

URBAN ECOLOGY FRAMEWORK

NEEDS ASSESSMENT & FUTURE SCENARIOS

MEETING #2

August 29, 2018



ESTIMATED PROJECT SCHEDULE

SEPTEMBER 2018–JULY 2019

Tree Protection Ordinance
Rewrite and Update

SEPTEMBER–DECEMBER 2018

Draft Recommendations

MARCH–SEPTEMBER 2018

Data Collection and Analysis

DECEMBER 2018–MARCH 2019

Final Recommendations and Report

MAY–SEPTEMBER 2018

Visioning and Needs Assessment

**Public meetings will be held throughout the life of the project. Please check the website and social media for meeting announcements or call Heather Alhadeff at 404-330-6439.*



VISION

The Public's edits are shown below on the left. Final is below on the right.

A city **Atlanta is** grounded in its unique ecological character and strong communities **of native functional ecological systems and,** ~~both verdant and vibrant~~ accessible greenspace, **both verdant and vibrant.** ~~It is likewise grounded in a strong sense of community and culture bound in many ways to our natural resources.~~ ~~and functional ecological systems.~~

A **This urban ecology framework will** ~~that~~ strategically guides ~~and equitably address~~ the projected increase in **Atlanta's** population density **and diversity** such that ~~development~~ **urban expansion** respects, **protects and expands** our **native** forest resources, **waterways and waterbodies** ~~sheds, soils, people and~~ **wildlife, urban agriculture and** public greenspace, **promoting resilience,** ~~transportation needs,~~ livability and connectivity through increased ownership and stewardship.



Atlanta is grounded in its unique ecological character of native functional ecological systems and, accessible greenspace, both verdant and vibrant. It is likewise grounded in a strong sense of community and culture bound in many ways to our natural resources.

This urban ecology framework will strategically guide and equitably address the projected increase in Atlanta's population density and diversity such that urban expansion respects, protects and expands our native forest resources, waterways and waterbodies, soils, wildlife, urban agriculture and public greenspace promoting resilience, livability and connectivity through increased ownership and stewardship.

GOALS

The draft Goals were edited based on Public feedback. New terms and definitions are below on the right.

CONSERVATION/HABITAT AND BIODIVERSITY

FUNCTION/MULTIFUNCTIONALITY OF GREENSPACE

ACCESS/GREENSPACE CONNECTIVITY

RESILIENCE



PROTECTION

Prioritizing habitat and biodiversity, targeting areas for species preservation, conservation and enhancement where there is high sensitivity or risk to native ecology.

EQUITY

Creating strategies for a comprehensive and interconnected system that focuses on improved access for all community members and promotes accessibility and connectivity

MULTIFUNCTIONALITY

Balancing a range of ecosystem services* that benefit people and nature.

STEWARDSHIP

Increasing community engagement and collective ownership of the city's natural resources through education, stewardship, regulation, and enforcement.

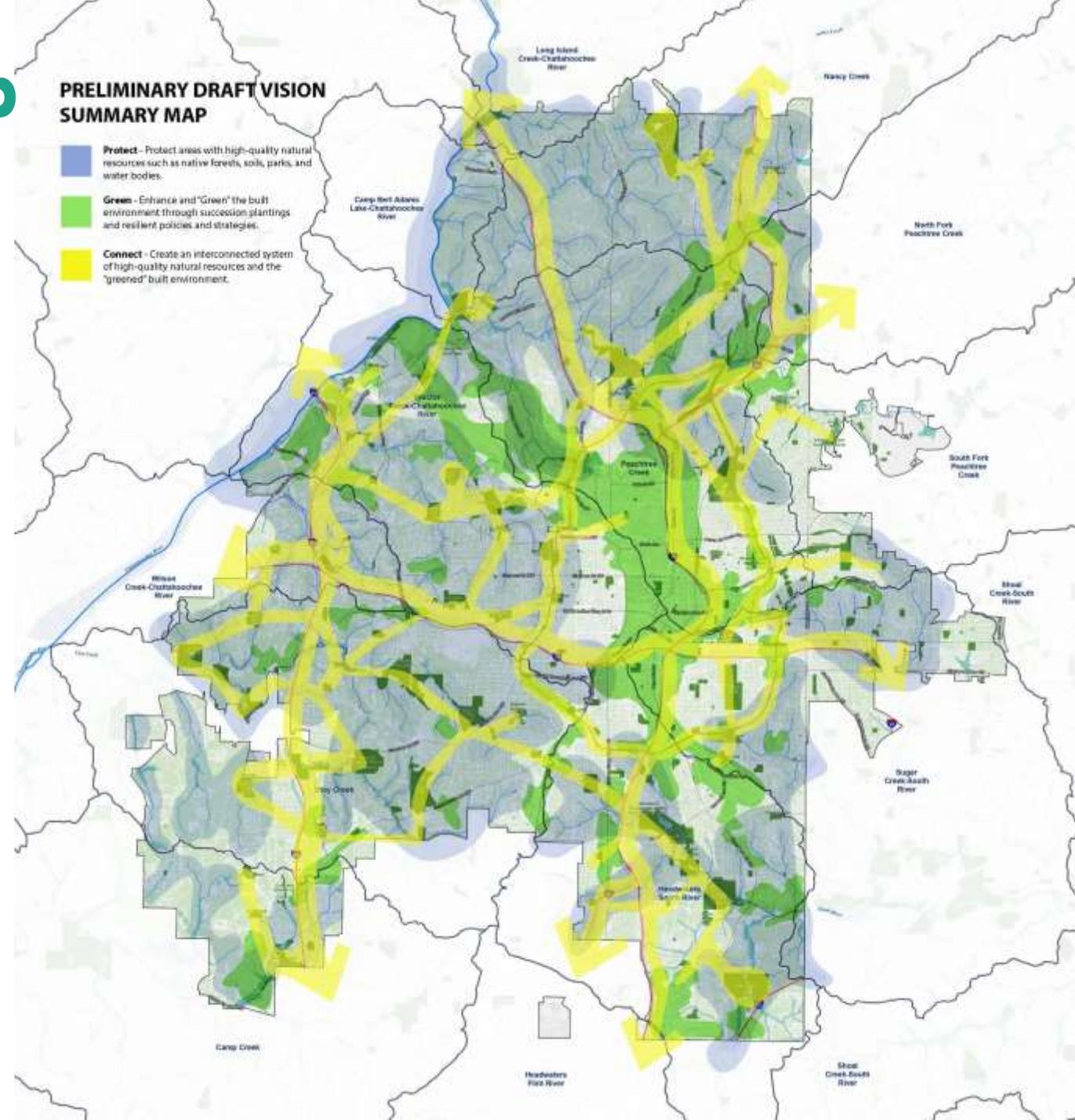
VISION SUMMARY MAP

Is there anything missing?

