



## **CLIMATE-SMART CITIES**

*Climate Solutions through  
Green Infrastructure*

*Jad Daley*  
*Director, Climate Conservation Program*  
*Martha Wyckoff Fellow*

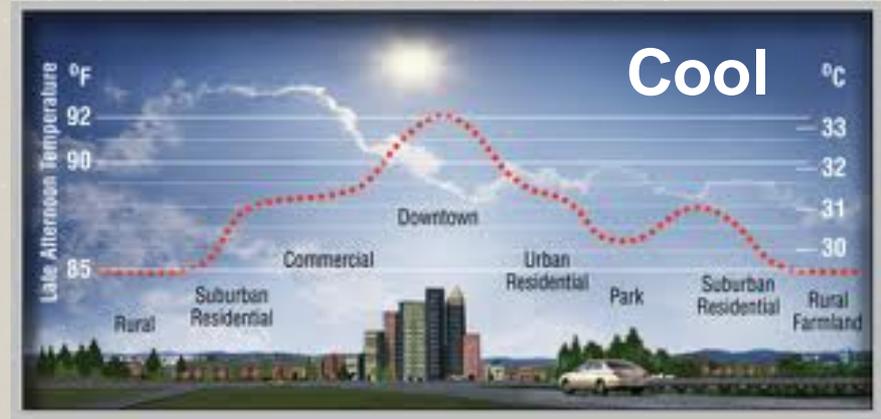
**THE TRUST *for* PUBLIC LAND**

**LAND FOR PEOPLE**

# Climate-Smart = Carbon Mitigation + Climate Adaptation

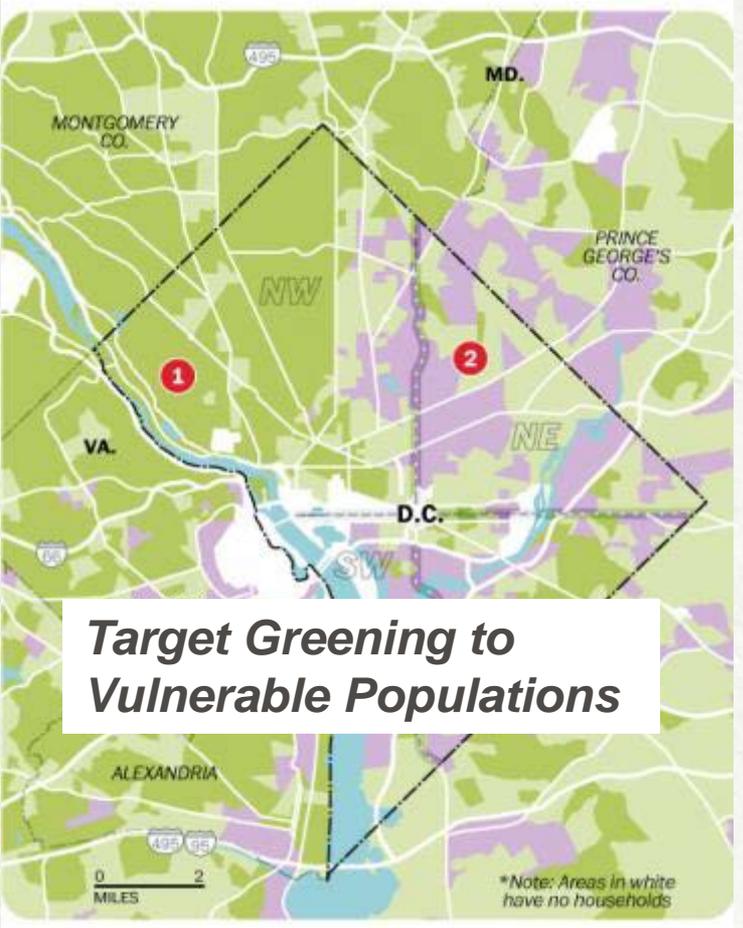
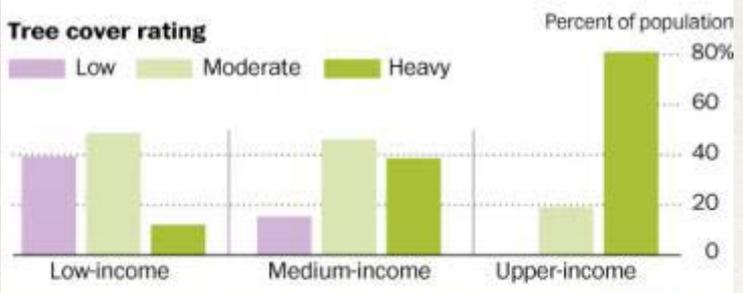


