

Welcome!

to our conversation on:

**CLIMATE JUSTICE:
WHY IT MATTERS & WHAT YOU CAN DO**



TONIGHT'S CONVERSATION IS BROUGHT TO YOU BY:



Civic Action Conversations

Explore regional critical priorities

Possible action steps for every Richmonder



The Geography of Climate Inequity

Jeremy S. Hoffman, Ph.D.

David and Jane Cohn Scientist, Science Museum of Virginia

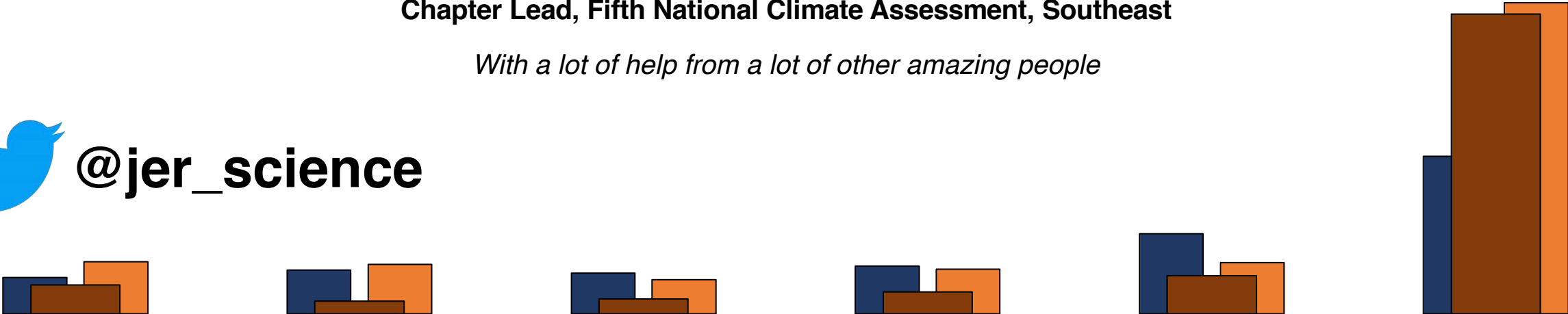
Affiliate Faculty, Wilder School for Government and Public Affairs, Virginia Commonwealth University

