



TREES FOREVER
Planting a better tomorrow™



*Spreading the Canopy: Promoting Nature as
Key to Healthy Communities*



Spreading the Canopy: Promoting Nature as Key to Healthy Communities

We hope you will use this Spreading the Canopy Report to inspire and inform you to take the message of the important role of trees and green spaces to non-traditional audiences, especially in the fields of health care and public health. For Trees Forever, it has been a rewarding learning experience to work side by side with the organizations, researchers and other individuals you'll read about in the following pages. Please join us as ambassadors and spread the word!

About Trees Forever

Trees Forever is a nonprofit with national headquarters in the Cedar Rapids, Iowa, area. Each year we engage an average of 7,000 volunteers in hands-on projects that help grow a healthier world for future generations. Since 1989, we have completed more than 50,000 projects and planted more than 3,000,000 trees and thousands of native shrubs, grasses and wildflowers. We love what we do, and we show it through our energy, commitment and inspiration.

Other Trees Forever projects that may be of interest can be found on our website and include the Trees Forever coloring book, and the six-part educational video series, *Spirit of the Trees*, which explores the link between trees and forests and Native American cultures.

Thanks to our outstanding Advisory Committee (see list inside back cover), our many partners and Trees Forever staff, including Leslie Berckes, who served as Program Manager for Spreading the Canopy, and Shannon Ramsay, Founding President, the project convener.

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Sponsoring Partner: USDA Forest Service

Trees Forever thanks the USDA Forest Service for support of this project. Without the agency's support of innovative projects like this one and support for the researchers substantiating the critical role our trees and forests play in public health, this effort would not have been possible. The Forest Service continues to lead and support remarkable social and cultural research and programs that make a difference in the lives of citizens in the places we live, work and play.



Lead Partner:

Sacramento Tree Foundation, Sacramento, CA

Participating Partners:



Friends of Trees
Portland, OR



The Greening of Detroit
Detroit, MI



Keep Indianapolis Beautiful
Indianapolis, IN

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Getting Started

Poor health due to stress, obesity and chronic diseases has reached epidemic levels in communities across the country. The consequences are higher medical costs and lower quality of life for many Americans. Active living, eating right, reduced stress levels and social connections are key strategies to improve health and happiness. Now there is a large and growing body of research showing that everyday experiences of nearby nature in a community help people be healthier in both mind and body. However, many public health and medical officials do not know about the evidence linking trees, parks and open space to improved human well-being.

The goals of this guide are to help community forestry organizations:

- create a process for urban forestry leaders to engage and collaborate with professionals in the public health arena, including the insurance industry, hospitals, municipal and state governments, private business, the wellness community and other non-traditional partners.
- establish or deepen the connection across multi-disciplinary groups.
- disseminate research and knowledge on the benefits of trees and the community forest to the public health community.

Use this guide and the case studies as a starting point to open or expand the conversation between organizations working for trees and green space and those in the community who advocate for public health. The two are a natural connection, and the time is now to increase awareness.

Getting Started

The urban forestry community has a unique opportunity to bring the vast amount of research and knowledge on the benefits of trees and the community forest into the public health discussion. Public health initiatives or community improvement initiatives with a major public health component are being launched across the United States. Dan Buettner, a National Geographic explorer and National Institute on Aging researcher, has compiled an extensive amount of scientific data to identify pockets of longevity around the world. He concludes, "The longest-lived people don't run marathons or pump iron. They live in environments that nudge them into

more physical movement, where it is easy to walk to the store, to their friend's house or their place of worship." Do these environments exist within a community forest? Almost certainly, but they are taken for granted. Those of us in the urban and community forestry field know that healthy communities have shaded streets and neighborhoods, beautiful parks and natural areas. This knowledge is supported by an extensive body of research on how trees and natural areas improve all aspects of health and well-being – mental, emotional and physical. Take the following into consideration as you look to insert the message of trees and green space into the health and wellness dialogue.

Identify existing local and state initiatives

Across the country, initiatives on health, recreation and prevention are underway. They may be initiated by a governor, a health insurance company, a state or regional public health entity or perhaps a corporate employer very focused on health programs for their employees. Has such an initiative been launched in your state or community? Be creative and think outside the box for initiatives that may not immediately seem like a natural fit for forestry. For example, food security and access to healthy foods is of critical importance for many people across the country. Expand the message and include fruit- and nut-bearing trees in the discussion. Find the right person within these initiatives and see how you can support their work. Is there an advisory group or committee your organization can serve on? Is there an opportunity to plug your existing programming into the work they are doing? This of course takes time and resources, but in the end your organization will be seen as a valuable, expert partner.

Non-traditional partners

Community forestry and environmental groups are often guilty of "preaching to the choir" — continuously putting the same message in front of the same group of constituents. In order to cultivate partnerships between public and private sectors to support urban and community forestry programs, non-traditional partners must be identified. Who are non-traditional partners in your area? They could be private companies or a well-known sports figure that is known for encouraging wellness. For example, Trees Forever worked with Hy-Vee, the largest grocery store chain in Iowa, to expand the message of trees and green space for health. The Hy-Vee manager involved became a spark plug for

the importance of trees and natural areas in getting people outdoors, and she helped recruit other leaders and public health officials. Another example from Trees Forever was working with officials from Des Moines' water treatment facility since poor water quality can significantly impact human health. Des Moines Water Works owns and maintains a large park, which acts as a buffer for the river where drinking water is sourced, and Trees Forever encouraged the utility to expand its support of trees for this reason.

Identify the “spark plugs”

The real secret to working with existing local and state initiatives or a non-traditional partner is finding the “spark plug,” like the Hy-Vee leader mentioned above, who understands and appreciates the connection between trees, forests, the outdoors and health. There is almost always a spark plug with each new partner you find, but it will take networking and research to uncover some of these players. They aren't always obvious. This person may come from upper level management or everyday program operation. It is important to think of “pull” versus “push” dynamics. Is your spark plug at the top of the ranks and able to push the tree message through the organization? Or, alternatively, is the person who can make the most change at the program operation level and is able to pull ideas through?

Working with a committee

Forming a steering committee or advisory group is one way to bring leaders together so that you can share research on the connection between trees and health. Once you've identified existing initiatives and the individuals that have been vetted as the best choice, have a board member, your CEO or another influencer ask them to serve. The committee needs a clear role and reason for meeting, and members will want to know what their expectations are right from the beginning. It is helpful to identify goals and roles.

- Identify goals for the steering committee – what are the members working towards and how can they help the process? The goals can be for the committee as a whole



or individual committee members can create goals that they take back to their organizations on how they'll incorporate trees and green space.

- Decide on a professional facilitator – a local facilitator can help keep your steering committee meetings on track, synthesize information, send out meeting minutes and push committee members along towards the goals. As a third party to the process the facilitator brings no ulterior agenda to the meetings.
- Make clear agendas – a basis for most meetings, but when you have people on your steering committee with different backgrounds who are new to your organization, it is more important than ever to have structure to follow. Sending the agenda out in advance also provides time for your steering committee member to prepare.

Case Studies

Across the country, tree-focused organizations are working with professionals in the health and wellness sectors to advance the message that trees and green space are essential for human health. The following case studies explore the work completed by Trees Forever, Sacramento Tree Foundation, Friends of Trees, The Greening of Detroit and Keep Indianapolis Beautiful.

Spreading the Canopy

Trees Forever

What was the impetus behind Trees Forever starting the Spreading the Canopy project?

For several years, Trees Forever had seen the growing research that proved trees and green space were good for people's mental and physical health. Shannon Ramsay, Trees Forever's Founding President, was also involved in several national efforts including "Vibrant Cities and Urban Forests: A National Call to Action." This national initiative was the result of a task force supported by the U.S. Forest Service that combined the expertise and perspectives of non-profit leaders, municipal and state officials, foundation and industry principals and authorities in health, urban planning, ecosystems management and urban forestry to explore the implications and potential benefits of integrated natural and built urban environments. Twelve recommendations resulted from the initiative that all supported the idea that "sustaining and expanding vibrant urban forests is critical to the health and well-being of cities and their residents." With this, Trees Forever saw the opportunity to promote the tree/health message.

Describe Trees Forever's work to connect the health impacts of trees to the public health community.

Trees Forever received a grant from the U.S. Forest Service to create a national model to incorporate the value of trees and the community forest into existing

state programs in Iowa - the Blue Zones® movement and the Healthiest State Initiative – as well as other public health initiatives. The goal of the project, Spreading the Canopy: Promoting Trees & Urban Forests as Key to Healthy Communities, was to create a process for urban forestry leaders to engage other sectors in the public health arena, including the insurance industry, hospitals, municipal and state governments, private business and the wellness community. Over a three-year period, Trees Forever worked to establish five working collaboratives across the United States: Des Moines, Iowa; Sacramento, California; Detroit, Michigan; Indianapolis, Indiana; and Portland, Oregon. Each group was charged with the task of educating and engaging representatives from these diverse sectors on the positive benefits of trees and the urban forests. A unique advantage of having five different efforts across the country was the ability to try different approaches to see what works and what does not.

What approach did Trees Forever pilot in Des Moines under the Spreading the Canopy project?

Trees Forever sought to make new connections with local community members who would help spread the message of how trees and green space are critical for health. We gathered a committee of local individuals in various sectors including insurance, hospital and





planning, as well as individuals who already work in environmental fields. Our original goal was to hold several half-day meetings to update committee members on the research about trees and health and have them help plan for a one-day symposium. As we progressed through the process, we changed our plans slightly. Instead of holding half-day meetings, we decided to really connect with the members by setting up one-on-one interviews with each person in an effort to “meet them where they are.” In this way, we were able to ask targeted questions to their specific industry (hospital, insurance, etc.). Through the questions asked, we were able to synthesize the information and target the areas that needed additional attention and understand areas where the committee members already “got it.”

After the formal interviews were completed, Trees Forever scheduled a kick-off reception for the committee

members. This was the first time that all the committee members had been in the same room together and it provided a good time to network and get to know one another. During the reception, Trees Forever provided a presentation with research findings about the impact of trees and green space on health, as well as results from the steering committee interviews. We found out from the interviews that people didn’t think there was money available to put towards green space projects and that these types of projects are often the first on the chopping block. There was also feedback that the potential long-term payback of tree/green space projects can be hard to justify in a world looking for quick payback. After the kick-off reception, a second meeting was held to update the committee on the status of the upcoming symposium and to ask for their input about who should speak, what topics should be covered, etc. Finally, an all-day symposium was held bringing together expert researchers and everyday practitioners

who understand the role trees and green space play in health. Our steering committee was encouraged to invite others from their organizations to attend the symposium in an effort to “spread the canopy” throughout the community.

How did you identify and recruit committee members?

Prior to receiving the Spreading the Canopy grant, Trees Forever had brainstormed with people and organizations that we knew we wanted to be part of the process. Trees Forever had many long-term relationships with key partners, such as elected officials in Des Moines and other environmentally focused non-profits, who were natural fits to be part of the steering

committee. Trees Forever also sought support from a local consultant who could help us make connections with people and organizations in the Des Moines metro area that Trees Forever previously had not connected with.

Overall, Trees Forever sought to identify stakeholders who would help to expand the message of trees for wellness and who were “non-traditional.” Trees Forever’s Spreading the Canopy steering committee members included individuals from the local waste management company, the largest grocery store chain in the state, and Des Moines’ drinking water treatment organization. Reaching beyond the “choir” to groups that may not consider trees as part of the healthy



prescription was essential. This outreach was one of the most successful portions of the Spreading the Canopy project.

To recruit committee members, Trees Forever simply reached out to individuals that we already knew and utilized the consultant for people we did not know. Sometimes it took time to find the right person within the organization who would serve on the committee, and we were referred to several different individuals before finding the right person.

What have been some of the challenges you have experienced with your work when connecting trees to public health?

The main challenge Trees Forever faced was getting

active, ongoing commitment from the steering committee. While the committee represented a wide segment of the local community and was a great success in those terms, most of the committee members were the top officials within their organizations. Getting these directors to commit time to Spreading the Canopy proved to be a challenge. In hindsight, we wished we would have spent more time building community, identifying a strong end goal or project for the committee members to work towards and asking those who could not commit time to identify a different “spark plug” to be part of the process.



Green Prescription

Sacramento Tree Foundation, Sacramento, CA

Sacramento Tree Foundation, a leader in connecting trees to the public health community for many years, has led research collaboratives and was the first nonprofit to hire a public health expert. Could you briefly describe the work that has been done and continues?

Through Sacramento Tree Foundation's research project, Green Prescription, we conducted statistical modeling of Sacramento's tree canopy and public health data to determine correlations between tree cover and public health outcomes. In California, the UCLA California Health Interview Survey conducts a continuous health survey to gauge the overall health of residents throughout the state. We contracted with the University of Vermont Spatial Analysis Lab to analyze Sacramento's tree canopy data obtained from aerial imagery and LiDAR. With access to both data sets, we contracted with Urban Design 4 Health to lead the research project. We also established a public health and urban forest Expert Advisory Committee to guide and support the project. The final results have shown that in Sacramento neighborhoods there are significant correlations between tree canopy and specific public health outcomes and behaviors: less obesity/overweight, better social cohesion, improved general health, less asthma and greater physical activity.

Describe the process your organization took to engage and collaborate with professionals in the public health arena.

The Sacramento Tree Foundation has a history of working on projects that link urban tree canopy to positive public health outcomes. We partnered with the California Department of Public Health on a Center for Disease Control and Prevention three-year grant focused on skin cancer awareness, education and prevention. We also were a lead organization in an urban heat island research and education study conducted by the National Aeronautics and Space Administration (NASA). We have recruited public health officials and hospital doctors to serve on our board of directors.

Much of our work in the public health arena was spurred by our Deputy Executive Director during her tenure. She brought extensive knowledge to our organization due to the ten years of experience she had as the executive director of a public health nonprofit affiliated with the California Department of Public Health. The credentials, networking and advocacy by our Deputy Executive Director led directly to tree canopy and urban forest recommendations being inserted in California's Obesity Prevention Plan and Health in All Policies Report.





As a participant in the Spreading the Canopy grant we were able to expand the membership in our Green Prescription Expert Advisory Team to include regional organizations representing healthcare and insurance companies and public health foundations.

We also were invited to join a regional health coalition hosted by the nonprofit Sierra Health Foundation, which convened more than 75 community health-related organizations. The regional coalition had recognized the impact of the built environment on public health, but had not included the urban forest in their original plan of work. As an active member, we had the opportunities to educate coalition members on the science and evidenced-based connections linking public health and urban forests. It has become clear that in order to advocate for the role of the urban forests in health policies and land use planning, the urban forest community must pro-actively network and seek partnerships with public health organizations and agencies.

