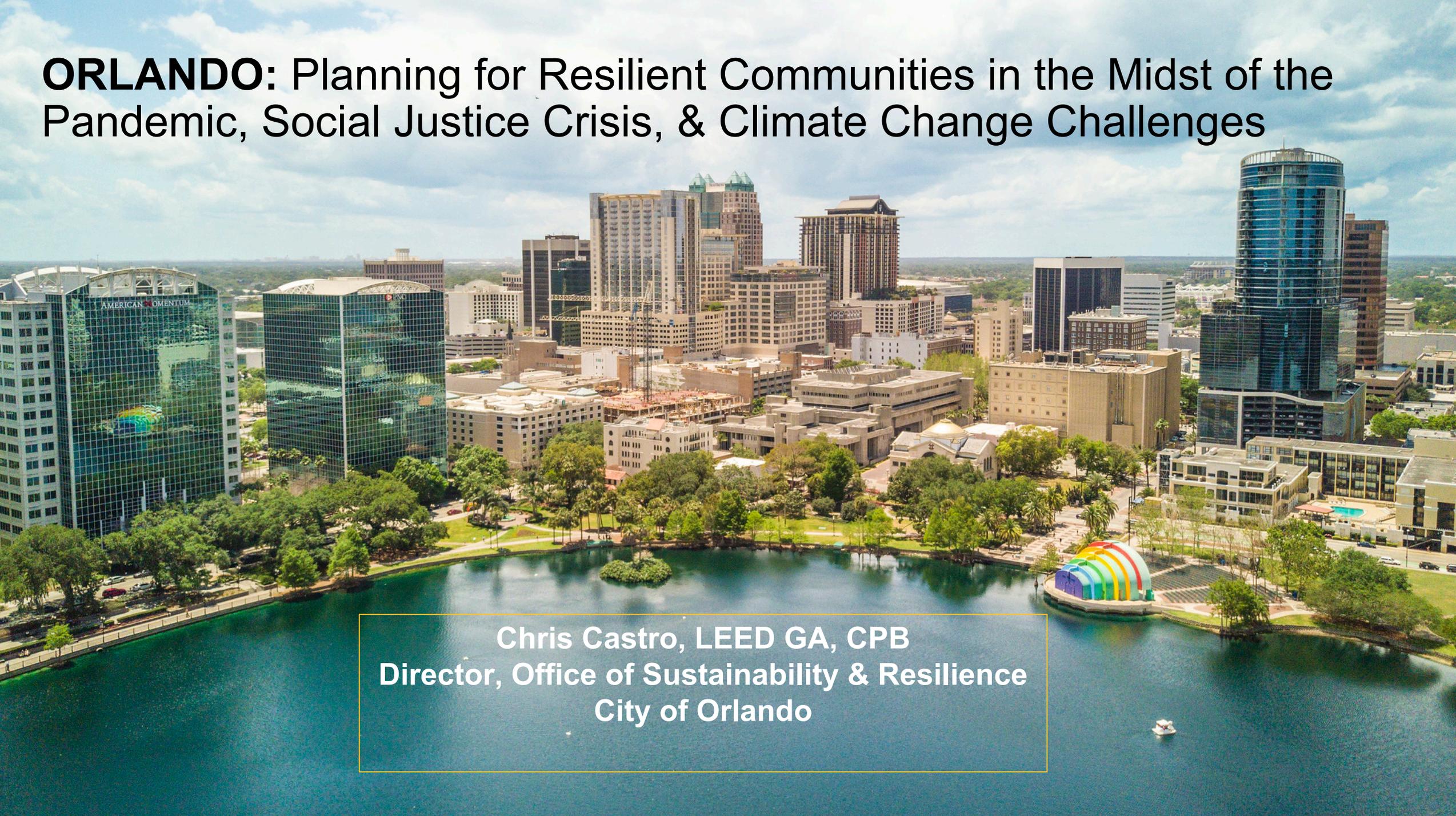


# **ORLANDO:** Planning for Resilient Communities in the Midst of the Pandemic, Social Justice Crisis, & Climate Change Challenges

An aerial photograph of the Orlando city skyline. In the foreground, a large, calm lake reflects the sky. A prominent feature is a colorful, rainbow-striped dome structure on the right side of the lake. The city buildings are a mix of modern glass skyscrapers and older, more traditional structures. The sky is blue with scattered white clouds. The text is overlaid on the bottom part of the image, enclosed in a yellow-bordered box.

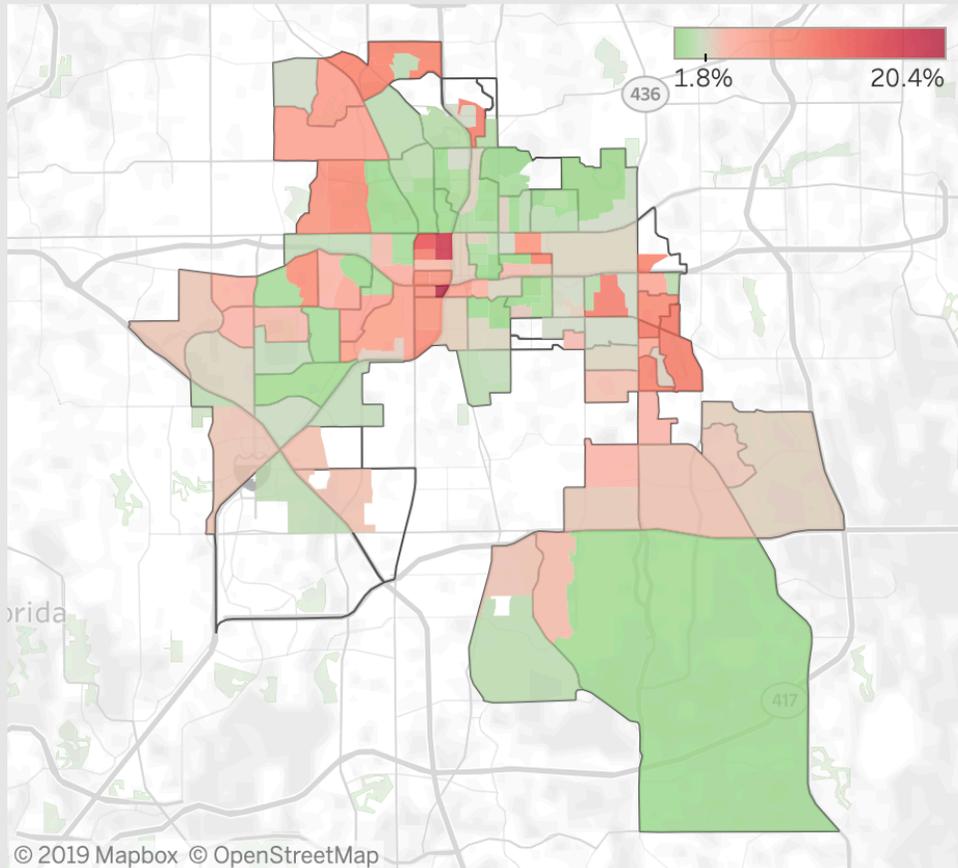
**Chris Castro, LEED GA, CPB  
Director, Office of Sustainability & Resilience  
City of Orlando**





# Equity Mapping: uncovering the housing, energy, water, transportation, and food burdens of our residents

Electricity Burden

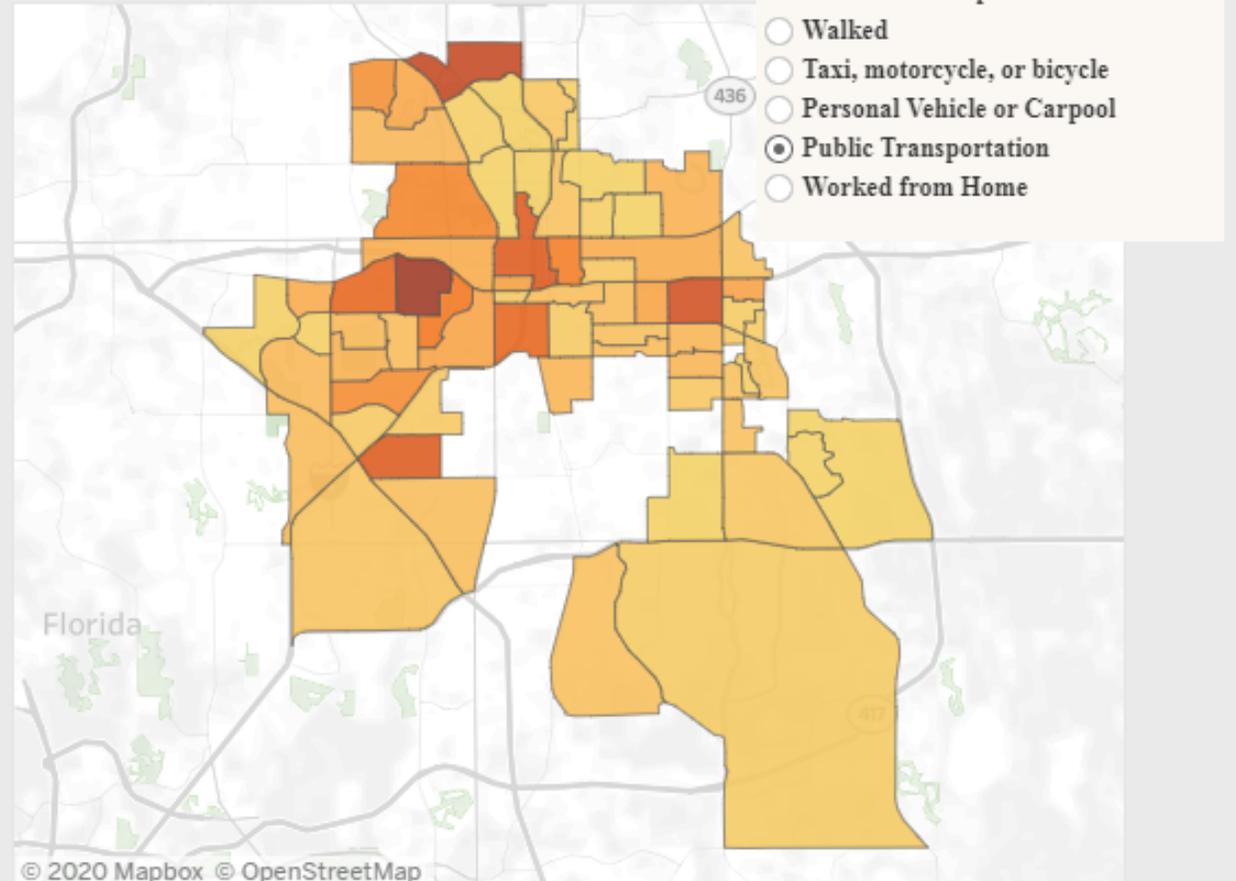


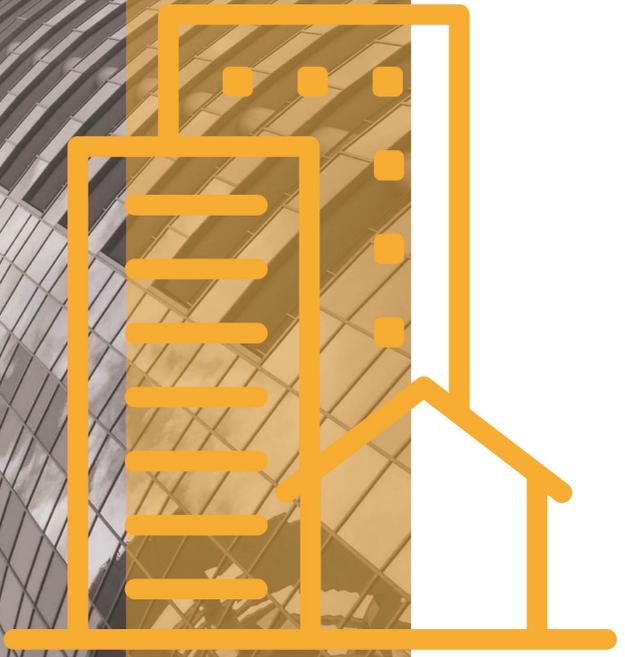
Households Above Electricity Burden

4.5%

Use the slider to see how many households are living above the electricity burden that you choose. The average electricity burden for Orlando is

