and proposals. Eligible projects can include pocket parks, orchards, recreation areas, community gardens and other greening treatments that promote placemaking and revitalization.

TNP works to strategically remove blight and develop green community assets through OHFA's Neighborhood Initiative Program and TNP's Lots to Love Program.

EPA United States Environmental Protection Agency

All information, data and images cited within this report were obtained either from an interview with Trumbull Neighborhood Partnership or www.tnpwarren.org unless otherwise stated.

[1] U.S. Census, 2010 Census, 2000 Census, Total Population, www.factfinder.census.gov, accessed 3/16/2015.

Greening Programs Overview

Side Lot Acquisition

Adjacent neighbors can acquire vacant and abandoned tax-delinquent land from the Trumbull County Land Bank at a maximum cost of $500. Funded by a $22,000 grant from Huntington Bank, TNP's Side Lot Incentive Program helps offset lot maintenance costs by providing $250 Lowe's gift cards to eligible residents acquiring a side lot. **In 2014, TNP was able to facilitate 114 side lot acquisitions.**

GROW Community Gardens

Garden Resources of Warren (GROW) supports numerous urban agriculture and local food efforts throughout Trumbull County, including 10 urban gardens on vacant lots that were previously residential or school sites. TNP partners with the City of Warren to provide water on the sites, and TNP offers site support and technical assistance for community plots.

Warren's Garden District

Through a partnership with gregg's gardens, a local group dedicated to greening with wildflowers, **TNP has concentrated greening treatments such as community gardens, park spaces, orchards, wildflowers and a vineyard within Warren's Garden District.** Located near Warren's central city, the Garden District is a residential area where local partners are reinvesting through greening treatments, gardens and blight removal.

Data-Driven Revitalization in Warren

Data Collection + Technology

The City of Warren was awarded a Housing and Urban Development Community Challenge Grant to assist with data collection, strategy development, and reuse and rehabilitation projects that promote affordable, economically vital and sustainable development.

Using an ESRI mobile app developed through a partnership with the Youngstown State University, **TNP staff collected data on all housing stock conditions in Warren.** This data now informs demolitions occurring in target areas based on percentage of blight and proximity to main corridors and assets. Specific neighborhood plans are now being developed with recommendations and strategies to address the problem of blight and facilitate revitalization.

Public engagement has played an important role in ensuring that greening efforts and projects represent the needs and desires of the community.

Challenges + Lessons Learned

Funding Challenges for Greening Treatments

Without specific funding, post-demolition site work has generally not included greening treatments beyond traditional grass.

Perception of Non-traditional Treatments

Although native plants and wildflowers offer both stormwater management and maintenance benefits on vacant lots, these treatments can be perceived by the public as unmaintained or weed-like, depending on the season. TNP emphasizes that community buy-in is critical for any type of non-traditional or creative lot treatment.

Additional Information

Resources:
Trumbull Neighborhood Partnership: www.tnpwarren.org

TNP Contact:
Matt Martin, Executive Director, matt@tnpwarren.org

Additional Sources:
Trumbull Neighborhood Partnership, *Annual Report 2014,* tnpwarren.org/images/pdf/AR2014.pdf

VACANT LOT GREENING SERIES

YOUNGSTOWN NEIGHBORHOOD DEVELOPMENT CORPORATION

Youngstown, Ohio

U.S. Environmental Protection Agency Region 5 researched current practices on vacant lot greening as a resource to communities on issues of stormwater management, construction specifications, job training, property maintenance and funding.

YOUNGSTOWN AT-A-GLANCE:

Population Trends

From its peak in 1930 to 2010, Youngstown's population decreased from **178,002 to 66,982**[1] → **62.4%** DECLINE

Vacancy Snapshot

23,000 VACANT LOTS → 1 VACANT LOT FOR EVERY 3 PEOPLE

5,000+ VACANT BUILDINGS

The Youngstown Neighborhood Development Corporation (YNDC) was launched in 2009 in partnership with the City of Youngstown and the Raymond John Wean Foundation. YNDC offers a broad range of programs to support catalytic reinvestment in neighborhoods, including housing acquisition and rehabilitation, home repair, community lending, homeownership counseling, neighborhood workdays, cleanup programs, neighborhood planning services, an urban farm and training center, a neighborhood farmers' market, basic vacant land reuse, and a variety of educational programming including small business development, home repair, gardening, nutrition and cooking classes.

YNDC SINCE 2009: **300** VACANT LOTS STABILIZED **44** COMMUNITY PROJECTS RECEIVED ASSISTANCE **$15M** LEVERAGED FOR REINVESTMENT

Treatment Highlights: **Lots of Green**

Lots of Green performs vacant land reuse in target neighborhoods, managing and maintaining all land in those areas. Initially, this program was implemented in two target neighborhoods and has since expanded into a neighborhood commercial corridor, with future expansions to be integrated into existing neighborhood action areas identified through urban planning efforts. Treatments over the last five years have included community gardens, native planting and wildflower sites, community gateways, side lots, and community greenspaces.