Chapter Lead, Fifth National Climate Assessment, Southeast

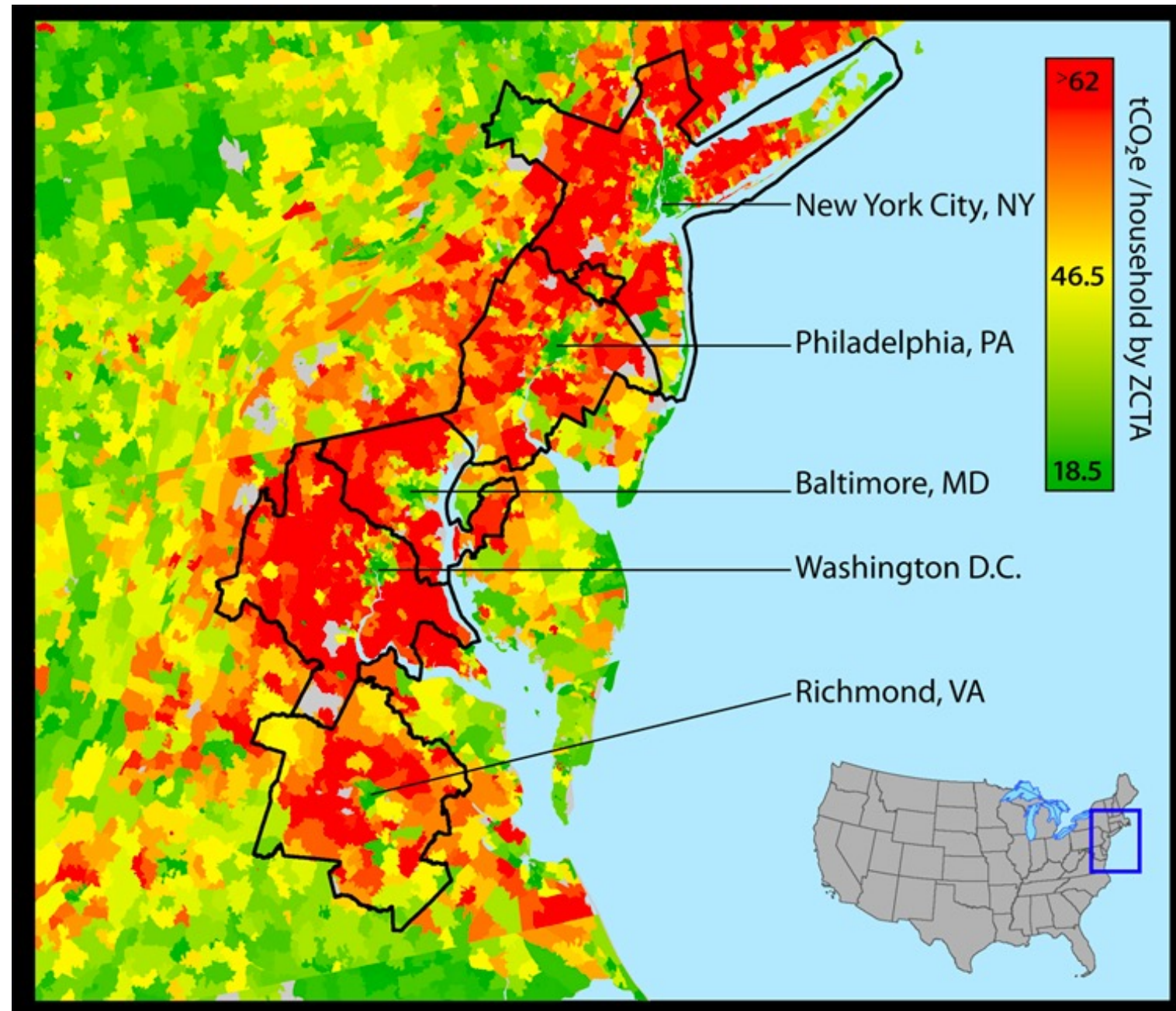
With a lot of help from a lot of other amazing people



@jer_science



Dense, transit-oriented neighborhoods have the lowest carbon footprints!



