Heartland
CONSERVATION ALLIANCE

Healthy Watershed Strategy For Vacant Lot Restoration

August 25, 2019

This strategy was conceived and composed with the guidance of the Heartland Conservation Alliance Steering Committee, Board, Neighborhood Advisors and KCMO City Department directors and the KCMO business and industrial development community. Thank you for your generous support and insight.

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The mapping tool and engagement process was created by the Heartland Conservation Alliance team led by Jill Erickson including Adison Banks, Natasha Karsk, and support from Stephen VanRhein (MDC), Molly Gosnell (MidWest GeoInfo) and Christina Hoxie (Hoxie Collective).

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THANK YOU!

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DEFINITION OF WORK AND TEAM

Our work began with the hypothesis that restoring unhealthy and unused (vacant) lots in low-income urban neighborhoods as multi-functional green spaces provides significant direct and indirect benefits to community members and to the watershed. The intention to create new community ownership and capacity to restore land to a state of health can provide indirect benefits of reduced crime, blight, and property damage by flooding, and the direct benefits of a healthy environment that will encourage increased physical activity, provide education on healthy eating habits, provide improved air and water quality and mental refuge. Through adaptive engagement, supportive partnerships, and trainings this approach and process also provides a long-term strategy for each restoration project.

The three outcomes of the Vacant Lot Restoration Program work this year (2019) include:

1. Increased knowledge and awareness of issues affecting community health as it relates to vacant lots in communities.
2. Increased engagement in health-related efforts that elevates the community through greening vacant lots.
3. Catalyze greater access to safe environments that promote healthy living

The tools and processes created to support these outcomes include: geographic data analysis and prioritization, a user-friendly interactive map of sensitive properties, a set of resources and guidance to assist community members in transforming vacant lots to beneficial community resources, and outreach, education, and engagement processes with neighborhood leaders, as well as City Departments, business and development leaders.

The team included Heartland Conservation Alliance (HCA) employees as well as collective impact partners and consultants. The Executive Director of HCA provided foundational guidance to the analysis, engagement, and toolkit development process. The Partnership Coordinator and Land Trust Coordinator as well as the Community Conservationist from the Missouri Department of Conservation were key team members in evaluating vacant lot opportunities, refining the mapping tool functionality, and outreach and engagement. Midwest GeoInfo provided the GIS analysis and mapping tool development, and Hoxie Collective provided strategic planning, workshop design and facilitation, and toolkit development in coordination with the graphic design talent of Banjo Creative.

Regional Kansas City Metro watersheds (above); Outline shows Blue River Watershed above and on page 3 to the right

PROCESS TO GATHER DATA

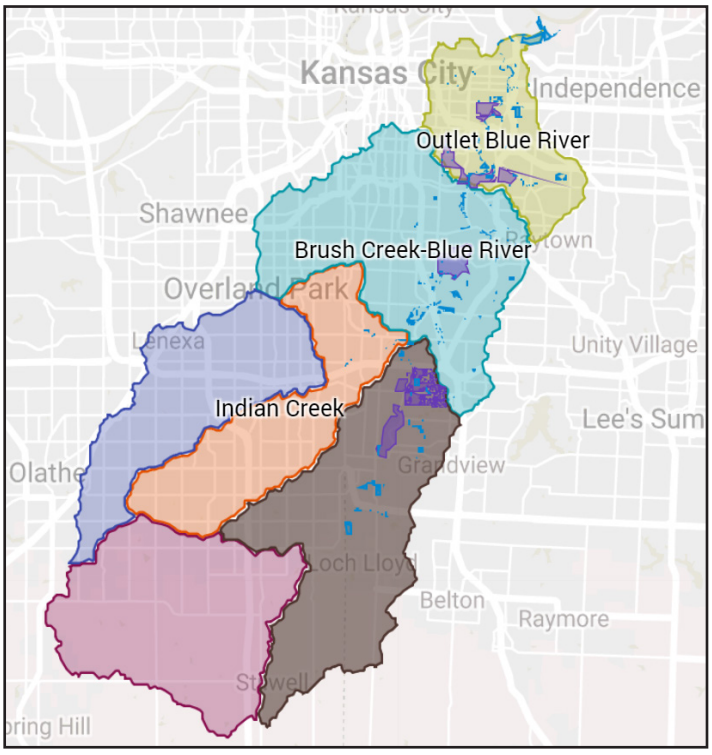
For words that are unfamiliar, please refer to the glossary provided on page 13.