# Adding Green Makes Cities Climate-Smart



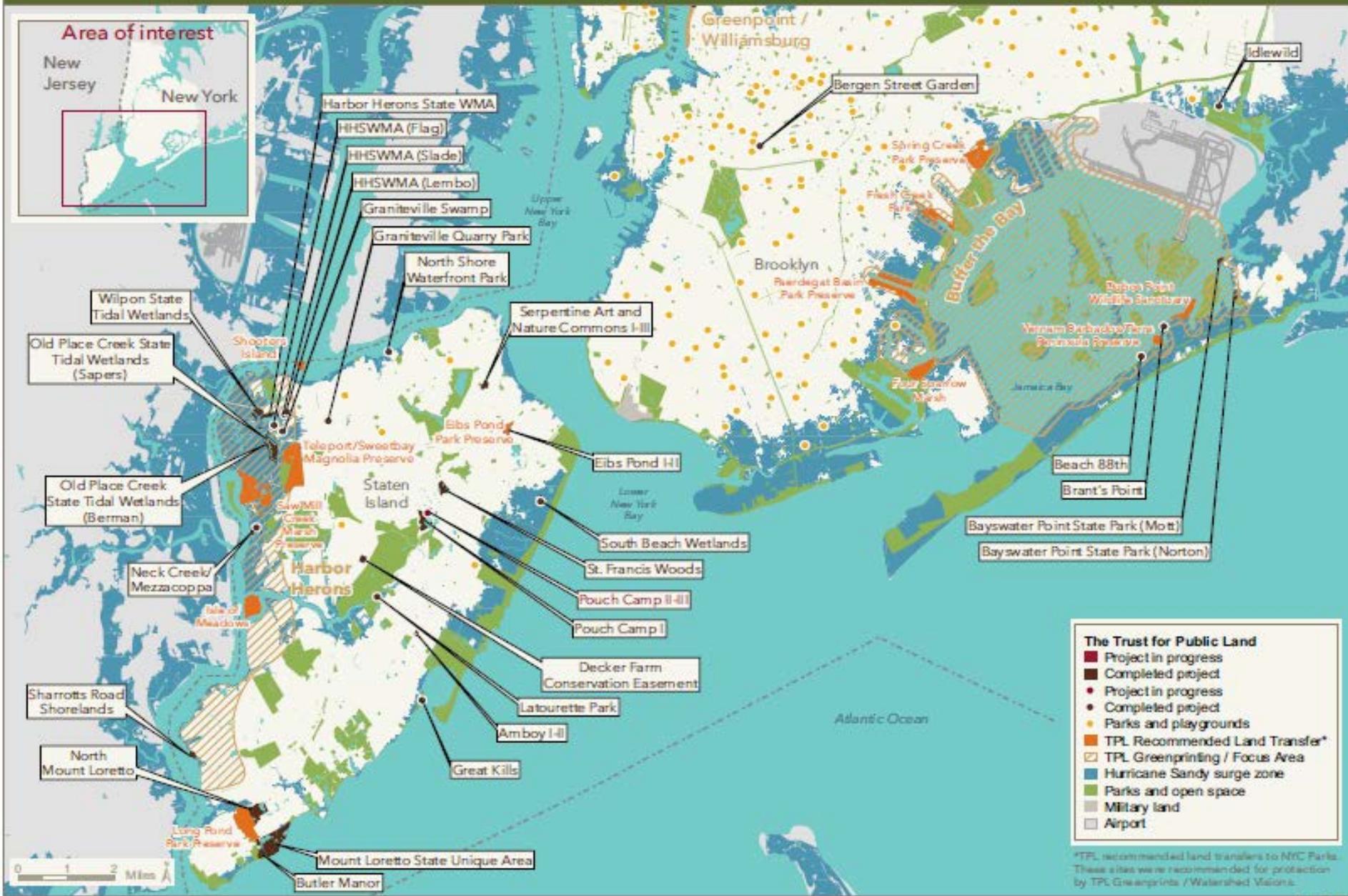
# Multiple-Benefit Greening Is Smarter

## Cool + Absorb + Protect Vulnerable Neighborhoods



# THE TRUST FOR PUBLIC LAND - NEW YORK

## HARBOR PROGRAM

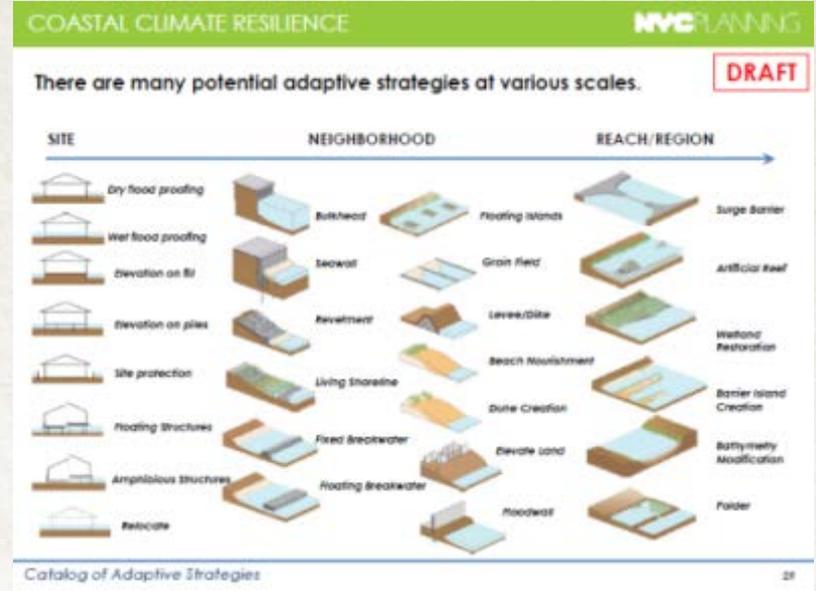
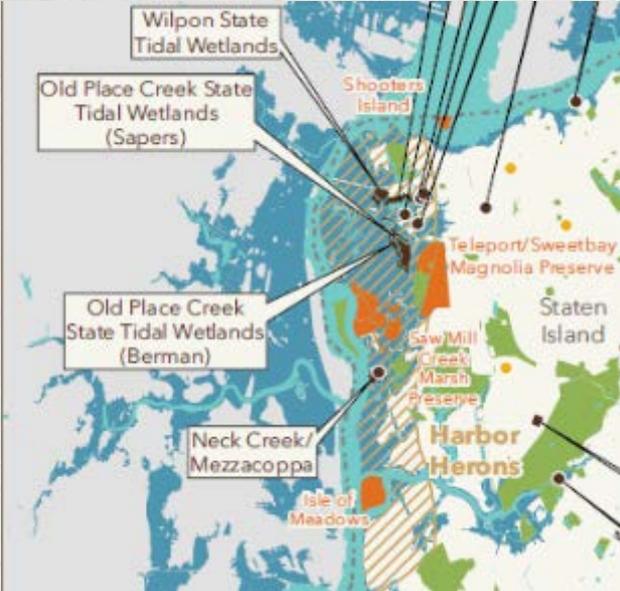


**The Trust for Public Land**

- Project in progress
- Completed project
- Project in progress
- Completed project
- Parks and playgrounds
- TPL Recommended Land Transfer\*
- TPL Greenprinting / Focus Area
- Hurricane Sandy surge zone
- Parks and open space
- Military land
- Airport

\*TPL recommended land transfers to NYC Parks. These sites were recommended for protection by TPL Greenprints / Watershed Visions.