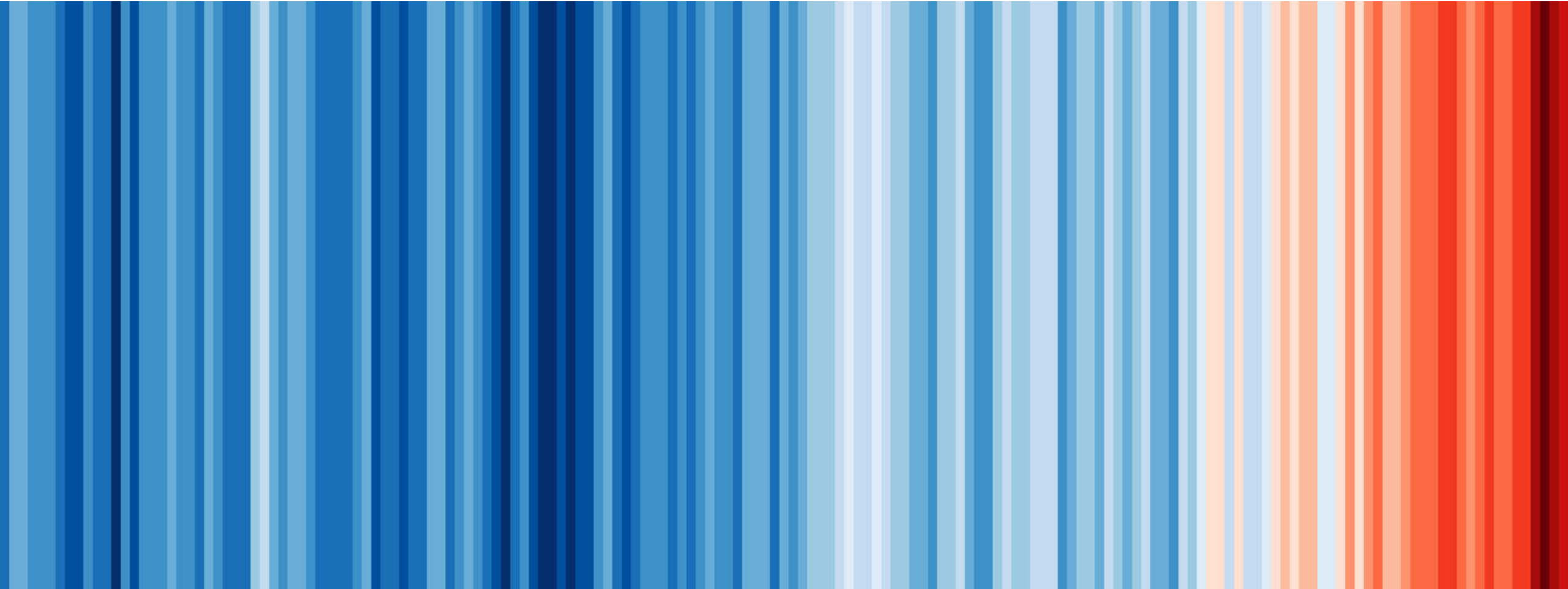
<https://coolclimate.berkeley.edu/maps>

<https://today.yougov.com/topics/politics/articles-reports/2022/04/13/high-density-worse-environment-traffic-and-crime>