The Heartland Conservation Alliance team met with Mid-America Regional Council's expert on data sets that provide factors of ecological health and indicators of human health when applied to vacant land data. The first thing that this collaboration had to determine was the meaning of vacant land in the Blue River Watershed - underutilized and unhealthy land in an urban context of land use. The HCA team also provided feedback on the scoring values and ecosystem services that help to provide contextual understanding of the sensitivity and value of restored green space versus developed land. The scoring value is a composite of the following values added together:

- Floodplain 0-2
- Ecological value 0-7 (based on natural resource inventory data)
- Farmland soils 0-1
- Land Bank 0-1
- Food deserts 0-1
- Poverty 0-3 (block group % below)
- Park deserts 0-1 (.5 mile buffer)
- Slope 0-3
- Proximity to stream 0-3

The Regional Council's data spans nine counties and two states in urban, suburban and rural contexts. As the team evaluated this data for application in the Blue River Watershed and with Heartland Conservation Alliances' projects and collective impact partners, additional specificity was required.

The team began to experiment with a Google Map platform to create a user friendly map that promotes exploration of contextual factors in the community identification of vacant lots that can provide the most environmental and community benefits when restored. The Google Map platform provides some limitations to data that also informed team decisions. Information may be organized in a maximum of ten layers and each layer can have a maximum of 2,000 records. These limits assisted the team in prioritizing factors that most directly affect decision-making for community stakeholders, including sub watershed boundaries, neighborhood boundaries, active projects and partners (action areas), health factors of residents, vacant land ownership, high scoring or environmentally sensitive land, floodplains, and large forest habitat. The team also experimented with showing factors such as combined storm sewer outfall locations, crime hotspots and illegal dumping to provide additional valuable context for identifying new restoration projects.



ANALYSIS

PRELIMINARY FINDINGS

The evaluation of the first version of the mapping tool resulted in some observations that further honed the focus and development of the tool, and identified opportunity areas for additional ground-truthing, or field visits. The review entailed identification of high acreage of vacant parcels and high scoring vacant parcels in three location designations:

- In the six action areas defined in the Blue River Action Plan
- Near HCA parter project sites
- Outside of action areas