 **Protect:** Protect areas with high quality natural resources such as native forests, soils, parks and waterbodies

 **Green:** Enhance and “Green” the built environment through succession plantings and resilient policies and strategies.

 **Connect:** Create an interconnected system of high-quality natural resources and the “greened” built environment.



DATA ANALYSIS

Needs Assessment Methodology

UEF Goals

PROTECTION

EQUITY

MULTIFUNCTIONALITY

STEWARDSHIP

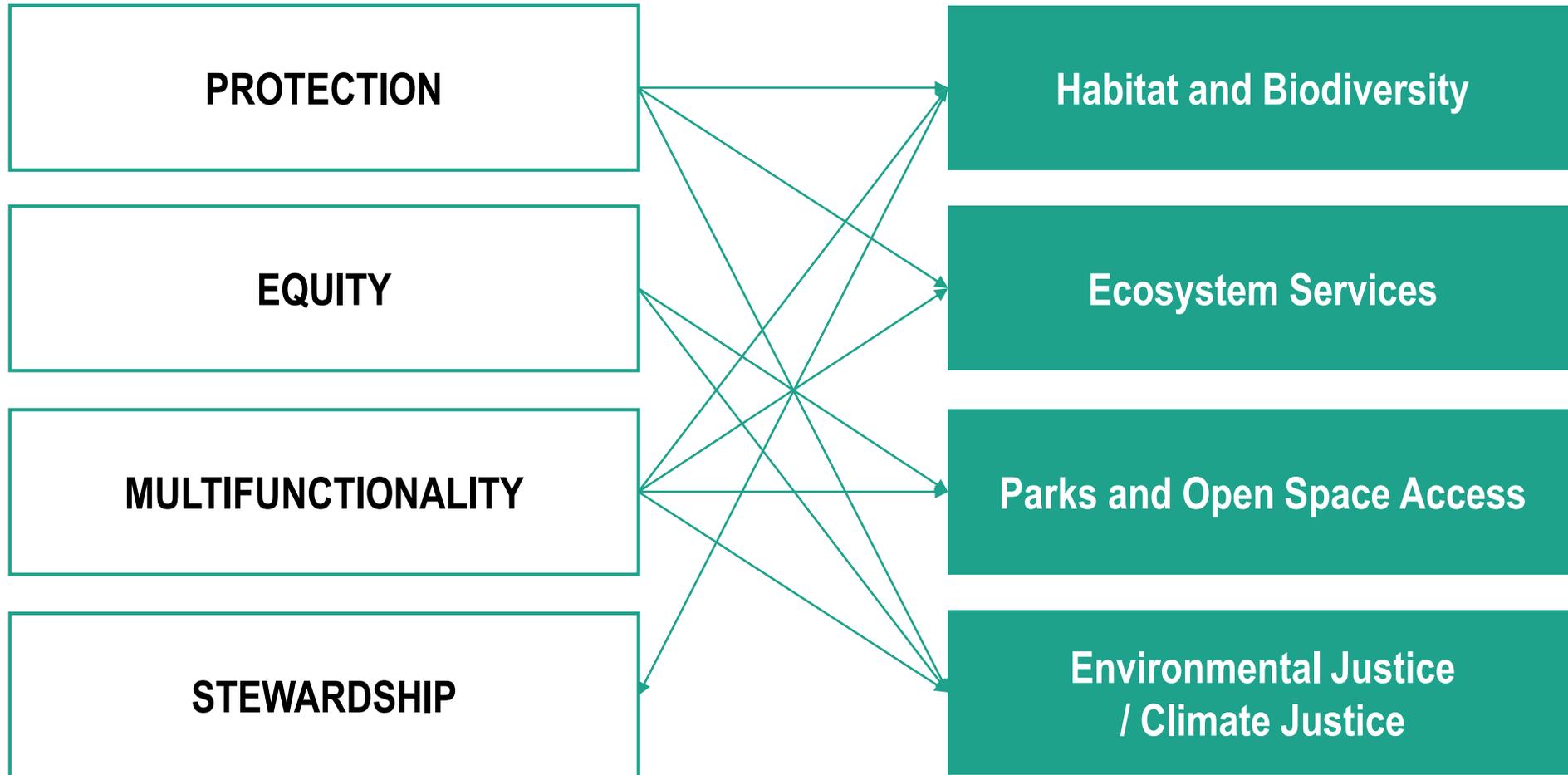
Data Analysis Categories

Habitat and Biodiversity

Ecosystem Services

Parks and Open Space Access

**Environmental Justice
/ Climate Justice**



DATA ANALYSIS

Needs Assessment Methodology

HABITAT AND BIODIVERSITY

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graph LR; A[HABITAT AND BIODIVERSITY] --> B[What areas of high biodiversity are not protected in parks, preserves, or conservation easements?]; A --> C[What areas of high biodiversity are in areas of high growth or development pressure?]; A --> D[What areas of high biodiversity occur on vacant properties?]; A --> E[What streams are in need of buffer enhancement?];
```

What areas of high biodiversity are not protected in parks, preserves, or conservation easements?

What areas of high biodiversity are in areas of high growth or development pressure?

What areas of high biodiversity occur on vacant properties?

What streams are in need of buffer enhancement?

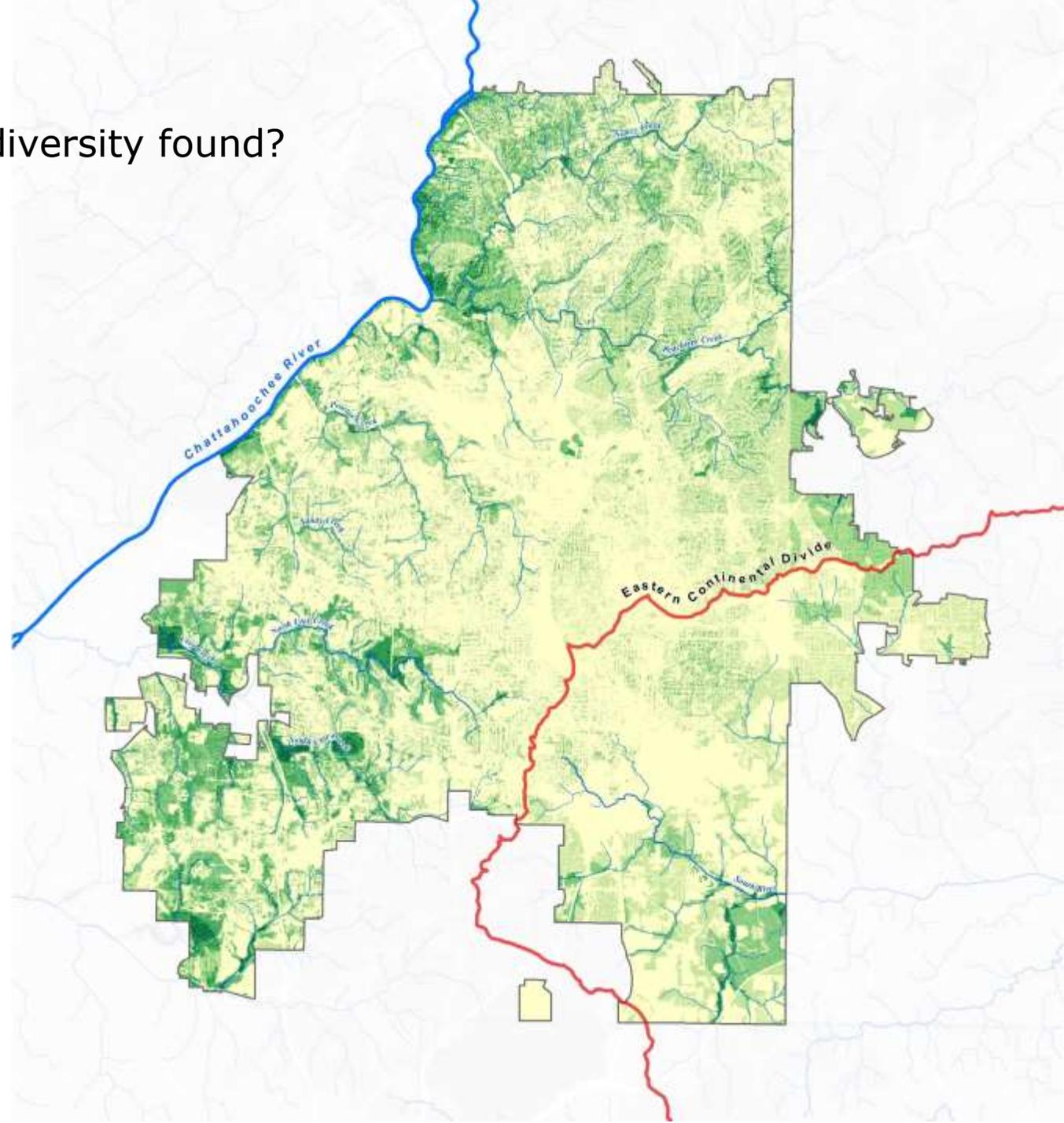
RESULTS

Where is the highest value habitat and biodiversity found?

Habitat & Biodiversity Value



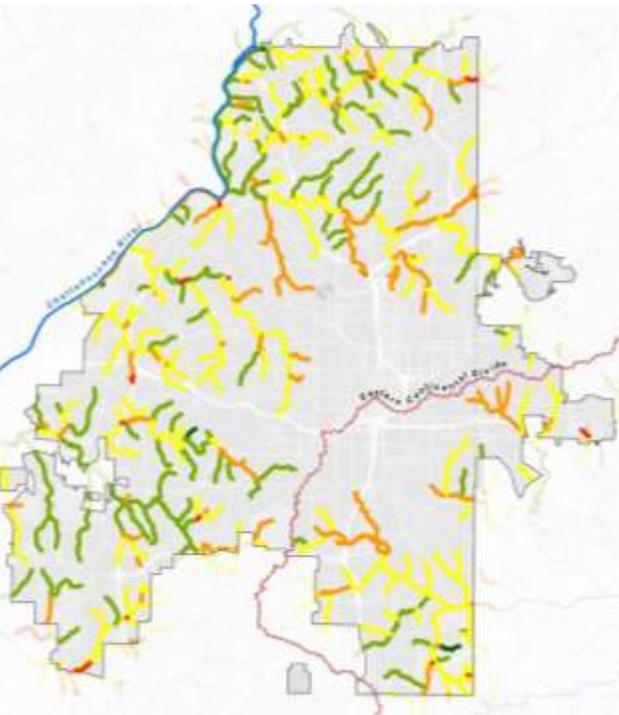
Data Sources: City of Atlanta, USGS, Georgia Institute of Technology



RESULTS

Where high quality habitat might be at risk and places where it could potentially be preserved, protected, and enhanced.

Stream Buffers

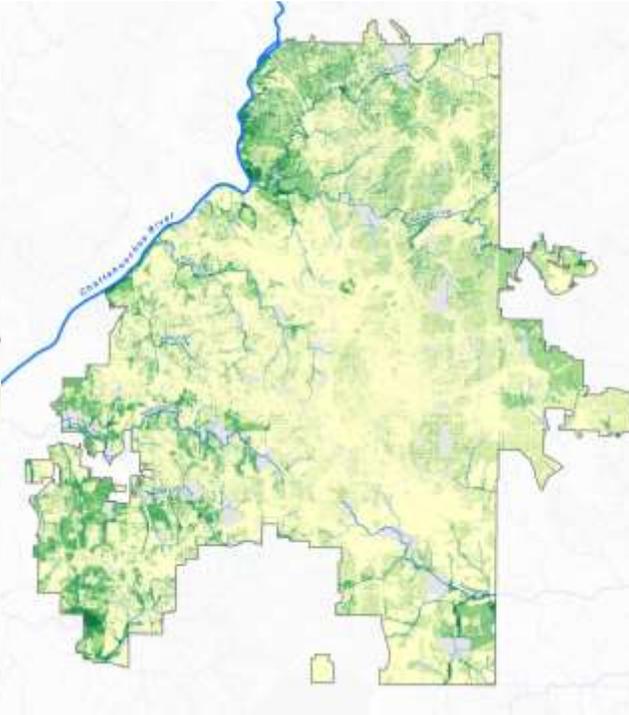


Percentage of Tree Canopy Within Stream Buffer

0% - 20% Coverage	> 60% to 80%
> 20% to 40%	> 80% to 100%
> 40% to 60%	

Map Source: City of Hagerstown, GIS Group/Geomatics of Technology

Unprotected

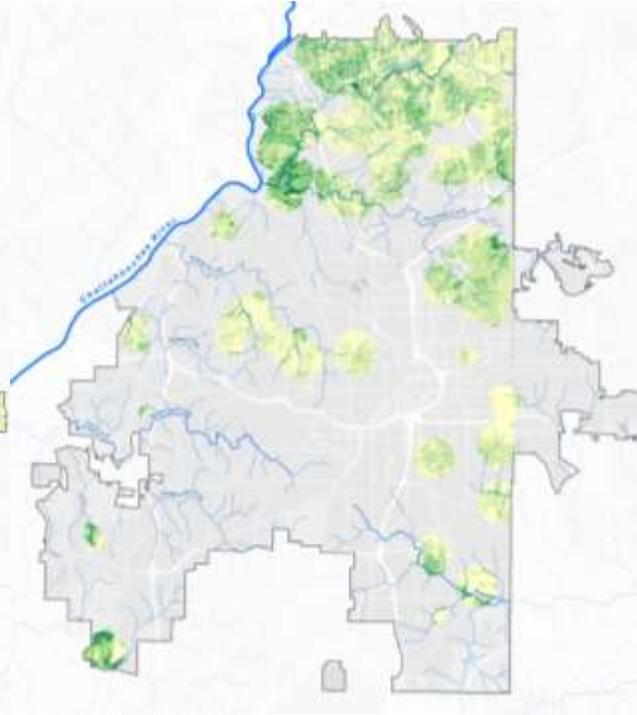


Habitat & Biodiversity Value

5 = High	2
4	1 = Low
3	Parks

Map Source: City of Hagerstown, GIS Group/Geomatics of Technology

Development Pressure

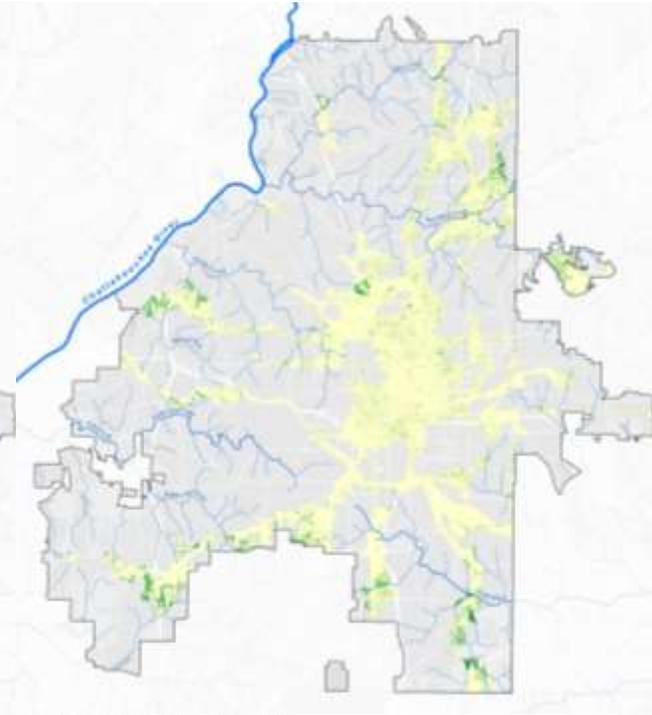


Habitat & Biodiversity Value

5 = High	2
4	1 = Low
3	Not a High Risk of Development

Map Source: City of Hagerstown, GIS Group/Geomatics of Technology

City Design Growth



Habitat & Biodiversity Value

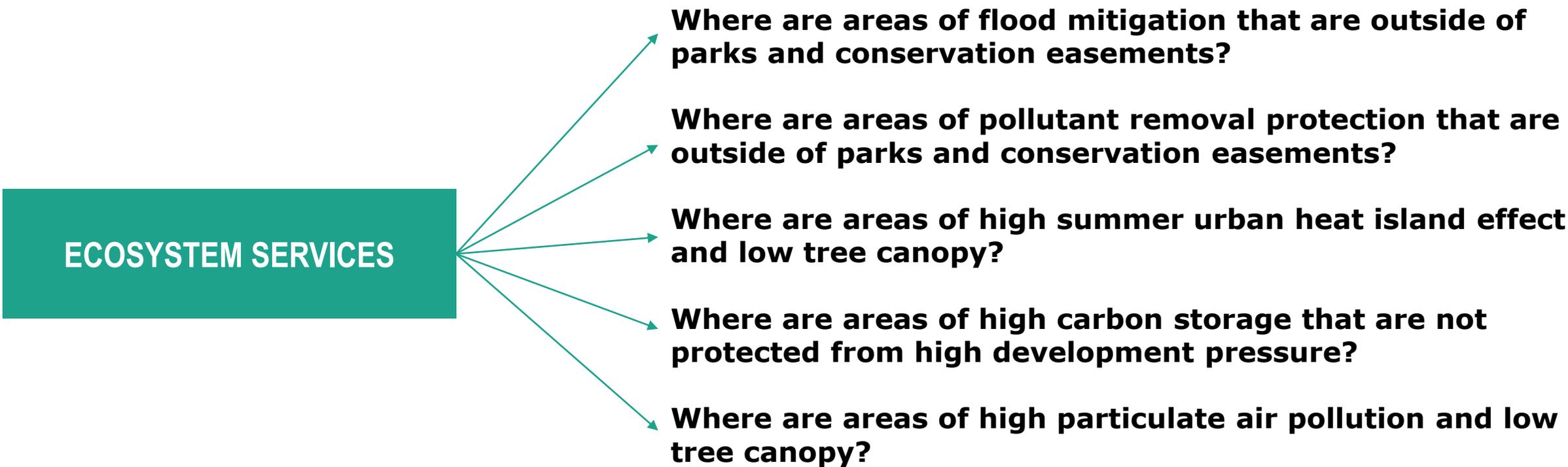
5 = High	2
4	1 = Low
3	Urban, Suburban & Rural City Design Zones

Map Source: City of Hagerstown, GIS Group/Geomatics of Technology, Office of the Mayor

DATA ANALYSIS

Needs Assessment Methodology

ECOSYSTEM SERVICES



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graph LR; A[ECOSYSTEM SERVICES] --> B[Where are areas of flood mitigation that are outside of parks and conservation easements?]; A --> C[Where are areas of pollutant removal protection that are outside of parks and conservation easements?]; A --> D[Where are areas of high summer urban heat island effect and low tree canopy?]; A --> E[Where are areas of high carbon storage that are not protected from high development pressure?]; A --> F[Where are areas of high particulate air pollution and low tree canopy?];
```

