

Monday, June 7: Sustainable Cities

Urban Agriculture and Climate Change



[isles.org/forum](https://www.isles.org/forum)



isles

Self-Reliant Communities

Trenton, NJ

Fostering Self-Reliant Families & Healthy, Sustainable Communities



Train & Educate



Youth & adults prepare for work and life.



Build Wealth

Families manage, protect, and grow assets.



Promote Green, Healthy Living



Communities build gardens, parks, & healthy, efficient homes.



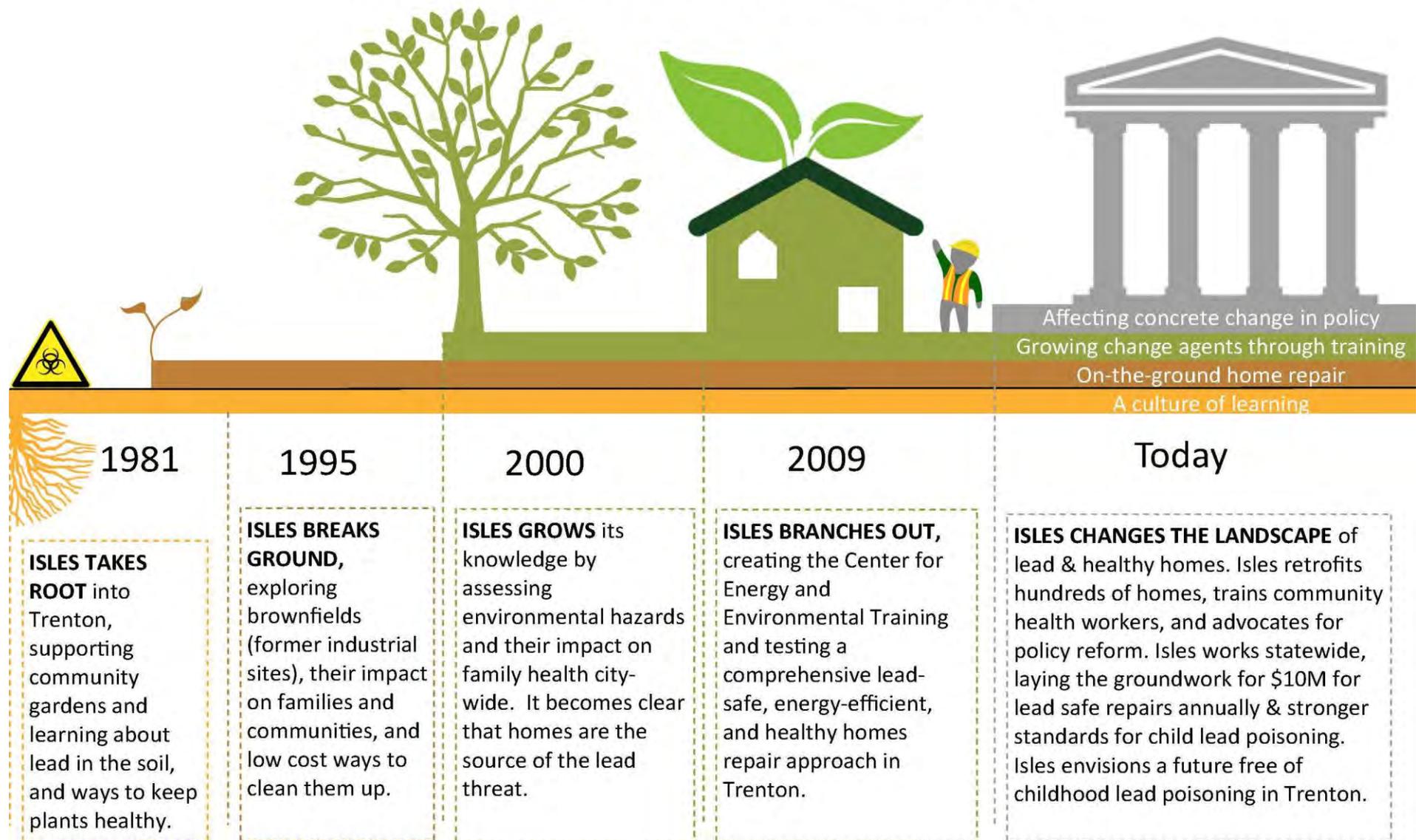
Revitalize Communities



Neighbors plan and create safe, thriving places.