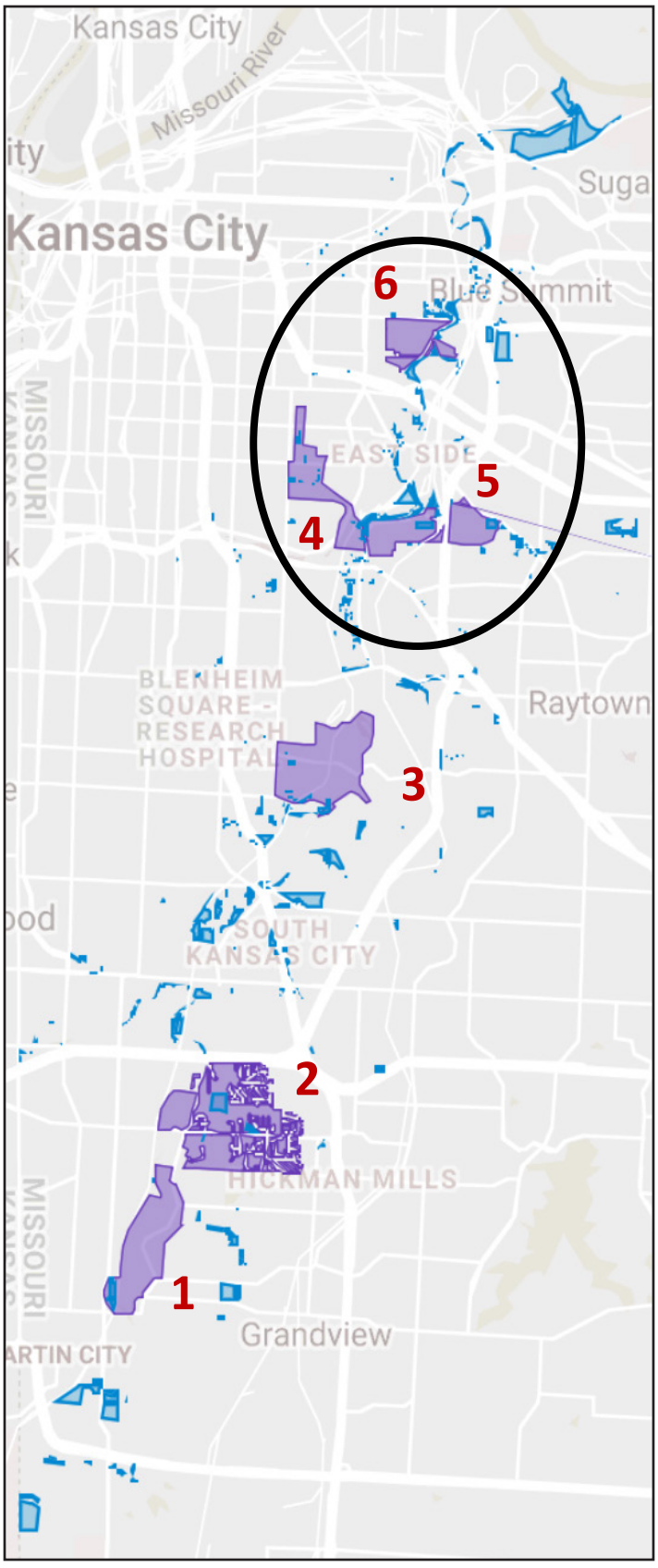
The team also reviewed other factors that may increase likelihood of action in areas with high acreage and scoring such as:

- Ownership
- Community Involvement
- Connectivity
- Adopted plans

Most high scoring parcels are owned by the City of Kansas City, Missouri (KCMO) and much of this acreage is in the floodplain near three of the six HCA action areas in the lower reaches of the Blue River Watershed. This Outlet sub watershed is where the Blue River flows through urban neighborhoods and ends at the river's outlet into the Missouri River just east of downtown KCMO. Through the evaluation of projects, ownership, previous engagement, and factors of high scoring parcels in each action area, a preliminary assumption was that the greatest opportunity and momentum seems to exist in the Outlet sub watershed. The restoration opportunities include large City-managed acreage in the floodplain and industrial land uses, as well as smaller scale projects in six neighborhoods:

- Palestine East Neighborhood
- Vineyard
- Vineyard NW
- Eastwood Hills West
- Eastwood Hills East
- South Blue Valley Neighborhood

The team reviewed the relevant adopted area plans and verified that the City and neighborhoods have prioritized Green Infrastructure strategies for managing stormwater as a valuable natural resource. The planning processes also identified using vacant lots and City-owned facilities that demonstrate the most benefit, as key implementation sites for green solutions. Importance is also placed on neighborhood engagement and long term maintenance strategies, which is in alignment with HCA's programs (Green Stewards) and practices for aligning funding and partnerships to support long term sustainability.



Preliminary map of high scoring parcels and action areas.

SITE VISITS

After the preliminary analysis, the team spent two days visiting specific vacant lots in the opportunity area to verify the mapping data and understand more about the conditions on the ground including: habitat health, prevalence of illegal dumping and abandoned cars, condition of slopes and stormwater flow, and community connectivity or access.