Where are areas of flood mitigation that are outside of parks and conservation easements?

Where are areas of pollutant removal protection that are outside of parks and conservation easements?

Where are areas of high summer urban heat island effect and low tree canopy?

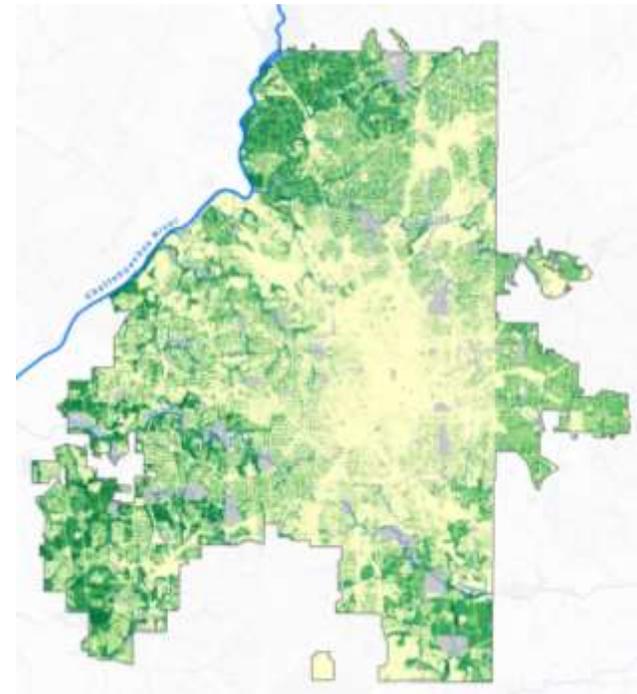
Where are areas of high carbon storage that are not protected from high development pressure?

Where are areas of high particulate air pollution and low tree canopy?

RESULTS

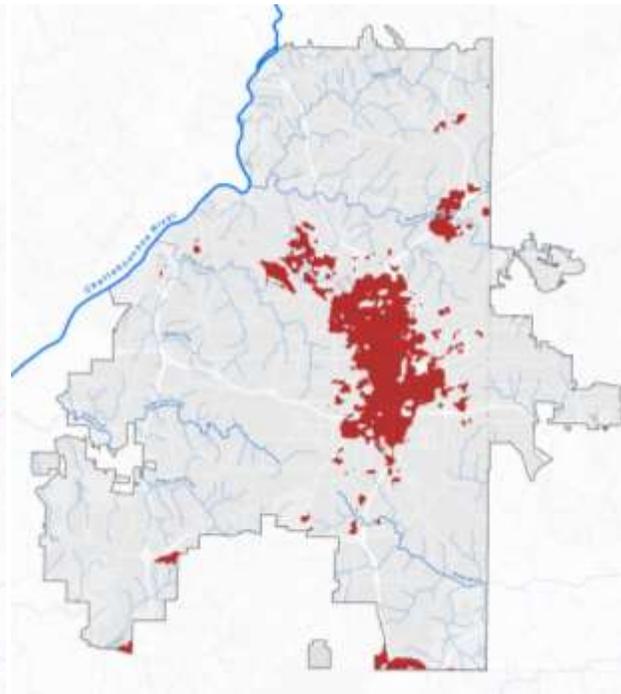
Ecosystem Services

Carbon Sequestration



Data Source: City of Atlanta, USGS, Georgia Institute of Technology

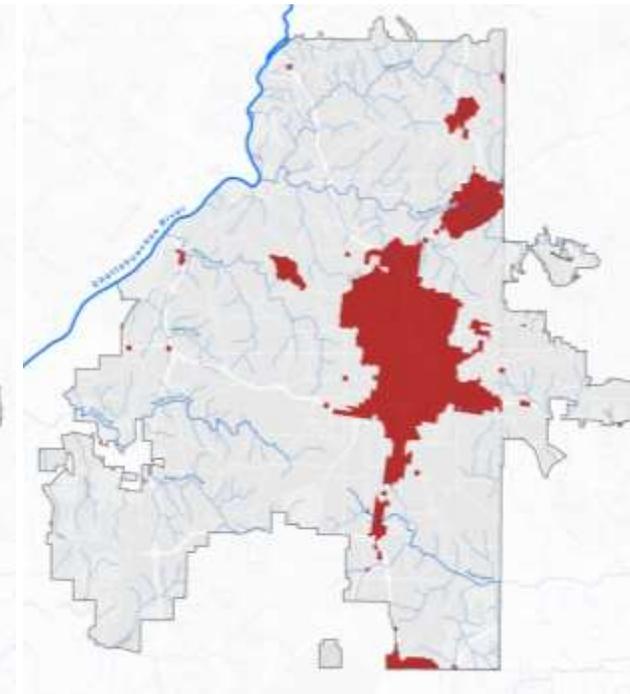
Heat Island Hazard



Areas of high heat island effect and low tree canopy coverage

Data Source: City of Atlanta, USGS, Georgia Institute of Technology

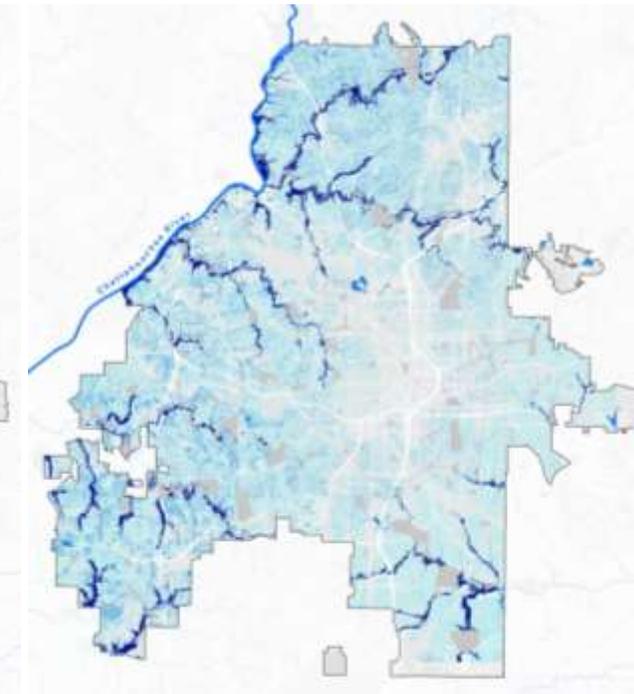
Air Pollution



Areas of high particulate air pollution and low tree canopy

Data Source: City of Atlanta, USGS, Atlanta Roadside Particulate Exposure Study, Georgia Institute of Technology