Where to site green defenses?

How to design green defenses?

*Climate-Smart Questions*



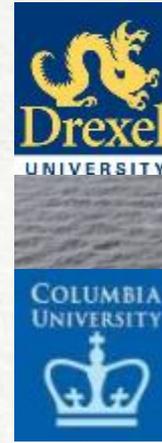
How to enhance community preparedness?

# Climate-Smart Cities Pilot Model—New York City

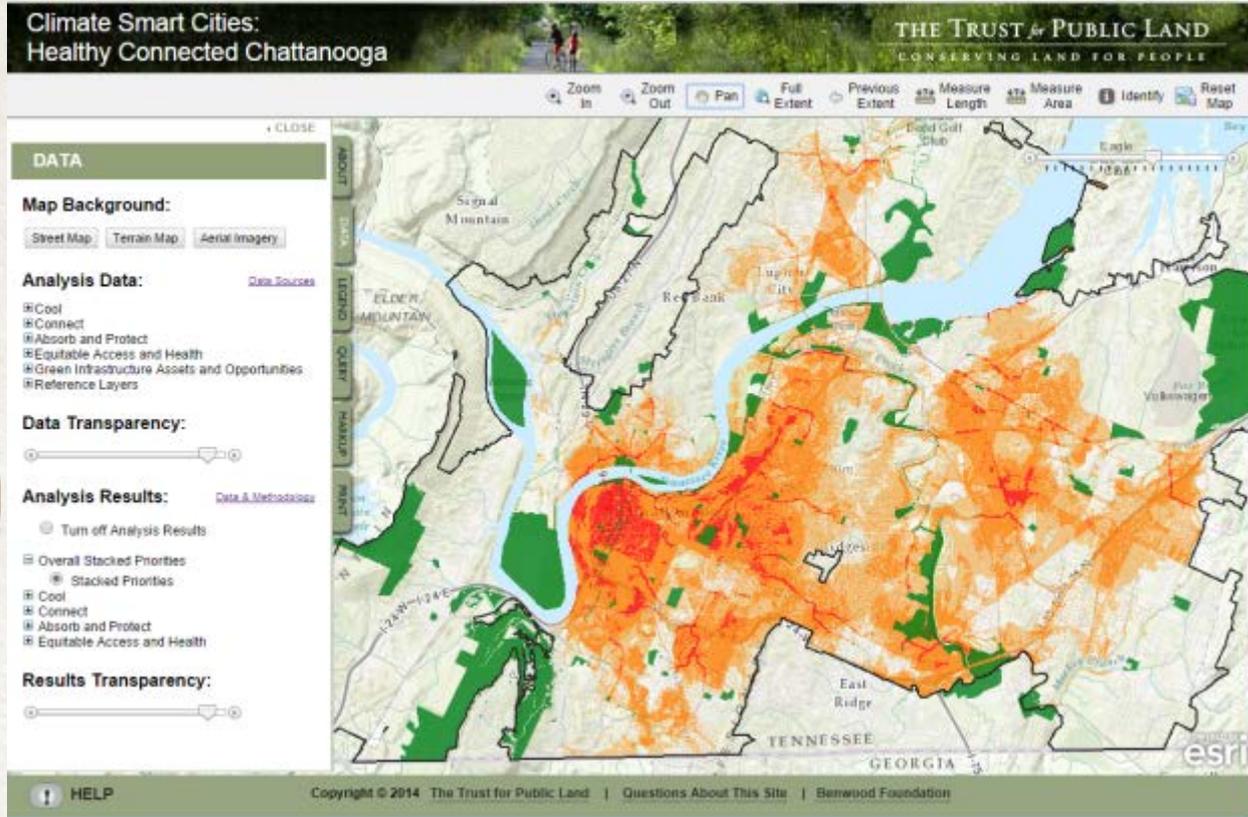
Climate-Smart City Partnership—  
*Formally linking public, private, and academic leaders*