Means of Transportation to Work



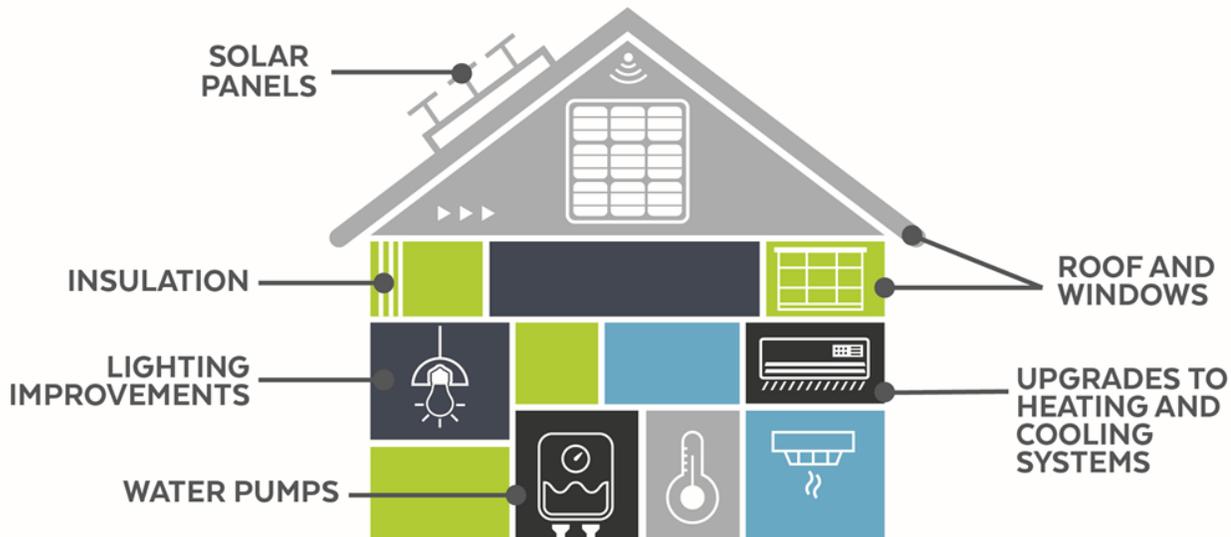


# Green Buildings

# Enabling Financing Options for Homes and Businesses



## EXAMPLE OF IMPROVEMENTS:



**Pamela Turner**

Loan Impacts: Safety,  
Health, Quality of life,  
Credit Rebuilding

Amount of Loan:  
\$7,231.21

Type of loan: Wind  
Hazard Mitigation  
(Roof Repair)



# Mandatory LEED Silver certification for new City buildings



# Green Building Incentive Program

- Majority of green buildings owned by government and academia
- First-year Property Tax rebate for healthy and high-performing buildings
  - LEED Silver: 50%
  - LEED Gold: 75%
  - LEED Platinum: 100%
- Aimed to support affordable housing developments
- New commercial/MF construction or substantial improvement (50% sf+) only

11/18/20

## ORLANDO'S GREEN BUILDING INCENTIVE PROGRAM



Buildings are the single-largest user of energy in Orlando and account for nearly 80% of Orlando's total emissions. When we make buildings more energy efficient, owners and tenants can save money on utilities, lower operating costs, and reduce pollution.

### WHAT IS THE GREEN BUILDING INCENTIVE PROGRAM (GBIP)?

GBIP encourages developers to build sustainably through a City of Orlando property tax rebate. Multi-family and non-residential buildings are eligible when:

- New construction or undergoing a substantial enlargement
- Project achieves LEED Silver certification or higher

This 5-year pilot program (2021-2025) provides a performance-based one time rebate incentive at three levels:

- ✓ LEED Silver receives 50% rebate
- ✓ LEED Gold receives 75% rebate
- ✓ LEED Platinum receives 100% rebate

### WHO BENEFITS?

**DEVELOPERS:** Increased value; recognition of leadership, recoup costs with GBIP

**TENANTS:** Lower operating costs, decreased water and energy consumption, increased occupancy rates

**EMPLOYEES:** Health and productivity

**COMMUNITY:** Reduced greenhouse gas emissions, better mobility options, decreased pressure on natural resources and electrical grid

### WHAT WOULD THIS LOOK LIKE?

On the first year of property taxes, an office building valued similarly to the Citrus Center would receive an incentive up to \$250,000 for building and certifying LEED Gold.

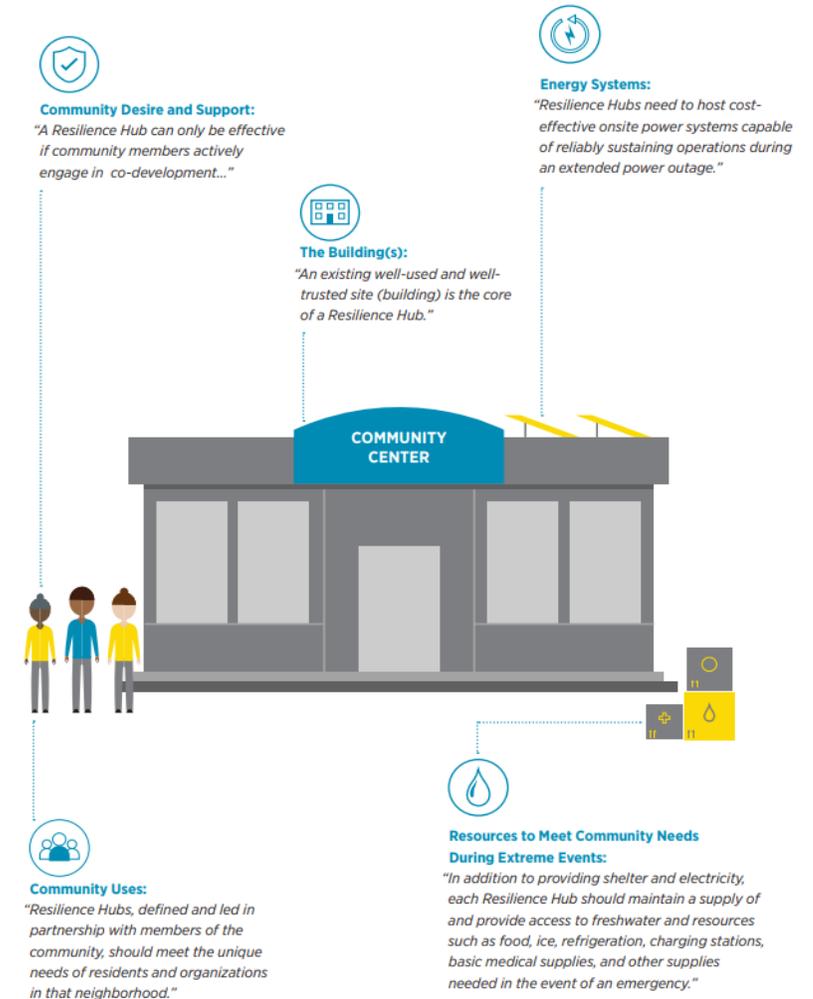
### PROCESS FOR DEVELOPERS

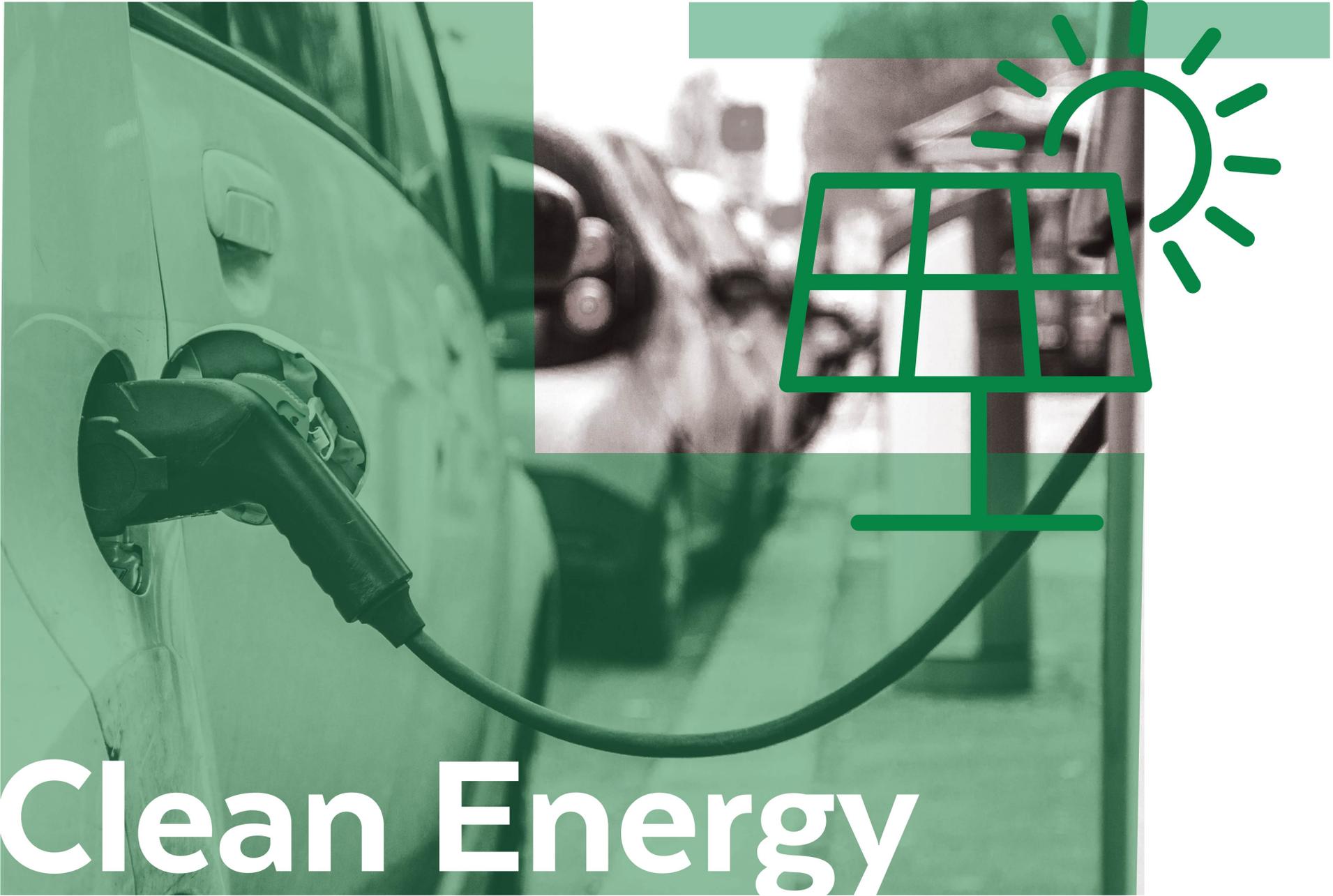




# Resilience Hub Improvements to City's Critical Facilities

- Pursuing funding for 15 facilities in FY21
- Accommodations include
  - Automatic transfer switch
  - Valves and piping for auxiliary chiller support
  - Electric infrastructure for (future) energy storage
  - Electric infrastructure for auxiliary on-site power generation.