Flood Mitigation



Flood Mitigation Potential Value

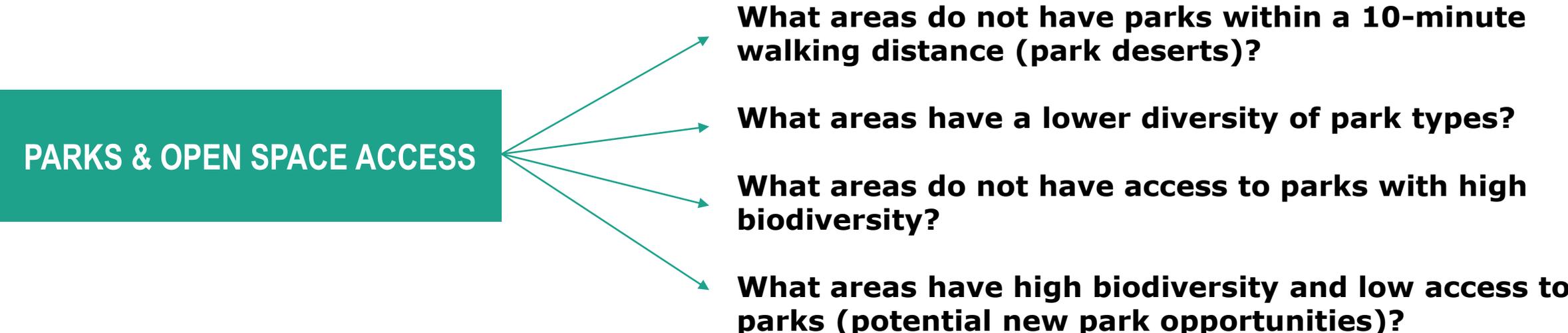
 5 = High	 2
 4	 1 = Low
 3	 Parks

Data Source: City of Atlanta, USGS, Georgia Institute of Technology

DATA ANALYSIS

Needs Assessment Methodology

PARKS & OPEN SPACE ACCESS



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graph LR; A[PARKS & OPEN SPACE ACCESS] --> B[What areas do not have parks within a 10-minute walking distance (park deserts)?]; A --> C[What areas have a lower diversity of park types?]; A --> D[What areas do not have access to parks with high biodiversity?]; A --> E[What areas have high biodiversity and low access to parks (potential new park opportunities)?];
```

What areas do not have parks within a 10-minute walking distance (park deserts)?

What areas have a lower diversity of park types?

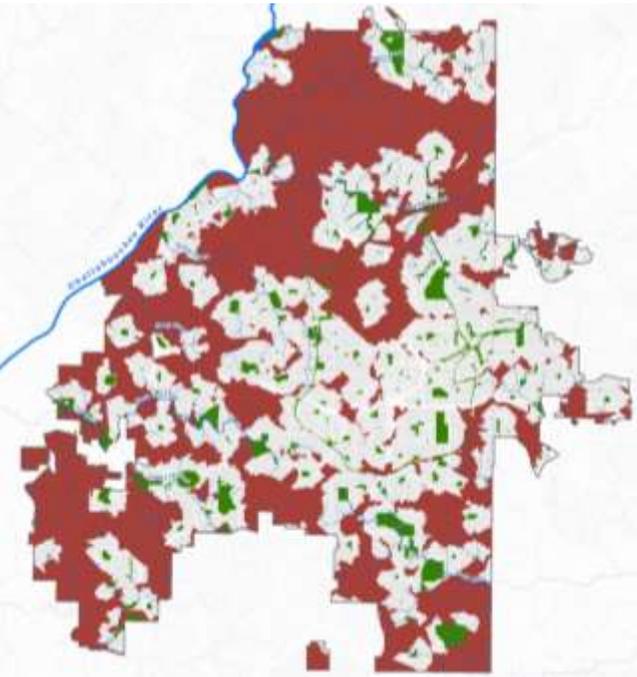
What areas do not have access to parks with high biodiversity?

What areas have high biodiversity and low access to parks (potential new park opportunities)?

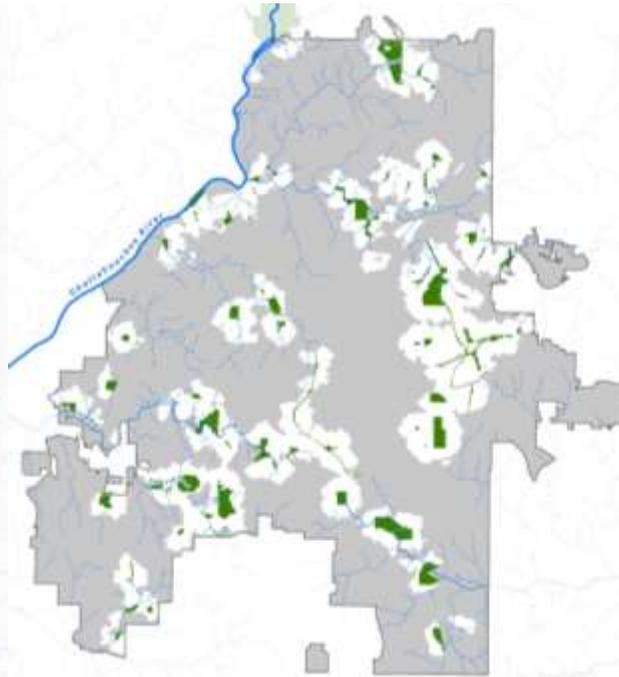
RESULTS

Parks and Open Space

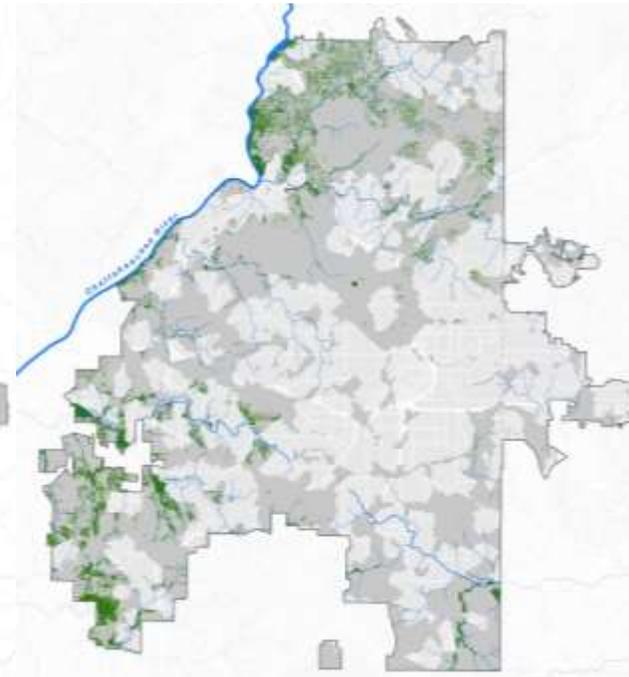
Park Deserts



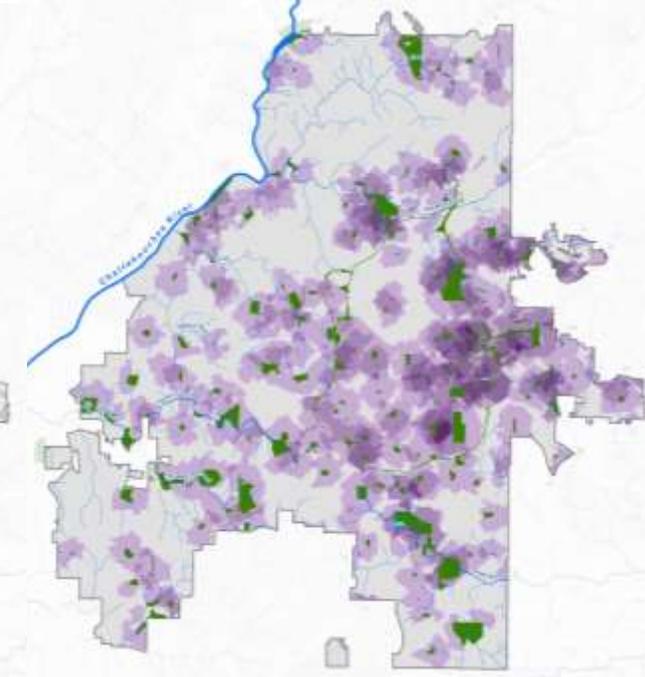
High BD Parks Access



High BD without Parks



Diversity of Access



Parks
Park Deserts*

*Areas with greater than a 10 minute walk to a publicly accessible park. Park Desert output were generated using direct park access points and street, trail/pedestrian network.

Areas Outside 10-minute Walking Distance to High Biodiversity Parks
Areas Within 10-minute Walking Distance to High Biodiversity Parks

High Biodiversity Park

Park Deserts High Biodiversity Areas within Park Deserts

5 = High Park Diversity
4
3
2
1
0 = Park Desert
Parks

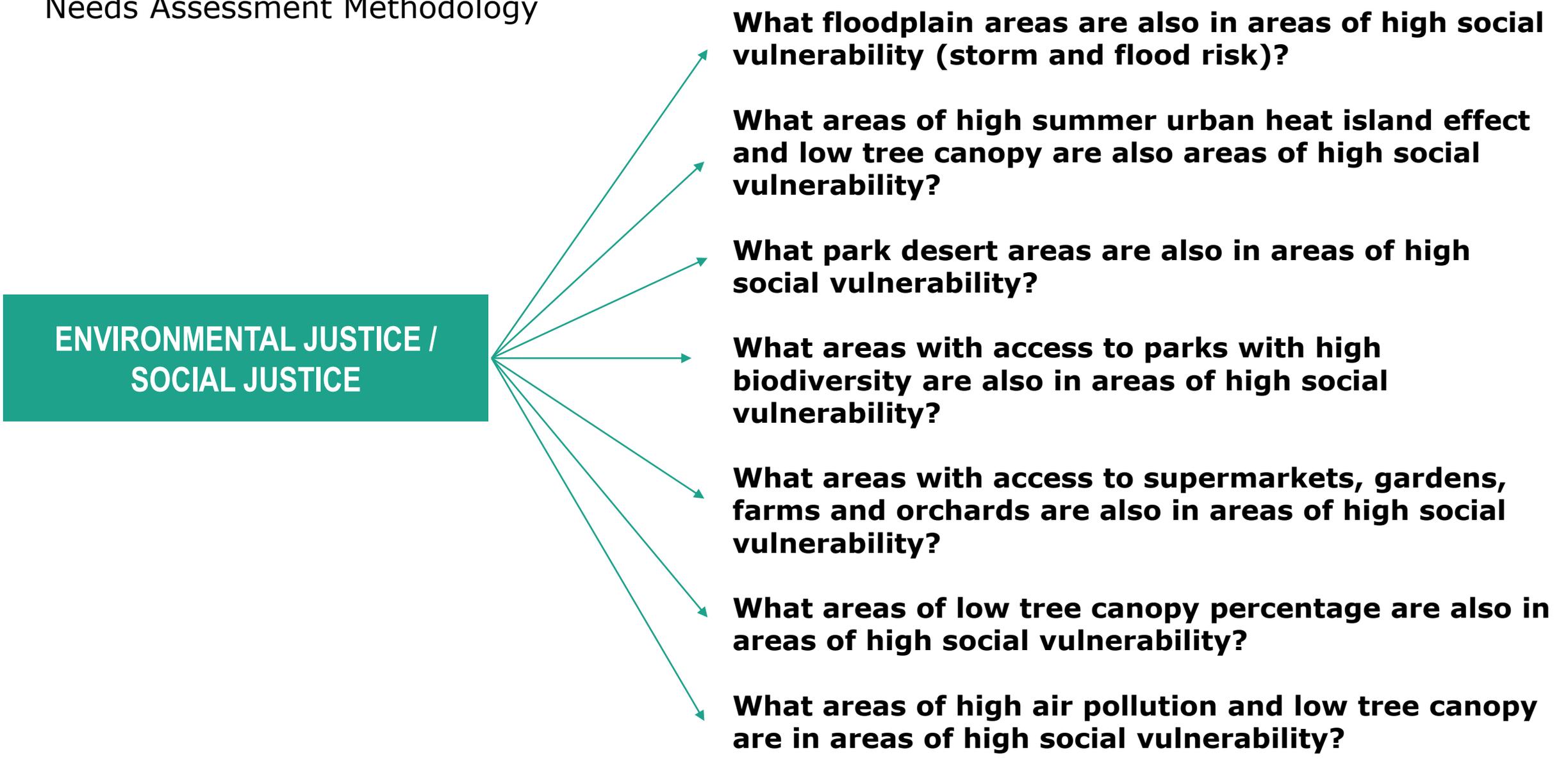
Data Source: City of Atlanta, USGS, Atlanta Regional Commission

Data Source: City of Atlanta, USGS, Atlanta Regional Commission

DATA ANALYSIS

Needs Assessment Methodology

**ENVIRONMENTAL JUSTICE /
SOCIAL JUSTICE**



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graph LR; A[ENVIRONMENTAL JUSTICE / SOCIAL JUSTICE] --> B[What floodplain areas are also in areas of high social vulnerability (storm and flood risk)?]; A --> C[What areas of high summer urban heat island effect and low tree canopy are also areas of high social vulnerability?]; A --> D[What park desert areas are also in areas of high social vulnerability?]; A --> E[What areas with access to parks with high biodiversity are also in areas of high social vulnerability?]; A --> F[What areas with access to supermarkets, gardens, farms and orchards are also in areas of high social vulnerability?]; A --> G[What areas of low tree canopy percentage are also in areas of high social vulnerability?]; A --> H[What areas of high air pollution and low tree canopy are in areas of high social vulnerability?];
```