Isles' Evolution

A TIMELINE OF ISLES ENVIRONMENTAL WORK



Changing Space in Trenton



Roberto Clemente Park
Bellevue Avenue Homes



“Bricks & Mortar” development help transform abandoned lots & buildings into a stage for placemaking & an opportunity to reduce crime







LET'S
PLAY!

WWW.TRENTON-RECS.ORG
609.341.4777

isles
Self-Reliant Communities



Effects of climate change on urban areas

- **Increased temperature and temperature fluctuations**
- **Urban Heat Island Effect (not always bad)**
- **Compounds air quality issues, including pollution.**
- **Extreme weather events**
- **Flooding**
- **Drought - Western U.S. currently experiencing early drought and wildfires**
- **Increase in vector-borne diseases**
 - **mosquitoes > malaria, zika**
 - **ticks > Lyme**
 - **zoonotic diseases**

What is Urban Agriculture?

Growing food in urban areas!

According to the United Nations, two-thirds of the world's population may live in cities by 2050.

Urbanization results in loss of impervious surfaces, which reduces water infiltration and increases stormwater runoff. Urbanization/Industrialization has also led to other environmental issues like soil & water contamination and air pollution.

History of Urban Ag

- **Prior to mid-20th century industrialization & development of transport/storage technology, food was more local.**
- **Interest or reliance on urban agriculture increases during times of crisis. War, pandemics, etc. “Victory Gardens”**
- **Pandemic stressed but also strengthened local food systems. (CSAs, emergency food aid, USDA Farmers to Families Food Boxes - 174 million)**

Urban Ag as a tool to counter climate change:

- **Improved food access**
- **Increased vegetative cover**
- **Carbon sequestration**
- **Improved air quality**
- **Reduced food waste**
- **Reduced emissions - food miles**
- **Lower risk of flooding**
- **Water retention**
- **Increased green space available for recreation & physical exercise**

Additional benefits

Other ecosystem services

- **pollinator & beneficial insect diversity**

Promotes

- **Economic Development**
- **Youth Education**
- **Environmental Education**
- **Stewardship**

Example

Cuba's organopónicos system emerged by necessity in the early nineties. The collapse of the USSR, and an ongoing US trade embargo, left the island nation cut off from the imports of food, fuel and fertilizer that had powered its food supply. Between 1989 and 1993, domestic agricultural production fell by nearly a half.

As food shortages became widespread, ordinary Cubans began to turn their gardens, parks – and rooftops – into miniature farms to supplement meagre rations. Without access to chemical insecticides or fertilizer, the new urban farmers turned to permaculture techniques such as worm composting and bio-pesticides, making the produce organic by default.