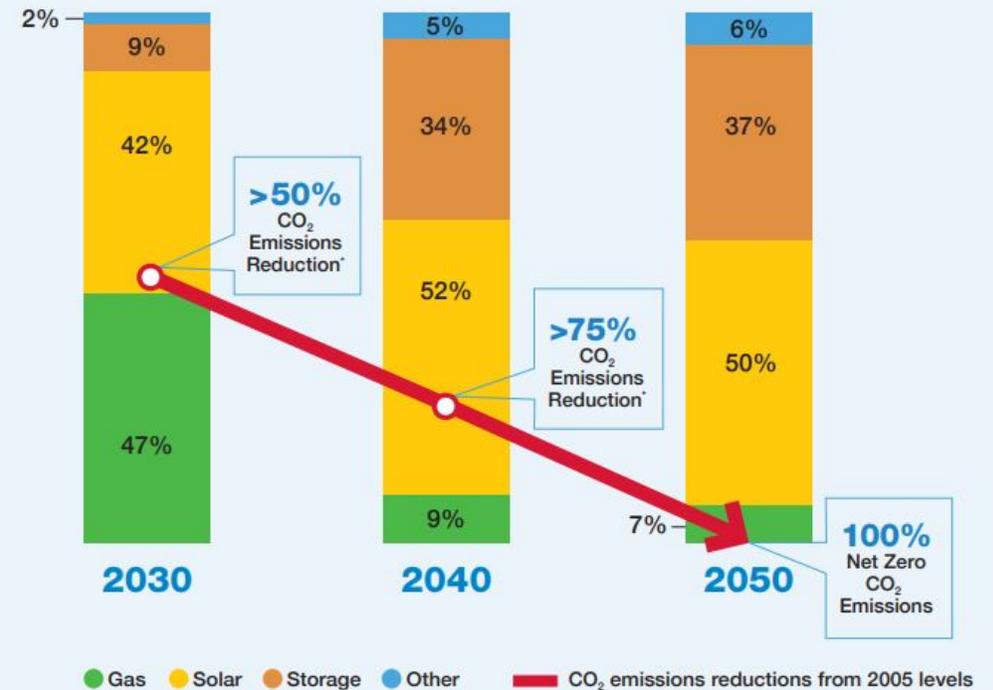


Clean Energy

# Orlando Utility Pulling Plug on Coal-Fired Generation

- **Net-zero carbon by 2050**
- **End coal-fired generation**, with a significant reduction no later than 2025, and eliminating it no later than 2027.
- **Accelerate solar and energy storage as primary strategies.** The utility also said it “will continue to monitor cost and performance developments for new and existing clean technologies, such as hydrogen and small modular reactors.”
- **Leverage future clean technologies** to ensure diversity for reliability, in order to reduce dependency on solar and storage.
- **Strive to maintain competitive rates for customers while achieving strategic goals.** The utility acknowledged that, “Advancements of this magnitude require significant investments. However, the recommendation delivers the best value.”

## OUC Management Clean Energy Roadmap Recommendation



\*Emissions reductions based on 2005 base levels

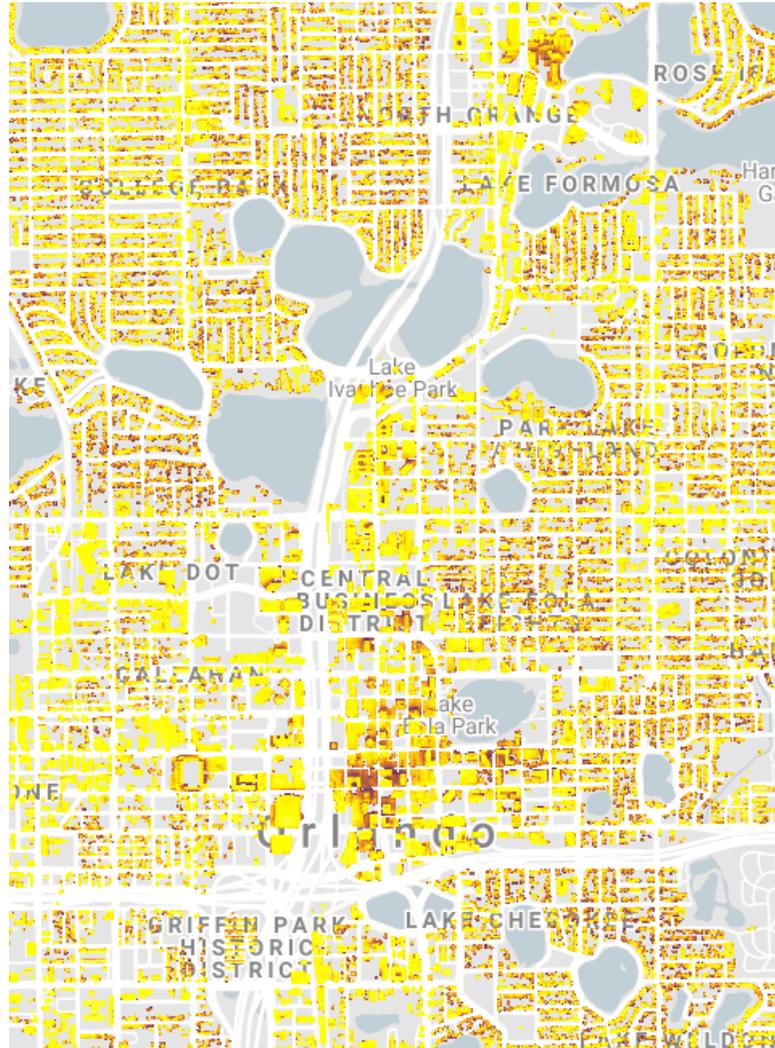
Other includes nuclear, wind and gas peaker

EV offsets used in 2050 only

OUC will significantly reduce coal-fired generation no later than 2025 and eliminate it no later than 2027.



# Citywide Rooftop Solar Potential Study – 2+ GW City-wide



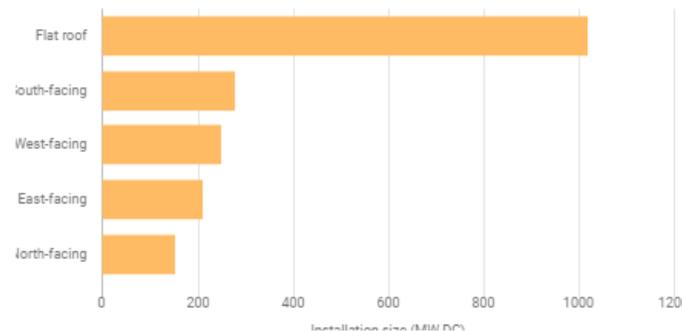
### Overall

Total estimated size and solar electricity production of viable roofs for Orlando, FL

Roofs **92%**      Roofs **54.5K**

Roof space **135M** sq ft      Capacity **1.9K** MW DC      Electricity **2.6M** MWh AC per yr

### Total installation size (MW DC)

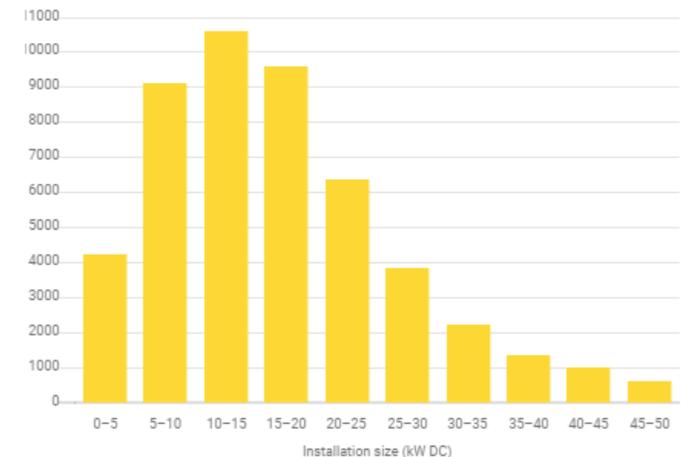


### Per roof

Median estimated system size and solar electricity production per viable roof for Orlando, FL

Roof space **1.2K** sq ft      Capacity **16.3** kW DC      Electricity **21.6K** kWh AC per yr

### Rooftop solar capacity distribution (number of roofs, < 50kW)





# SOLAR UNITED NEIGHBORS



Join Solar United Neighbors



Get expert advice



Celebrate saving with solar

2019 Coop = 62 residents, 748 kW

2020 Coop currently open!

Avg. Price: \$1.87/watt - \$2.15/watt

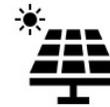
[SolarUnitedNeighbors.org/](http://SolarUnitedNeighbors.org/)

# ORLANDO SOLAR CO-OP

INFORMATION SESSIONS WITH SOLAR UNITED NEIGHBORS



## Orlando Co-op Successes



7 co-ops



146 went solar



1.5 MW installed



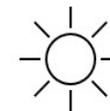
\$3,308,962 invested in local economy



1,100 educated



50.6 million lbs of CO2e offset



2020 Orlando Solar Co-op Open Now!





# Transportation



# Recharge eMobility Hubs





# Local Food

# Enabling Urban Agriculture

- Addressing food access and food insecurity
- Food recovery network
- Grow-A-Lot program
- Front-yard farming ordinance
- Backyard chickens
- Urban beehives
- Community garden network
- Cottage Food industry
- Food system ordinance





# Urban Beekeeping Training Program



Black Bee Honey is at Water Conserv II Water Reclamation Facility. ...

1 hr · Orlando, FL · 🌐

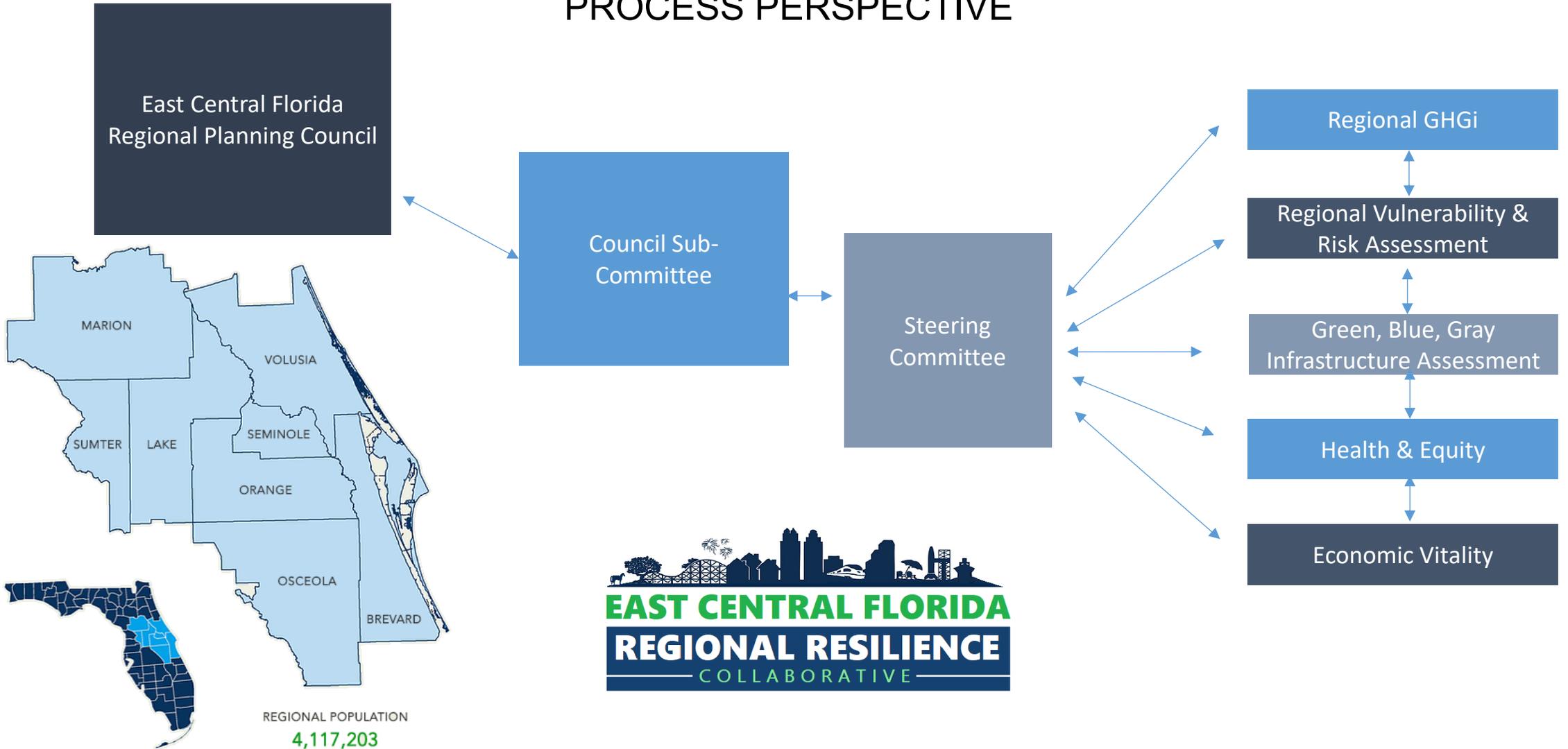
How cool are these honeycombs from our beehive? We even tasted honey straight from the comb and it was delicious!