What floodplain areas are also in areas of high social vulnerability (storm and flood risk)?

What areas of high summer urban heat island effect and low tree canopy are also areas of high social vulnerability?

What park desert areas are also in areas of high social vulnerability?

What areas with access to parks with high biodiversity are also in areas of high social vulnerability?

What areas with access to supermarkets, gardens, farms and orchards are also in areas of high social vulnerability?

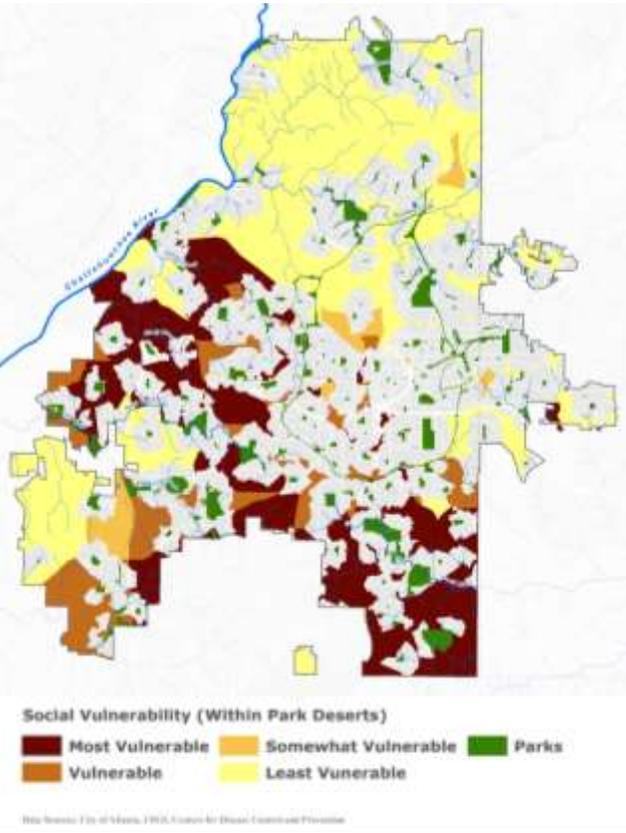
What areas of low tree canopy percentage are also in areas of high social vulnerability?

What areas of high air pollution and low tree canopy are in areas of high social vulnerability?

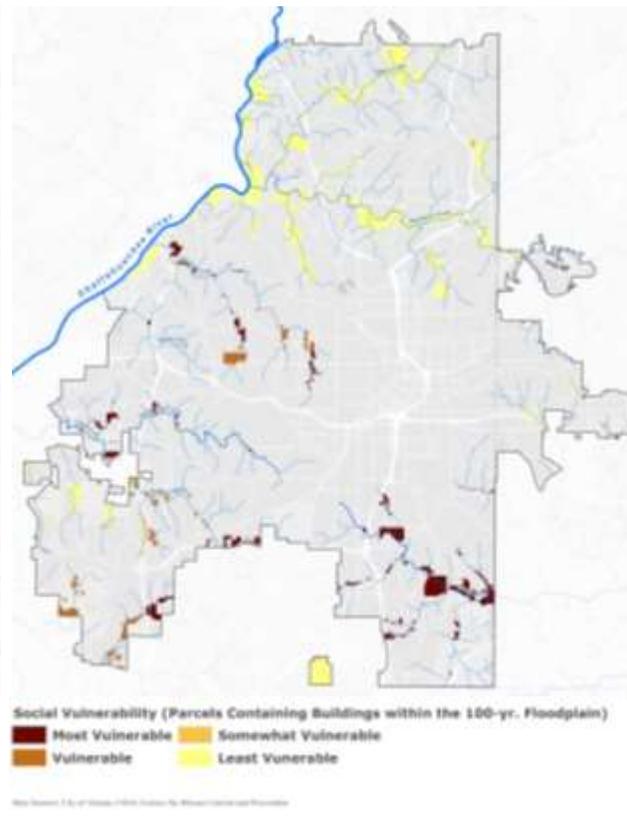
RESULTS

Environmental Justice and Climate Justice

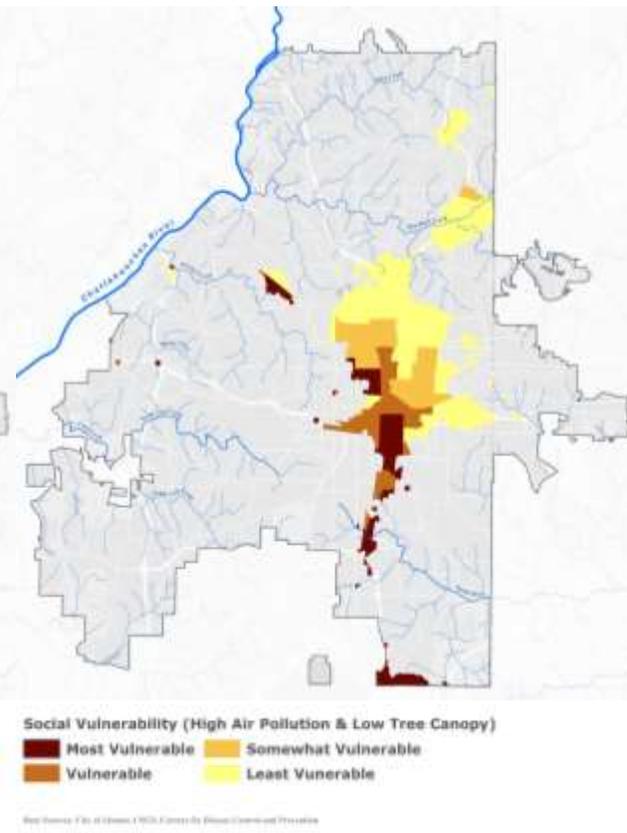
Green Space and SVI



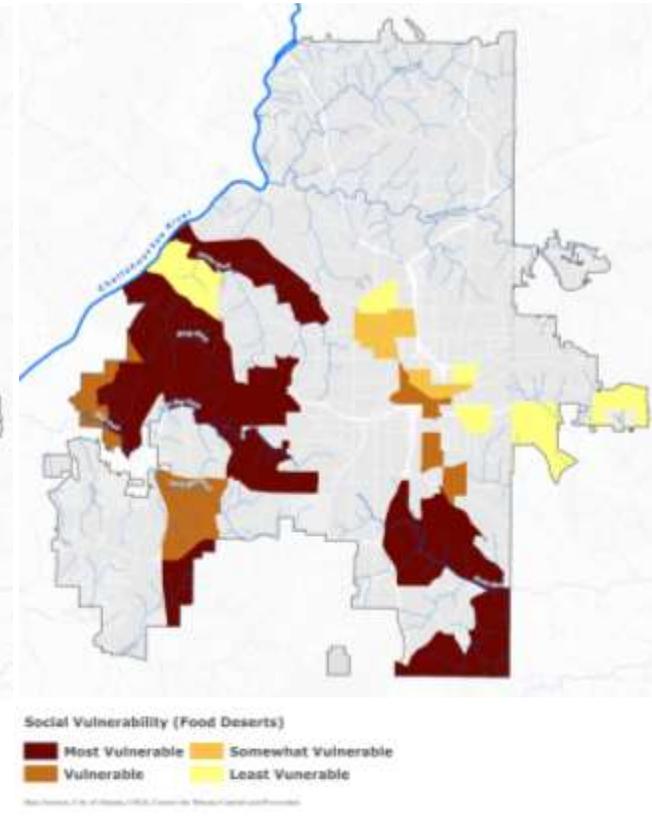
Floodplain and SVI



Air Pollution and SVI



Food Deserts and SVI



FUTURE SCENARIOS

What are Future Scenarios ?