It was important to have a diverse set of skills and perspectives present on the site visits to evaluate each of these factors of land use, ecology, safety, and policy implications. To assist organization of our observation and documentation process we planned our path and specific sites to evaluate. We used printed maps and notes for orientation and background information as well as a smart phone mapping app called Avenza to identify geographic, and contextual features. The team visited vacant lots in the centers and periphery of neighborhoods (both publicly and privately owned) as well as large acreage sites in the floodplain (both publicly and privately owned). The site visits confirmed the mapping data and the exercise raised several new questions about land management practices, toxicity factors, and trail connectivity that were applied in further refining the mapping tool. The site visits also shifted the focus of the team from identifying specific strategies for each site to defining a process that every community can use to observe, prioritize and deduce appropriate strategies.

REFINEMENT

After the site visits, the GIS consultant added more data sets to the mapping tool to evaluate use and importance of factors such as point source pollution, forest patches, and tributaries. She also experimented with data layers to evaluate medium and high scoring properties that are relatively easy to acquire from the City (currently in the Land Bank or Homesteading Authority) as well as vacant parcels that are adjacent to one another and could be agglomerated to be .7 acres or more. Larger acreage can provide greater habitat restoration benefit, so this mapping option provides one more way to evaluate opportunities for neighborhoods as well as the City and private landowners interested in partnering with neighborhoods and environmental restoration agencies.

The layers were ordered so that one built upon the next with minimal overlap. The descriptions were also clarified for a single click explanation of the layer's purpose.

1. Vacant Lots | Score of 12 or greater
2. Land Bank and Homesteading Lots | Score of 12 or greater
3. Land Bank Lots | Score of 4 or greater
4. Vacant Adjacent Lots | Acreage of .7 or greater, publicly owned
5. Illegal Dumping | June 2018 to present - Data from 311 calls
6. Adults % with Asthma | Diabetes - Shows census tract health stats
7. HCA Active Projects
8. Neighborhoods - KCMO neighborhood boundaries and names
9. Forests | 75 Acres or more - Shows habitat corridors and connectivity
10. Blue River Watershed and Floodplain - Shows the six sub watersheds as well as rivers and streams

Additional functionality included individual parcel data access. As a user identifies a few parcels of interest, they can click on the link to parcel data which will take them to a new screen with specific ownership and tax information as well as an image of the property.

FOCUS GROUP MEETINGS

PREPARATION

The preparation for the Neighborhood focus group defined a hands-on process to explore the mapping tool and troubleshoot functionality and usefulness of data based on the stakeholders' knowledge of their place and people. Based on new perspectives gained from the site visits and additional data, the team increased the number of Action Area neighborhoods invited to the focus group meetings to define a process that would be applicable to all. The team also sought the advice of UMKC's Center for Neighborhoods. This organization trains community leaders on the tools to use for neighborhood revitalization. Based on their experience in facilitating neighborhood trainings and capacity-building we refined our focus group facilitation strategy and the mapping interface for ease of use for all levels of computer literacy.

The team facilitated a process that balanced information about the mapping tool and HCA's programs and partners with hands-on testing and dialogue that resulted in answers to the following questions:

- Does this mapping tool show the factors that are most important to you?
- What training, funding and additional capacity is required to implement conservation strategies in your neighborhood?

Preparation for the City Departments and Business Community Focus Group focused on the land use and economic development priorities and responsibilities of these entities. The team opted to present alternate scenarios for using the map, to illustrate how it can help to inform strategic decision-making. We facilitated dialogue on the functionality and data in the mapping tool, specific queries that would be most helpful, policy moves to support vacant land restoration and conservation, as well as roles that HCA could play with each stakeholder to assist the process of restoring and conserving vacant land in their control.