... See More

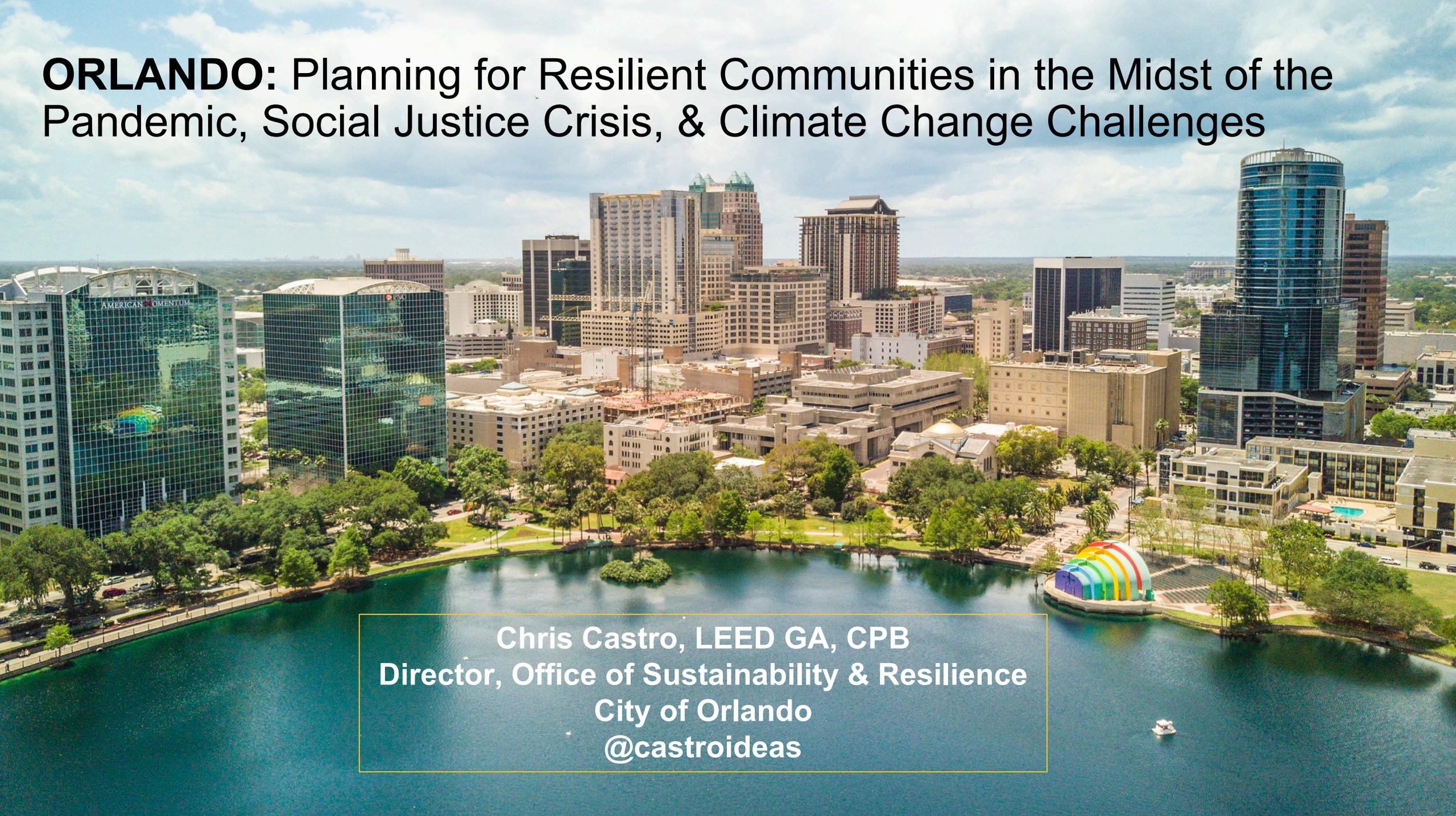


# East Central Florida Regional Resilience Collaborative (ECFR2C) Structure

## PROCESS PERSPECTIVE



# **ORLANDO:** Planning for Resilient Communities in the Midst of the Pandemic, Social Justice Crisis, & Climate Change Challenges

An aerial photograph of the Orlando city skyline. In the foreground, a large body of water (Lake Eola) is visible, with a small island in the center and a colorful rainbow dome structure on the right. The city buildings are a mix of modern glass skyscrapers and older, more traditional structures. The sky is blue with scattered white clouds.

**Chris Castro, LEED GA, CPB**  
**Director, Office of Sustainability & Resilience**  
**City of Orlando**  
**@castroideas**



**RESILIENT**

**THE HAGUE**



**Anne-Marie Hitipeuw – Chief Resilience Officer , City of The Hague**  
**APA Planning for Resilient Communities**

**18 November 2020**

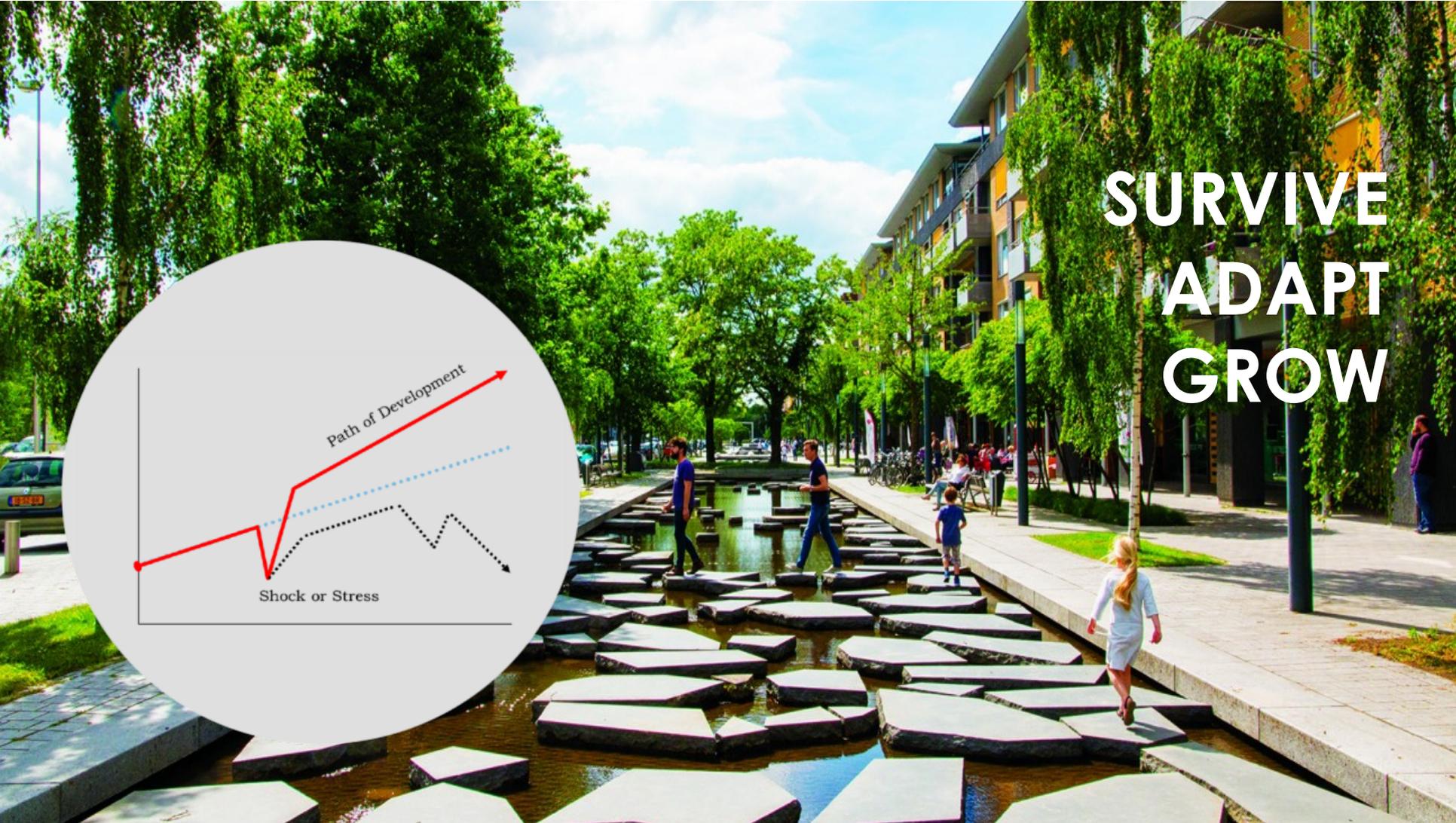
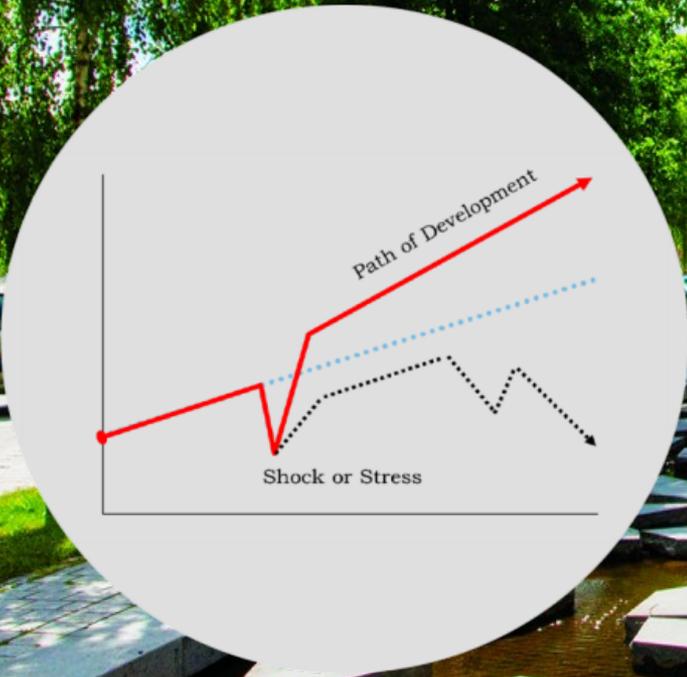