Cuba

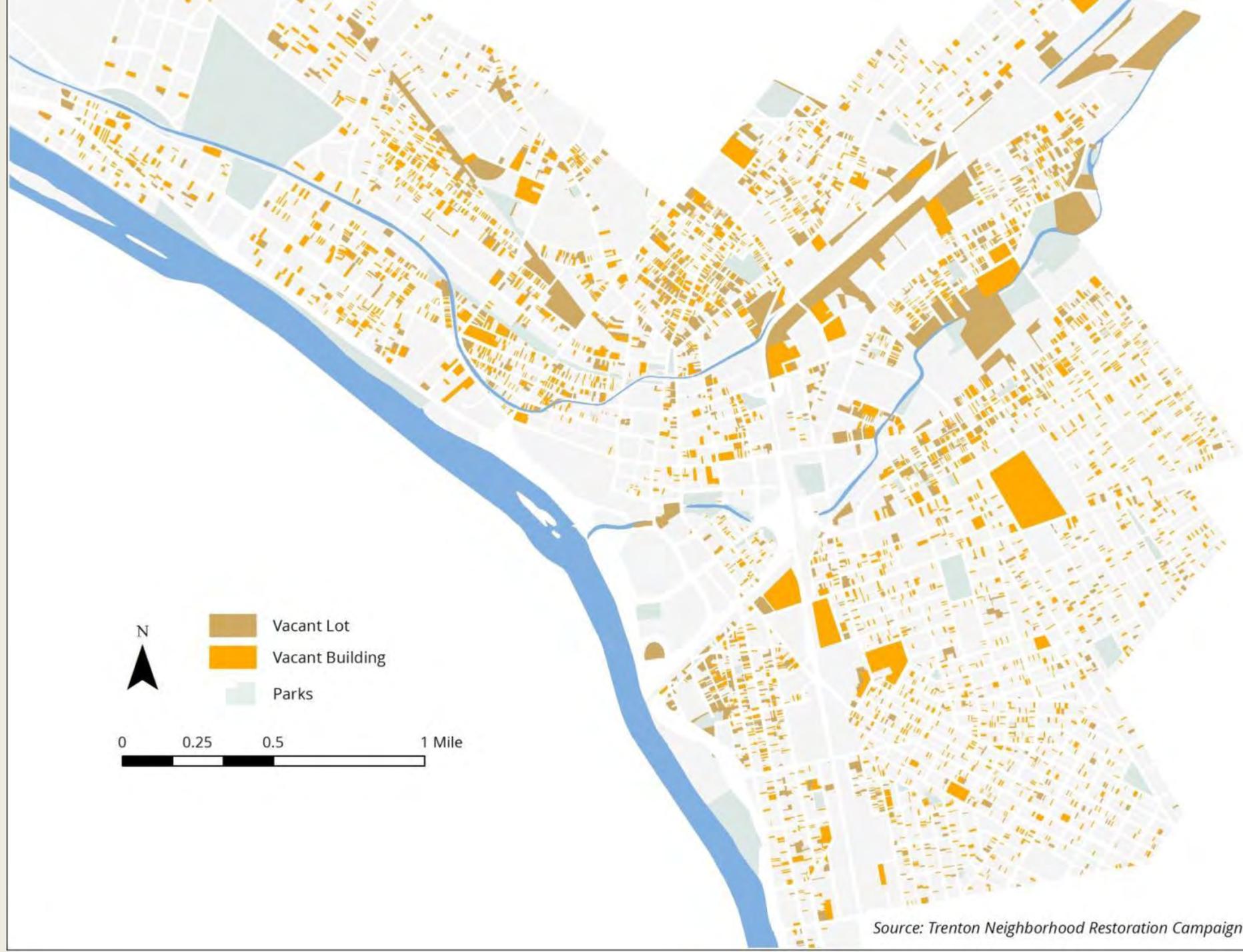
Recognizing the potential, the government provided state support in the form of training schemes, composting facilities, veterinary clinics and subsidized agricultural supplies; laws were passed to make it easy to set up urban farms in empty buildings and abandoned lots. Today, Havana alone boasts more than 8,000 urban farms, covering 35,000 hectares (86,500 acres) in what Bill McKibben has described as “the world’s largest working model of a semi-sustainable agriculture”.

Sustainable Farming in Cuba, Green Economies Coalition
2017

Urban Agriculture in Trenton

Isles works with community members to transform underutilized urban land into gardens, bringing hunger relief, fresh food access, beautification, and secure open spaces. We also promote gardening and food education to help increase demand for fresh foods and improve health.





Source: Trenton Neighborhood Restoration Campaign

VACANT PROPERTY DATABASE

[ABOUT THIS PROJECT](#)

[FAQ](#)

[INTERACTIVE MAP](#)

[DATA & DOWNLOADS](#)

[THE CITY'S PLAN](#)

[NEWS](#)

[CONTACT US](#)