In order to start exploring different options for the ecological framework, we developed alternative future approaches.

In trying to envision what a possible future looks like we considered your priorities and areas of high quality habitat and biodiversity. **We started by asking “What if?” and “What could be?” not just “What has been?”**

We will use your feedback to help develop a preferred final scenario to create specific recommendations, targets, and indicators to meet the vision and goals of the framework.



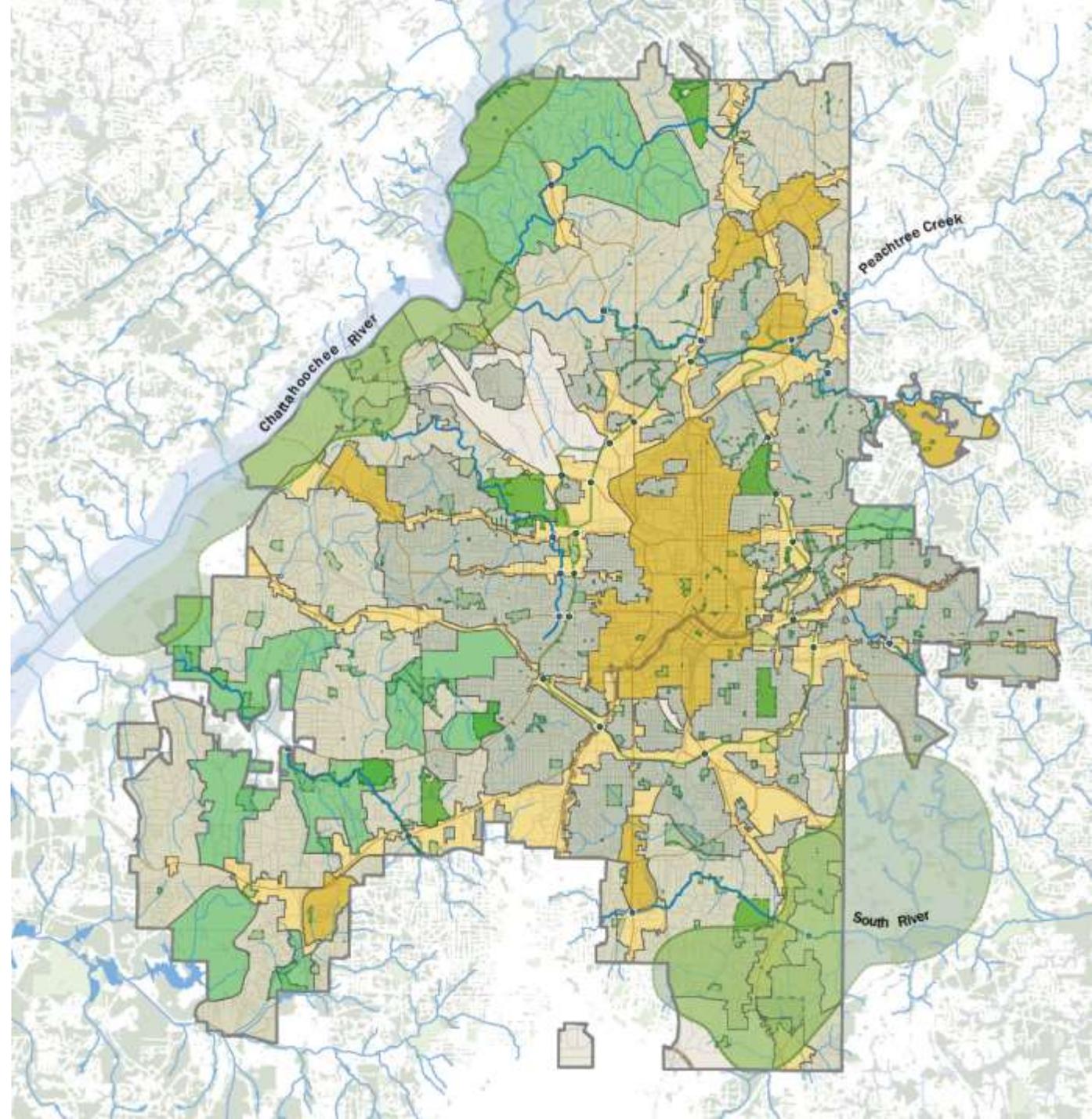
FUTURE SCENARIOS

Based on Atlanta City Design

As the proposed vision for future growth, Atlanta City Design is used as the starting point for all of the future scenarios.

The team will explore where there are conflicts as well as confluence with City Design as we consider the development of a preferred scenario.

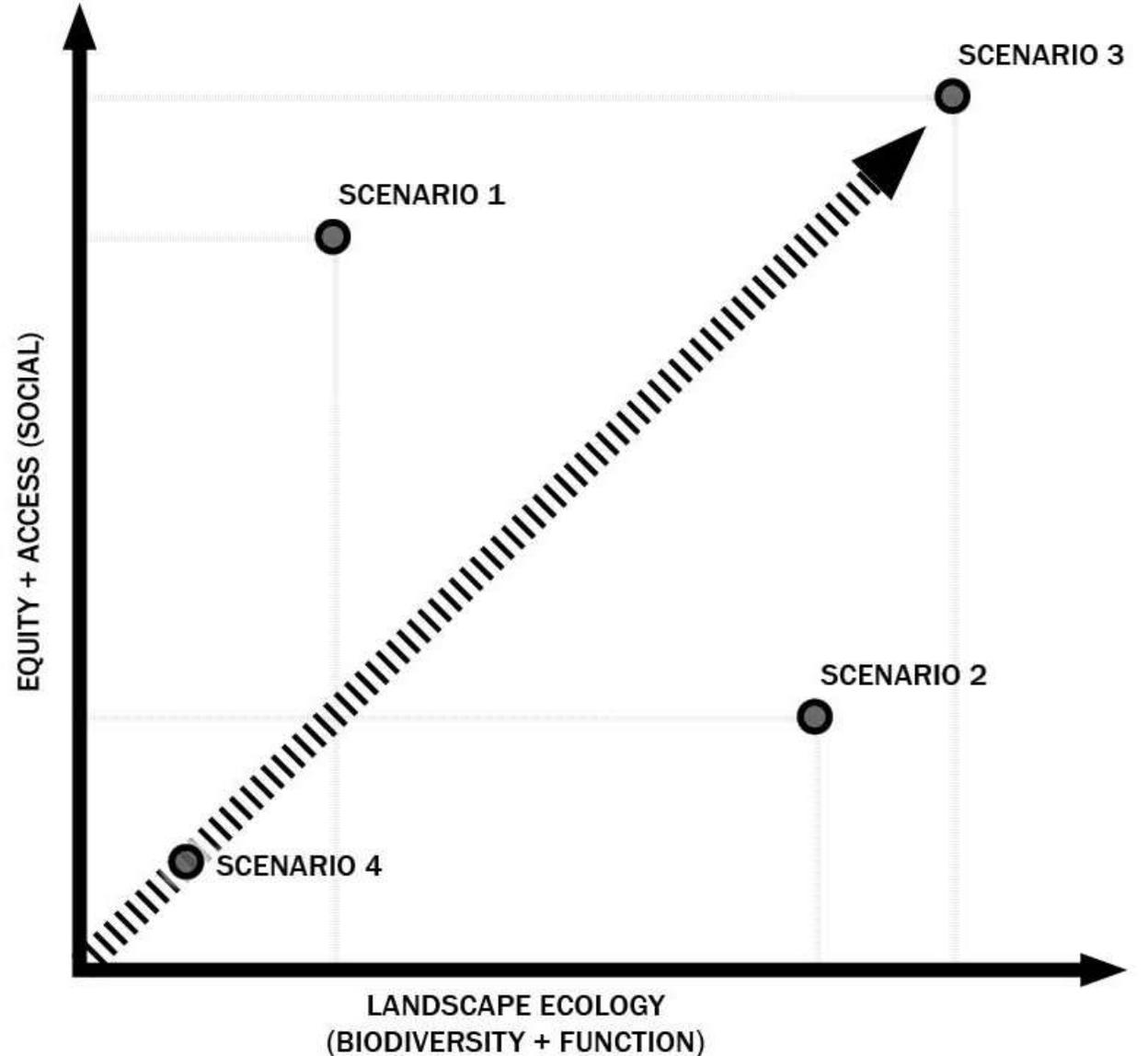
CITY DESIGN



FUTURE SCENARIOS

What are the Scenarios ?