Demonstration



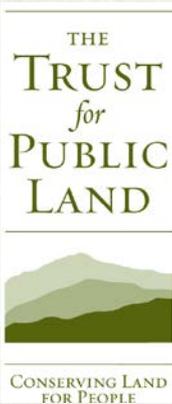
# Climate-Smart Cities Pilot: *Green Chattanooga to Cool, Absorb, and Protect*



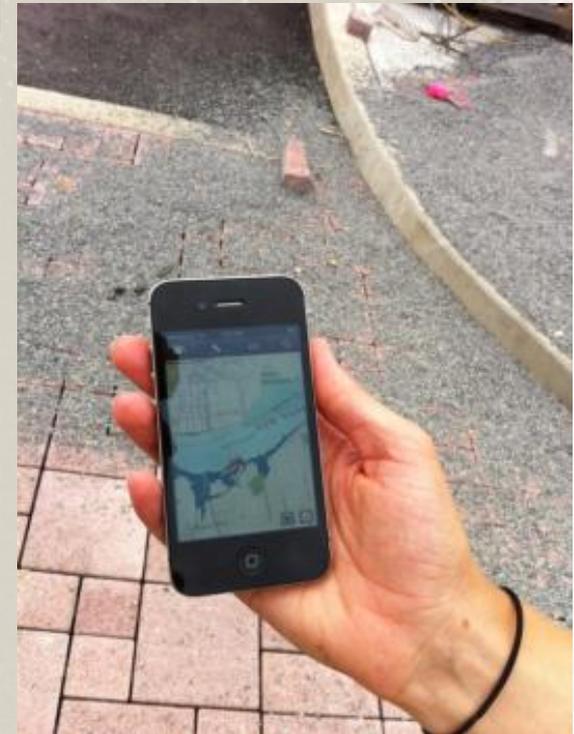
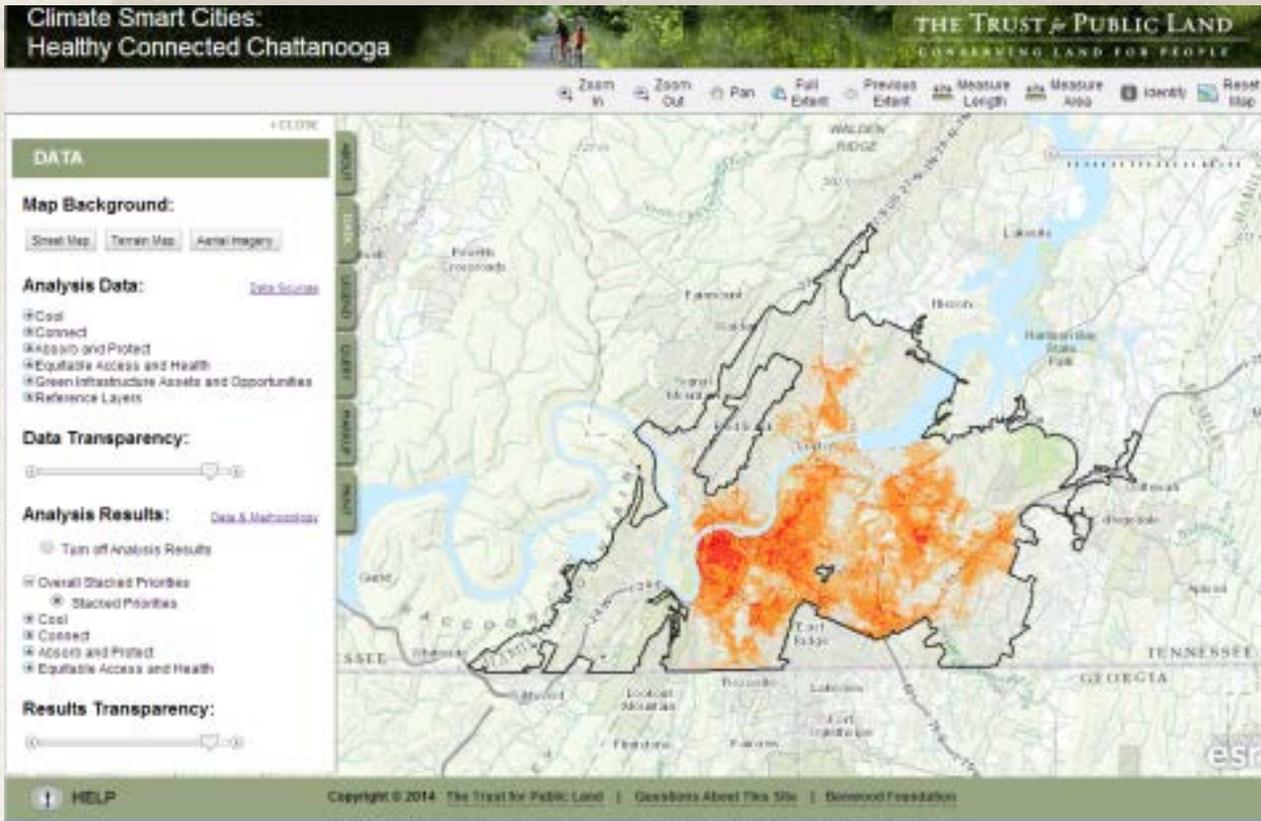
**RESEARCH:** Identify Heat Islands & Reduction Strategies