INTERACTIVE VACANT PROPERTY SEARCH

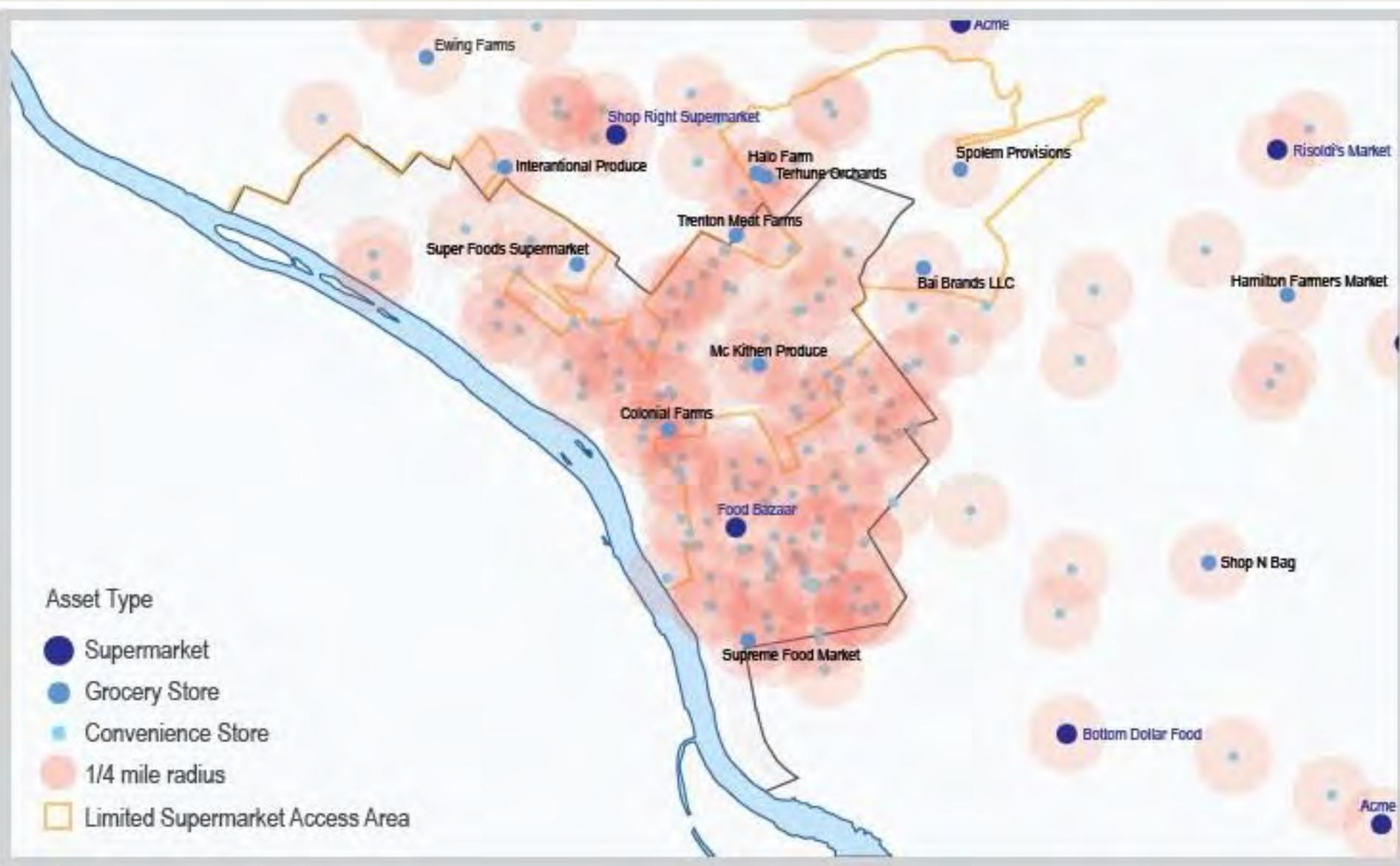
Map Legend

MASTER PROPERTIES - 15 JAN 2015

- VACANT BLDG
- VACANT GROUND FLOOR, UNCLEAR UPPER
- AWAITING VERIFICATION
- VACANT LOT
- OCCUPIED BLDG
- OPEN SPACE OR CEMETERY
- LOT
- PARKING LOT
- INDUSTRIAL LOT
- INFRASTRUCTURE