MIDTOWN CAFE  
GOURMET-SUBS-SALADS

PARKING

MIDTOWN CAFE  
CARRY-OUT  
313-543-5434

**SURVIVE  
ADAPT  
GROW**



100



RESILIENT

CITIES

**RESILIENT**

**CITIES  
NETWORK**

# SHOCKS & STRESSES



# SHOCKS & STRESSES

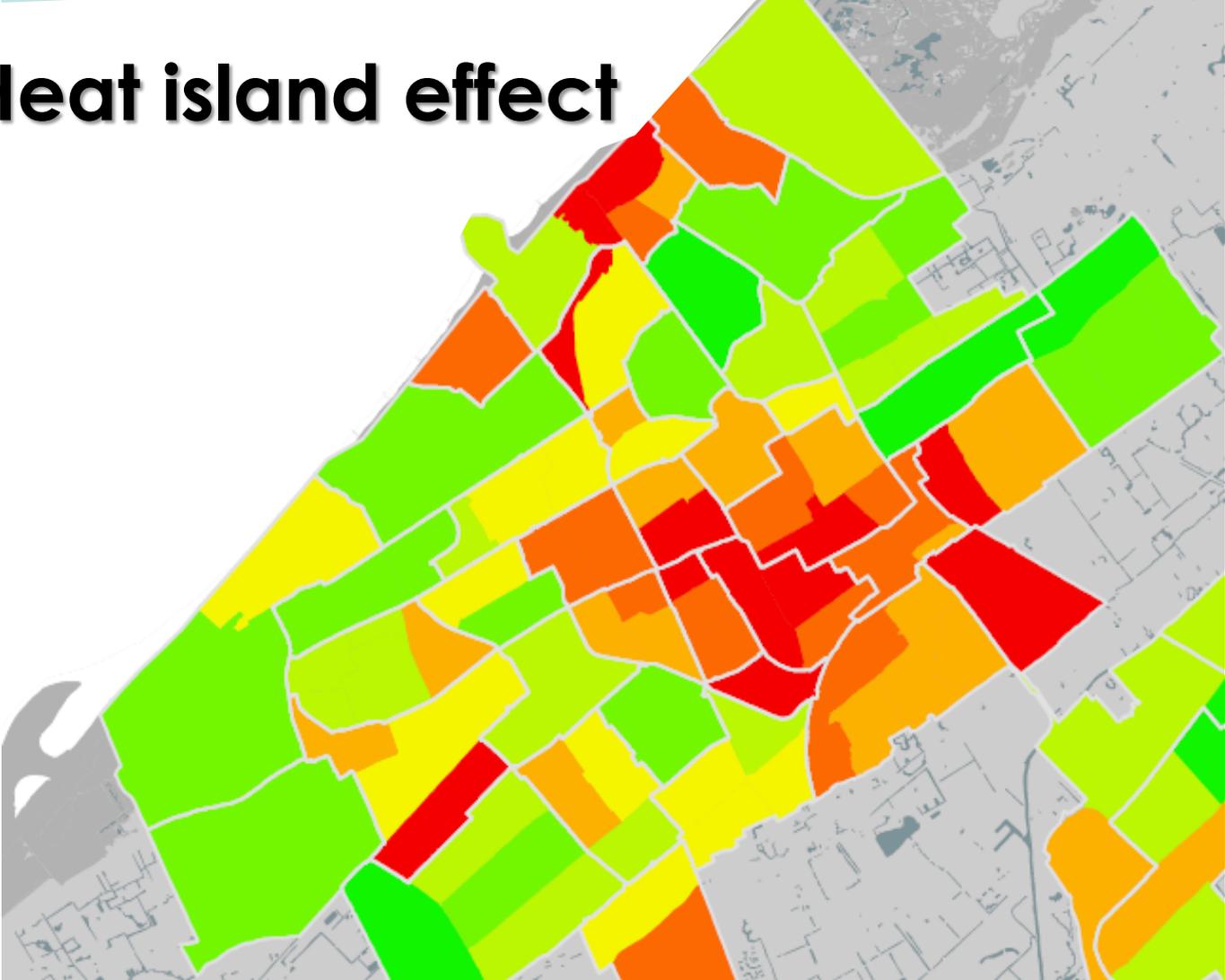
## Shocks

- Cyber attack
- Civil unrest
- Discontinuity of critical services
- Extreme weather
- Flooding
- Pandemic
- Terrorism

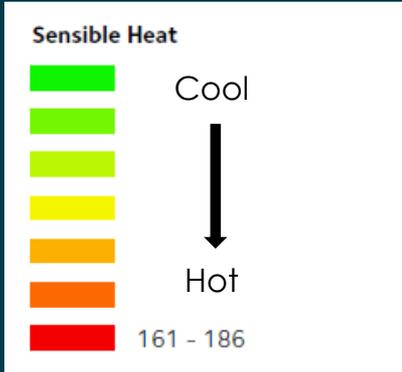
## Stresses

- Climate change
- Digitisation and new technology
- Inclusive education and capacity building
- Leadership and effective management
- Limitations in the transport network
- Growth of the population
- Poverty and inequality
- Segregation, polarisation and social cohesion
- Undermining of the society
- Unemployment
- Uneven health outcomes

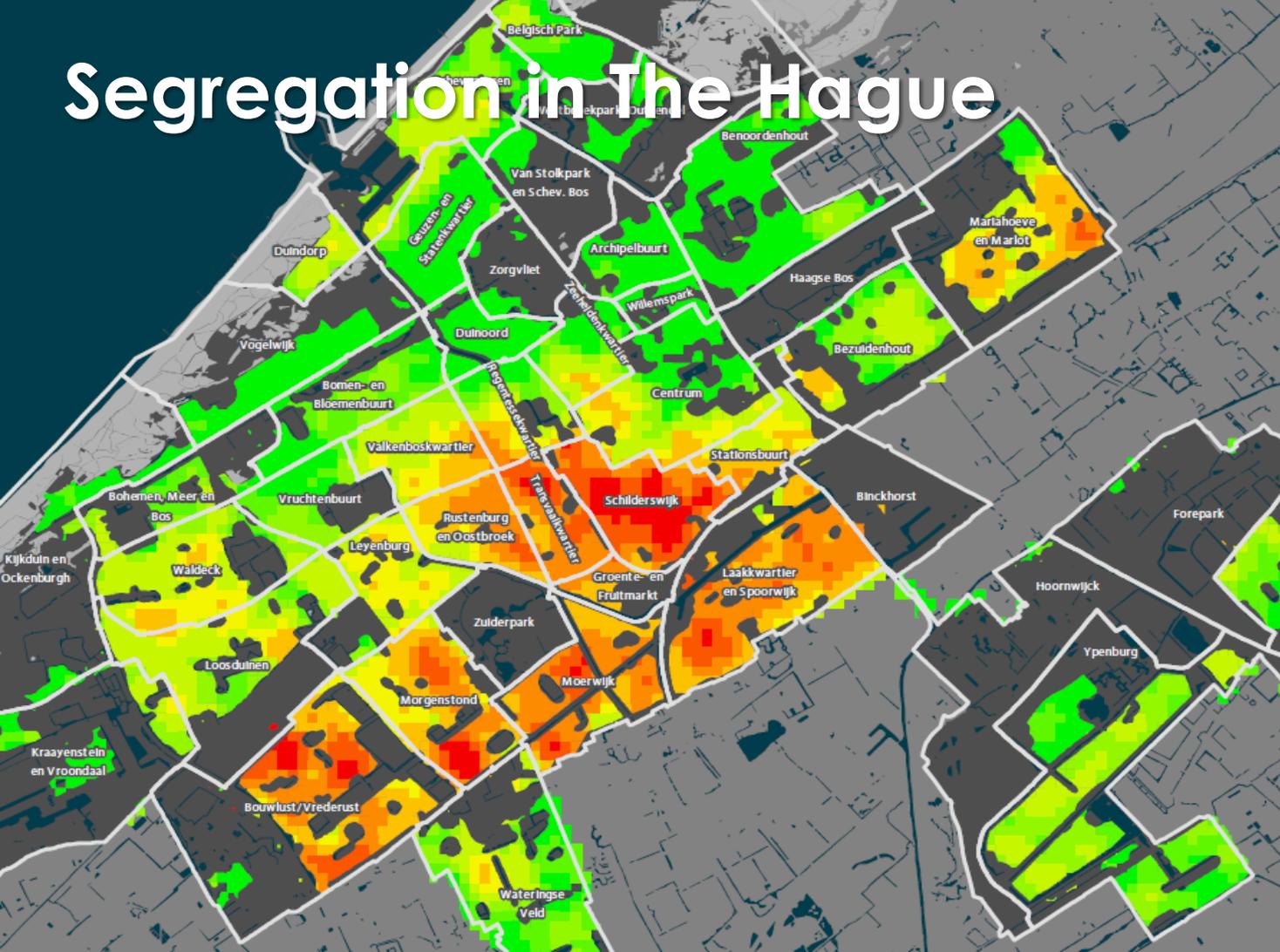
# Heat island effect



Sensible heat



# Segregation in The Hague

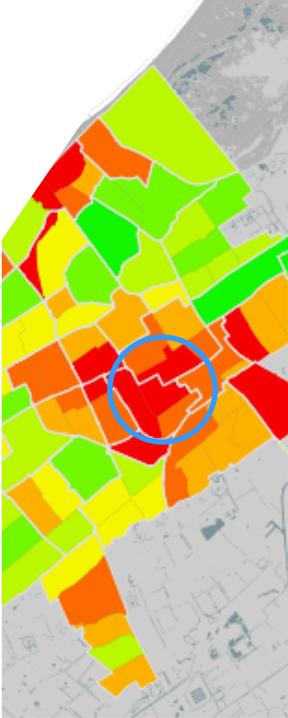


## Liveability index

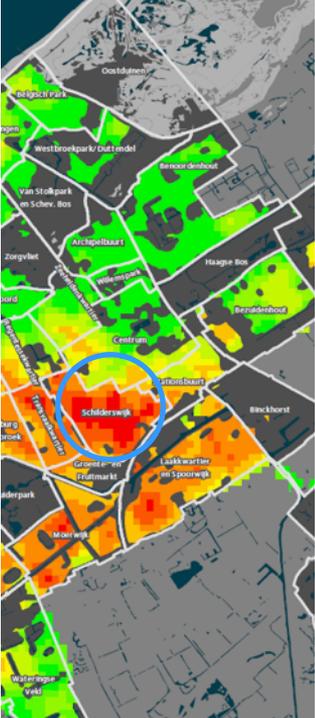
-  Physical environment
-  Employment
-  Services
-  Safety
-  Housing