FEEDBACK

Each focus group provided valuable feedback in the further development of the mapping tool, accompanying resources and next steps for HCA's programs and projects. Following are the highlights of feedback from each focus group:

NEIGHBORHOODS

- Focus on vacant lots for restoration that are not in business zones or transportation corridors. Make it clear that the lots shown are best for ecological restoration vs development
- Add trails layer
- Add Brownfields or lot toxicity data (i.e. demolition information)
- Add potential uses of the site (i.e. food production or phytoremediation)
- Color code different scores
- Show tree canopy
- Provide resources on soil health
- Provide access to trainings online in all languages

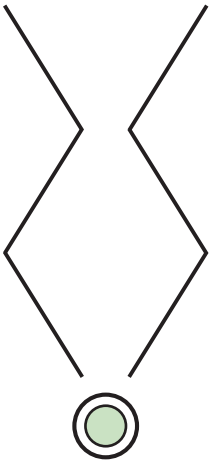
CITY DEPARTMENTS AND BUSINESS COMMUNITY

- Add links to Development Tracker and Future Land Use
- Provide a step-by-step process description
- Provide clarity on ecological restoration vs development potential
- Tie to public infrastructure investments and the Capital Improvement Plan
- UMKC volunteered to share this tool with students and neighborhood leaders
- Port KC offered to embed use of this tool in their development process
- Show dump and hazardous waste sites
- Use overland flow data instead of floodplain to target and increase the use of integrated green infrastructure solutions
- Provide a way for users to add images and history in places they know
- Query for high numbers of children
- Simplify data sets
- Needs policy recognition to assist with decision-making in future land use
- Work with Environmental Management Commission to adopt and then take it through the Area Plan framework for all departments to incorporate
- Clearly tie score to direct benefits for health, community and new project development
- HCA must educate, connect, and convene on interaction with health of nature, human health, and land management

ADAPTIVE PROCESS

The focus group feedback served to further clarify the purpose, audiences and resources needed to create a valuable vacant land restoration toolkit. It also informed HCA's strategic plan for vacant land restoration in a way that aligns HCA's mission with many more public and private partners to maximize environmental and community benefits. The team updated the definition of Action Areas to include more projects and focus more specifically and geographically on projects and partners. New neighborhoods and community partners have signed up for training and several optional paths for advisory relationships with HCA have emerged from this process.

The following diagram illustrates how this strategic planning and tool creation process adapted new knowledge and feedback. To recap, we began by collecting the regional data sources on health and habitat. Then we focused our site observations on places that appeared to have the most potential for community benefit. Next we added more specific data sets to fill in gaps of contextual decision-making information. Finally, we refocused on creating a streamlined process for all stakeholders to evaluate vacant land for regenerative restoration.