How did you work with local groups or individuals to support your work? What were the successes and challenges with the process of gathering this working group?

We developed a multi-disciplined Spreading the Canopy Advisory Committee comprised of public health officials, insurance representatives, professional engineers and urban forest researchers. The committee met on several occasions to address the critical issues of how best the greater Sacramento region could begin to bridge the public health and urban forest agendas.

Our regional health organization, Sierra Health Foundation, as well as our county health officer, became integral members of the committee. We considered adding more business and hospital executives to the committee; however, it was decided to keep the committee membership smaller in the early stages of building relationships and have a focused agenda. This resulted in an ongoing committee that was largely comprised of health professionals, urban planners and urban forest advocates. Eventually, the Spreading the Canopy committee was merged with the Green Prescription Expert Advisory Committee. This has



given the Tree Foundation a strong, multi-disciplinary committee to which we can turn for advice and to help us advance the inextricable links between public health and trees and urban forests.

When working with external partners, did you engage with the top decision makers, the day-to-day program managers or others? What made these partnerships successful or challenging?

There was a range of levels of experience and expertise

within our committee membership, from the County of Sacramento's Chief Public Health Officer to a newly employed planner engineer. We found it difficult for top decision makers to commit to being on the committee, and when they did agree, their attendance was poor. Moving one level down to senior middle management was more effective. Another local group has taken a creative approach to this issue by creating a "Leadership Team" of top decision makers who meet quarterly, as well as a "Steering Committee." The latter is more action-



oriented. As they shared with us, the Leadership Team is very high maintenance in terms of taking a lot of time to schedule meetings in order to ensure that a majority of the committee members attend.

What have been some of the challenges you have experienced with your work to connect trees to public health under your Spreading the Canopy grant?

One major challenge has been the difficulty in obtaining verifiable monetary values on the positive public health outcomes of increased tree canopy. An additional challenge we encountered is an understanding and communication gap that exists between urban forest and public health experts. To bridge that gap, it is imperative to bring players to the table who have knowledge in both arenas.

What is the most successful accomplishment you have achieved to connect trees to public health?

Our greatest success was combining the networking and partnership development emphasis of Spreading the Canopy with the original research results of our Green Prescription study. Through this, we built a committee of shared interest that bridges the urban tree canopy and public health agendas. This culminated in two well-attended one-day conferences on connecting public health and urban tree canopy. The credibility of the nationally recognized speakers matched with local public health presentations strengthened the connections and common ground on the role of tree canopy and public health outcomes and behaviors. The Director of Health Programs at the Sierra Health Foundation shared that the conference had clearly demonstrated the value of trees with respect to public health and paved the way for securing grants.

What are three pieces of advice that you would share with urban forestry groups looking to help the public health community understand the importance of nature?

- 1** There is a growing body of evidence-based research linking the health and quality of life to the extent of canopy cover in the community. Learn about these studies and become better informed.
- 2** The public health sector is more approachable today as urban greening is recognized as a qualitative as well as quantitative measurable outcome in seeking positive health outcomes. Become a champion for trees and health and begin making community health and well-being a message point.
- 3** For trees to impact future generations' health and well-being immediate action is needed to nurture those trees now in the ground and to plant new ones. Focus on communities that are lacking canopy and immediately start the community education and engagement process.



Healthy Nature, Healthy People

Friends of Trees, Portland, OR

Describe the process your organization took to engage and collaborate with professionals in the public health arena.

Friends of Trees (FOT) work with the public health community began when we were part of a collaborative team put together by Legacy Health, a non-profit hospital system in Portland that planned and hosted a 2013 symposium featuring Roger Ulrich, Professor of Architecture at the Center for Healthcare Building Research at Chalmers University of Technology in Sweden. This one event helped initiate many relationships with the public health community.

Legacy Health has been a critical partner to help FOT advance the message of how nature impacts health. We have participated in events they've hosted and we partnered with Legacy to launch a series of Neighborhood Nature Walks. The goal of the nature walks is to encourage neighbors in lower-income neighborhoods to connect with one another around a physical activity, while also discovering, enjoying and discussing the neighborhood nature assets, such as parks and tree-lined streets.

Additionally, we've started working with existing partners in new ways, such as The Intertwine Alliance (TIA), a regional coalition of agencies supporting and working for Portland metro area green spaces. After the 2013 Roger Ulrich symposium, the coalition initiated a Nature and Human Health working group and FOT representatives have been integral members of the team. This working group has enabled us to collaborate on events with community health practitioners from regional insurance and hospital systems, medical professors and governmental public health professionals.

How did you work with local groups or individuals to support your work? What were the successes and challenges with the process of gathering this working group?

To develop and implement the Neighborhood Nature Walks, we organized a small group of individuals to collaborate on the planning and proposal development. The group included a Horticultural Therapist from Legacy Health, a Cultural and Communications Advisor from Intercultural Interaction, an intern from the University of Portland and a Neighborhood Trees Senior Specialist from FOT. Members of this team met/communicated with several neighborhood groups to plan the walks.

The biggest challenge for the group was finding time and shared availability to meet as much as the team desired to develop the project plan. We've overcome this challenge by completing much of the work via email and shared documents, with a few check-in meetings. Each team member focused on a different element to ensure the program was holistic and met the needs of all organizations involved.

When working with external partners, did you engage with the top decision makers, the day-to-day program managers or others? What made these partnerships successful or challenging?

The main contacts outside our organization were day-to-day program managers and staff, with a few higher level employees and executive directors. We found that many of our partners had the dedication and enthusiasm needed to make the connections between nature and health. Each partner brought a different set of skills and perspectives to the table which facilitated deep and thoughtful discussions. FOT found it helpful to have a consistent convener for our discussions to encourage reliable attendance and the continuation of planning from meeting to meeting. The primary challenge seems

to be the ability for people to commit a lot of time outside of the meetings to individual projects due to funding constraints and workloads.

What are the most successful accomplishments you have achieved to connect trees to public health under your Spreading the Canopy grant?

Building partnerships: FOT has developed new partnerships and fostered relationships with the health community and sees this as our greatest success. We have been recognized as a knowledgeable and groundbreaking non-profit within the environmental community because of our focus on the connection between nature and health. We've been asked to partner on topic specific events, present and share our work at forums and events and serve as integral team members on local committees.

Outreach to the community: FOT had the opportunity to share our program with diverse audiences locally through presentations at the Intertwine's Nature and Health Forum, several outreach events and at neighborhood tree-planting events. We were also able to share our work nationally with other community forestry professionals at the Arbor Day Foundation's national Partners in Community Forestry conference in November 2014.

Linking health to our programs: The Spreading the Canopy process has encouraged us to look at all of our programming through a new lens and better understand



how our programs can enhance community health. Through tree planting and care opportunities, individuals who plant with us can connect with neighbors and create a stronger neighborhood all while being physically active. Additionally, FOT is taking the time to educate internal staff to better understand the connection and importance of our work to community health.

What are three pieces of advice that you would share with urban forestry groups looking to help the public health community understand the importance of nature?

1 Partnerships are key. Network with the public health community and find collaborative partners to help identify potential joint projects to move nature and health initiatives forward. Get involved with new groups outside the environmental community and offer to work with partners on projects. You'll be seen as an early adopter in the field.

2 Integrate the message. Identify ways that your programming is already contributing to community health. Staff and volunteers will better see the connection and share this message with others and you can embed the message within existing organizational messaging, opening up new ways to meet and interact with partners and funders.

3 Try new things. Work with partners to identify shared missions and goals to help create activities and events that might be unique and mutually beneficial. FOT's partnership with Legacy Health encouraged us to pilot a series of Neighborhood Nature Walks, helping to create social opportunities for physical activity in lower-income neighborhoods with higher health disparities. We deepened our partnership with Legacy Health and started the conversation about urban tree canopy and community health in local neighborhoods.

Greener D

The Greening of Detroit, Detroit, MI

Describe the process your organization took to engage and collaborate with professionals in the public health arena.

The Greening of Detroit started its process towards a “Greener D” by partnering with the Institute for Population Health, a local non-profit dedicated to advancing positive health outcomes in populations and communities. As our two organizations worked together, we agreed that since we would eventually be formulating policy recommendations for public policy makers, it would be best if we concentrated on having “non-traditional” partners who were familiar with both urban forestry and public health, but not specifically in policy-making roles (with the exception of one representative from the Detroit City Council). We prioritized a group that was large enough to represent diverse perspectives, but small enough to insure everyone’s voice could be heard. Our workgroup included:

- Kathleen Slonager, Asthma & Allergy Foundation of America, Michigan Chapter
- Travis White & Jeff Bross, Data Driven Detroit
- Chris Dorle & Edward Lynch, Detroit Future City
- Sandra Yu, Detroiters Working for Environmental Justice
- Eric Candela, Co-Chair, Greening of Detroit
- Chip Amoe, Henry Ford Health System
- Chinwe Obianwu, Co-Chair, Institute for Population Health/Detroit Public Health Dept.
- Andrew Sokoly, Office of City Councilman Scott Benson
- Lisa Perez, U.S. Forest Service
- Dr. Larissa Larsen, University of Michigan
- Dr. Lyke Thompson, Wayne State University

The people and organizations named above constituted the “Healthier and Greener Detroit Workgroup” (HGD). Each of the disciplines important to developing recommendations for how trees can be used to improve public health were represented including: data mapping and planning, public health, environmental and public health advocacy organizations, urban forestry, health care and health care insurance, academics specializing

in public health as well as the environment and, one member of Detroit’s city council. Each of these members earnestly engaged and shared in the work.

The one disappointment we experienced was that Michigan’s largest private health insurer and the largest Medicaid HMO each declined to participate. Their participation would have lent some credibility and profile to the HGD workgroup’s recommendations. We do see that this will impact our work, but both represent groups we feel are important to work with and will hopefully join in the process at a later date.

When working with external partners, did you engage with the top decision makers, the day-to-day program managers or others? What made these partnerships successful or challenging?

We made a conscious decision to target academics and mid-level professionals to participate in the Healthier and Greener Detroit workgroup. Our rationale was that we wanted members with diverse areas of expertise, who would invest the time and effort to develop solid recommendations, recognizing that the process of having our recommendations adopted, in whole or in part, would require additional effort and advocacy beyond the time period of this grant.

What are the most successful accomplishments you have achieved to connect trees to public health under your Spreading the Canopy grant?

The Healthier and Greener Detroit workgroup developed three different maps that combined indicators of health burden with socio-economic indicators to prioritize neighborhoods for public health conditions related to heat stress, respiratory illness and mental health illnesses. We then correlated these three maps with one showing tree canopy coverage in Detroit. The correlation between poor tree canopy coverage and high vulnerability was obvious and striking. The areas of Detroit that are most heavily industrialized or developed and lacking tree canopy were consistently the areas that showed up with the greatest vulnerability. While this correlation makes obvious sense, it was this observation



that cemented the connection between trees and public health for members of the Healthier and Greener Detroit workgroup.

Additionally, we have had the opportunity to host meetings with stakeholders from across Detroit. For example, one such meeting saw five community groups and a University of Michigan professor present findings relevant to public health and environmental conditions and how trees and green infrastructure can be used to mitigate them. More than 30 people attended the event including the director of Detroit's Public Health Department, the deputy director of the Neighborhoods Department and representatives from Parks & Recreation, Water and Sewer, as well as the State of Michigan Environmental and Transportation agencies. After the presentations, the group discussed how we could use grant opportunities to implement the recommendations that were made. We had a chance to talk about locations throughout the city where trees could do the most good and, perhaps more importantly, ways we could continue to collaborate. Without starting the discussion with the HGD working group, Detroit may not have worked towards the goal of increasing canopy cover to address public health concerns.

What are three pieces of advice that you would share with urban forestry groups looking to help the public health community understand the importance of nature?

- 1** Recommendations should apply the findings of established research to the specific conditions of the community in which they are being made.
- 2** The recommendations should invite policy makers and others to expand their thinking and approach while at the same time allowing for immediate action to occur.
- 3** The recommendations should be achievable in the short-term. Modest progress is more valuable than aspirations that remain unfulfilled.

See page 48 for the full list of policy recommendations The Greening of Detroit and its working group developed for how trees can be used to improve public health in Detroit.

Going Native

Keep Indianapolis Beautiful, Indianapolis, IN

Describe the process your organization took to engage and collaborate with professionals in the public health arena.

Over the course of several years, Keep Indianapolis Beautiful, Inc. (KIB) had worked to establish relationships with a variety of people and organizations in the health arena, including health plan providers, hospitals, the local health department, cross-disciplinary groups such as Health by Design and IndyCog, as well as the local School of Public Health at Indiana University – Purdue University Indianapolis. With these existing contacts made, KIB put a special focus on deepening the education on how nature impacts health by targeting the Indianapolis health community in addition to the general public with a two-day conference called Going Native.

The Going Native conference featured two speakers, Dr. Douglas Tallamy, University of Delaware, and Dr. Andrea Faber Taylor, University of Illinois Urbana-Champaign, who spoke to a broad, public audience about the connections between urban greening and human health. Several months of planning took place to work with Dr. Tallamy and Dr. Faber Taylor to craft a two-part program that would speak to a general audience, in addition to a targeted audience of health/science professionals from pharmaceutical giant Eli Lilly and Company.

One offshoot of our work through the Spreading the Canopy program was our partnership with a local event company that hosted a 5K run to raise funds and awareness for KIB. This race, the Run(317) race, began and ended at the KIB office. During this highly physical activity, KIB took the opportunity to incorporate signage throughout the race with “Did you know?” facts on the connection between nature and health. We wanted to make it easy for this running community to understand that while they were outside running, the trees and green space around them were contributing to their health and well-being.

How did you work with local groups or individuals to support your work? What were the successes and challenges with the process of gathering this working group.

KIB did not establish a multi-disciplinary committee, instead opting to work with existing partners to generate attendance and communicate broadly about the primary event and the goals and objectives of educating about the connections between urban greening and human health.

When working with external partners, did you engage with the top decision makers, the day-to-day program managers or others? What made these partnerships successful or challenging?

KIB worked with contacts on all levels within the variety of organizations with which we partnered. Perhaps this is what made our activity so successful. At the university level, we worked with department heads and tenured professors. Within local health-focused organizations, we were more aligned with program managers and community outreach professionals. There were very few challenges, as the topic was intriguing to our partners and they were eager to share the event information with their constituents. This process of engaging partners at many levels within organizations is common practice for KIB and worked well for us again in this instance.

What have been some of the challenges you have experienced with your work to connect trees to public health?