A basic vacant land stabilization treatment has been applied to the majority of these targeted lots, which consists of hazardous tree and debris removal, fine grading of site, the addition of topsoil, the planting of two street trees per site, and split rail fences to keep cars from driving on the sites and create a maintained look. YNDC bids out the treatment of packages of lots (ideally contiguous) to multiple contractors and gives a 40-day window for completion. While soil and seed are not specified, the contractor is responsible for sourcing and reseeding if the cover does not come in.

The majority of sites are treated under a city nuisance abatement ordinance to gain property access without the site owner's permission, which allows YNDC to achieve stabilization at a larger scale. The properties generally remain in private ownership after demolition rather than city control. Liens are not assessed for project work due to the low probability of cost recovery. **YNDC treats approximately 50 lots per year through this program, which is currently funded through Community Development Block Grants.**

Significant outreach is done at each project site, allowing residents some input into treatment details. This process also identifies possible future owners for the site, who are referred to the Mahoning County Land Bank to gain land ownership. For adjacent residents or sites that do not qualify for a land bank transfer, an Adopt-a-Lot program is used to allow residents to use and maintain a site as part of their yard. All lots in this program that are not owned or adopted by adjacent residents are maintained by an in-house maintenance crew employed by YNDC.

***Lots of Green** treatment sites in Youngstown.*

EPA United States Environmental Protection Agency

All information, data and images cited within this report were obtained from an interview with Youngstown Neighborhood Development Corporation unless otherwise stated.

[1] U.S. Census, 2010 Census, 2000 Census, Total Population, www.factfinder.census.gov, accessed 3/16/2015.

Sustainable Practices and Innovations

Design Competition

Lots of Green 2.0 is a citywide project competition meant to empower individuals and community groups with strong maintenance plans to reuse vacant land in their own neighborhoods. Impactful projects that benefit the larger community and have strong long-term maintenance plans are chosen each year, and YNDC staff works with the group to develop an initial site work plan. This work is then bid out by YNDC to qualified contractors. The applicant group owns and maintains projects after this initial installation work is done.

Training Program

YNDC operates Iron Roots Urban Farm, a citywide training facility for individuals interested in vacant land reuse and other critical neighborhood revitalization topics. Current training includes monthly cooking and farming classes, nutrition education for new and expecting mothers, small business development training, and DIY home repair classes. In addition, the farm runs a season-long paid apprenticeship program for city residents interested in starting a new urban farm or garden in the city.

Resident Project Control

YNDC focuses on an ownership approach to garden and farming projects, helping individuals create projects that they will own and maintain in the future with technical help from YNDC. Initially, YNDC opened five community gardens and managed them in-house, but found that transferring these gardens to private individuals (neighborhood champions) and helping individuals start gardens in their own neighborhoods has a more significant impact.

Communication

Community Development Corporations can serve as a bridge between neighborhood residents and city services, and can work on issues such as water access, land ownership and zoning permits. YNDC provides technical help, resource referral and site visits to anyone starting a vacant land project in Youngstown.

Research

Post-demolition soil conditions are often not conducive to garden projects, as soils can contain heavy metals and are often compacted with low organic matter. The Mineral Springs Soil Research Garden was established in partnership with The Ohio State University to test low-cost methods to amend urban soils for gardening. In addition, YNDC has completed neighborhood lead surveys, testing over 200 vacant lots in the city for lead contamination.

Iron Roots Urban Farm *focuses on urban agriculture and neighborhood revitalization.*

Challenges and Lessons Learned

Maintenance is Critical

All treatments focus on making sites easily maintainable; sustaining this maintenance long-term is critical for project success. Competition programs focus more on long-term maintenance and community benefit than innovative designs. Targeted land reuse programs can be effective, as many projects can be mowed and maintained without driving from site to site, saving time and money.

Lack of Buy-in for Ecological Treatments

Native planting sites and other less “maintained” looking treatments such as stormwater control are ecologically friendly, but present challenges for community buy-in due to a preference for a mowed grass aesthetic. These treatments are best used at neighborhood edges, as park expansions or in conjunction with organizations that can provide a high level of maintenance.

Good Contracting Practices Can Save Time and Money

Providing clear bidding procedures, bid packages and intensive follow-up inspections can save money and time while ensuring that contracts are fair. While soil and seed have not been feasible to purchase in bulk for YNDC, bidding out split rail fences in large batches to fence companies rather than landscape contractors has saved significant costs per parcel.

Additional Information

Resources:

Youngstown Neighborhood Development Corporation: www.yndc.org

Vacant Land Reuse Resource Guide

Neighborhood Conditions Reports

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