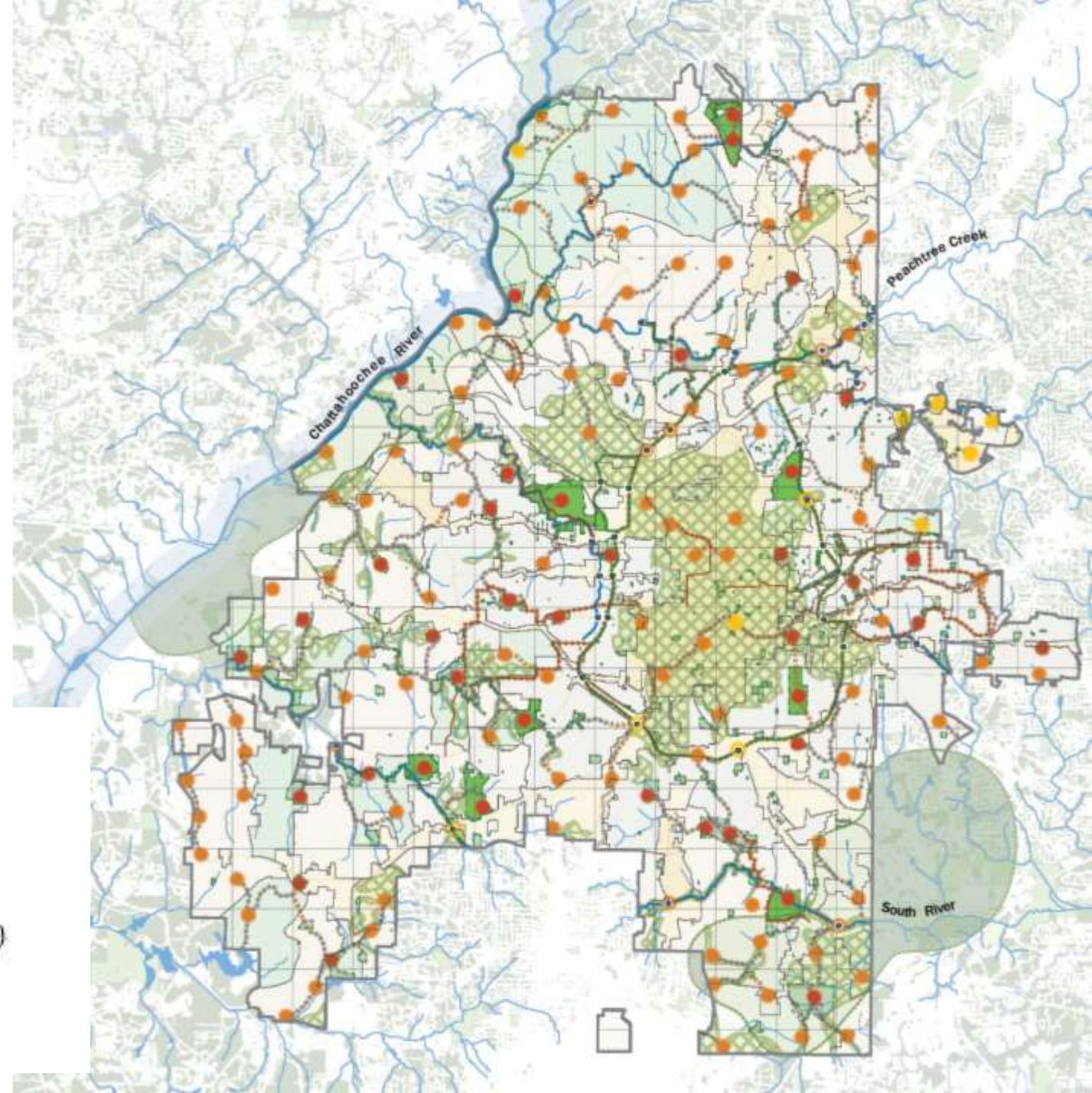
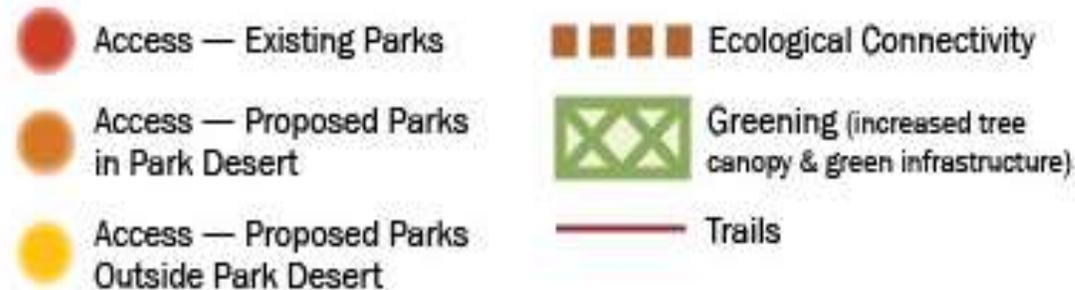
- 1. Equity & Access:** connectivity, health, vulnerability, access to the ecological resources of the city.
- 2. Landscape Ecology:** habitat, biodiversity, sensitive species, water quality, and ecosystem services.
- 3. Equity and Landscape Ecology** for a cohesive approach that balances the two and finds areas where they overlap.
- 4. Grey Infrastructure** network (such as highways, trails, and streets) where the focus is on greening and creating a new approach to connectivity.



SCENARIO 1 – Equity and Access

- **EMPHASIS ON Equity** - New strategies for a comprehensive and interconnected system that focuses on improved access for all community members, promoting connectivity and healthier conditions through increased greening.
- *Protection* – focus on existing park space
- *Multifunctionality* – prioritizes community needs in terms of access to parks for recreation and respite, and increased tree canopy to mitigate air quality, heat island and other vulnerability considerations
- *Stewardship* – offers opportunities for community engagement through more connections to green space

SCENARIO ¹



SCENARIO 2 – Landscape Ecology

- ***EMPHASIS ON Protection*** – Prioritizing habitat and biodiversity, targeting areas for the preservation, conservation and enhancement of native species and ecosystems that may be at risk.
- *Equity* – focus on increased ecological health and connectivity to support community health
- *Multifunctionality* – prioritizes biological, habitat, and water quality optimization
- Stewardship – offers opportunities for community engagement through management and stewardship of the resources in the city

SCENARIO²



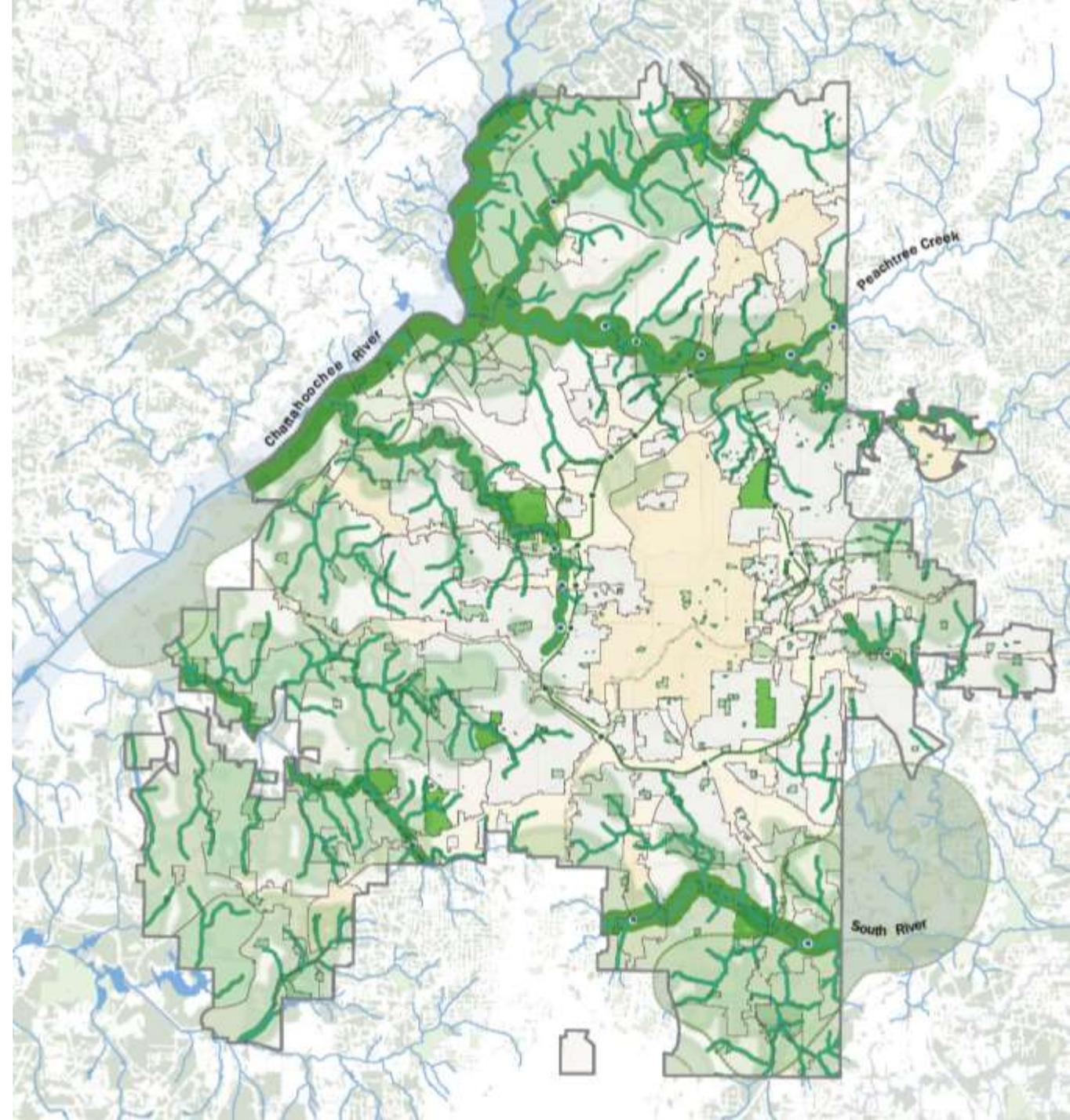
Riparian Buffer

(not to scale: width exaggerated for visibility of rivers of varying sizes)