The biggest challenge is our ability to sustain or consistently reinforce the messaging between trees and public health in our day-to-day work. Our work under the Spreading the Canopy grant created some special, targeted opportunities of which we took full advantage. But like many non-profits, resource and time restraints are an issue. However, we have found ways to incorporate the nature/health message when we engage volunteers at tree-planting events throughout the year.



What is the most successful accomplishment you have achieved to connect trees to public health?

We believe the most successful accomplishment under the Spreading the Canopy grant has been the opportunity to educate the Indianapolis public about the connections between trees and greenspace, and increased public health through our Going Native conference. Many residents know our work in Indianapolis, or they know that trees are good for the environment, but they have not connected KIB's work and its importance towards health outcomes for us and our city. This event brought together many people who may not have been familiar with our work, or who may not have attributed greater significance to it beyond keeping the city beautiful. In a city with its fair share of environmental challenges, teaching residents about the importance of planting native trees and plants for biodiversity and human health is a wonderful service!

How will you sustain your work going forward?

The success of the Going Native event has led us to pursue a similar type of public education event on a bi-annual basis. We now know that our organization, its reputation and the quality of our work lend credibility to an event of this size, type and scope. We are honored to be in a position to share the importance of the connections between trees and public health and hope to take advantage of the platform via our day-to-day work.

What are three pieces of advice that you would share with urban forestry groups looking to help the public health community understand the importance of nature?

- 1** Think big and don't be afraid to think "out of the box" for your organization. The Going Native event was not the type of activity that KIB had undertaken before. Afterward, we were asking ourselves what had taken us so long to do so. It has become clear to us that this is a "space" in which KIB can take the lead in our community.
- 2** Experts lend credibility to our work. As an urban forestry group, we can excel at what we do, and at the same time, we can learn from researchers that reinforce the validity of our work to a variety of important audiences. Partner with those who have credentials that can work hand-in-hand with you to deliver the message in an engaging and credible manner.
- 3** People are life-long learners. We learned that the general public is very interested in and receptive to the messaging around the connections between trees and human health. We never envisioned more than 300 attendees would come to a lecture on a beautiful summer evening to hear two PhD researchers, but they did. We look forward to producing a similar event to share our knowledge, and the knowledge of others, with the greater community we serve.

Resources

An extensive body of research has been completed and demonstrates the positive connection trees and green space has on health and well-being. Using these resources will help you to make the case to your community to actively invest in trees and green space.

Websites and Articles

Several articles and websites are dedicated to the critical role trees and green space play for both mental and physical health. Links are provided below highlighting these resources.

[Green Cities: Good Health](#)

From the website, "Metro nature - including trees, parks, gardens, and natural areas - enhance quality of life in cities and towns. The experience of nature improves human health and well-being in many ways. Nearly 40 years of scientific studies tell us how." Use this website for an in-depth overview of many research areas such as mental health, safe streets, public safety and more.

[Eco-Health Relationships Browser: Public Health Linkages to Ecosystem Services](#)

Information from this website, a service of the Environmental Protection Agency, can be broken down into Agro-Ecosystems, Forest, Urban Ecosystems and Wetlands. From there, various ecosystem services can be analyzed for their effects on health outcomes such as birth weight, obesity, depression and more. Research studies that verify the various findings are listed.

[When Trees Die, People Die](#)

This article explores the connection between areas devastated and deforested by Emerald Ash Borer (EAB) and mortality rates due to cardiovascular and lower respiratory tract illness.

[How Hospital Gardens Help Patients Heal](#)

Gardens and landscaping were once a critical portion of hospital grounds prior to the 20th century. With a growing body of research about the critical role natural spaces play in the health and healing of hospital patients, many hospitals are once again including gardens in their development plans.

Research papers

There is a rich field of peer-reviewed research that provides evidence of the connection trees and green space have on public health. Below are a few sample of research papers available.

[The urban brain: analyzing outdoor physical activity with mobile EEG](#)

An article published in the New York Times highlighted this study that looks at how urban greening influences brain fatigue and stress.

[Urban trees and the risk of poor birth outcomes](#)

This paper investigated whether greater tree-canopy cover is associated with reduced risk of poor birth outcomes in Portland, Oregon. Results suggest that the natural environment may affect pregnancy outcomes and should be evaluated in future research.

[Children With Attention Deficits Concentrate Better After Walk in the Park](#)

In the general population, attention is reliably enhanced after exposure to certain physical environments, particularly natural environments. This study examined the impacts of environments on attention in children with ADHD.

Researchers

There are many researchers who have dedicated their work to finding and proving the positive connection trees and green space have on well-being. These researchers are available as a resource and, in some cases, for speaking engagements.

Dr. Geoffrey Donovan
Dr. Francis Kuo
Dr. Mary Northridge
Dr. William Sullivan
Dr. Doug Tallamy
Dr. Kathy Wolf



Sample Materials from Spreading the Canopy

In order to better reach stakeholders in the health and well-being fields, several resources are provided in the following pages that were utilized by the five organizations in the Spreading the Canopy program. Each organization explored a unique process in order to help their communities make the tree/health connection. Use the information as is or as a starting point for your work.

Trees Forever

Under its Spreading the Canopy program, Trees Forever worked with an advisory committee made up of traditional and non-traditional partners. The sample materials from Trees Forever can help you connect with new, non-traditional partners – see the interview and input questions and the recruitment factsheet. Additional resources include a sample agenda, advertising material and more from the Trees Forever Spreading the Canopy Symposium. See pages 22 - 31.

Sacramento Tree Foundation

Through its Green Prescription program, Sacramento Tree Foundation conducted extensive research to determine correlations between tree cover and public health outcomes. The result of this research was shared widely with the public and health officials. The sample materials that follow were used with the organization's advisory committee and at their annual Green Print Summit. See pages 32 - 45.

Friends of Trees

Friends of Trees strengthened its relationships with the local partners through the Healthy Nature, Healthy People program. By working closely with these partners and identifying shared missions, Friends of Trees was able to start a new series of Neighborhood Nature Walks. Read more about the program in their case study and see the sample materials used to advertise the walks. See pages 46 - 47.

The Greening of Detroit

The Greening of Detroit saw an opportunity for broad dissemination of urban forest goals through its Healthier and Greener Detroit program. The organization pulled together a committee of representatives to advise on policy recommendations that would address the tree/health connection. The results of their work and the policy recommendations follow. See pages 48 - 60.

Keep Indianapolis Beautiful

With its Going Native program, Keep Indianapolis Beautiful worked with key community partners to deepen the understanding of how nature impacts health. Sample materials from the Going Native conference follow. The sample "Did you know?" signs about trees and health were used during a 5K race that the organization helped support. See pages 61 - 64.

Trees Forever Sample Materials

Trees Forever Fact Sheet



Spreading the Canopy Promoting Trees & Urban Forests as Key to Healthy Communities

Goal

To engage and inform leaders from public health, the insurance industry, private business, policy makers, the medical and wellness community on the value of trees and green space to improve and enhance mental and physical health.

Background

The *Spreading the Canopy* project seeks to inform the public health sector and involve leaders in a conversation on the benefits of trees and green space. Over a three-year period, Trees Forever:

- Will establish five working collaborative groups across the United States – the first in Des Moines, the second in Sacramento, California, and three national cities to be selected;
- Hold the first collaborative and symposium in Des Moines to serve as a model on how to create a replicable process ensuring that trees and green space play an important role in healthy community and state initiatives;
- Create a *Spreading the Canopy* Guide and other online tools to market findings nationally, inspire others to use the model, and draw attention to the value of trees and natural areas in improving public health.

Trees and Public Health

There is a substantial body of research indicating that our physical and mental health is positively correlated to having more trees and green space.

- Physical inactivity costs Iowa about \$4.6 billion annually in lost worker productivity. Expanding and improving parks encourages people to get moving, thereby reducing those costs.
(<http://www.desmoinesregister.com/article/20121008/OPINION03/310080033>)
- Workers with workstation views that included green elements were more satisfied at work and had more patience, less frustration, increased enthusiasm for work, and fewer health problems. Not having nature views is associated with higher levels of tension and anxiety in office workers.
(http://depts.washington.edu/hhwb/Thm_Mental.html)
- All other things being equal, patients with bedside windows looking out on leafy trees healed, on average, a day faster, needed significantly less pain medication and had fewer postsurgical complications.
(<http://www.scientificamerican.com/article.cfm?id=nature-that-nurtures>)
- Childhood obesity has more than tripled in the past 30 years. Active living is one solution to turn back this trend. Trees contribute to perceptions of more walkable streets, which can promote more physical activity in children and youth.
(http://depts.washington.edu/hhwb/Thm_ActiveLiving.html)



Trees Forever Fact Sheet

Building Strong Partnerships

Throughout the *Spreading the Canopy* work process, Trees Forever will:

- Foster partnerships between public and private sectors to create a pipeline of support for urban and community forestry programs;
- Host multi-disciplinary working groups to develop better ways to respond to urban ecosystem issues and public health;
- Ensure equal access to resources so communities of all demographics, sizes, and locations can realize the benefits of developing a vibrant green infrastructure.

Steering Committee Members Committed and Leaders Lending Support

- Mark Ackelson, President, Iowa Natural Heritage Foundation
- Dave Ahlberg, Product Manager, Energy Efficiency Programs, MidAmerican Energy
- Todd Ashby, Executive Director, Des Moines Area Metropolitan Planning Organization
- Julia Badenhope, Associate Professor, Landscape Architecture, Iowa State University
- Diana Bishop Ewing, Development Officer, Mosaic
- Pat Boddy, Stewardship Director, RDG
- Michael Bousset, Governor Terry Branstad's Office, Healthiest State Initiative
- Richard Deming, MD, Medical Director, Mercy Cancer Center
- Mayor Frank Cownie, City of Des Moines
- Helen Eddy, Associate Vice President, Hy-Vee Health and Wellness
- Chuck Gipp, Director, Iowa Department of Natural Resources
- Joe Gunderson, Chair, Iowa Parks Foundation
- Tom Hadden, Executive Director, Metro Waste Authority
- Rick Kozin, Director, Polk County Health Department
- Mark Masteller, Chief Landscape Architect, Iowa Department of Transportation
- Chris McCarthy, Community Health Project Manager, UnityPoint Health
- Dennis Parker, Director, Polk County Conservation Board
- Shannon Ramsay, Founding President and CEO, Trees Forever
- Robert Riley, CEO, Feed Energy
- Chris Seeger, Associate Professor, Landscape Architecture, Extension Specialist, Iowa State University
- Kent Sovern, State Director, AARP Iowa
- Bill Stowe, CEO, Des Moines Water Works
- Paul Tauke, State Forester, Iowa Dept. of Natural Resources
- Margo Underwood, Trees Forever Board of Directors and IDNR Natural Resource Commission Chair
- Greg Welk, Professor, Health Promotion and Exercise, Iowa State University
- Jon Werger, Iowa Community Operations Manager, Blue Zones Project

Research and Expert Advisory Panel

- Pramod Dwivedi, Public Health Director, Linn County
- Dr. Mary Northridge, Editor Public Health Journal, Columbia University
- Ray Tretheway, Executive Director, Sacramento Tree Foundation
- Dr. Lynne Westphal, U.S. Forest Service, Chicago Research Group
- Dr. Kathleen Wolf, University of Washington, Seattle



Steering Committee Interview Questions

Spreading the Canopy Promoting Trees & Urban Forests as Key to Healthy Communities

Questions for one-on-one discussion

Your Personal Perspective

1. What is your perception of trees and green space and their effects on public health?
2. Have you had personal experience, or someone you know, where health or well-being has been positively affected through connection to trees or green space?

Your Organizational Perspective

1. Is your organization already taking advantage of the positive influences of trees and green space?
 - a. For your employees?
 - b. For your constituents?
2. How could your organization incorporate more trees and green space into their programs or work priorities?
3. Are there others from within your organization who are champions for trees and green space?
4. Are there barriers that would prevent you from incorporating trees and green space into your work plan? Such as an already set, existing strategic plan?
5. What would be the best way to get information to you and your organization about the benefits of trees and green space and its benefits to public health and wellness in order to continue a longer-term dialogue?

Communication to your Sector

1. What information or details would you need to help “sell” trees and green space to your organization?
 - a. For your work campus
 - b. For your grant programs
 - c. For your employees
 - d. For your work initiatives
2. Is there certain information or words that the forestry/natural space community could use to help make the case for trees and green space more appealing in your business sector?

Steering Committee Input Questions



(319) 373-0650 · (800) 369-1269
www.treesforever.org
770 7th Avenue · Marion, IA 52302

Spreading the Canopy

Let us know your ideas and thoughts for moving the project forward

Who from your organization should be involved?

Who from the community?

Additional thoughts?

Planting a better tomorrow™



Spreading the Canopy Symposium

How Trees and Green Space Improve Our Health

June 14, 2013 • Hotel Fort Des Moines • Des Moines, Iowa

Research is increasingly pointing to the positive benefits trees and green space have on the health and well-being of people for both their physical and mental health.

Join Trees Forever for a day-long symposium that addresses the individual and the community benefits of trees and natural areas, and why it is imperative we begin to be much more intentional about designing and retrofitting our communities with more trees and living green.

Learn about:

- Mental and physical health benefits that trees and green spaces provide
- Concrete ideas and plans for how you can incorporate trees and green spaces in your community
- Conducting a walkability assessment in your community, through a downtown Des Moines tour
- Networking opportunities with other professionals

Outstanding National Experts:

Dr. Mary Northridge, Editor, American Journal of Public Health
The Grey, the Green, and the Human

Dr. Kathy Wolf, Research Social Scientist, University of Washington
Green Cities for Good Health: From Evidence to Change

Who should attend:

Health Professionals
City Planners & Engineers
Architects & Developers

Elected Officials
Urban Foresters
Business Leaders

Community Leaders
Trees Forever's Members
Landscape Architects

**For more information or to register for the symposium
visit www.treesforever.org or call 800-369-1269.**



How a *Tree* a Day Helps Keep the Doctor Away

Can trees and green space be good for our health? Turns out, the answer is yes.

Most people enjoy a walk along a tree-lined street or through a wooded area. Most employees would rather have a window seat than a closed-in environment. And on a hot day, children and adults alike seek the cool shade that trees provide. It's almost instinctual to people to seek out the trees and green space around them. What people may not know is that our bodies respond physically and mentally to the green growing around us.