All available health and habitat data

Select site observations

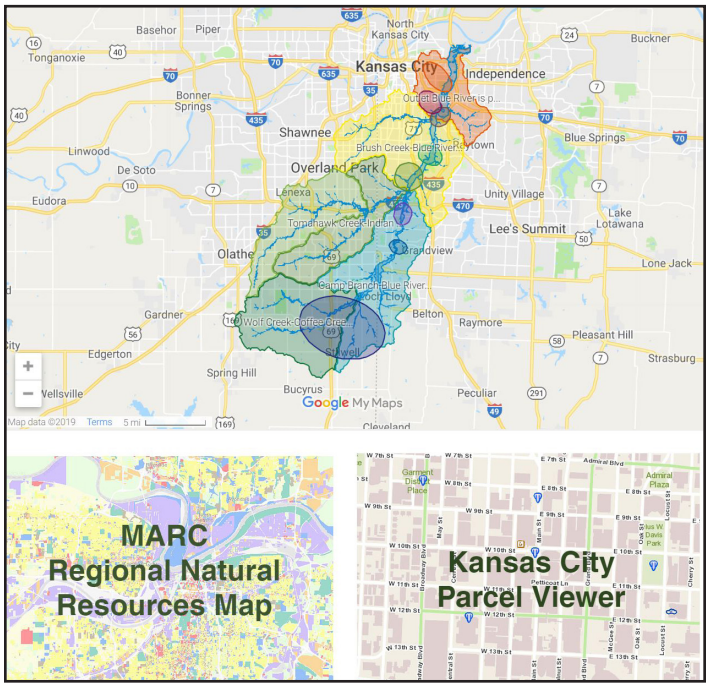
Add detailed data and stakeholders

Streamlined process of evaluation for the greatest diversity of stakeholders

Some of the most noticeable updates to the mapping tool based on feedback are an overland flow data layer instead of floodplain, the scoring is now color-coded so the highest scoring parcels are easy to see in any category, and regional trails and bikeways were added. Additional descriptions were also added for each active project in the Action Areas including partners.

TOOLKIT DEVELOPMENT

As the strategic planning and tool creation process adapted to new knowledge and feedback, the team clarified a set of resources and guidance that will be useful to community members who are preparing to restore vacant land. Currently, this guidance is called a Vacant Lot Toolkit. The toolkit provides graphic navigation and answers to commonly asked questions when using the mapping tool. It also provides evaluation scenarios, and a step-by-step process for the restoration process including acquisition options, trainings, partners, funding, design, implementation and maintenance. The Vacant to Vibrant Field Guide and Lot templates developed by HCA, Urban Neighborhood Initiative and Mid-America Regional Council are also important resources that the toolkit links to for specific strategies, cost estimation and recommended partners.



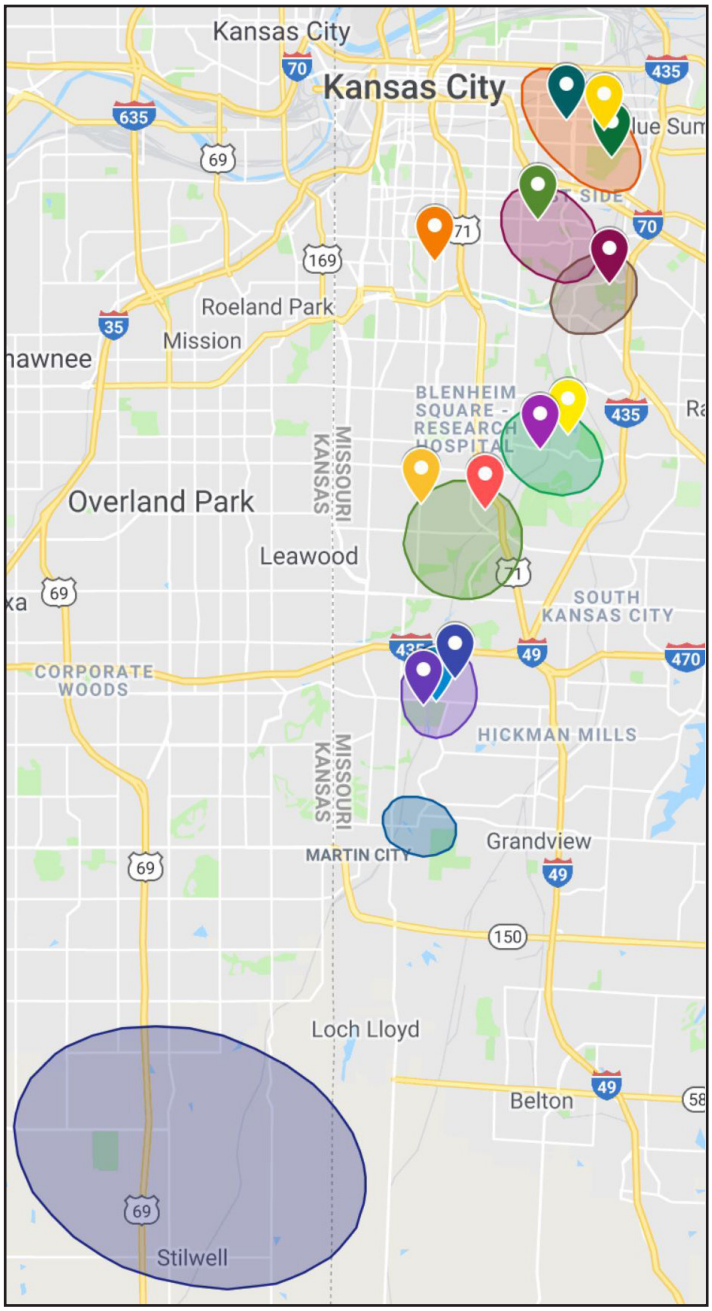
Images from Restoring Vacant Lots webpage