Human-caused climate change

1850

2020

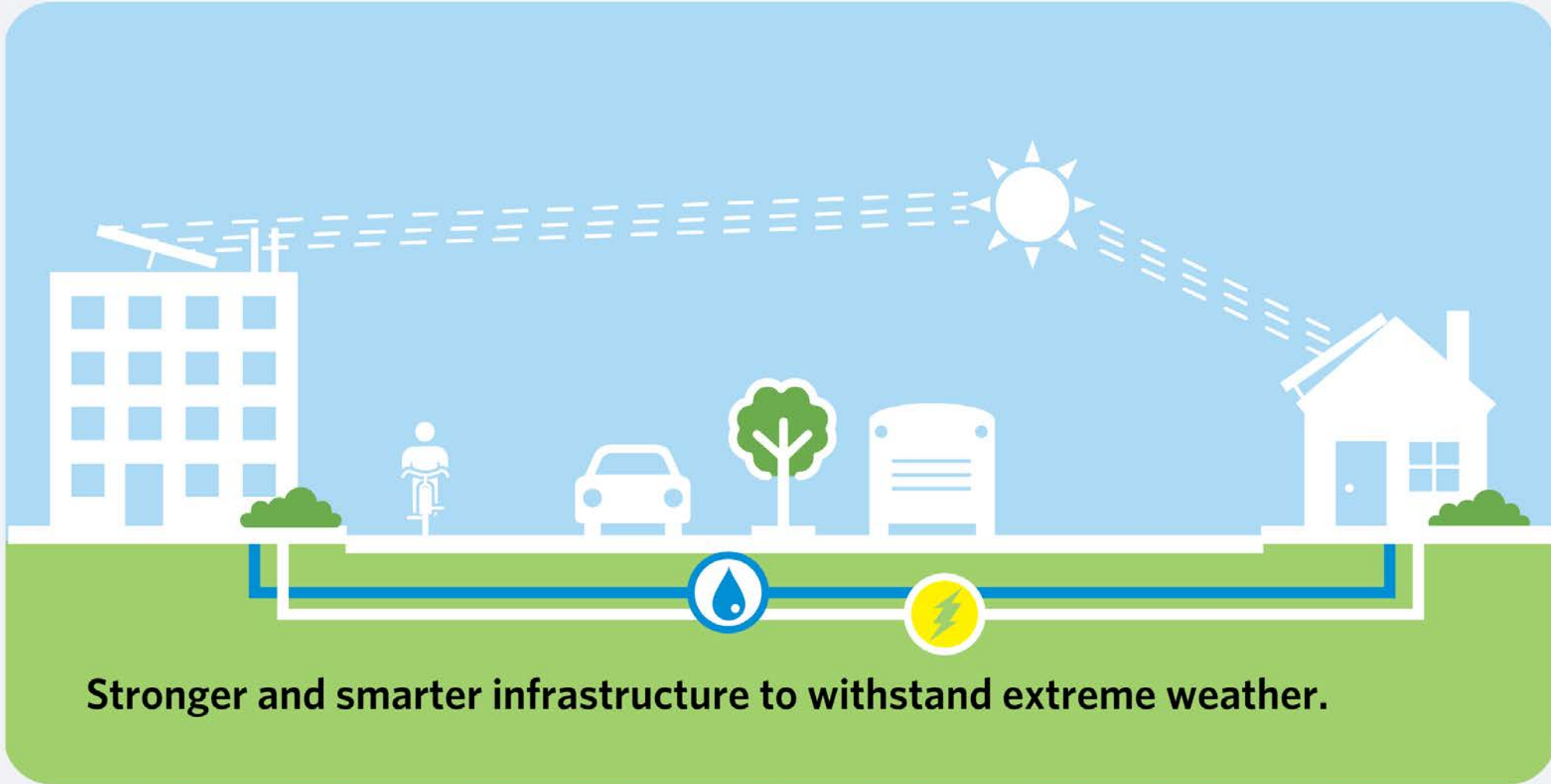


What is climate *injustice*?



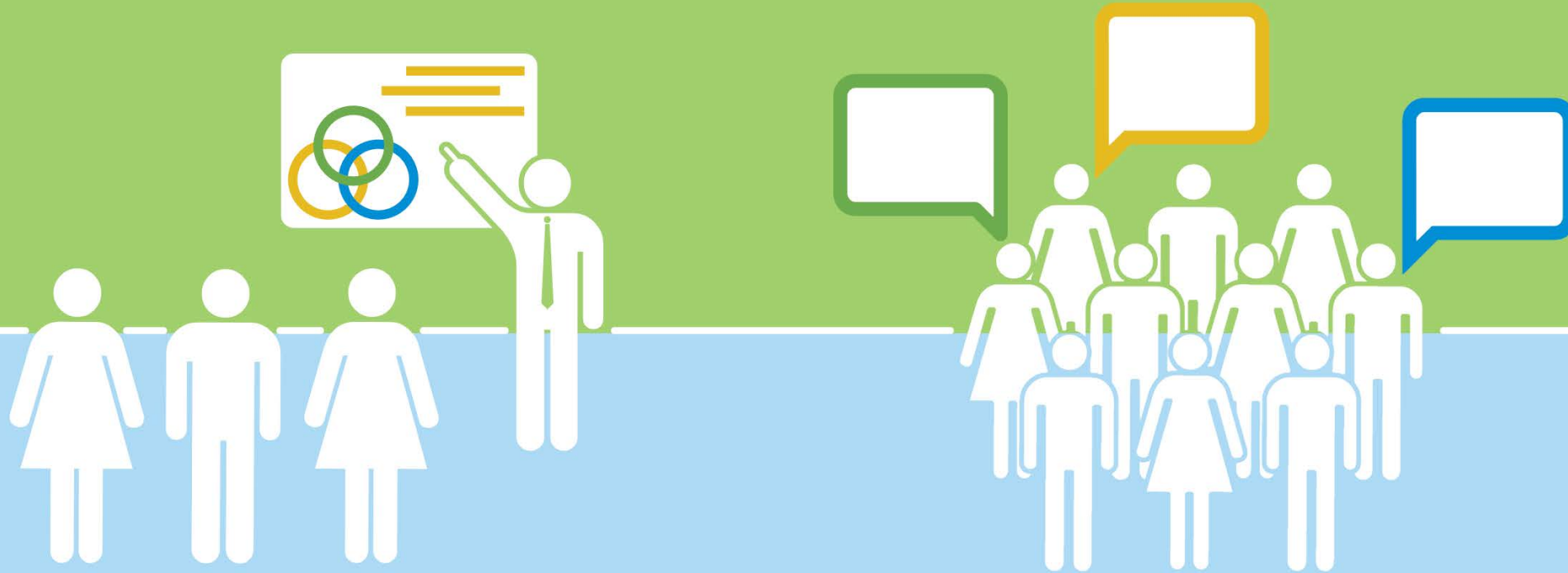
What is climate *resilience*?

A region resilient to climate change will have:



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Participatory and integrated processes that bring together stakeholders across sectors and jurisdictions to cultivate shared ownership of resilience-building strategies.