**GIS:** Stack Heat and Water Priorities with Demographics

**DEMONSTRATION:** Spear Street “Complete” Greening

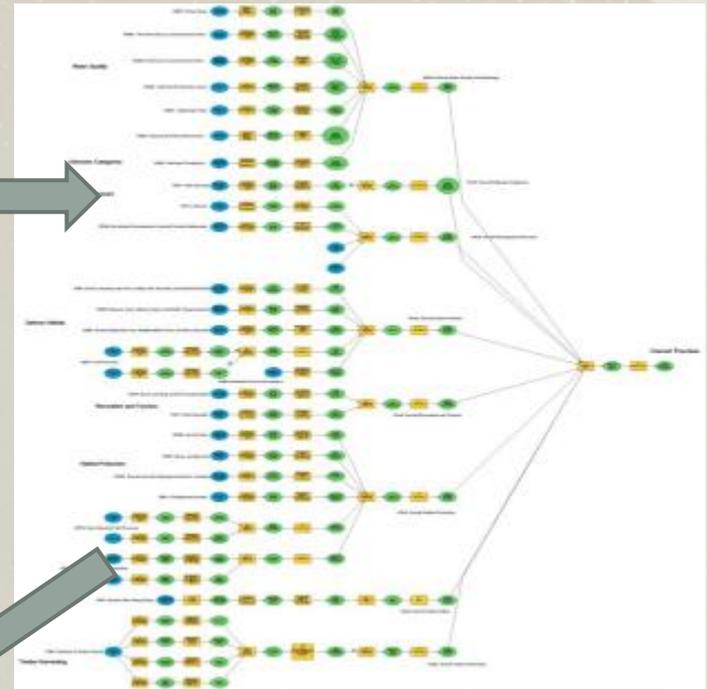
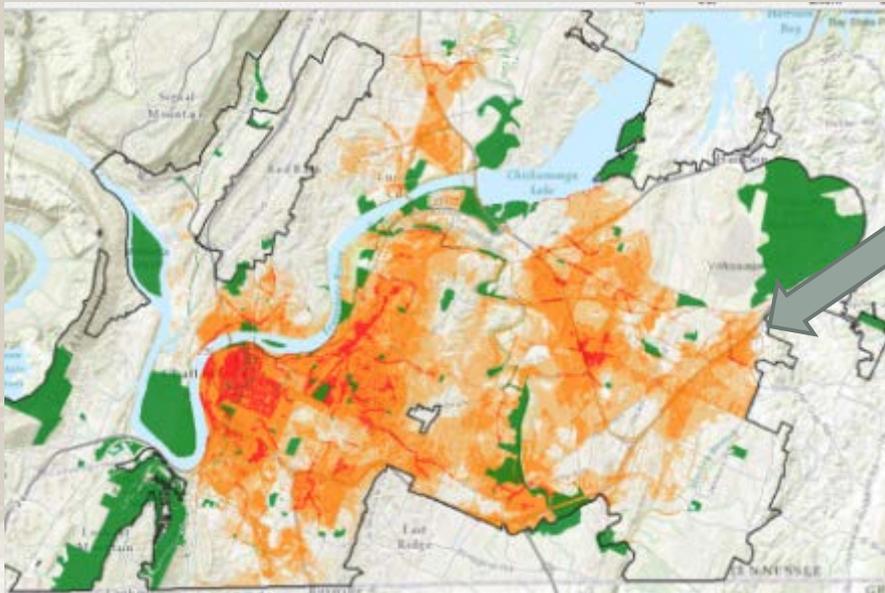