# Policy solutions

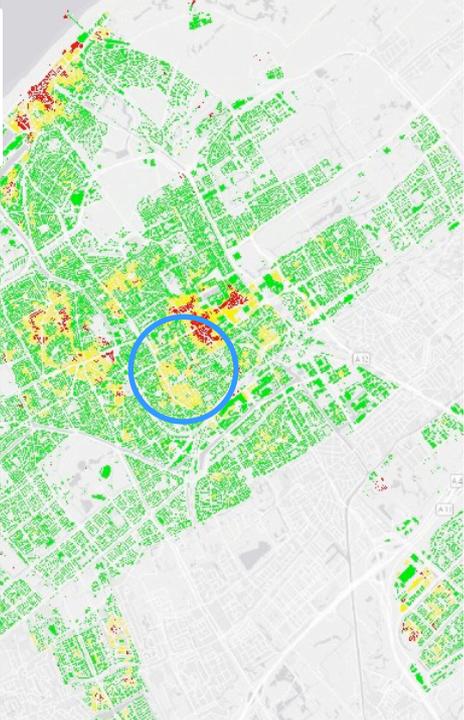
IMPACT HEAT WAVE



VULNERABLE CITIZENS

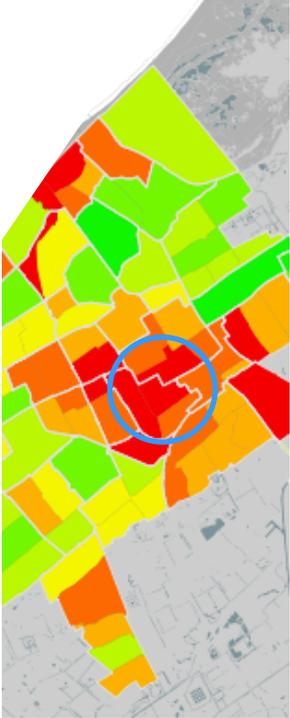


DISTANCE TO GREEN SPACE

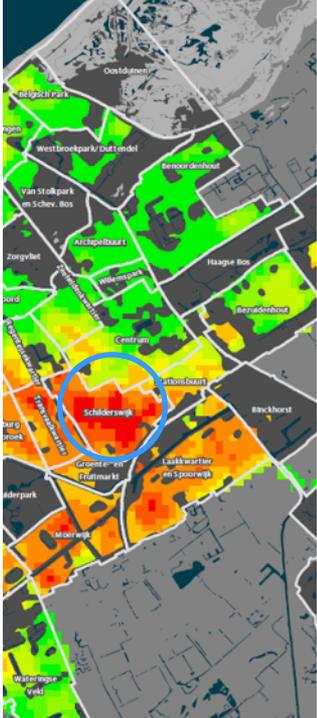


# Policy solutions

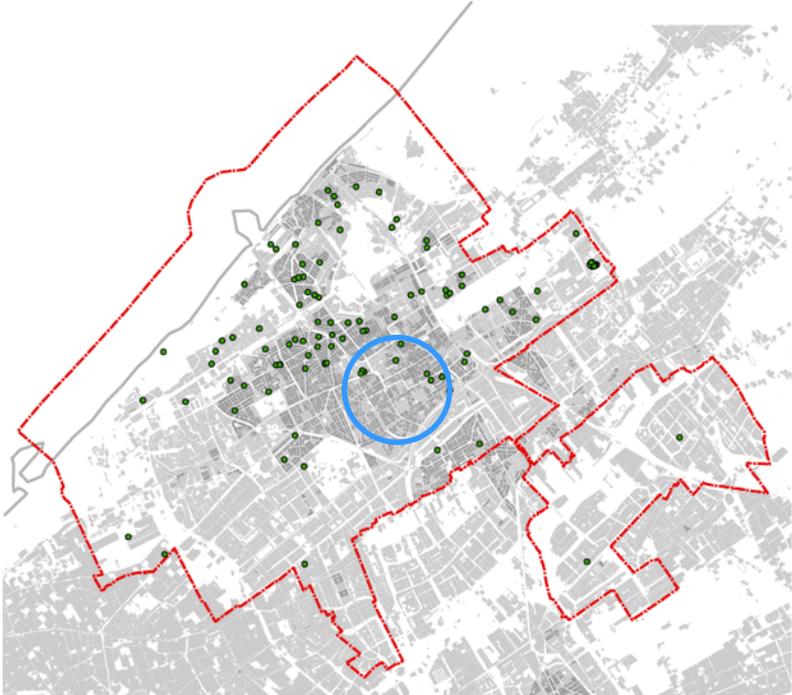
IMPACT HEAT WAVE



VULNERABLE CITIZENS

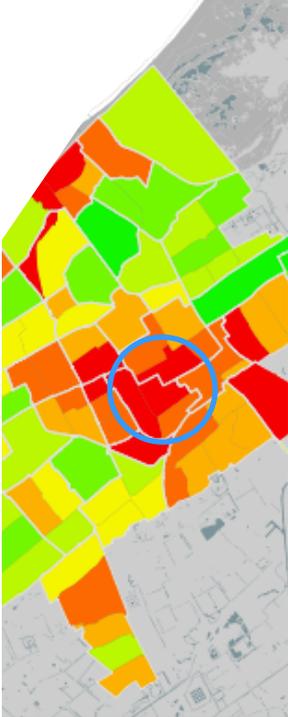


GREEN ROOFS SUBSIDY

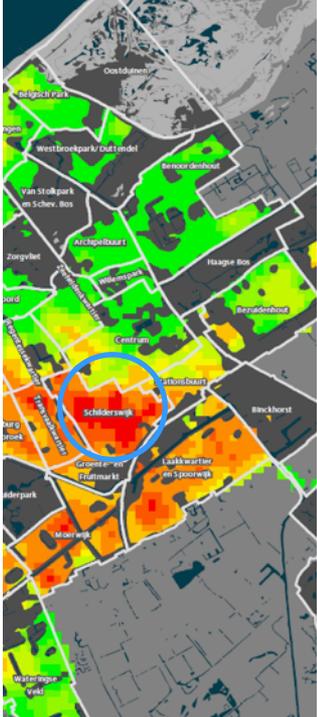


# Policy solutions

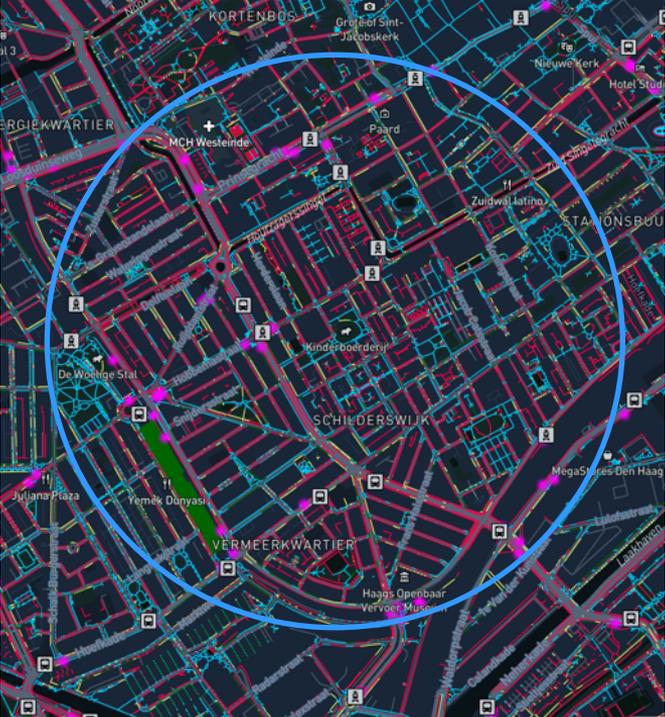
## IMPACT HEAT WAVE



## VULNERABLE CITIZENS

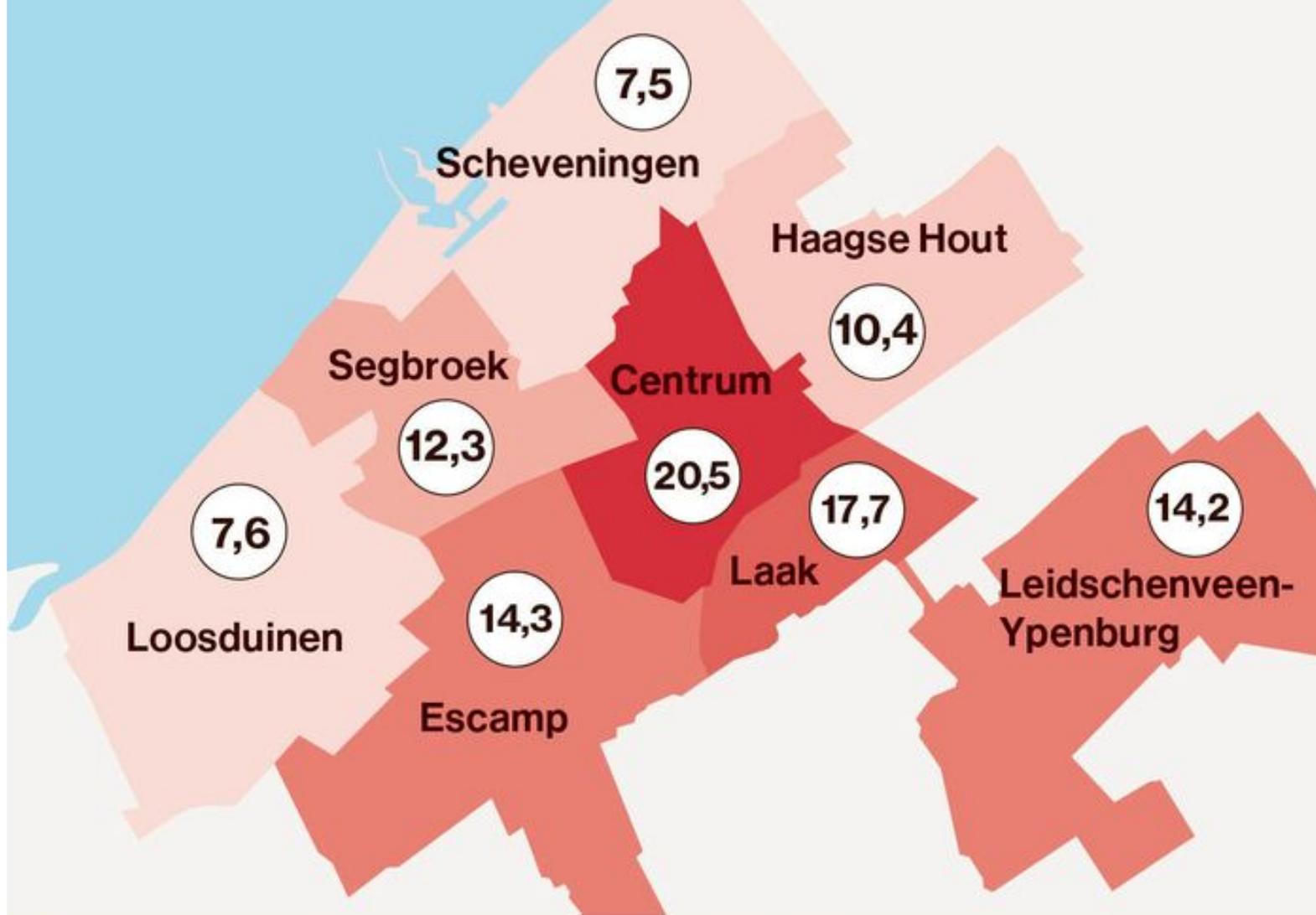


## POSSIBILITY SOCIAL DISTANCING









# SHOCKS & STRESSES

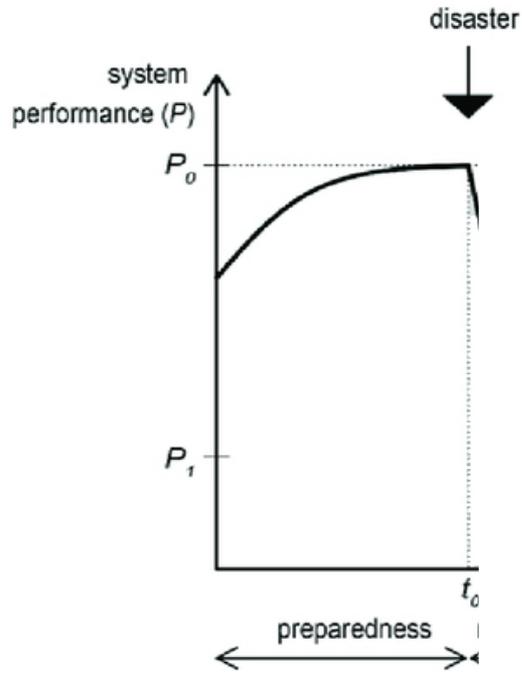
## Shocks

- **Cyber attack**
- Civil unrest
- Discontinuity of critical services
- Extreme weather
- Flooding
- **Pandemic**
- Terrorism