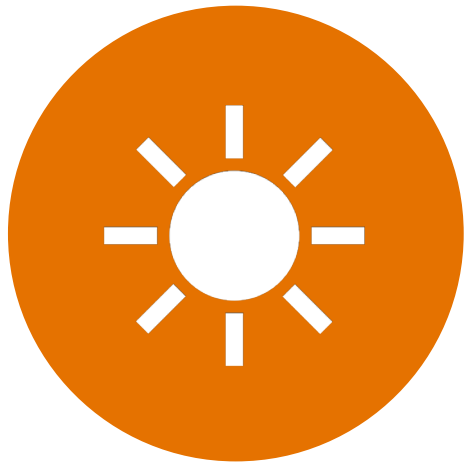
What is climate *resilience*?

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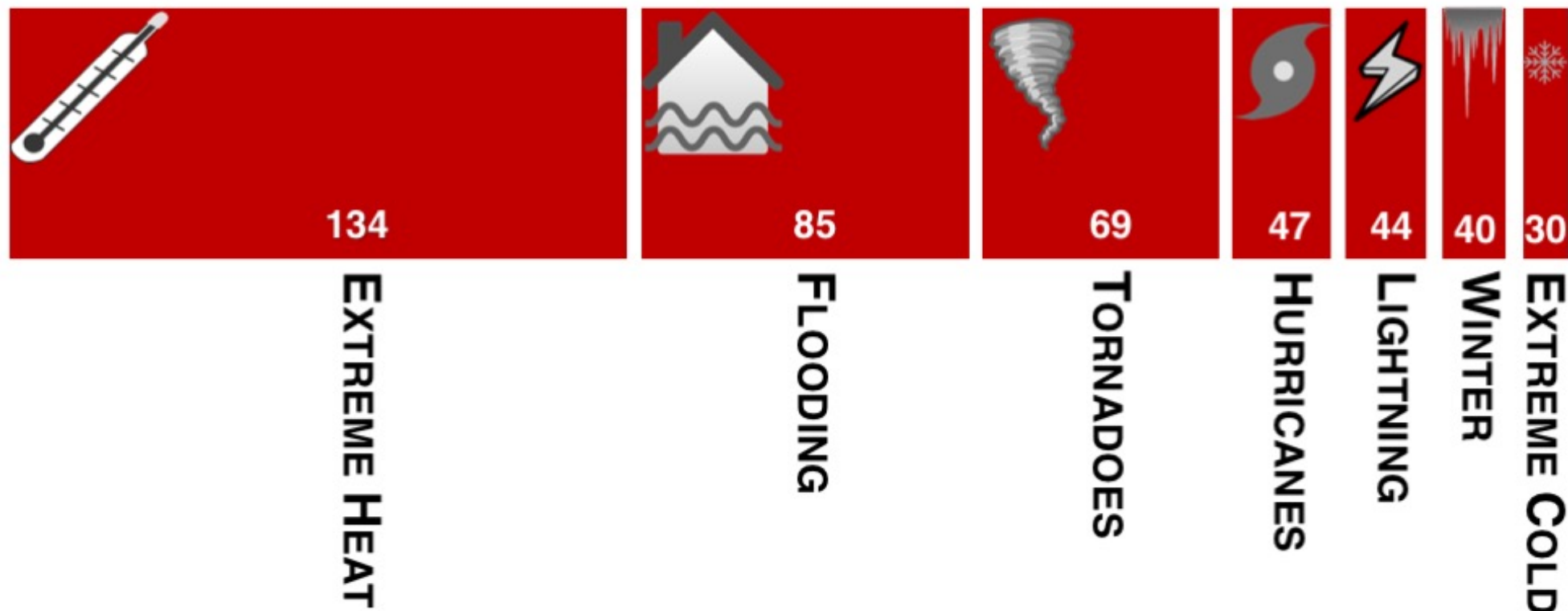
Equitable reduction of vulnerability by building community capacity and ensuring provision of critical services, particularly in communities that bear the brunt of climate impacts.