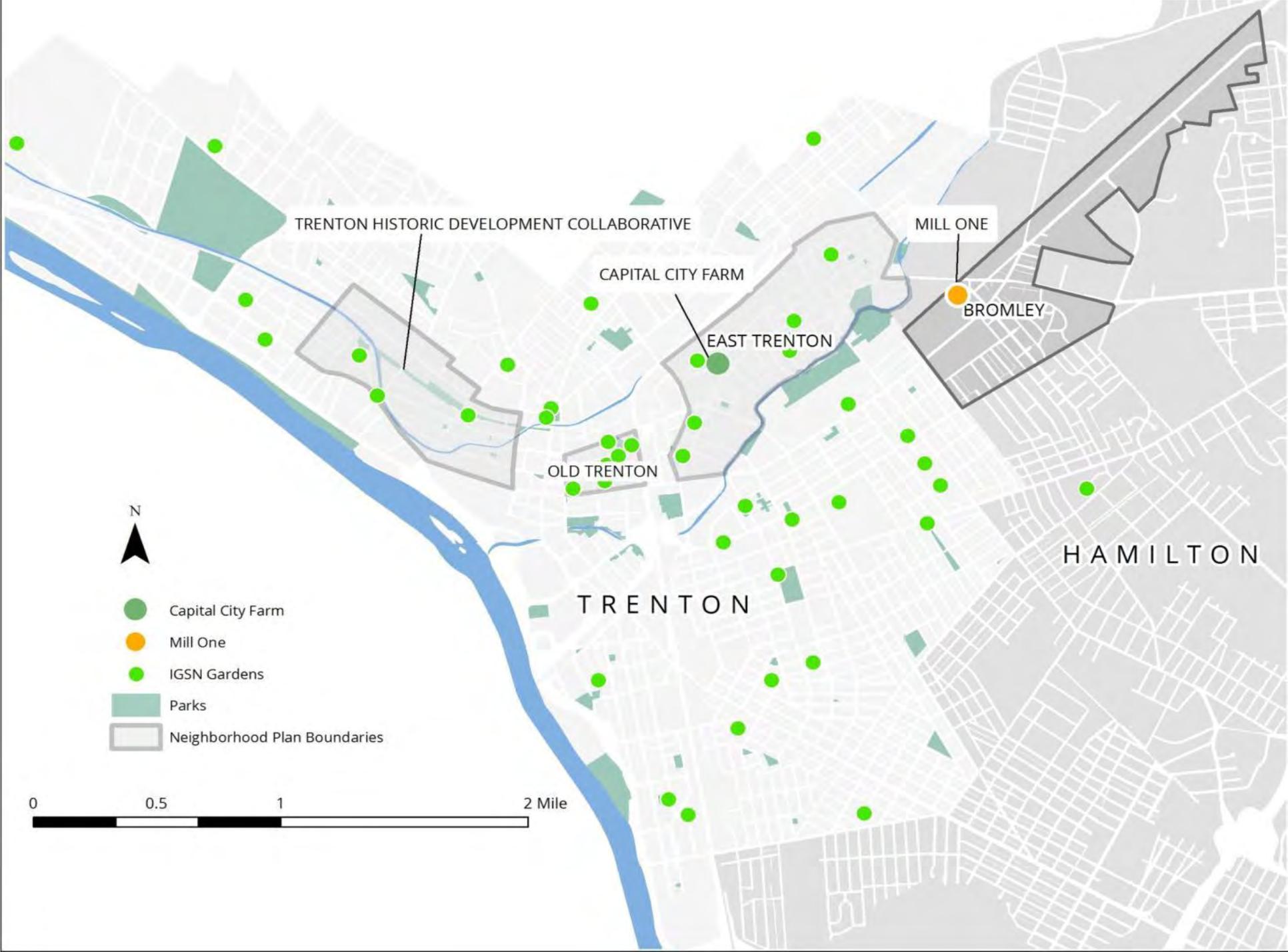
Base map attribution

CREATED WITH MANGO



Asset Type

- Supermarket
- Grocery Store
- Convenience Store
- 1/4 mile radius
- Limited Supermarket Access Area