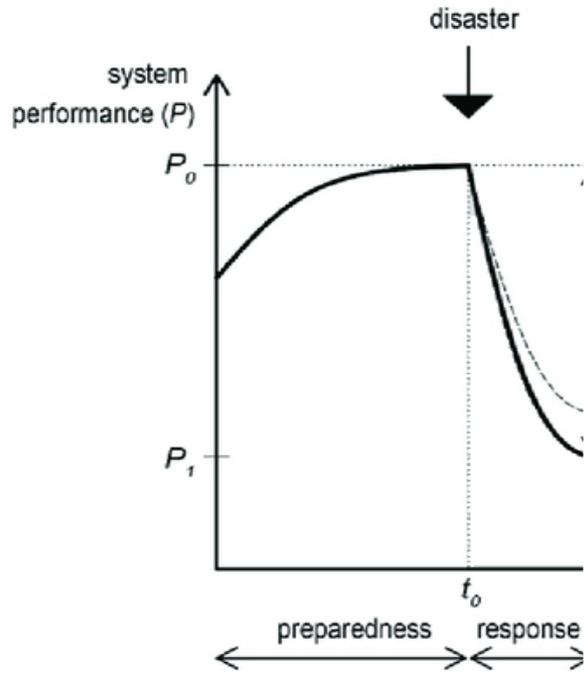
## Stresses

- Climate change
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- Leadership and effective management
- Limitations in the transport network
- Growth of the population
- **Poverty and inequality**
- Segregation, polarisation and social cohesion
- Undermining of the society
- Unemployment
- Uneven health outcomes

# *Build back stronger*



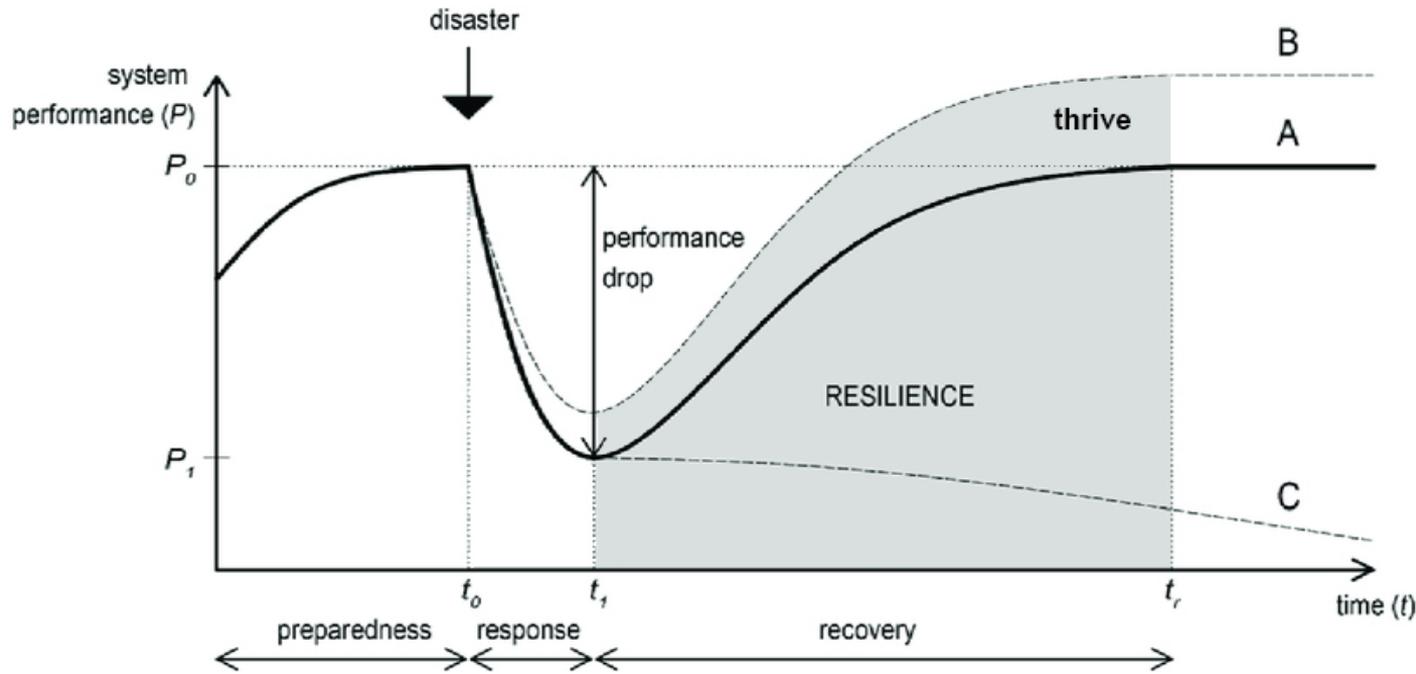
# *Build back stronger*



*Crisis  
organisation:*

- *Corona  
Steering  
committee*
- *Corona Task  
force*

# *Build back stronger*



*Short – mid term*

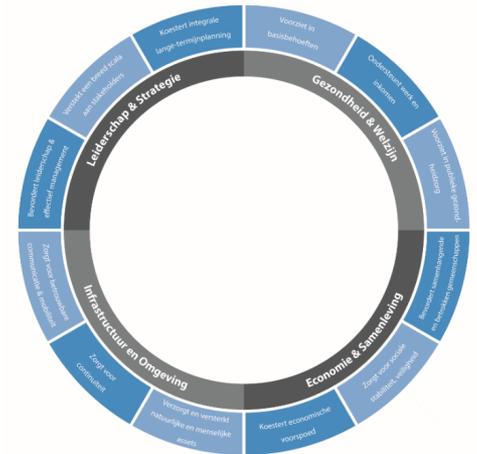
- *Financial Impact Analysis*
- *Societal Impact Analysis*
- *Recovery plan*

*Longer term:*

- *Corona Resilience Assessment*

# Corona Resilience Assessment

- *Gather knowledge and ideas from our communities*
- *Link the different themes, work through silo's*
- *Gather knowledge from the network*
- *Gather knowledge from earlier crises*
  
- *Use this crisis to improve our city, some ideas:*
  - *Greenify the city, creates work for unemployed people*
  - *Train unemployed people to work in education and health*
  - *Use the experience working from home to decrease CO2 emissions on the long term*
  - *How can we be better prepared for the next pandemic*



# *Recovery plan*

## *Corona buffer 133 million*

1. Participate through work, training and guidance
2. Entrepreneurial climate for now and for later
3. Education and perspective for the youth
4. Building and sustainability for and by our residents
5. Vulnerable residents social and vital
6. Impulse to the visitor economy and city center
7. Prevent problematic debts

# *Action in the city*

1. Sport
2. Food provision
3. Energy transition
4. Climate change adaptation

# A

## SPORT Street sport programs



# B

## FOOD PROGRAM Participation kitchen



C

# ENERGY TRANSITION Job creation – energy academy



# D CLIMATE ADAPTATION Urban Water Buffer



In the new **CROMVLIETPARK** we reuse rainwater with the **URBAN WATERBUFFER**.



# THANK YOU!

[www.resilientthehague.nl](http://www.resilientthehague.nl)