**Already experiencing & expecting a:
hotter, wetter, sneezier and wheezier climate**



DEADLIEST WEATHER-RELATED HAZARDS

AVERAGE NUMBER OF PEOPLE KILLED PER YEAR (1988-2017)

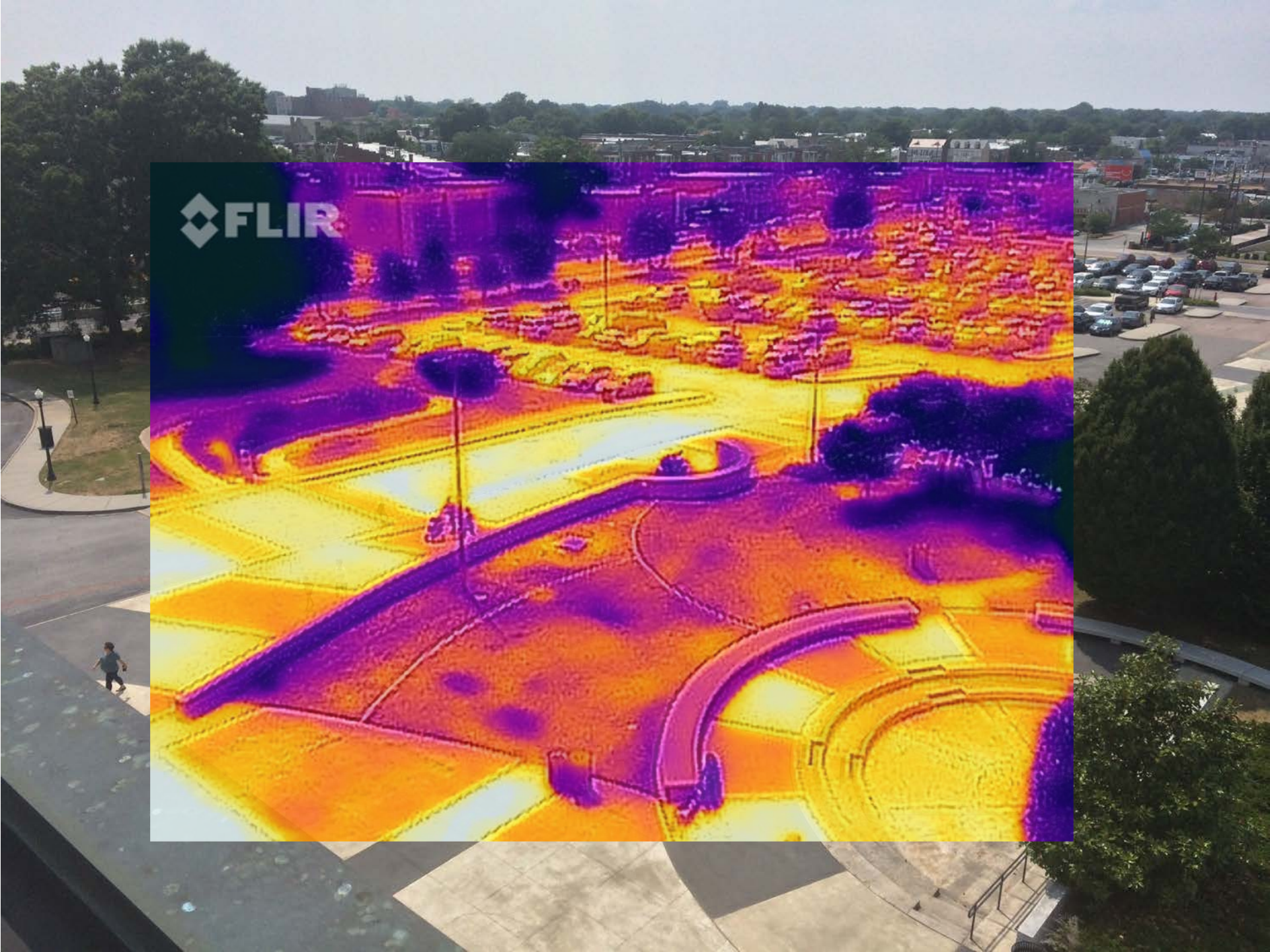


Source: National Weather Service Office of Climate, Water, and Weather Services Natural Hazard Statistics