According to research from the University of Washington, employees with workstation views that included green elements were more satisfied at work, had more patience, less frustration, increased enthusiasm for work, and fewer health problems. Not having nature views is associated with higher levels of tension and anxiety in office workers. An article in *Scientific American* found that all other things being equal, patients with bedside windows looking out on leafy trees healed, on average, a day faster, needed significantly less pain medication, and had fewer postsurgical complications. The American Institutes for Research found that students who had a connection to nature had a 27% increase in mastery of science concepts, enhanced cooperation and conflict resolution skills, and better problem-solving skills.

The evidence is there; trees and natural areas have a quantifiable benefit to our well-being. With the sweeping approval of ballot initiatives such as Polk County's Water and Land Legacy and Iowa's Water and Land Legacy the public support is there for natural resources as well. However, with tight city budgets and an increasing number of threats such as climate change and invasive pests we won't reap the benefits of trees and green space unless we intentionally plan to incorporate them into our communities. Iowans are at a unique advantage with the many planning initiatives such as The Tomorrow Plan, Capitol Crossroads, the Blue Zones Project, and the Healthiest State Initiative; the time is right for natural spaces to be front and center.

Interested in finding out more about how trees and green space are good for your health? Trees Forever is hosting a day-long *Spreading the Canopy* symposium on June 14 to discuss the issue. Nationally known speakers and local experts will be in attendance to provide the knowledge and tools needed to actively promote the role of trees and green spaces for healthy, vibrant, and livable communities.

So take a walk through the trees and call us in the morning. It is that easy!



**Spreading the Canopy Symposium:
How Trees and Green Space Improve Our Health**
Agenda
June 14, 2013
Hotel Fort Des Moines, Des Moines, Iowa

8:30 am **Registration begins**

9:00am **Welcome**

Master of Ceremonies: **Shannon Ramsay**, Founding President, Trees Forever

9:30am **Helen Eddy**

Assistant Vice President, Health and Wellness, Hy-Vee, Inc.
Executive Director, Healthiest State Initiative

Healthiest State Initiative: Healthier, Happier Iowans by 2016

An ambitious goal has been set – to make Iowa the healthiest state in the nation by 2016. Helen will provide an overview of Iowa’s Healthiest State Initiative, its connection to the Blue Zones Project, and the steps that have been set to reach the 2016 goal. She will also discuss the important role that trees, trails, and green spaces play in Iowan’s well-being.

10:00am **Keynote: Dr. Kathy Wolf**

Research Social Scientist University of Washington
Introduced by Ray Tretheway, Sacramento Tree Foundation

Green Cities for Good Health: From Evidence to Change

Communities can choose to invest in any number of things to create more livable places, and improve quality of life. Trees, gardens and parks make the urban experience more pleasant, but is there more to this? A cascade of recent studies suggests that having nearby nature is profoundly important for human health and well-being, and helping people to be their best. The evidence encourages new urban greening policy and programs for vibrant communities.

11:00am **Follow-Up Roundtable Discussions**

*What did you hear that appealed to you, professionally and personally?
How can your organization or business incorporate the information that Kathy and Helen covered?*

11:45am **Luncheon**

(continued on next page)

Trees Forever Agenda

12:15pm **Keynote: Dr. Mary Northridge,**
Editor, American Journal of Public Health
Assistant Professor, Department of Epidemiology and Health Promotion, New York University

The Grey, the Green, and the Human

New research investigates the interdisciplinary social and systems science of critical relationships among the grey (“built”) and green (“natural”) elements of cities and human interactions. This includes an understanding how ordinary spaces are transformed into sacred places—places that tie us to our past, our present, and our future. Modeling exercises are intended to provide guidance on the policies and programs needed to improve health and well-being, especially for disadvantaged populations.

1:00pm **Concurrent Sessions**

Outdoor Session: Walking Tour and Assessment

Take a walking tour of downtown Des Moines, led by local experts, who will help you consider the “green” elements that make a community walkable and how you can incorporate more trees and green space.

Hans Klein-Hewett, Landscape Architect, RDG

Indoor Session: Improving Our Lungs: How Evidence-Based Design can Improve Public Green Spaces

In the past ten years, healthcare administrators have been convinced to include more and better therapeutic gardens into their healthcare construction projects thanks to evidence-based design. Can the same evidence be used to improve parks, streetscapes, and urban plazas? This session will argue that if parks are the “lungs of the city,” we should start treating all green spaces as vital parts of our health. We will discuss the tenets of therapeutic evidence-based design and apply those tenets to improve the design and function of parks, streetscapes, and urban plazas. Further, we will discuss a few techniques to convince clients and administrators to include high quality green spaces in their projects and keep them from being value engineered away.

2:15pm **Break**

2:30pm **Lightning Session with presentations from a diverse and inspirational group of experts**

- Ray Tretheway, Executive Director, Sacramento Tree Foundation
 - o *The Green Rx*
- Pramod Dwivedi, Linn County Public Health Director
 - o *An International Perspective on Green Space and Health*
- Jon Werger, Community Operations Manager, Blue Zones Project
 - o *Blue Zones Project™: Creating Active and Healthy Environments*
- Tammie Krausman, Iowa Department of Natural Resources, Executive Officer
 - o *Healthy & Happy Outdoors (H2O)*

3:00pm **Spreading the News and Taking Action: Next Steps** – Roundtables

3:40pm **Report Out and Closing Remarks**

4:15pm **Targeted Adjournment**

Spreading the Canopy Symposium: *How Trees and Green Space Improve Our Health* Roundtable Worksheet

Morning Roundtable Discussion

Based on Helen and Kathy's presentations, please take time to discuss the following questions. Each table has a facilitator to assist with the process, and we encourage everyone to participate:

Trees and natural areas provide benefits - what are the most important benefits to meet the broadest needs in our communities and organizations?

What has your community or organization done to promote natural movement such as biking and walking?

Who are the stakeholders that we can invite to the trees and natural areas for health dialog?

What policy changes do we need to make in our organizations, communities, and/or state to promote more greening for health?

(OVER)

Trees Forever Roundtable Questions

Afternoon Roundtable Discussion

*Throughout the day you've heard different perspectives and research on the importance of trees and green space. You've also heard from experts that are taking action to incorporate natural areas for health. You have around 40 minutes to discuss with your table action steps that you can take. There will be time to report your ideas and commitments to the group. **Each group should agree on a facilitator and a reporter (prefer non-staff).***

Are there groups or non-traditional partners that you can work with to advance the benefits of nature in your community, your company, or organization?

How can you include various cultural backgrounds into making plans for trees and green space?

Are there specific programs that can be developed or existing programs that encourage individuals to be more active outdoors?

Write one or more commitments you are willing to make related to creating, using or telling this important story on more trees and green space in your community, work place, home, etc.

Sacramento Tree Foundation Sample Materials



Sacramento Tree Foundation | Spreading the Canopy **A USDA Forest Service Grant**

Goal

To better inform and engage regional leaders from public health, the insurance industry, private business, policy makers, the medical and wellness community on the most effective strategies for leveraging the value of trees and green space to improve and enhance mental and physical health, especially with respect to chronic disease.

Background

In collaboration with Trees Forever of Iowa who was awarded the Forest Service grant, the Sacramento Tree Foundation and three other urban forest organizations will develop a replicable model for nation-wide use on how to ensure that trees and green space are integral to healthy community planning across sectors and at all levels (local, regional, and state).

Considerations

In light of the Affordable Care Act and the recognition that the most prevalent chronic diseases are highly impacted by life styles and personal choices, developing and retrofitting built environments to encourage and sustain healthy living is essential as 94% of the California population lives in urban areas. Particular attention must be paid to communities in which the greatest health disparities exist — which also tend to align with disparities of the urban forest and green space.

With various local and regional health initiatives including built environment concerns, how can we ensure consistency, shared best practices, and successful implementation?

California has made significant strides with respect to thinking of trees and green space as part of our public health infrastructure: for example, the 2010 California Obesity Prevention Plan (COPP 2010) and the 2012 Health in All Policies.

How can we work together to further support and implement these guidelines?

For example, COPP 2010 includes:

- Adopt and implement “walkable” community policies and build paths/trails with optimal trees and green space to provide safe and convenient travel options for walking, bicycling, or using assistive devices, such as wheelchairs.
- Develop urban greening incentive programs for developers to facilitate the planning and maintenance of green spaces around public facilities, residential neighborhoods, and park lands.
- Offer employees volunteer opportunities to improve physical activity and healthy eating by rehabilitating parks and off-street bicycle and pedestrian pathways, planting trees and greenery, supporting local community gardens, and helping at community food banks.





A Sampling of Research Findings

- Green views and access to green spaces in urban areas can help restore attention and relieve the everyday pressures of living in poverty.

Kuo FE. (2001). Coping with poverty: Impacts of environment and attention in the inner city. *Environment and Behavior*, 33 (1), 5-34.

- Workers with workstation views that included green elements were more satisfied at work and had more patience, less frustration, increased enthusiasm for work, and fewer health problems. Not having nature views is associated with higher levels of tension and anxiety in office workers.

http://depts.washington.edu/hhwb/Thm_Mental.html

- All other things being equal, patients with bedside windows looking out on leafy trees healed, on average, a day faster, needed significantly less pain medication and had fewer postsurgical complications.

<http://www.scientificamerican.com/article.cfm?id=nature-that-nurtures>

- Girls who grew up with greener views from home showed better concentration, exhibited less impulsive behavior and were able to postpone immediate gratification.

Taylor AF, Kuo FE, Sullivan WC. (2002) Views of Nature and Self-Discipline: Evidence From Inner City Children. *Journal of Environmental Psychology*. 22(1-2):49-63.

- Childhood obesity has more than tripled in the past 30 years. Active living is one solution to turn back this trend. Trees contribute to perceptions of more walkable streets, which can promote more physical activity in children and youth.

http://depts.washington.edu/hhwb/Thm_ActiveLiving.html

- More green space (based on land cover data) within a 1km radius of the home was associated with lower asthma and upper respiratory tract infection morbidity.

Maas J, Verheij R, de Vries S, et al. Morbidity is related to a green living environment. *Journal of Epidemiology and Community Health*. 2009;63 (12):967-73.

- After engaging in attention-demanding tasks, blood pressure decreased for young adults sitting in a room with a view of trees more than for young adults sitting in a room with no tree view. Attention ability, positive mood, and anger level improved after a walk in a nature reserve and all declined after a walk through an urban area.

Hartig T, Evans GW, Jamner LD, Davis DS, Gärling T. Tracking restoration in natural and urban field settings. *Journal of Environmental Psychology*. 2003;23(2):109-123.

GREENPRINT SUMMIT

Planning for Trees & Public Health

JANUARY 30, 2014



MISSION: Building healthy, livable communities in the Sacramento region by growing the best urban forest in the nation.

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Greenprint in the Sacramento Region

What is Greenprint?

Our **bold vision** to enhance the quality of life in our region by expanding the urban forest and maximizing the benefits of trees.

Our **roadmap** for mobilizing and empowering community partners and volunteers to plant 5 million trees throughout the Sacramento region.

Our proud **partnerships** with elected officials, service and faith groups, health & wellness professionals, businesses, youth, and everyone who will help us reach our goal.



Agenda

- 7:30am Check-in & Continental Breakfast
- 8:00am **Welcome**
Ray Tretheway, Executive Director, Sacramento Tree Foundation
- 8:15am **Expectations of the Day**
Cindy Blain, Community Partnerships & Innovation Director, Sacramento Tree Foundation
- 8:30am **Place and Health**
Dr. Anthony Iton, Senior Vice President, The California Endowment
- The Economic Impact of the Urban Forest**
Dr. Geoffrey Donovan, Research Scientist, USDA Forest Service
- Recognizing Resilience**
Dr. Mary Northridge, Editor-in-Chief, American Journal of Public Health
Associate Professor, Dept. of Epidemiology and Health Promotion at New York University
- 9:45am **Conversation with Tony, Geoff and Mary**
Host: Sandra Shewry, Director of State Health Policy, California HealthCare Foundation
- 10:15am **Speed Networking**
- 10:35am **Break & Buzz**
- 10:45am **Trees and Human Health**
Dr. Bill Sullivan, Professor, University of Illinois
- Health in All Policies and the Urban Forest**
Dr. Linda Rudolph, Co-Director of the Climate Change and Public Health Project &
Principal Investigator - Health in All Policies, Public Health Institute
- 11:30am **Conversation with Bill and Linda**
Host: Dr. Robert Waste, Director of Government & Community Relations &
Health Sciences Clinical Professor, UC Davis Health System
- 12:00pm **Lunch Conversations: Cross Sector Partnerships**
- 1:00pm **Spreading the Canopy**
Shannon Ramsay, Executive Director, Trees FOREVER Iowa

Agenda (Continued)

1:15pm **Local Perspectives**

Green Rx: Sacramento Region Urban Tree Canopy & Health

Cindy Blain, Community Partnerships & Innovation Director, Sacramento Tree Foundation

Healthy Sacramento Coalition

Robert Phillips, Director of Health Programs, Sierra Health Foundation

Building Health Initiative

Dr. Elizabeth Baca, Advisor to the U.S. Green Building Council

Design 4 Active Sacramento

Adrian Engel, Principal, Echelon Transportation Group

2:15pm **Conversation on Local Perspectives**

Host: Steve Johns, Local Government Relations Manager, Sacramento Municipal Utility District

2:45pm **Speed Networking**

3:05pm **Round Table Discussion: Translating What We've Learned into Action**

Facilitator: Eric Douglas, President, Leading Resources, Inc.

4:15pm **Greenprint Summit: Summary & Synthesis**

Host: Steve Johns, Local Government Relations Manager, Sacramento Municipal Utility District

5:00pm Adjourn

Speakers

Dr. Elizabeth Baca

Advisor

U.S. Green Building Council - Northern California



Dr. Elizabeth Baca is passionate about building healthy communities. She has been collaborating with USGBC-NCC over the last year to advise them on their Building Health Initiative. This multi-sector collaboration elevates the connection between health and the built environment and fosters interdisciplinary

learning to both educate professionals and raise awareness on this important issue.

In her professional time, she also works on creating healthy communities for California as the Senior Health Advisor in the Governor's Office of Planning and Research. Prior to her role with the State, she was on the General Pediatric Faculty at Stanford Medical School and directed the Community Pediatric and Child Advocacy Rotation.

Dr. Baca studied health policy at Universidad Simon Bolivar in Venezuela. She completed her Master in Public Administration at Harvard Kennedy School of Government and her Doctorate of Medicine at Harvard Medical School. Dr. Baca completed her pediatric residency in the Pediatric Leadership for the Underserved (PLUS) program at University of California, San Francisco.