TRENTON HISTORIC DEVELOPMENT COLLABORATIVE

CAPITAL CITY FARM

MILL ONE

BROMLEY

EAST TRENTON

OLD TRENTON

HAMILTON

TRENTON

N

Capital City Farm

Mill One

IGSN Gardens

Parks

Neighborhood Plan Boundaries

0 0.5 1 2 Mile

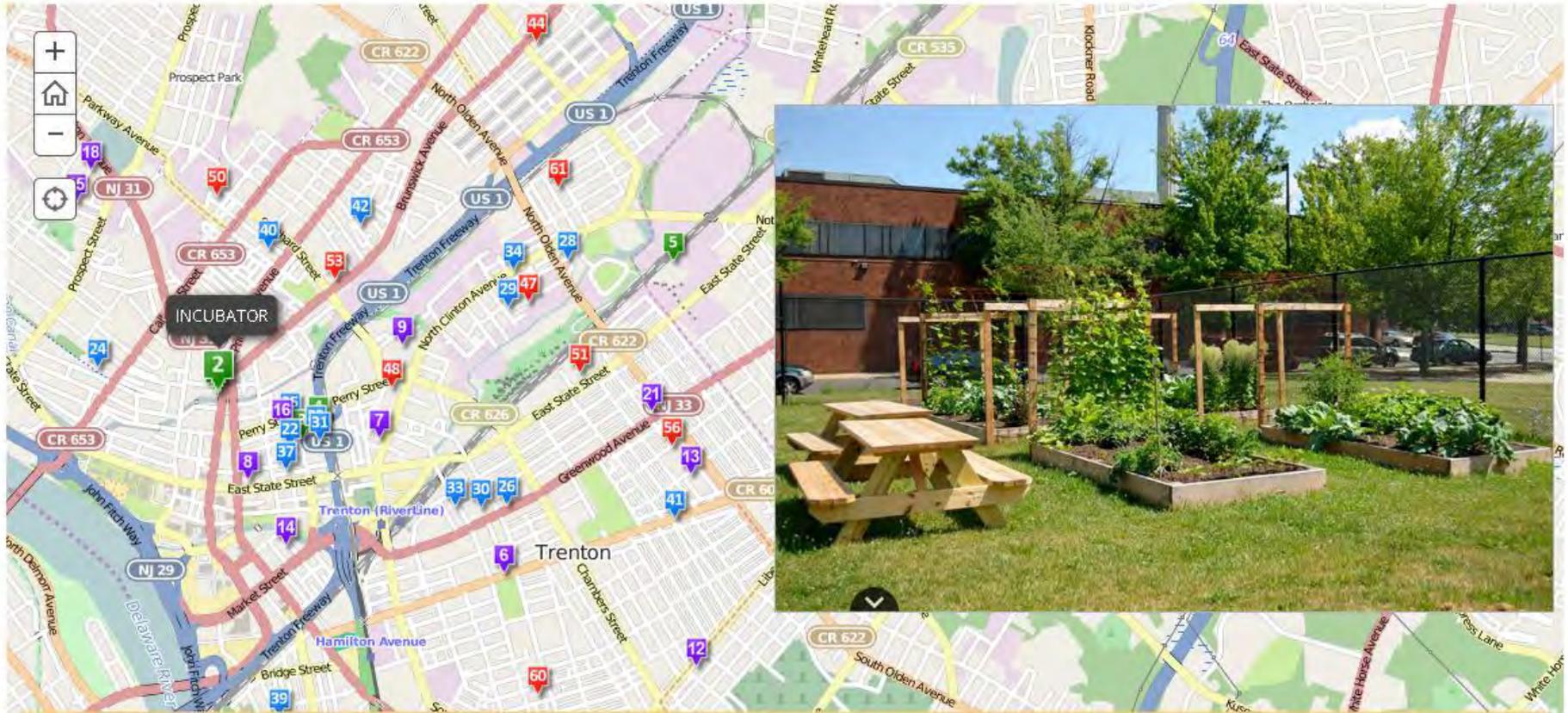
URBAN AGRICULTURE

Virtual Garden Tour

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Enter your email address



- 

1 TUCKER
- 

2 INCUBATOR
- 

3 STOCKTON & ACADEMY
- 

4 CHILDREN'S GARDEN AT ROBERTO CLEMENTE PARK
- 

5 MILL ONE BEEKEEPING
- 

6 BETHANY HOUSE
- 

7 CATHOLIC CHARITIES

















GARDEN OF 4 POINTS
ON CHESTNUT AVE
Isics, Inc.
Contact Policy
of World Affairs
Center, Inc.

