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Planting Trees to Grow Communities

By Catherine L. Werner

Socio-economic environmental challenges and issues are of great interest in the City of St. Louis, a city struggling to reverse decades of disinvestment that has resulted in racial and economic disparities. To aid in addressing disparities in the abundance and accessibility of nature in communities, the city sought and received funding through a Partners for Places Green Infrastructure grant opportunity from The Funders' Network, to develop a triple bottom line sustainability project: *Using Trees as Green Infrastructure for Economic, Social and Environmental Outcomes*.

With the project period limited to a single year, the city and its local partners had to be very strategic in how to design a project that would meet two primary aims: (1) to conduct community tree plantings and (2) to develop summer youth jobs relating to urban forestry.

There are several organizations in the city that conduct greening efforts to enhance environmental conditions, including the city's key project partner, [Forest ReLeaf of Missouri](#). Although, it is much less common to undertake greening efforts – such as this project – with a primary objective

of improving community strength, trust and resilience by engaging police officers and firefighters in the process.

Triple bottom line sustainability objectives were factored in designing the project at the outset. A group of partners met with the city and Forest ReLeaf at the Missouri Botanical Garden. The city's Forestry Division, the Missouri Department of Conservation, the city's Police Department and [STL Youth Jobs](#) were joined by East-West Gateway Governments (the Metropolitan Planning Organization) and local funders

to create criteria for the selection of the four areas predicted to benefit most by the planting of 500 new trees. The priority selection criteria sought to identify areas within the city's stormwater sewershed with the following characteristics: high crime; high youth density; low tree canopy coverage; and a high ParkScore "access to nature" need. One requirement of the funding was that the 500 new trees should be planted on land owned by the city, so the decision was made to plant them in four city parks. The project consisted of two Spring 2018 tree plantings and two Fall 2018 tree plantings, and the parks were intentionally selected in parts of the city that experience socio-economic challenges, and where tree additions could contribute to neighborhood quality of life.

Environmental objectives of the grant project included increasing the city's tree canopy to reduce the urban heat island effect, providing species habitat, and stormwater. It was important to find ways to measure benefits



associated from the tree planting efforts. From calculations made using iTree and the [National Tree Benefit Calculator](#), it is projected that the 500 trees planted as part of the project are likely to intercept 26,000 gallons of stormwater runoff, conserve 1,000 kilowatts of electricity, and reduce atmospheric carbon by 7,500 pounds in the first year. Upon reaching maturity, each of these trees is projected to give back \$123 in annual environmental benefits, including improvements in stormwater

management, air quality, water quality, energy saving, and CO2 emission reductions. Collectively, the tree planting efforts in this grant are expected to amount to an annual return on investment of \$61,000 in environmental benefits and ecosystem services.

While the environmental benefits of the tree planting were significant, the other main objective of the community tree planting efforts was to build citizen connections to nature and among people, specifically to



address local tensions between citizens and law enforcement officers. The tree plantings were designed to be fun and attractive to local residents, with free food and t-shirts for those who attended. Participants were also given the opportunity to name a tree with a hang tag. While children delighted in this activity, there were several adults who found meaning in naming a tree for a loved one as well.

Another aspiration of the grant was to find ways for citizens and first responders to jointly engage in a project designed to benefit quality of life in the neighborhood. Using both research and logic as a guide, the project was intentionally designed in ways that could help break down barriers to trust, and start to build constructive new relationships.

The involvement of the police and fire departments was

instrumental in this regard. At each of the four tree plantings, there were first responders on hand helping out and talking with citizens. Some residents shared that they attended because they noticed the fire trucks at their park, and wandered over to learn more. Others stopped to have their photo taken with the uniformed police officers.

Over the course of the four community events, dozens of residents and volunteers joined with first responders and city and grant partner staff to help with the tree planting effort. While it proved to be challenging to formally measure how much impact these community tree plantings had in the social equity context, it was clear from personal observation that they were well-received, and that they have the potential to be important models to consider in future such efforts.

Seeing the smile on a young girl or how the teen boys responded when the officers took an interest in them was one of my favorite parts of the tree planting events.

The second piece of the project was to develop a Tree Tenders youth training program, and hire six urban youth to learn about forestry and natural resource management over the course of the summer. Two of the city's project partners – Forest ReLeaf of Missouri and the Missouri Botanical Garden – played key roles in creating, coordinating and conducting the Tree Tenders pilot program. The youth employed as part of the STL Youth Jobs program were all from challenged parts of the City of St. Louis. In addition to learning skills that could help with future employment, each of the teens earned \$1,440 as part of their 8-week job.



The Tree Tenders gained exposure by assisting the city's Parks, Recreation & Forestry Department with tasks such as removing invasive species and watering planted trees, and also learned new techniques and skills relevant for a variety of outdoor environmental jobs. To gauge the impact of the youth experience, evaluations were administered by grant partners. Surveys developed by the [St. Louis Green Teen Alliance](#) coalition indicated that the Tree Tenders increased their awareness of green jobs, their interest in learning about science and the environment, their comfort level in speaking with peers, supervisors and the general public, and their own

personal actions to help the environment in their daily lives.

The end as a beginning: The Tree Tenders were recognized with personalized Certificates of Completion, ready to explore job prospects. Having successfully developed the Tree Tenders pilot, Forest ReLeaf intends to continue the effort in the years ahead. And people, community and wildlife will all benefit as the 500 newly-planted native trees mature in these four city parks.

Resources:

City of St. Louis. Urban Vitality & Ecology Initiative. <https://www.stlouis-mo.gov/uve>.

Forest ReLeaf of Missouri. <http://more-leaf.org>.

National Tree Benefit Calculator. <http://www.treebenefits.com/calculator>.

St. Louis Green Team Alliance. <http://stlgreenteens.org>.

STL Youth Jobs. <http://stlyouthjobs.org>.

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