Cindy Blain

Community Partnerships & Innovation Director
Sacramento Tree Foundation



Cindy has been with the Tree Foundation for almost 6 years and oversees Greenprint Relations, Education & Volunteerism, and Research & Innovation. She leads several science-based projects – related to tree canopy and public health, air quality, and carbon sequestration.

Just prior to joining the Tree Foundation, she was the marketing director at a nonprofit retreat center in Silicon Valley. Her corporate experience includes 10 years at Tandem Computers in operations management and service

marketing. Cindy has a BA in Art History from Rice University and an MBA in Marketing and International Business from Georgia State University. The MBA program included a year on exchange at the École Supérieure de Commerce de Paris. Having lived in 10 states (and Paris) before coming to Northern California, she believes the Sacramento region is a wonderful place to live.

Dr. Geoffrey Donovan

Research Scientist



USDA Forest Service

Dr. Donovan has a bachelor's degree from Sheffield University in biochemistry and a doctorate in forest economics from Colorado State University. He works as a research forester for the USDA Forest Service's Pacific Northwest Research Station in Portland, Oregon

(since 2001). His two main research areas are the economics of wildfire and quantifying the benefits of urban trees.

In his work on urban trees, Dr. Donovan has quantified the effect of trees on the property market, energy use, crime and, more recently, public health.

Adrian B. Engel, PE, LEED AP

Principal

Echelon Transportation Group

Adrian has over 15 years of experience in engineering and transportation planning in northern California. He is a Principal at the Echelon Transportation Group, a consulting firm with a focus on complete streets, active design, bicycle and pedestrian planning.



His unique qualifications as both a Registered Engineer with vast roadway design experience and a LEED Accredited Professional allow him to balance environmental design elements with technical roadway design standards.

Adrian Engel is the chair of the Urban Land Institute's (ULI) Transit Oriented Development (TOD) Advisory

Speakers (cont.)

Council for the Sacramento District. Adrian is also the Board President of WALKS Sacramento, a local area non-profit organization that advocates for walkability and enhancing the public's health through improvements to the built environment. He is a founding member of Design 4 Active Sacramento.

Adrian earned a bachelor's degree in Civil Engineering from Cal Poly, San Luis Obispo. He lives in Sacramento with his wife and two young children. When not engaged with his profession he can be seen riding on the American River Bike Trail or enjoying a round of golf at a local course.

Anthony Iton, M.D., J.D., MPH Senior Vice President, Healthy Communities The California Endowment



In the fall of 2009, Dr. Iton moved to The California Endowment to help oversee the organization's 10-Year, Multimillion-Dollar Statewide Commitment to Advance Policies and Forge Partnerships to Build Healthy Communities and a Healthy California. Prior to his appointment at The

Endowment, Iton served since 2003 as both the Director and County Health Officer for the Alameda County Public Health Department. In that role, he oversaw the creation of an innovative public health practice designed to eliminate health disparities by tackling the root causes of poor health that limit quality of life and lifespan in many of California's low-income communities.

Iton's varied career also includes past service as a staff attorney and Health Policy analyst for the West Coast regional office of Consumer's Union, the publisher of *Consumer Reports* magazine. He serves on the board of directors of the Public Health Institute, the Public Health Trust, the Prevention Institute, and Jobs for the Future.

Iton, who has been published in numerous public health and medical publications, is a regular public health lecturer and keynote speaker at conferences across the nation. He earned his B.S. in Neurophysiology, with honors, from McGill University, in Montreal, Quebec, his J.D. at the University of California, Berkeley's Boalt Hall School of

Law, and his medical degree from Johns Hopkins University School of Medicine.

Mary Northridge, PhD, MPH Editor-in-Chief, *American Journal of Public Health* Associate Professor, Dept of Epidemiology and Health Promotion New York University College of Dentistry



Professor Northridge is currently serving her seventh term as Editor-in-Chief of the *American Journal of Public Health*. She has enduring interests in social and environmental determinants of health as well as a current focus in the utility of systems science to integrate and sustain holistic health and health care.

Professor Northridge also holds a part-time appointment as a Professor of Clinical Sociomedical Sciences at the Columbia University Mailman School of Public Health and the College of Dental Medicine.

She is currently funded by the National Institute of Dental and Craniofacial Research and the Office of Behavioral and Social Sciences Research of the US National Institutes of Health on a collaborative R01 among researchers and practitioners at the University at Buffalo, Columbia University, and New York University (Lead PI: Northridge), as well as several local participatory projects related to systems science and public health.

Among these is a project funded by the USDA Forest Service that examines the integration of the grey, the green, and the human. Professor Northridge earned a BA in chemistry with a specialty in biochemistry at the University of Virginia, an MPH in environmental health at the University of Medicine and Dentistry of New Jersey/Rutgers University, and a PhD in epidemiology at Columbia University.

Upon the completion of a post-doctoral fellowship in cancer epidemiology at the Environmental and Occupational Health Sciences Institute in Piscataway, NJ, Professor Northridge continued her academic career at the Harlem Health Promotion Center of Columbia University, where her research and practice projects addressed the

Speakers (cont.)

elimination of social disparities in health through community-based participatory research for more than two decades. Professor Northridge is the author of 168 scientific papers and the co-editor of two volumes.

Robert Phillips **Director of Health Programs** **Sierra Health Foundation**



Robert leads the foundation's Health Unit, whose programs include the Healthy Sacramento Coalition, the Respite Partnership Collaborative and the Sacramento Region Health Care Partnership.

Robert was formerly a Senior Fellow, Director, and Senior Program Officer at The California Endowment. For almost seven

years, he led the foundation's efforts around health care reform, children's health, health advocacy and efforts to improve the health of California's young males of color. In his various capacities at The Endowment, he served as the foundation lead for many major funding initiatives, such as the foundation's Health Care Reform Campaign, the Community Clinics Initiative (CCI), Covering California's Kids (CCK) program, and the Boys and Men of Color (BMoC) program. Over the course of his tenure at The Endowment, Robert was either personally responsible for, or directly oversaw, more than \$150 million in grants to communities and organizations across California and the nation.

Prior to joining The Endowment, Robert was a Principal at Carter Phillips LLC, a public affairs firm that specialized in strategic communications and political strategy. He was a senior associate at PolicyLink. Robert also served as a political director, a capital strategies coordinator and organizer for the Service Employees International Union, and a senior health policy analyst for the AFL-CIO in Washington, DC.

Robert received his BA from Morehouse College in Atlanta, his MPA from the Maxwell School of Citizen and Public Affairs at Syracuse University, his MPH from the Harvard School of Public Health, and completed doctoral coursework at UNC-Chapel Hill Gillings School of Global Public Health.

Shannon Ramsay **Founding President & CEO** **Trees Forever, Iowa**



Shannon founded Trees Forever in 1989, working as a volunteer for over two years to launch the organization. Today under her direction, Trees Forever has a staff of 22 with offices in Iowa and Illinois. Trees Forever's award winning programs include community tree planting, roadways beautification and water quality initiatives. Trees Forever works with hundreds of Midwest communities and involves over 7,000 volunteers annually. Trees Forever volunteers have planted over 3 million trees. Nationally, Trees Forever focuses on educational projects, and produced the award winning documentary, *Spirit of the Trees*, a documentary series on Native Americans and their connections to trees and forests, for which Shannon acted as Executive Producer.

She is a past Board Chair of the National Alliance for Community Trees, a member of the National Vital Communities Task Force and has served on numerous boards at both the national and state levels. She was recently awarded the prestigious regional Women of Influence Award and is a member of Rotary International. Shannon has been a featured speaker at the White House Conference on Cooperative Conservation as well National Urban and Community Forest Conferences. In 2014 she was appointed to the National Forestry Research Advisory Council (FRAC).

Shannon is currently working on the "Spreading the Canopy Project", a national project positioned to tie trees to health and wellness. Designed to insert the message of trees and urban forestry into current health initiatives like "Blue Zones", both a book and a movement led by author and National Geographic researcher Dan Buettner, this project will create a model in Iowa with partners like Wellmark BC/BS, Blue Zones and the Iowa Healthiest State Initiative. The model will also be used in Sacramento and three other U.S. cities. There are natural synergies to explore between the Sacramento Tree Foundation's Green Prescription project and "Spreading the Canopy".

Speakers (cont.)

Linda Rudolph, MD, MPH
Co-Director - Climate Change
& Public Health Project
Principal Investigator - Health
in All Policies
Public Health Institute



Previously, Rudolph served as the deputy director of the California Department of Public Health (CDPH)'s Center for Chronic Disease Prevention and Public Health and the health officer and public health director for the City of Berkeley, CA. While at CDPH, Rudolph chaired the Strategic Growth Council Health in All Policies Task Force and the California Climate Action Team Public Health Work Group.

Rudolph has also been the chief medical officer for Medi-Cal Managed Care, medical director for the California Division of Workers' Compensation, executive medical director for the Industrial Medical Council, staff physician in the CDPH Occupational Health program, and a physician for the Oil, Chemical, and Atomic Workers' International Union.

Rudolph received her doctorate in medicine and clinical training in pediatrics and emergency medicine from the University of California at San Francisco. She holds a master's in public health from the University of California at Berkeley. Rudolph is board certified in occupational medicine.

Dr. William Sullivan
Professor, University of Illinois, Urbana-Champaign



William Sullivan gets to wake up every morning and do things he loves. He is Professor of Landscape Architecture at the University of Illinois in Urbana-Champaign where he examines the health benefits that come from having regular exposure to urban green spaces.

He and his colleagues have found that everyday contact with nature helps address some of the most pressing issues of our time: the strength of urban communities; levels of aggression, violence, and crime; our capacity to pay attention. Dr. Sullivan's most recent research deals with exposure to urban nature and reductions in stress.

Hosts

Eric Douglas
CEO & President
Leading Resources, Inc.



Leading Resources Inc. is a consulting firm that serves a wide array of clients in California, the U.S. and abroad. The firm's mission is to develop leaders and leading organizations. Mr. Douglas and his firm have designed and orchestrated engagements with dozens of public agencies, non-profit organizations, and large and small companies. These engagements, while varied in nature, are all aimed at achieving higher levels of organizational performance.

Mr. Douglas has written dozens of articles on topics ranging from effective board governance to the habits of high performing teams. His books and writings, and accompanying online learning, are read by thousands of people worldwide. Mr. Douglas's most recent book (published in 2010) is *Leading at Light Speed*. It details ten quantum leaps that leaders can take to build high performing organizations in times of accelerating change.

Mr. Douglas is an honors graduate of Harvard University. He has been honored by the Institute of Management Consultants (IMC) for his work. He has served on numerous boards of directors and devotes considerable time to charitable and community projects. Mr. Douglas is married and has four children and one grandchild. He and his wife, Susanna, live in Northern California.

Steve Johns
Local Government Relations Manager
Sacramento Municipal Utility District



Steve Johns is the Local Government Relations Manager for SMUD, where he focuses on a variety of issues with local agencies within SMUD's service area as well as in neighboring counties where SMUD has generation and transmission facilities.

Prior to joining SMUD, Steve was a partner in Brewer Lofgren LLP where his practice focused on land use, real estate, environmental law and local government relations for

Hosts (cont.)

public agencies and private clients. He was previously Assistant City Attorney for Folsom and Senior Deputy City Attorney for the City of Sacramento.

Steve is currently the President of the Board of the Sacramento Tree Foundation, and is on the Boards of the R Street PBID, River Park Neighborhood Association and the BE Youth Sports Foundation. He lives in Sacramento with his wife Pam, son Reyn, and two large yellow dogs.

Sandra Shewry, MPH **Director of State Health Policy** **California HealthCare Foundation**



Prior to joining the foundation, Shewry was president and CEO of the Center for Connected Health Policy, a nonprofit organization working to remove policy barriers to the integration of telehealth technologies into California's health care system.

Sandra held a number of senior leadership positions within California state government. From 2004 to 2008 she served as director of the California Department of Health Care Services, which administers the state Medicaid program (Medi-Cal). Other programs under Shewry's leadership included public health, emergency preparedness, and licensing of health facilities.

Shewry received bachelor's degrees in community studies and psychology from the University of California, Santa Cruz, and master's degrees in public health and social welfare from the University of California, Berkeley.

Ray Tretheway **Executive Director** **Sacramento Tree Foundation**



As Executive Director of the Tree Foundation, Ray Tretheway has been leading the grassroots nonprofit with passion and dedication for over 20 years. As a former Sacramento City Council member, Ray has extensive experience in working with communities to understand the

concerns of residents and how to reach consensus on solutions. He has received recognition nationwide as an outstanding leader and visionary.

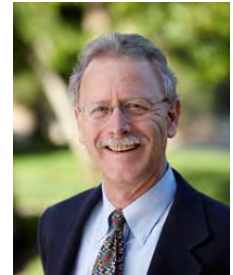
Most recently he was awarded the Sacramento Business Journal's Green Leadership Award for lifetime service. The Tree Foundation has long been acknowledged as one of the most innovative and active urban forest organizations in the country, receiving numerous accolades, including: the State of California's Governor's Environmental and Economic Leadership award, the National Arbor Day Foundation's Frederick Law Olmsted award, and the Sacramento Area Council of Government's Organization of the Year award.

Dr. Robert Waste **Director of Government and Community Relations & Health Sciences Clinical Professor** **University of California Davis Health System**

Dr. Waste received a Ph.D. degree in Political Science from UC Davis, was a Pre-Doctoral Fellow in political science at Yale University, and a Post-Doctoral NEH Fellow in political science at Harvard University.

Dr. Waste taught political science at Brown University in Providence, Rhode Island, held the Albert A. Levin Chair of Urban Studies and Public Service at Cleveland State University, and currently teaches in the UC Davis Betty Irene Moore School of Nursing and UC Davis School of Medicine Leadership, Education and Policy (LEAP) Program.

Dr. Waste is the author of several books, articles, and research reports, and has been a frequent television and newspaper commentator on public policy at the national, state and local government level.



Spreading the Canopy

The greater the neighborhood **TREE CANOPY**, the more likely we are to:

- Take a **WALK**
- Make **FRIENDSHIPS**
- Trust our **NEIGHBORS**
- Feel **HEALTHY**

Green Rx
Every tree **COUNTS**
Plant **MORE** trees
CARE for our existing canopy



Community-Led

The greater the **COMMUNITY INVOLVEMENT**, the more likely we have:

- **SAFER** neighborhoods
- Higher **PERFORMING** schools
- Longer, **HEALTHIER** lives
- Increased **TRUST** in one another, civic organizations and local governments

Green Rx
Get **INVOLVED**
Form new **PARTNERSHIPS**
RENTALIZE your community



Green Rx Challenge

The overweight and obesity epidemic is linked to inactivity and poor dietary choices, resulting in:

- **27 MILLION** days **LOST** from schools nation wide
- **\$20 BILLION** estimated healthcare **COST** for California
- **43%** of school children in Sacramento County are **OVERWEIGHT**
- **63%** of residents in Sacramento County **FAIL** to meet recommended physical activity guidelines

Green Rx
Well-staked streets are an **INVITATION** to walk and exercise
Well-staked streets **CALM** traffic
Green spaces draw people **OUTDOORS**, increasing physical and social activities



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MISSION: Growing healthy, livable communities in the Sacramento region by building the best regional urban forest in the nation.