Ecological Protection, Enhancement, Greening

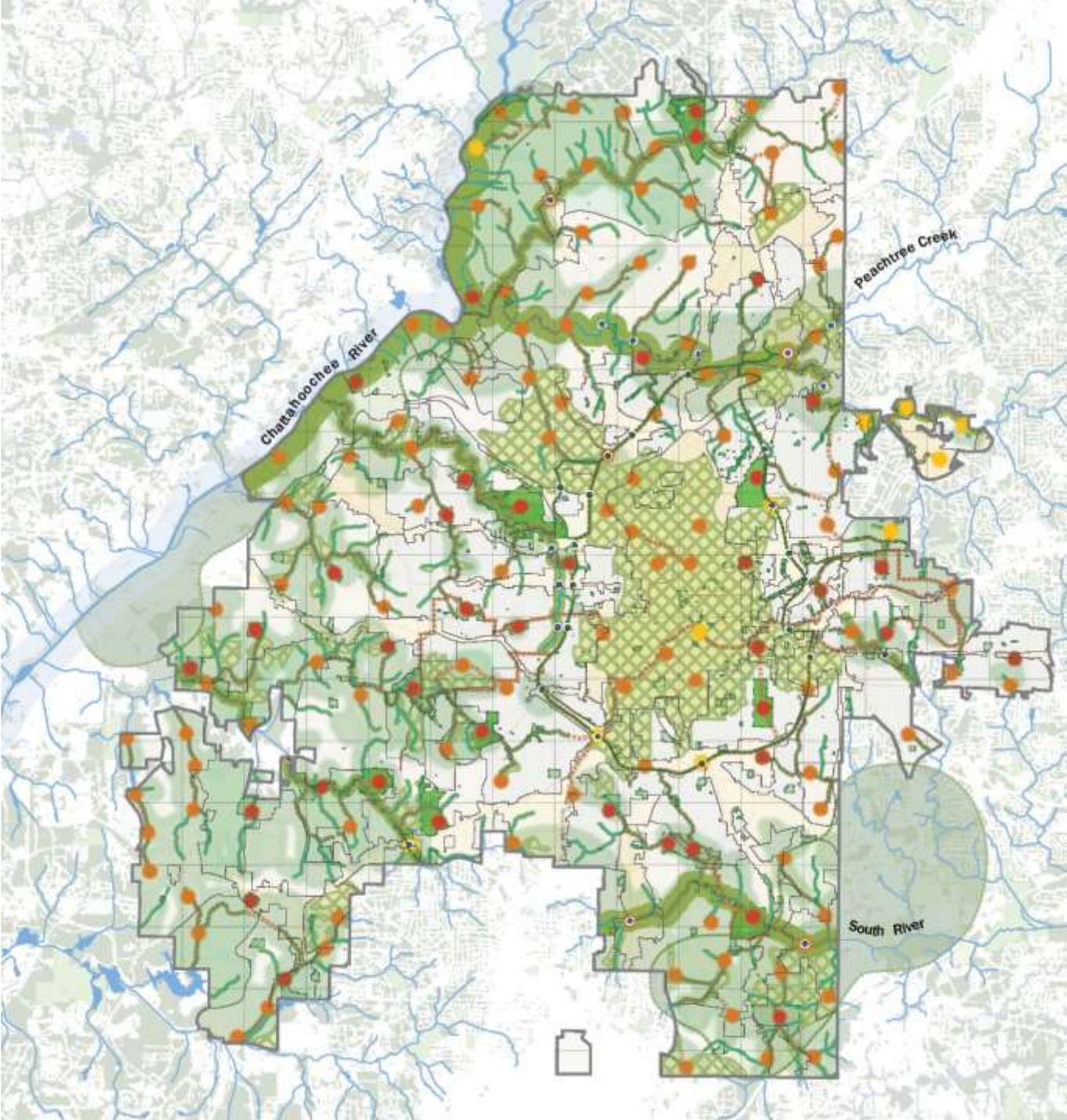
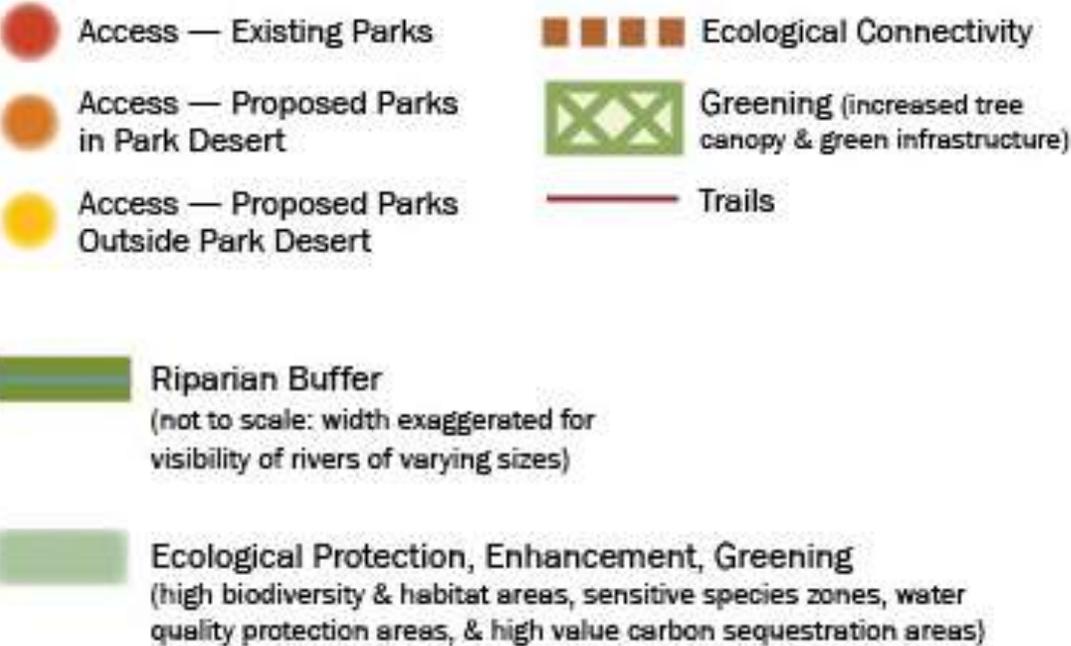
(high biodiversity & habitat areas, sensitive species zones, water quality protection areas, & high value carbon sequestration areas)



SCENARIO 3 – Equity & Ecology

- **EMPHASIS ON Protection and Equity – Combining habitat and biodiversity, targeting areas for the preservation, conservation and enhancement of native species and ecosystems that may be at risk with new strategies for an interconnected and healthy community.**
- *Multifunctionality* – integrating a variety of greening options for multiple benefits
- *Stewardship* – wide variety of engagement and collective ownership of the City’s resources.

SCENARIO 3

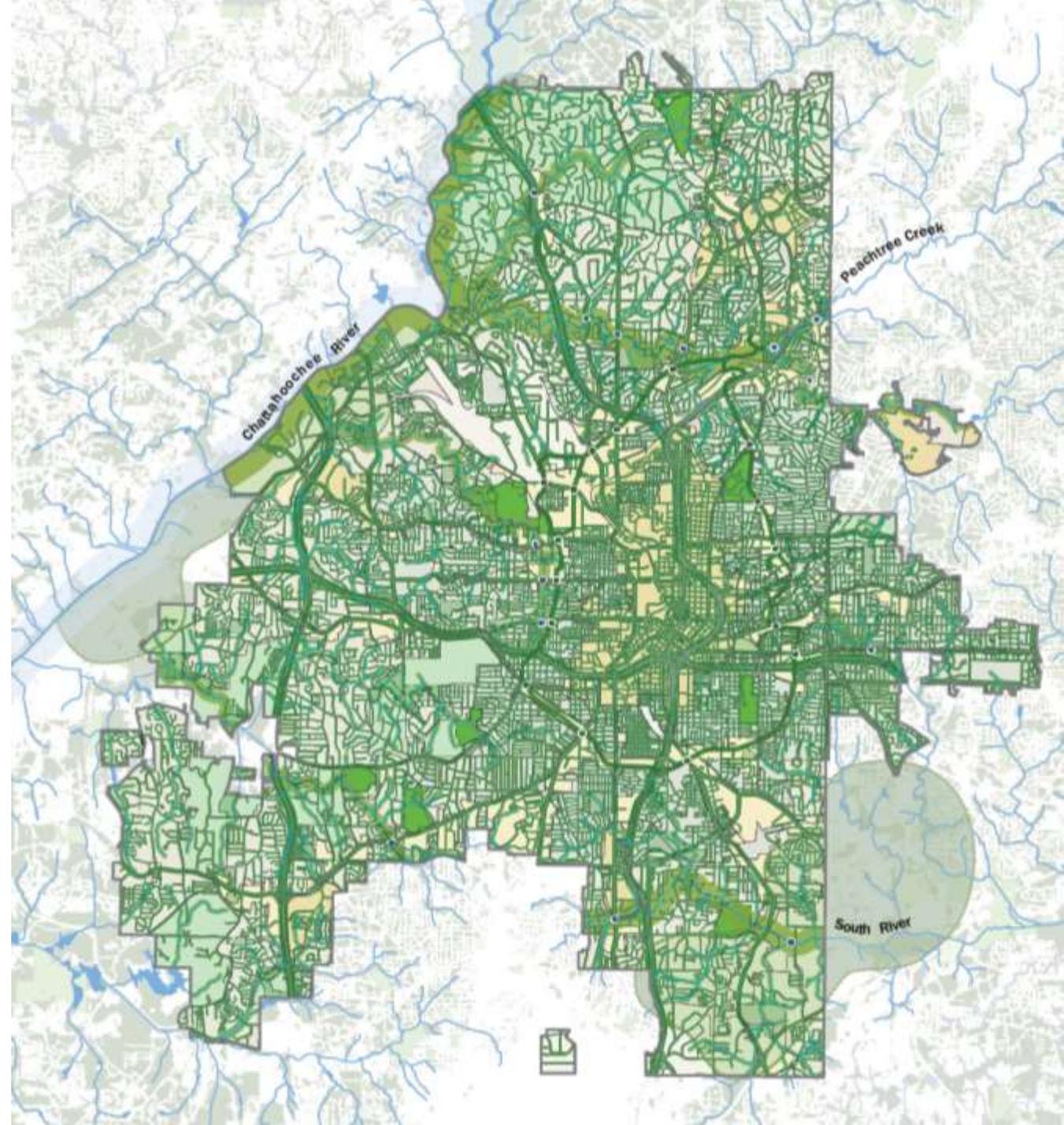


SCENARIO 4 – Grey to Green

- **EMPHASIS on Multifunctionality** – Integrating a variety of greening approaches, focused on the transit and transportation corridors.
- *Protection* – prioritizing water and air quality through greening
- *Equity* – supporting a greener comprehensive and interconnected network of road and waterways
- Stewardship – community engagement and education through visible greening of grey infrastructure.

SCENARIO 4

-  Riparian Blueways
(not to scale: width exaggerated for visibility of rivers of varying sizes)
-  Street Buffer Greening



THANK YOU!

Read more at:

www.atlantaga.gov/government/departments/city-planning/urban-ecology-framework

Contact Heather Alhadeff at:

halhadeff@atlantaga.gov

Or 404.330.6439