# Web-based Decision Support Tools Are Mobile and Collaborative



# Modeling Turns Data into Science-Based Priorities

Climate Smart Cities: Healthy Connected Challenges						
Model Criteria June 1, 2014						
Issue	Goal/Priority	Criteria	Impact/Priority	Message/Key	Key Challenges/Issues	Key Goals
Water	Water	Water	Water	Water	Water	Water
Energy	Energy	Energy	Energy	Energy	Energy	Energy
Transportation	Transportation	Transportation	Transportation	Transportation	Transportation	Transportation
Land Use	Land Use	Land Use	Land Use	Land Use	Land Use	Land Use
Green Infrastructure	Green Infrastructure	Green Infrastructure	Green Infrastructure	Green Infrastructure	Green Infrastructure	Green Infrastructure
Community	Community	Community	Community	Community	Community	Community
Health	Health	Health	Health	Health	Health	Health
Equity	Equity	Equity	Equity	Equity	Equity	Equity
Resilience	Resilience	Resilience	Resilience	Resilience	Resilience	Resilience
Quality of Life	Quality of Life	Quality of Life	Quality of Life	Quality of Life	Quality of Life	Quality of Life
Cost	Cost	Cost	Cost	Cost	Cost	Cost
Feasibility	Feasibility	Feasibility	Feasibility	Feasibility	Feasibility	Feasibility
Policy	Policy	Policy	Policy	Policy	Policy	Policy
Implementation	Implementation	Implementation	Implementation	Implementation	Implementation	Implementation
Monitoring & Evaluation	Monitoring & Evaluation	Monitoring & Evaluation	Monitoring & Evaluation	Monitoring & Evaluation	Monitoring & Evaluation	Monitoring & Evaluation



# Our GIS Tool Lets Users Ask Questions of the Data

The screenshot displays a GIS web application interface. At the top, there are navigation tools: Zoom In, Zoom Out, Pan, Full Extent, Previous Extent, Measure Length, Measure Area, Identify, and Reset Map. The main map area shows a city grid with purple and yellow overlays. A 'Parcel Details' popup window is open, displaying the following information:

**Parcel Details:**

- Create Profile Report
- Parcel ID: 136E B 004
- Acres: 11.7
- Owner: HARDY ELEMENTARY SCHOOL
- Address: 2115 DODSON AVE
- Vacant: No
- Overall: Stacked Priorities**
- Parcel has priority acres: Yes
- Priority acres: 11.7
- % of parcel: 100%

On the left side, there is a search panel titled 'Find Parcels Where ...'. It contains several query conditions:

- >>Daytime Heat Island Hot Spots
- = Yes
- AND
- >>Floodways and Flood Zones
- = Yes
- AND
- >>High % of Low Income Households
- = Yes

Buttons for 'Add Query Condition', 'Remove Condition', and 'RUN QUERY' are visible at the bottom of the search panel. The bottom of the map area contains a footer with the text: '14 The Trust for Public Land | Questions About This Site | Benwood Foundation'.