Planning for Trees & Public Health

REDUCING ASTHMA | More green space near homes was associated with lower asthma and upper respiratory tract disease.

Masi, Verheij, de Wit, et al., Journal of Epidemiology and Community Health 2009.

GREEN SPACE AND BIRTH WEIGHT | Two recent studies found that greenness and access to green space were associated with increased birth weight.

Dobson, Naghe, et al., Environment International 2012.

LESS OBESITY | Children and youth living in greener neighborhoods have reduced body weight.

Bell, Wilson, and Liu, American Journal of Preventive Medicine 2008.

NATURAL SUNSCREEN | Trees shade can triple or quadruple the amount of time it takes for unprotected skin to get sunburned.

Purdue University, San Diego Earth Times 2003.

REDUCING URBAN HEAT ISLAND EFFECT | Trees and vegetation lower surface and air temperature by providing shade and through evapotranspiration.

Shaded surfaces may be 20 – 45°F cooler than the peak temperatures of unshaded surfaces. Evapotranspiration can help reduce peak summer temperatures by 2 – 9°F.

US EPA, www.epa.gov.

PROMOTING PHYSICAL ACTIVITY |

Trees make streets seem more walkable, which can promote more physical activity in children and youth. Nader and Kim, Shifting Ground: Landscape Architecture in the Age of the New Normal. Proceedings of the CSLA/CELA 2006 Congress.

IMPROVED IMMUNITY | A 2007 study found that men who took two-hour walks in a forest over two days had a 50-percent spike in levels of immune system cells.

O'Connor, New York Times 2010.



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Planning for Trees & Public Health

STRESS RELIEF | Green views and access to green spaces in urban areas can help restore attention and relieve the everyday pressures of living in poverty.
Kuo, Environment and Behavior, 2001.

REDUCED ABSENTEEISM | Workers with views that included green elements were more satisfied at work and had more patience, less frustration, increased enthusiasm for work, and fewer health problems.
Kaplan, Landscape and Urban Planning 1993.

LESS MEDICATION | A walk in the park impacts children with ADHD to the same extent as the peak effects of two typical ADHD medications.
Taylor and Kuo, Journal of Attention Disorders 2008.

IMPROVED CONCENTRATION | Girls who grew up with greater views from home showed better concentration, exhibited less impulsive behavior and were better able to postpone immediate gratification.
Taylor, Kuo, and Sullivan, Journal of Environmental Psychology 2002.

ATTENTION | Playing in natural settings reduced ADHD symptoms more than other play settings.
Taylor, Kuo and Sullivan, American Journal of Public Health 2004.

TRAFFIC CALMING | Street landscape improvements reduced accidents in Toronto by 5% to 20%, generating significant public costs savings and boosting pedestrian use of urban streets.
Wol and Bratton, Arboriculture & Urban Forestry 2006.

LOWER BLOOD PRESSURE | After attention-demanding tasks, blood pressure decreased for young adults sitting in a room with a view of trees more than for young adults sitting in a room with no tree view.
Herli, Evans, et al., Journal of Environmental Psychology 2003.

FASTER HEALING | Patients with bedside windows looking out on leafy trees healed, on average, a day faster, needed significantly less pain medication and had fewer postsurgical complications.
Ulrich, Science 1984.



MISSION: Building healthy, livable communities in the Sacramento region by growing the best urban forest in the nation.

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PSYCHIO-SOCIAL



Community Nature Walks

Meet your neighbors and the trees in your neighborhood!

COME WALK WITH US!

Thursday, April 9, 2015 @ 1 p.m.

Lot 13

4009 N Mississippi Ave

Join us on a nature focused walk in your neighborhood!

Explore new areas, learn more about the nature-health connection, discuss tree canopy in your neighborhood and meet new neighbors!

Interested in helping to plan/host a future walk, contact us!

Carla Cerda:

Email: carlac@friendsoftrees.org

Phone: 323-482-3460

Erica Timm:

Email: ericat@friendsoftrees.org

Phone: 503-467-2533





Participants at the Community Nature Walk take time to read the wishes left on the neighborhood's wishing tree.



Planting trees is good exercise – especially when you haul the trees and supplies by bike!



Friends of Trees participated in area conferences to spread the message of how trees help improve physical and mental health.

Greening of Detroit Sample Materials

Greening of Detroit Policy Recommendations

A HEALTHIER AND GREENER DETROIT

Policy Recommendations for How Trees Can Be Used to Improve Public Health in Detroit



May 2015

Greening of Detroit Policy Recommendations

BACKGROUND

A large body of research shows that everyday experiences of nearby nature in a community help people live healthier lives. To explore how trees could be used to improve public health in Detroit, The Greening of Detroit and the Institute for Population Health (IPH) partnered to establish the “Healthier and Greener Detroit” (HGD) workgroup. Funded through a grant from Trees Forever, the purpose of HGD was to develop specific policy recommendations for the targeted use of trees to mitigate some of Detroit’s most serious public health problems.

In addition to representatives from The Greening of Detroit and the Institute for Population Health, the workgroup included representatives from the following organizations:

- Asthma & Allergy Foundation of America Michigan Chapter
- Data Driven Detroit
- Detroit Future City
- Detroiters Working for Environmental Justice
- Henry Ford Health System
- Office of City Councilman Scott Benson
- State of Michigan, Department of Community Health
- U.S. Forest Service
- University of Michigan
- Wayne State University

Over the course of several months, the Healthier and Greener Detroit workgroup examined data about the prevalence of common public health problems in Detroit while compiling and reviewing evidence-based, published literature on the public health benefits of trees. As a result of this work, HGD members narrowed the focus of their recommendations to three public health conditions – respiratory illness, heat stress and mental health – because of their prevalence in Detroit, the ability to use publicly-available data to isolate reported occurrences of each condition to the census tract level and the existence of multiple, credible studies supporting the ability of trees to impact each of these three conditions.

SUMMARY OF RESEARCH

The existing body of research establishes that trees provide everything from physiological benefits, to improvements in academic performance and attention span to reduced hospital stays and rates of crime. For the purposes of this project, the Healthier and Greener Detroit workgroup chose to focus on the correlation between three specific conditions – respiratory illnesses, heat-related stress and mental health conditions – because data exists that allows occurrences of each condition to be geographically and demographically identified, there are numerous, credible studies on how trees impact these conditions and there are high rates of each condition in Detroit.

The prevalence of childhood asthma in the USA increased by 50 percent from 1980 to 2000, with especially high rates in poor, urban communities. Research has proven that children living in areas with more street trees have lower prevalence of asthma (G S Lovasi, 2008). A

study done in New York City controlled for potential confounders (including socio-demographic characteristics, population density and proximity to pollution sources), found that an increase in tree density of 1 standard deviation (SD, 343 trees/km²) was associated with a lower prevalence of asthma (RR, 0.71 per SD of tree density; 95% CI, 0.64 to 0.79).

Research also shows that more natural settings, like those created when trees are clustered, have stress moderating implications that the built environment lacks. Survey respondents from a green space study reported less mental distress and higher life satisfaction when they were living in greener areas. Green space is also linked to increased mental well-being and reduced stress.

Trees are also effective at mitigating the urban heat island (UHIs) effect on temperature and air quality conditions. Residents in urban areas are more vulnerable to extreme summer temperatures due to (UHIs) which are created by dense concentrations of heat-absorbing, impervious building materials that trap more heat during the day and release it more slowly at night than natural ground cover, such as soil and vegetation. Trees help to cool the air, reduce summertime energy consumption and have a positive effect on air quality by reducing the temperature-dependent emission rate of volatile organic compounds. These benefits are important because extreme heat events are the leading cause of weather-related mortality in the United States (Grundstein & Dowd 2011).

METHODOLOGY

Priority assessments combine indicators of health burden with socio-economic indicators of sensitivity to spatially prioritize neighborhoods. Using Geographic Information Systems (GIS), we created separate health condition prevalence and sensitivity maps for each of the identified public health concerns: asthma, heat exposure (urban heat island), and mental illness/cognitive impairment. To make this work most useful to prioritize actions, we used the smallest census division, the block group, as our unit of analysis. Census block tracts have between 600 and 3,000 residents.

For each exposure or sensitivity variable, census block groups were divided into four equal categories based on the variable of interest. The lowest twenty five percent of the census block groups based on that variable were assigned a value of 1. The highest twenty five percent of the census block groups based on that variable were assigned a value of 4. The two intermediate categories were assigned values of either 2 or 3 to appropriately reflect the presence of that variable. When the exposure or sensitivity map for a particular health condition combined multiple variables, the scores for each contributing variable for each census block group were added. This created an index of equal weighting. The final vulnerability assessment map equally combined the exposure map and the sensitivity map for each health condition. The census block groups with the highest vulnerability had the top 25% of possible scores. A graduated color scheme means that census block groups with the darkest color on the map were the 'worst' or 'most' based on the variable and census block groups with the lightest color on the map were the 'best' or 'least'. **See Appendix Figures 1-5.**

GENERAL RECOMMENDATIONS

City-wide

- **Plant 1,000,000* trees by 2025 to achieve the thirty percent tree canopy coverage recommended for healthy communities.**

*Trees needed to achieve recommended canopy coverage in Detroit. (Does not account for annual tree mortality.)

Detroit's Total Area	16.6% Current Tree Canopy Coverage	30% Tree Canopy (Rec'd Standard)	Difference (Current vs. Rec'd.)	Trees to Plant (@ 85 trees/acre)
88,960 sq acres	14,767 sq acres	26,688 sq acres	11,921 sq acres	1,013,285

- **Prioritize planting efforts to those areas of the city where vulnerability – based on sensitivity, exposure and population density – is the greatest.**
- **Strategies to increase Detroit's tree canopy should be integrated with a larger, more comprehensive plan for an open-space network throughout Detroit.**

RECOMMENDATIONS BASED ON SPECIFIC LAND USE PATTERNS

1) COMMERCIAL DISTRICTS

a) **Incorporate and increase street tree plantings.**

Trees reduce mental fatigue by allowing for restorative micro-breaks in concentration, help to reduce building and sidewalk temperatures and trap chemical and particulate pollution created by cars.

b) **Plant trees to create small sanctuaries on existing vacant space.**

Trees attract people outdoors. Well-treed commercial districts attract more visitors and make it more appealing for them to walk from one place to the next. Such sanctuaries also help to reduce mental fatigue by inviting people out for lunch, a quick walk, a short meeting or a quiet moment. All the while, trees are absorbing ambient noise, cleaning the air and cooling the summertime air.

c) **Use trees to remediate and buffer vacant brownfields.**

Contaminated property presents multiple public health hazards. To the extent that certain species of trees can contain and even absorb contaminants from the soil, they can simultaneously be used to mitigate the blighted nature of brownfields that contributes to social isolation while also improving air quality and heat island conditions.

2) LOW-VACANCY RESIDENTIAL NEIGHBORHOODS

a) **Identify and map opportunities for new tree plantings by neighborhood and plant accordingly.**

Neighborhoods are where people live. Low-income, minority youth and elderly people are most adversely affected by poor air quality and heat stress. More trees will cool and clean the air while simultaneously creating aesthetic conditions that help to reduce mental fatigue.

b) Incentivize, or at least facilitate, the planting of trees on private property.

The public health benefits of trees will not be maximized with street trees alone. The planting of additional trees should be encouraged and supported as much for the public health benefits they provide as for the numerous social, environmental and economic benefits they offer.

c) Plant trees at or near parks and playgrounds to improve their recreational and health value.

More than 100 studies have shown that relaxation and stress reduction are significant benefits associated with spending time in green areas. Adding trees to parks and playgrounds will make them healthier, more attractive places for children to play and adults to recreate and relax.

d) Use trees to create a large-scale park or preserve that supports both active and passive recreation while strategically connecting neighborhoods and simultaneously diminishing the vulnerability of specific areas of the city, particularly in Midtown and on the eastside.

Research demonstrates that well-treed recreational areas encourage outdoor activity that contributes to health and that the experience in nature has a restorative mental health benefit, while also providing a convenient location where residents can enjoy a respite from the summer heat.

3) HIGH-VACANCY RESIDENTIAL NEIGHBORHOODS

a) Target higher-density tree planting projects to vulnerable areas of the city.

Trees simultaneously buffer people from adverse environmental conditions that contribute to population loss, while providing more locations for people to experience the restorative benefits that come from interacting with nature.

4) TRANSPORTATION CORRIDORS

a) Utilize the public right-of-way to plant street trees, including in tree pits cut in the sidewalk, to enhance transportation corridors.

Impervious pavement, car exhaust and the stress and fatigue of driving combine to diminish the public health quality of urban streets. Multiple studies have demonstrated that roadside trees actually help to reduce traffic speeds, drivers' stress and traffic accidents, while helping to shade and cool the pavement and sequester dangerous chemicals and particulate matter.

- b) Identify strategically located vacant space along main transportation corridors on which trees can be planted to increase the benefits provided and the overall appeal of each specific corridor.**

Well-treed transportation corridors will improve air quality and reduce street-level temperatures and drivers' stress response. To the extent that corridors become more pleasant and attractive, they will also encourage other healthy behaviors such as pedestrian activity.

APPENDIX

Figure 1. Asthma

Concentration of persons with Asthma – Truven Health Analytics

Figure 2. Heat Island

Percent of land are without trees – SEMCOG, 2010

Percent of impervious surface – SEMCOG, 2010

Figure 3. Mental Health

Percent of population with “cognitive difficulty” – American Community Survey, 2013, 5 year estimates. (B18104 – By Sex, Age, and Cognitive Difficulty)

Figure 4. At Risk Population

Poverty Rate - American Community Survey, 2013, 5 year estimates.

Persons 25 years and older without a high school diploma - American Community Survey, 2013, 5 year estimates.

Persons over - 65 American Community Survey, 2013, 5 year estimates.

Persons over 65 who live alone - American Community Survey, 2013, 5 year estimates.

Persons 17 and under - American Community Survey, 2013, 5 year estimates.