Tool: Green Infrastructure

The range of measures that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or to surface waters. –U.S. EPA

Green Infrastructure

- **Rainwater capture or slowing**
 - Rain gardens, cisterns, barrels
- **Permeable paving**
- **Street trees**
- **Green roofs - reduce heating/cooling costs in buildings**
- **Land preservation**
- **Green/Complete Streets**





Harvesting rainwater

1 inch of rain yields .62 gallons of water.

Tucker shade structure:

100 square foot shade structure = 62 gallons

Tucker roof capture:

2,400 square foot roof = 1,488 gallons



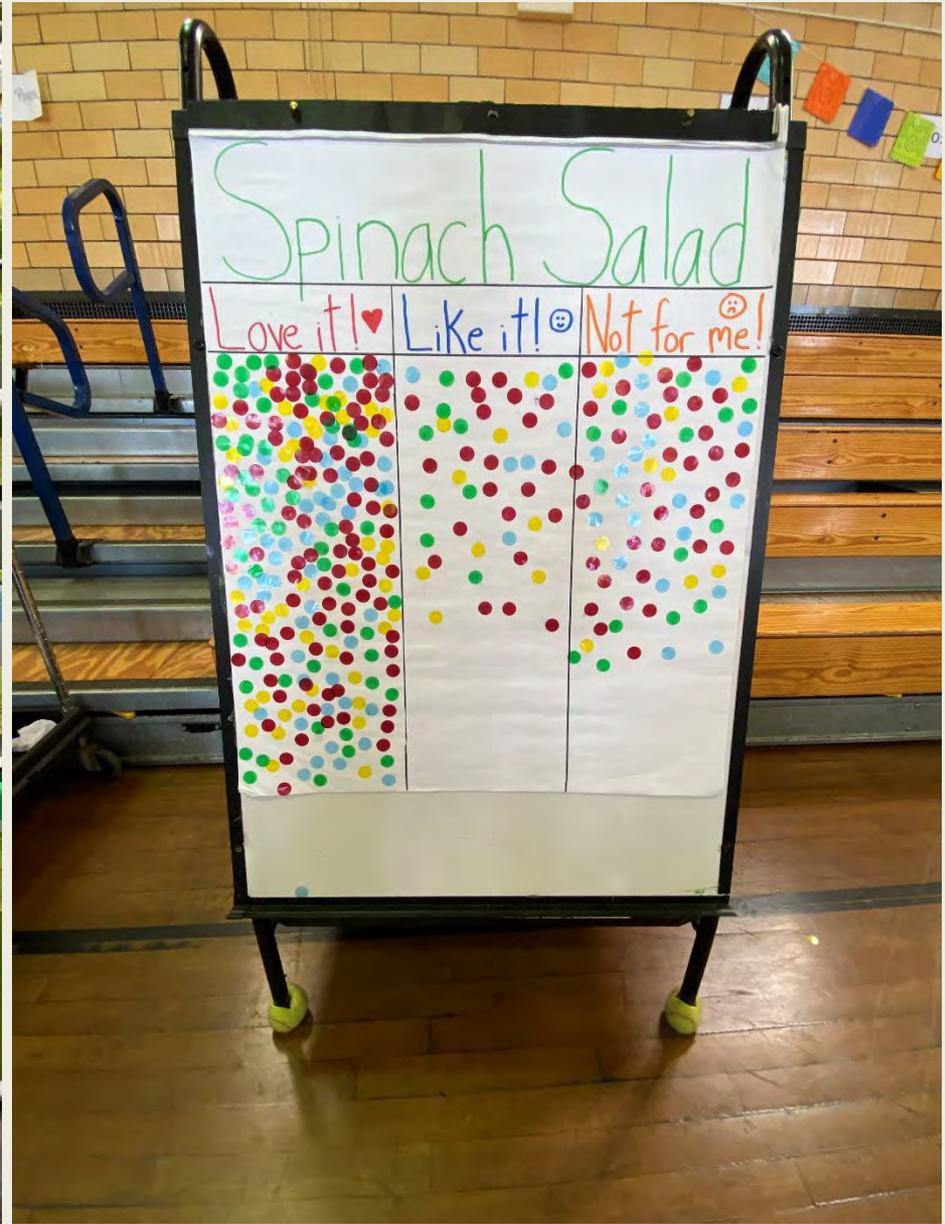
Project
Impact

Final Tree Project
2017 Impact

10,000 Buff Trees Planted
1.5 MILLION
2.2 MILLION
1.5 MILLION









WHICH APPLE TASTED BEST? McIntosh

golden delicious

BEST!

arany
smith



GARLIC 









Get growing!
with
**ISLES GARDEN
SUPPORT NETWORK**

Isles supports 20 school and community gardens at 100% by providing educational and technical expertise, we provide nutrition and even financial support for a wide range of a gardeners.





Food Waste

How much food waste is there in the United States?

In the United States, food waste is estimated at between 30-40 percent of the food supply. This estimate, based on estimates from USDA's Economic Research Service of 31 percent food loss at the retail and consumer levels, corresponded to approximately 133 billion pounds and \$161 billion worth of food in 2010.

Food Waste

Not just food is wasted:

- **Energy**
- **Water**
- **Labor**

Ensure that food is recovered, redirected for hunger relief, or at least composted/recycled.

Municipal solid waste contains valuable resources for agriculture, including food and yard wastes.

This is an underutilized resource, especially in cities with soil contamination.

Urban Ag & City Planning

Trenton250.org

Guiding Principle: Cultivate A Healthy City

“Trenton will be a clean city where there is access to natural resources, fresh foods, and high-quality healthcare facilities.”

Initiative: Greening of the City

Initiative: Build Climate And Natural Hazard Resiliency

Initiative: Advance Food Production And Distribution Industries

Actions in support of:

- **Community Garden & Urban Agriculture Support Program**
- **Technical Assistance Program For Food Production Businesses**
- **Food Production Organization Partnership**
- **Green Infrastructure**