Create Parcel Group Report

Find Parcels Where ...

>>Daytime Heat Island Hot Spots

= Yes

AND

>>Floodways and Flood Zones

= Yes

AND

>>High % of Low Income Households

= Yes

Add Query Condition

Remove Condition

RUN QUERY

**Parcel Details:**

Create Profile Report

Parcel ID: 136E B 004  
Acres: 11.7  
Owner: HARDY ELEMENTARY SCHOOL  
Address: 2115 DODSON AVE  
Vacant: No

**Overall: Stacked Priorities**  
Parcel has priority acres: Yes  
Priority acres: 11.7  
% of parcel: 100%

# Web-based Decision Support Tool= 1-Click Parcel Reports

**Parcel Details:**

Parcel ID: 135E D 012 L001  
 Acres: 8.0  
 Owner: TAC CRUISE LLC  
 Address: FOREST AVE  
 Vacant: No

**Overall: Stacked Priorities**  
 Parcel has priority acres: Yes  
 Priority acres: 8.0  
 % of parcel: 100%

**Goal: Cool**

**Climate Smart Cities: Healthy Connected Chattanooga Parcel Report**

Parcel ID: 135J B 001 04 Owner: COUNTS STEF JACKSON Acres: 1.6

**LEGEND**

Reference Data  
 City Limits  
 Parcels

Analysis Results  
 Stacked Priorities  
 High Priority  
 Moderate To High Priority  
 Moderate Priority

**Overall: Stacked Priorities**  
 PARCEL HAS PRIORITY ACRES: Yes  
 PRIORITY ACRES: 1.6  
 PERCENT OF PARCEL: 100%

**Goal: Cool**  
 PARCEL HAS PRIORITY ACRES: Yes  
 PRIORITY ACRES: 1.6  
 PERCENT OF PARCEL: 100%

	PARCEL HAS PRIORITY ACRES	PRIORITY ACRES	PERCENT OF PARCEL
Daytime Heat Island Hot Spots	Yes	1.0	100%
Nighttime Heat Island Hot Spots	Yes	1.0	100%
Areas of High Impervious Surface	Yes	1.0	100%

**Climate Smart Cities: Healthy Connected Chattanooga Parcel Report**

Parcel ID: 135J B 001 04 Owner: COUNTS STEF JACKSON Acres: 1.6

**Goal: Priority Connections and Adjacent Properties**  
 PARCEL HAS PRIORITY ACRES: Yes  
 PRIORITY ACRES: 0.0  
 PERCENT OF PARCEL: 0%

	PARCEL HAS PRIORITY ACRES	PRIORITY ACRES	PERCENT OF PARCEL
Water Quality	No		
Water Quality	No		
CORP for Riparian Buffers	Yes	1.0	100%
Water Quality	No		
Water Quality	No		
Water Quality	Yes	1.0	100%

**Water Quality and Health**  
 CORP: Yes

	PARCEL HAS PRIORITY ACRES	PRIORITY ACRES	PERCENT OF PARCEL
Water Quality	No		
Water Quality	Yes	1.0	100%
Water Quality	No		
Water Quality	Yes	1.0	100%
Water Quality	No		
Water Quality	Yes	1.0	100%
Water Quality	No		
Water Quality	Yes	1.0	100%
Water Quality	Yes	1.0	100%

This report was created on June 23, 2014 using the Climate Smart Cities: Healthy Connected Chattanooga site. The Trust for Public Land, TPL, The Trust for Public Land, and The Trust for Public Land logo are trademarks of The Trust for Public Land. http://www.tpl.org

# Strong Science and Spatial Planning Supports Demonstration Projects



# Looking for New Partners!



[Jad.daley@tpl.org](mailto:Jad.daley@tpl.org)

@Daley3J

202.543.7552 X716