Figure 5. Composite Index

Asthma + Heat Island + Mental Health + At Risk Population

Figure 6. Tree Canopy Coverage – SEMCOG, 2010

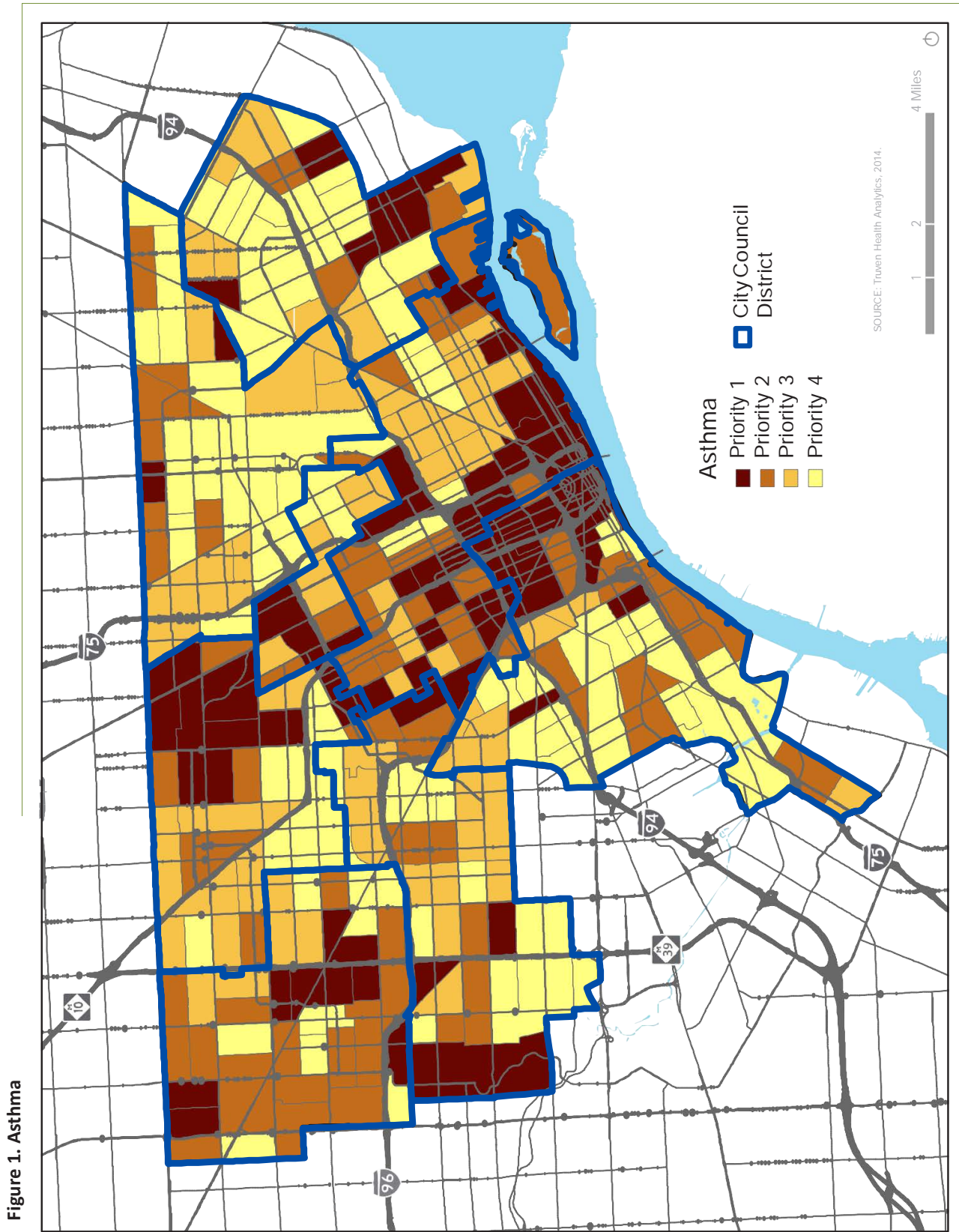


Figure 1. Asthma

Figure 2. Heat Island

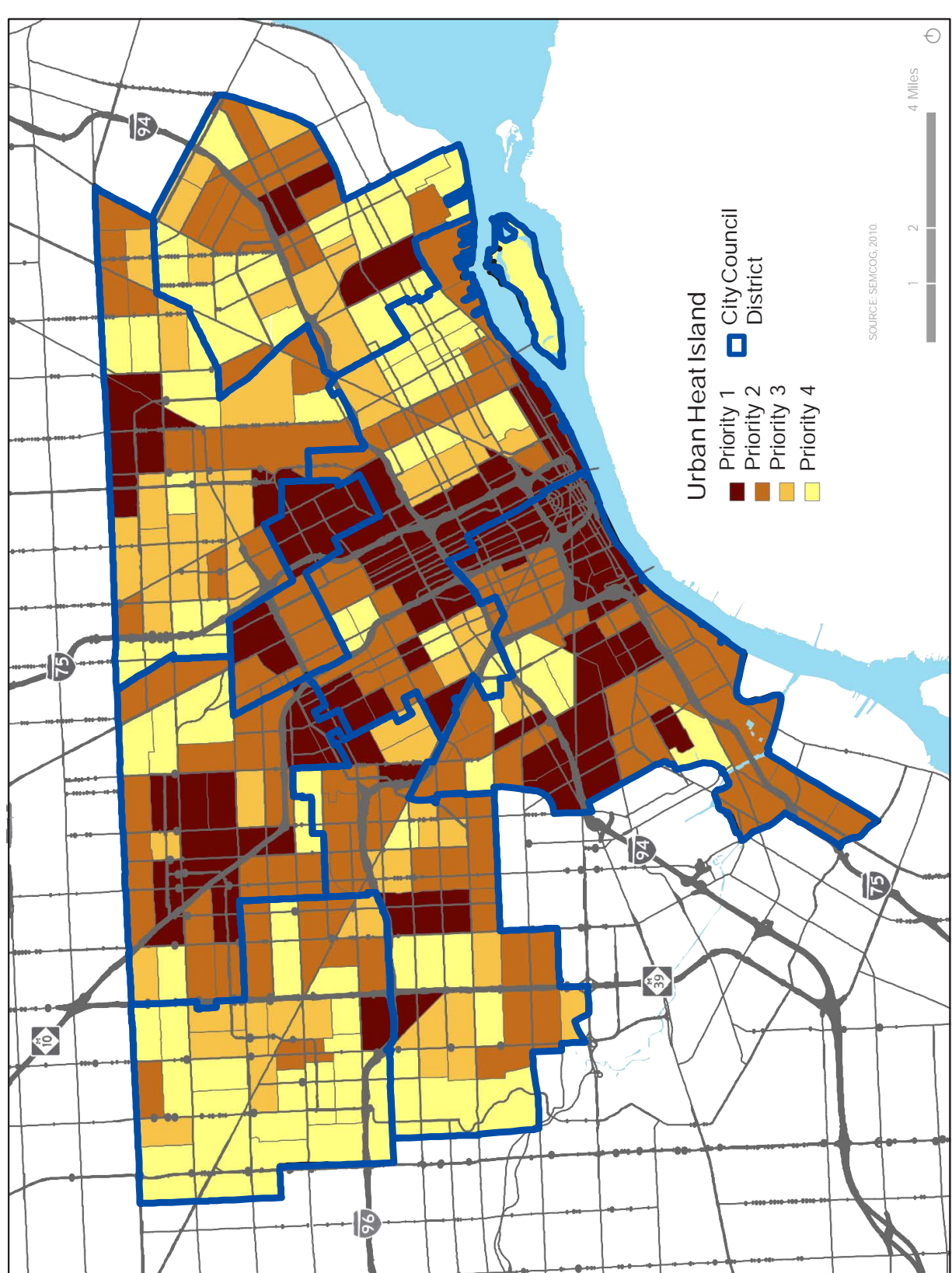


Figure 3. Mental Health

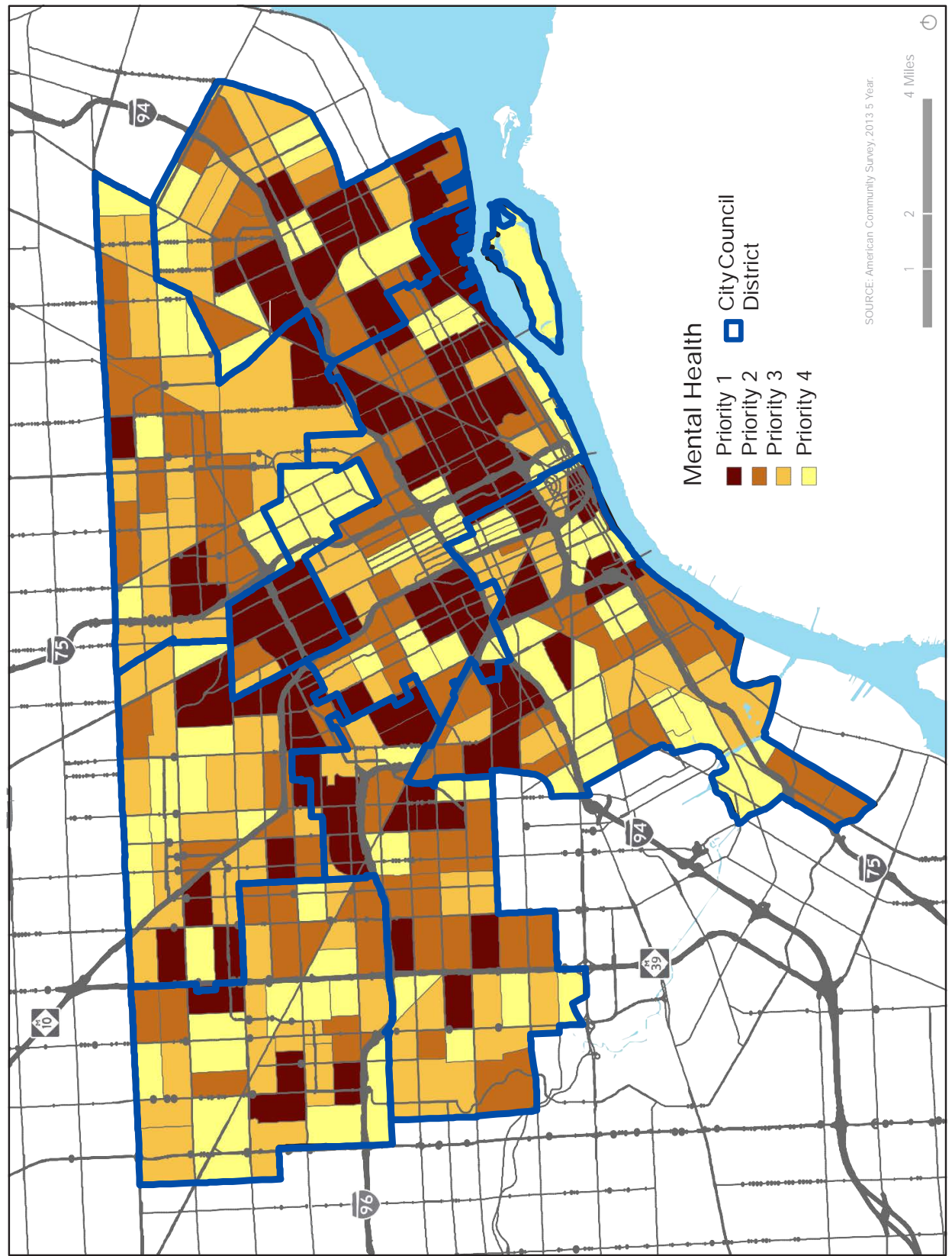


Figure 4. At Risk Population

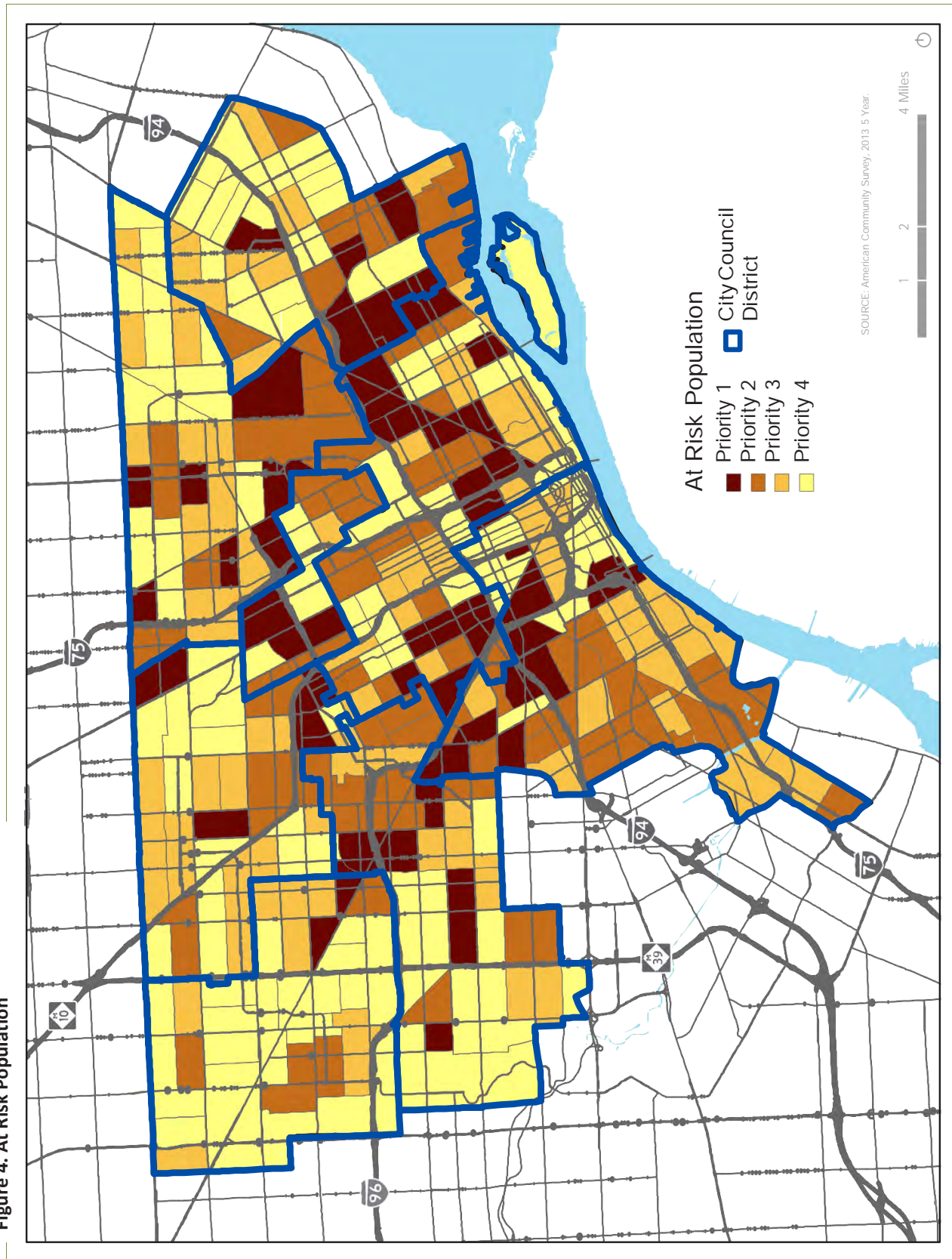
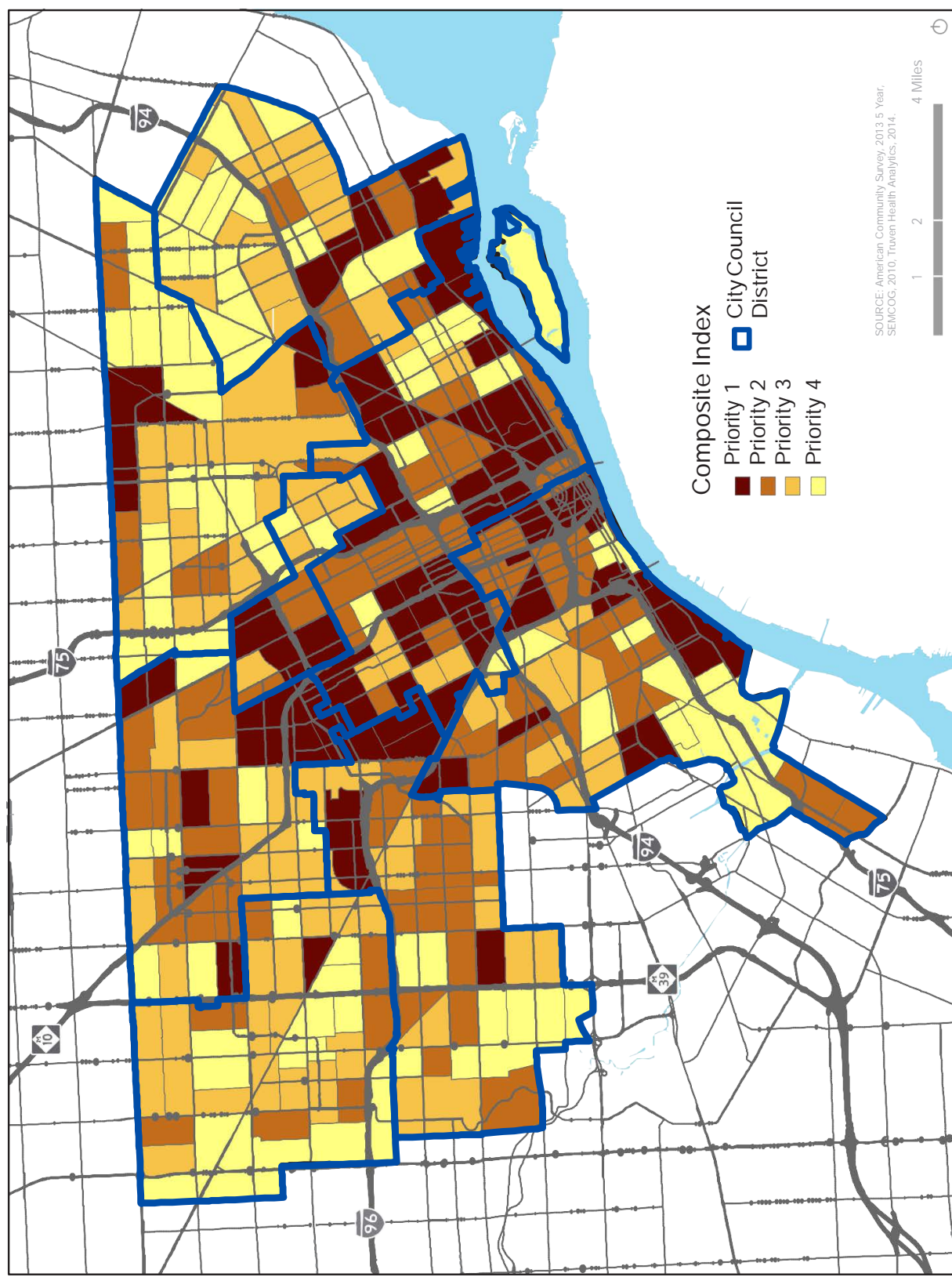
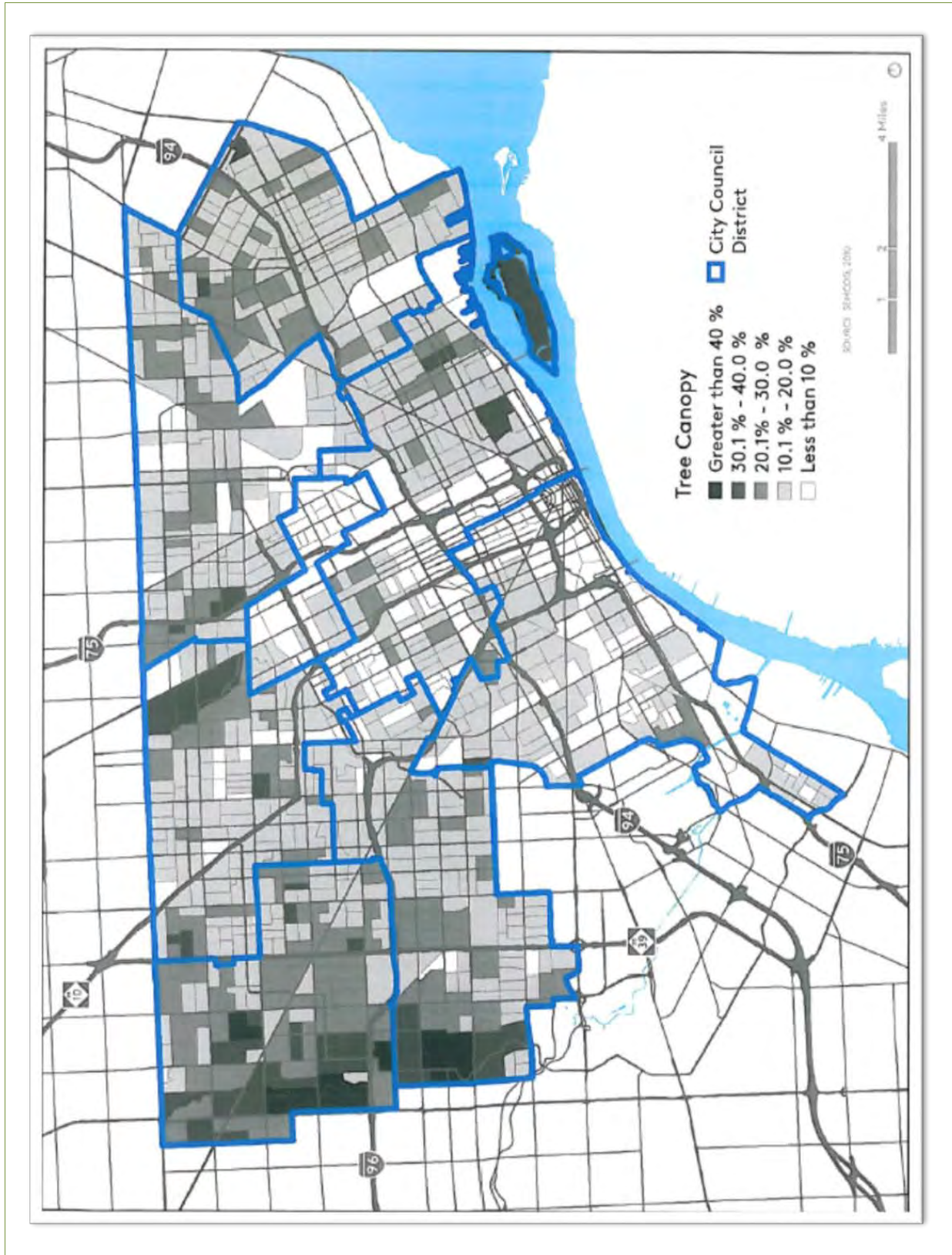


Figure 5. Composite Index = Asthma + Heat Island + Mental Health + At Risk Population



Greening of Detroit Policy Recommendations



Keep Indianapolis Beautiful Sample Materials



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How Living Landscapes Support
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*Conversations with
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 **LIVE TWEET WITH US!**
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GOING NATIVE:

How Living Landscapes Support Human Health and Thriving Communities

*Conversations with
Dr. Douglas Tallamy &
Dr. Andrea Faber Taylor*

AUGUST 18, 2014

Leading researchers Dr. Tallamy and Dr. Faber Taylor will present about the importance of planting natives in urbanized areas for the well-being of living things and biodiversity, followed by a question and answer session.

MARK YOUR CALENDAR NOW!

Monday, August 18, 2014 | Central Library, Downtown Indianapolis

PRE - EVENT RECEPTION: Riley Meeting Room 6:00pm - 7:00pm
PRESENTATION: Clowes Auditorium 7:00pm - 9:00pm

To RSVP, contact Brittany Newell (317-265-7555 x115 or bnewell@kibi.org)



 This event is LA CES Approved for Continued Education Credits for Registered Landscape Architects.



THANKS FOR COMING!

We are happy to share with you how urban greenspace helps the well-being of all living things with Dr. Doug Tallamy and Dr. Andrea Faber Taylor.

Did You Know? *Native plants such as Coneflower and Liatris provide nutritious food for hungry butterflies before making their trek south for the winter each year.*

Did You Know? *Beneficial insects, like Honey Bees, pollinate as they get their nourishment from blooming native plants.*

Did You Know? *Native shrubs and perennials provide the perfect cover for song birds and nesting baby birds.*

Did You Know? *Children and youth living in greener neighborhoods have lower body mass index.*



THANKS FOR COMING!

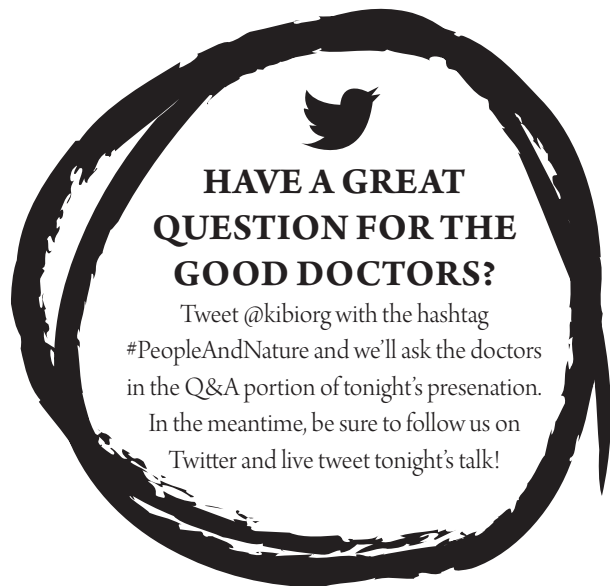
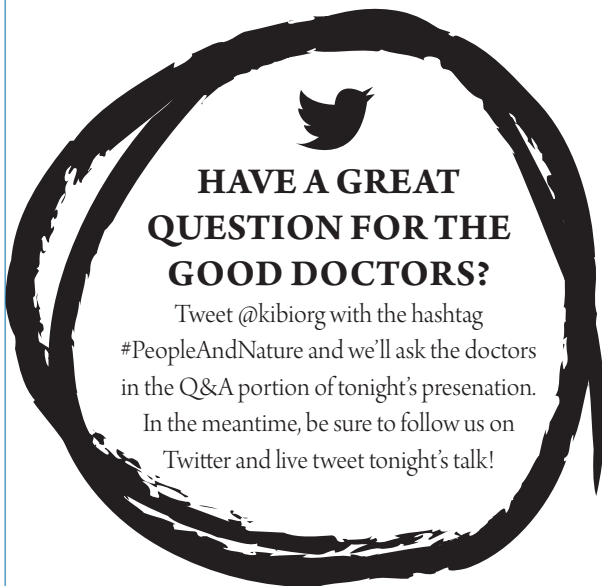
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WE WANT TO HEAR FROM YOU!