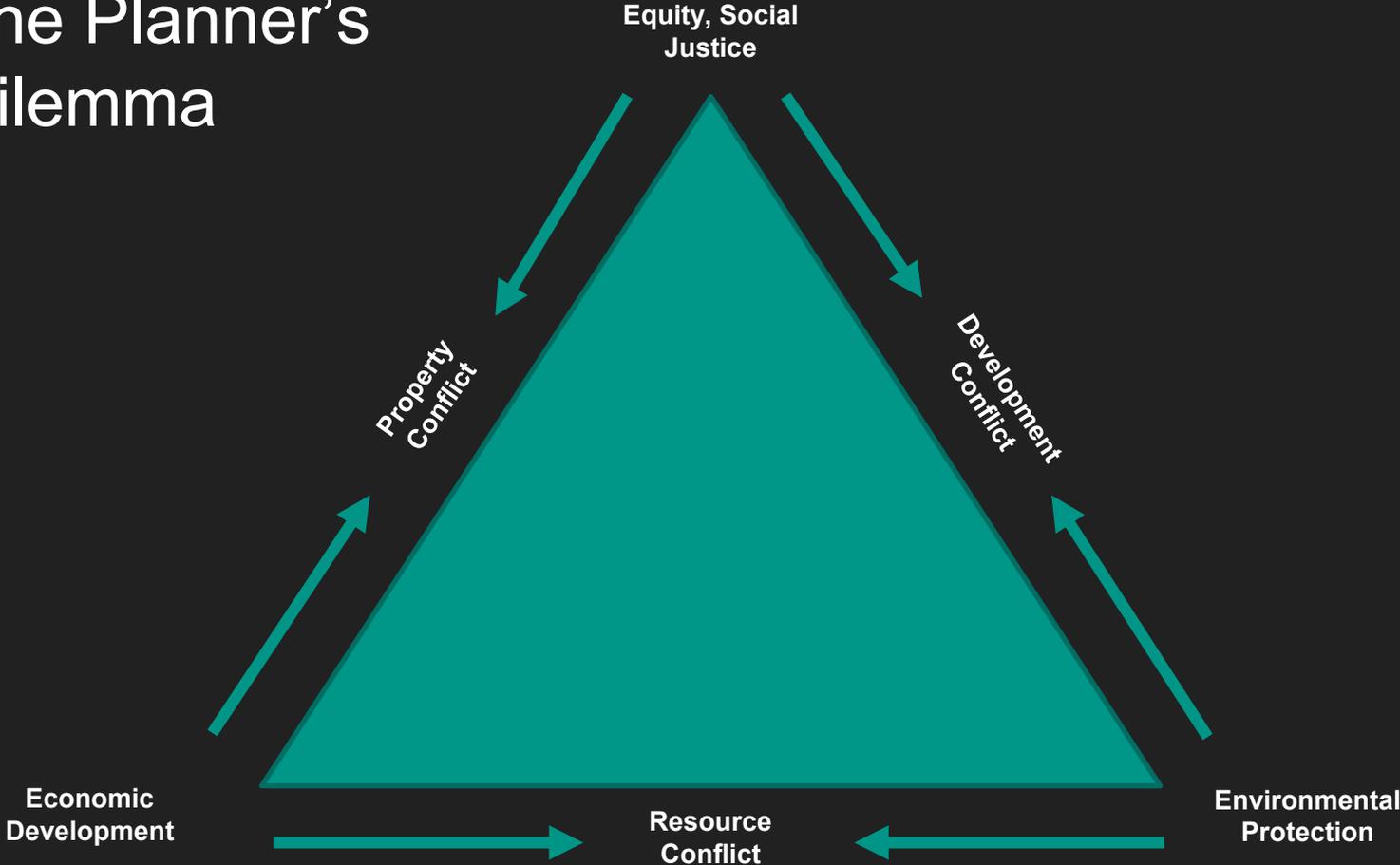


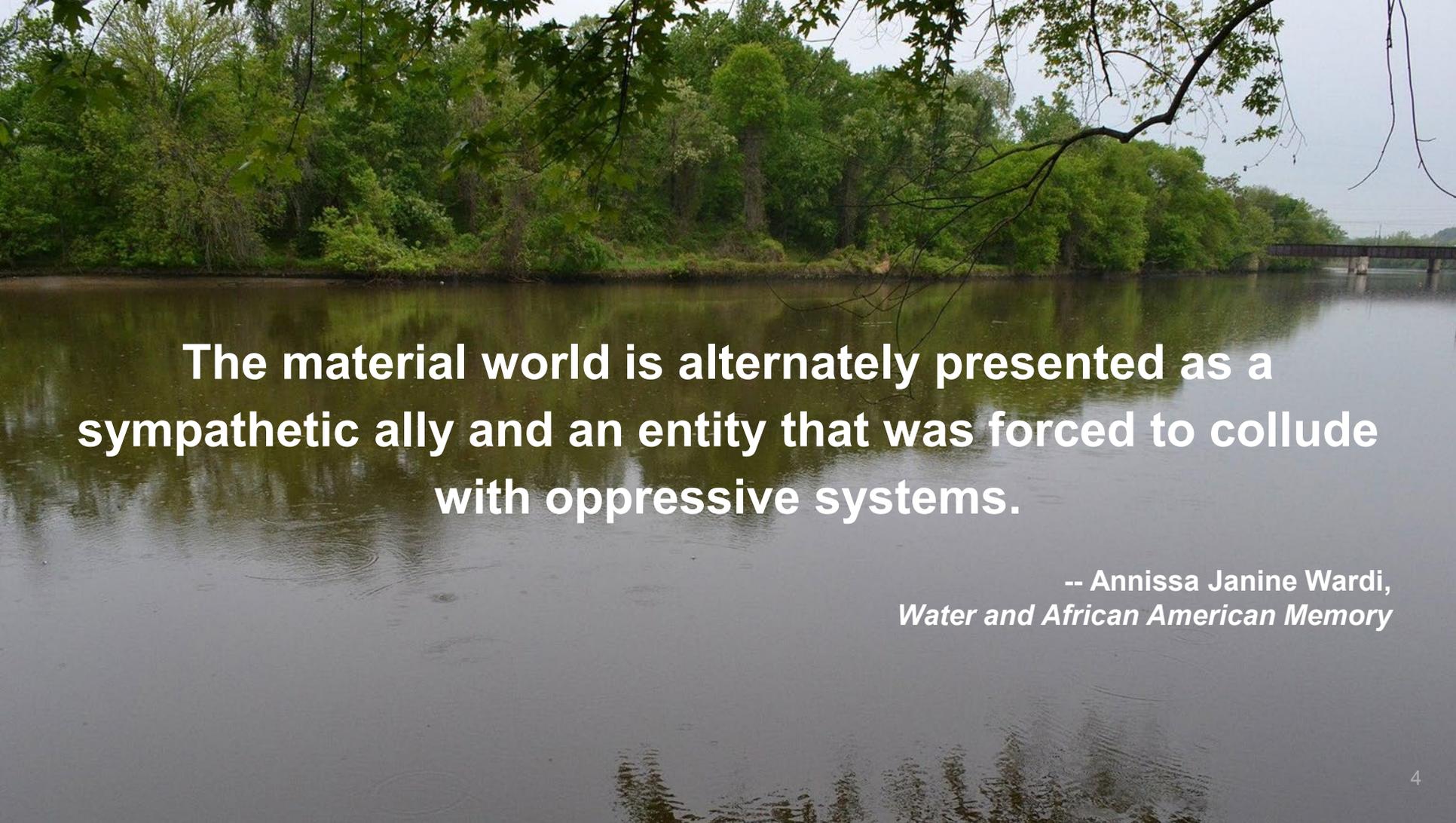
# PLANNING IN THE MIDDLE:

*using social & spatial positionality to  
advance sustainability and community  
connections*

**What is sustainability?  
Where is resilience?**

# The Planner's Dilemma





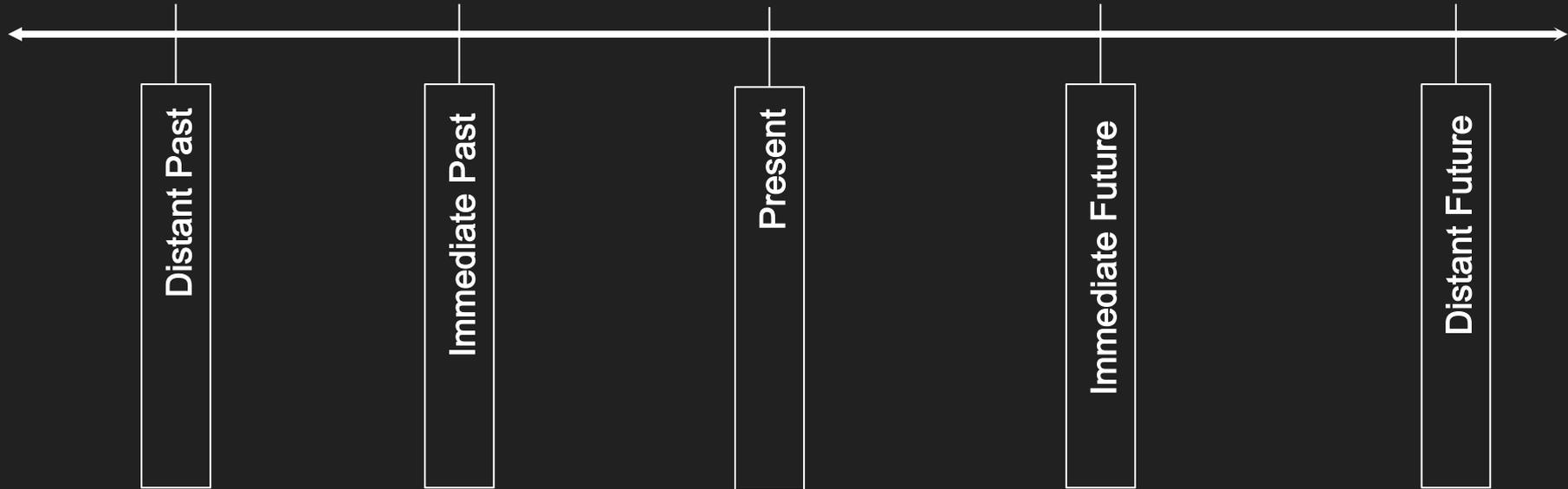
**The material world is alternately presented as a  
sympathetic ally and an entity that was forced to collude  
with oppressive systems.**

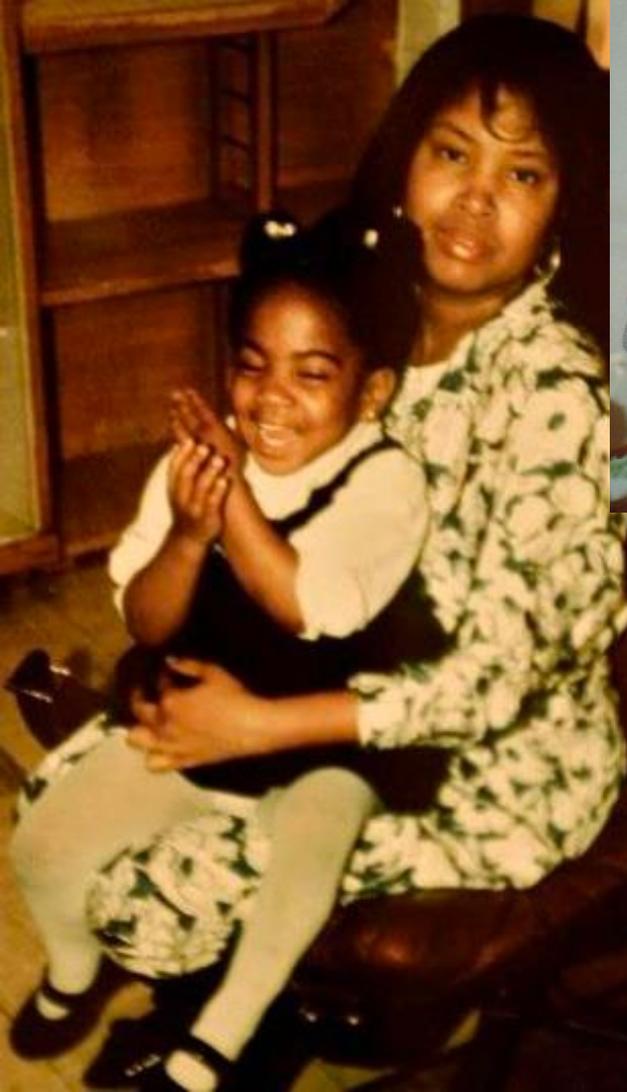
*-- Annissa Janine Wardi,  
Water and African American Memory*

# Population Health as an indicator of Constructed Sustainability



# What are we doing to preserve communities' ability to connect to their past and their future?





**WHO IS MISSING?**



Figure 2. A model of community cultural wealth.  
Adapted from: Oliver & Shapiro, 1995 from Tara  
Yosso's Whose Culture Has Capital

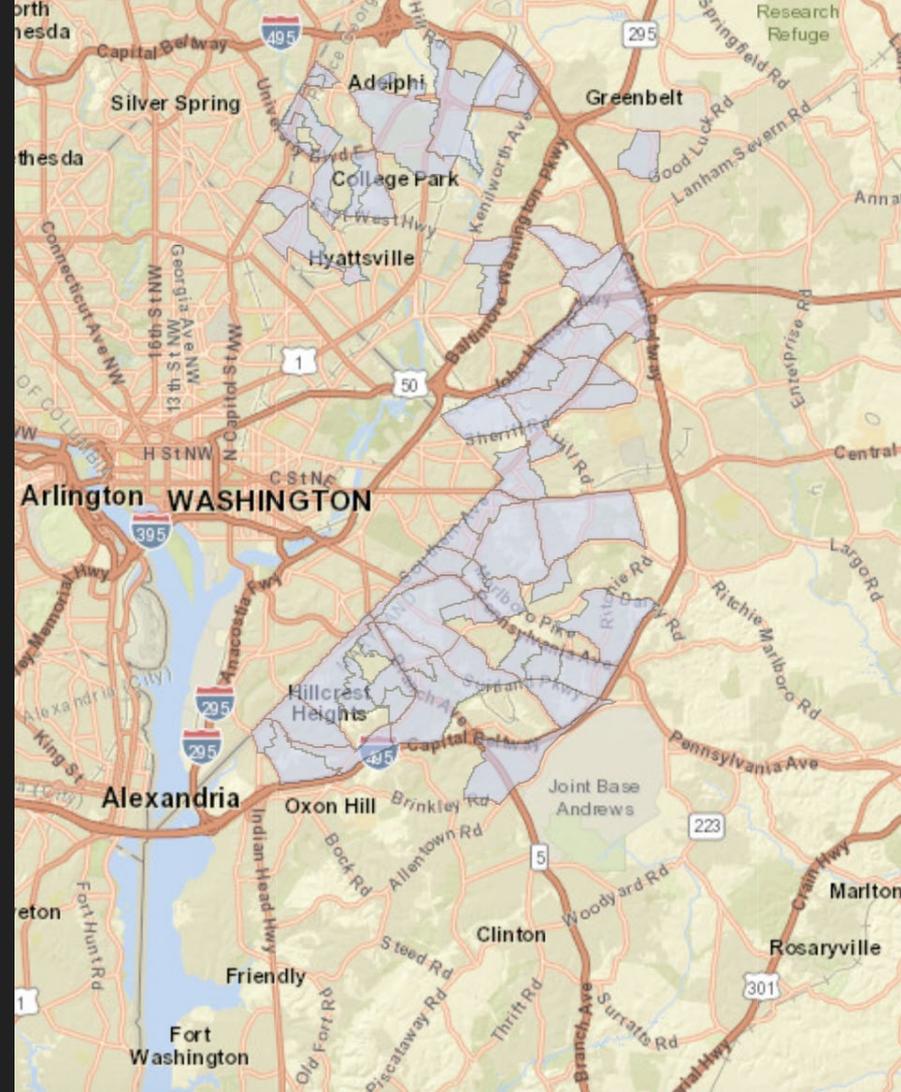




**RESILIENT  
FOOD SYSTEM**

# HEALTHY FOOD PRIORITY AREAS

- Prince George's County Council
- Prince George's County Food Equity Council
- Prince George's County Health Department
- Prince George's County Planning Department





# FOOD & ZONING



# CREATION CARE



# COTTAGE CITY GARDEN



# THE CAPITAL MARKET OF 20743

# Brittney Drakeford

PhD Student  
Urban Planning and Design

Senior Planner  
PGC Planning Department

Culture of Health Leader  
Robert Wood Johnson Foundation

Collaborator  
Capital View Consult

 brittneythenerd

 britt.drake@gmail.com



equity = access to opportunities

is a function of

social + physical + political  
capital resources & environment decisions

social networks + sweat equity

# How Healthy An Individual Is

is a function of

An individual's = medical + social  
care, services, & access care, services, access

BUILT ENVIRONMENT