- **Vacant Lot Stabilization**
- **Vacant Lot to Open Space**

Planning priorities

Four key areas in which the City must make improvements to align with the guiding principles of the new master plan:

- **Safe Environment**
- **Natural Resources and Open Space**
- **Climate and Natural Hazard Resiliency**
- **Conservation and Energy Efficiency**

Permaculture

Permaculture integrates land, resources, people and the environment through mutually beneficial synergies – imitating the no-waste, closed loop systems seen in diverse natural systems.

Permaculture studies and applies holistic solutions that are applicable in rural and urban contexts at any scale. It is a multidisciplinary toolbox including agriculture, water harvesting and hydrology, energy, natural building, forestry, waste management, animal systems, aquaculture, appropriate technology, economics and community development.

-Permaculture Research Network













What's Next?

“Cities must embrace the triple challenges of reducing the vulnerability of their population to climate change; of mitigating their GHG emissions and of providing sufficient and nutritious food for their residents. There is growing recognition of urban and periurban agriculture and forestry as an important strategy for climate-change adaptation and disaster-risk reduction, while also bringing mitigation and important developmental benefits. **Investments in agriculture and green infrastructure have proven to be more cost effective than other conventional approaches for climate change adaptation.** In order to build more sustainable and resilient cities, local and national governments need to better link food systems to urban planning agendas and integrate urban agriculture in their climate change strategies. Policy participation of all actors in the food chain, from producers to consumers, needs to be enhanced to ensure more relevant, accountable, equitable and sustainable strategies.”

Resource Centres on Urban Agriculture and Food security

RUAf.org

How to Get Involved!

Advocate for urban agriculture!

Join a community garden!

Support local producers!

Start your own garden!

American Community Gardening Association

www.communitygarden.org

Food Not Lawns

www.foodnotlawns.com

Ron Finley

www.ronfinley.com

Thank you!

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www.restoringtrenton.org
www.creektocanalcreative.org

Social: [@islesinc](#)