Please visit www.kibi.org/survey to answer a few questions about urban greenspace and tonight's presentation. You'll help us keep Indy beautiful and be entered to win a FREE KIB t-shirt!



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TREES FOREVER
SPREADING THE CANOPY PROGRAM™



NeighborWoods
Alliance for Community Trees

Trees Forever Spreading the Canopy Advisory Committee

Thanks to the Trees Forever Spreading the Canopy Advisory Committee, and especially to the dedicated group of researchers who traveled to speak often and continue to do cutting-edge research. We appreciated everyone's time and effort throughout the project, and look forward to continuing to spread the word on the importance of trees and natural areas to our health and well-being

Committee members:

Mark Ackelson, President, Iowa Natural Heritage Foundation
Dave Ahlberg, Product Manager, Energy Efficiency Programs, MidAmerican Energy
Todd Ashby, Executive Director, Des Moines Area Metropolitan Planning Organization
Julia Badenhope, Associate Professor, Landscape Architecture, Iowa State University
Diana Bishop Ewing, Development Officer, Mosaic
Pat Boddy, Stewardship Director, RDG
Michael Boussetot, Governor Terry Branstad's Office, Healthiest State Initiative
Richard Deming, MD, Medical Director, Mercy Cancer Center
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Helen Eddy, Associate Vice President, Hy-Vee Health and Wellness
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Joe Gunderson, Chair, Iowa Parks Foundation
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Mark Masteller, Chief Landscape Architect, Iowa Department of Transportation
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Shannon Ramsay, Founding President and CEO, Trees Forever
Robert Riley, CEO, Feed Energy
Chris Seeger, Associate Professor, Landscape Architecture, Extension Specialist, Iowa State University
Kent Sovern, State Director, AARP Iowa
Bill Stowe, CEO, Des Moines Water Works
Paul Tauke, State Forester, Iowa Dept. of Natural Resources
Margo Underwood, Trees Forever Board of Directors and IDNR Natural Resource Commission Chair
Greg Welk, Professor, Health Promotion and Exercise, Iowa State University
Jon Werger, Iowa Community Operations Manager, Blue Zones Project





“ If we don't have urban green in our surroundings, our lives are diminished. And it's usually taken for granted until it's gone ”

Kathleen L. Wolf, Ph.D. Research Social Scientist College of Forest Resources, University of Washington