NEXT STEPS FOR TESTING, EVALUATION, AND IMPLEMENTATION

The toolkit creation paves the way to the next set of engagements and community relationships for HCA. Near term HCA is working with two neighborhoods on trainings and capacity-building for vacant lot acquisition and restoration. While the ideal scenario is neighborhood ownership and management, some may decide that they would prefer for HCA to acquire this property and create the legal structure for conservation in perpetuity, as a Land Trust. This will expand HCA's role as an urban land trust and will prompt additional partnerships for habitat restoration, conservation, and community education in the near term (1-3 years). As HCA builds this capacity and continues to increase involvement in policy adoption for environmental conservation, they will be able to target, and steward larger scale restorations and Conservation Districts with the City and large landowners (years 4-6) focused on urban resilience and a restored Blue River.

HCA has been testing the mapping tool with several audiences prior to a full release, including UMKC's Center for Neighborhoods. In addition to providing crucial feedback on the focus group meeting format, they also provide a platform to share the mapping tool with all KCMO neighborhoods. HCA also allowed the mapping tool to be used by Eco Abet charrette participants. This non-profit design agency convenes the KC design, planning and engineering community for an annual charrette to provide probono design services to a community organization in need. Over 40 participants were able to test the mapping tool and apply the information to their conceptual designs for the community project. HCA will also return to their original focus group participants for a final test of mapping tool and toolkit.

The next season of implementation with the new toolkit will provide training, design, and restoration services to two more neighborhoods to transition their vacant lots into vibrant environments buzzing with new life.



Updated mapping of action areas and active projects.

APPENDIX A: Glossary

Brownfields – previously developed land that may be contaminated

Combined Storm Sewer Outfall - locations where the combined sanitary and storm sewer empty into a river

Crime Hotspots – locations where crime is higher than other adjacent areas

Ecological Value – the value of land for ecological restoration based on natural resource inventory data

Farmland soils – land designated by the USDA as having the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these land uses

Floodplain – an area of low-lying ground adjacent to a river, stream, or water tributary subject to flooding. Floodplains are defined by FEMA

Food Deserts – an urban area where it is difficult to by affordable or good-quality fresh food

Green Infrastructure – an approach to water management that protects, restores, or mimics the natural water cycle

Green Stewards – Heartland Conservation Alliance's Green Guard Stewardship Program connects community members to nature in their neighborhood and teaches them how to take care of it

Ground-truthing – field visits to confirm or provide more information to a data-based understanding

Illegal dumping – places where trash is dumped into a vacant lot, alleyway, curb, or any place where it is not legal

Indirect Benefits – benefits such as reduced crime, blight, and property damage by flooding

Land Bank – land bank properties are properties owned by a municipality. The Land Bank holds vacant land and maintains them until they are sold

Mid-America Regional Council – a regional planning organization focused on transportation coordination throughout the Kansas City Metro's 9 counties (Platte, Clay, Ray, Leavenworth, Wyandotte, Johnson, Miami, Jackson, Cass)

Park Deserts – an urban area where residents are not close to a park

Stormwater – surface water resulting from rain or snow

Watershed – an area of land that drains all the streams and rainfall into a common outlet such as the outflow of a point on a stream channel

Vacant Lots – unhealthy and unused lots in an urban context of land use

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