Walter Kale, Chicago Tribune





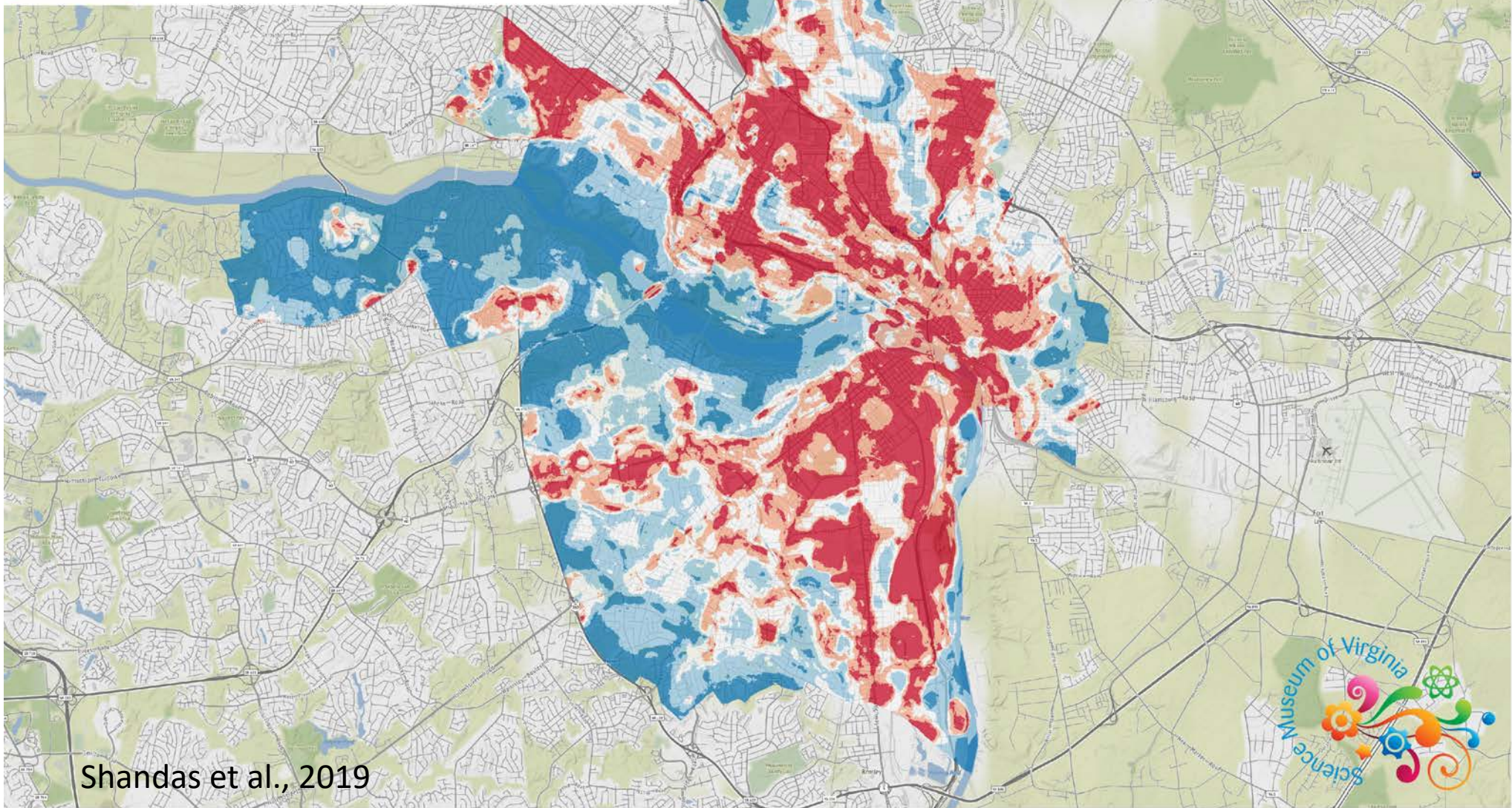
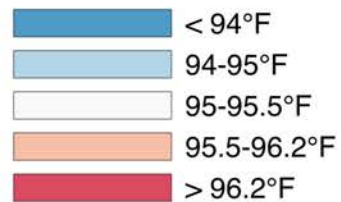
FLIR



Shelby Lum, RTD

Richmond's Urban Heat Islands

Afternoon (3PM) Temperatures on July 13, 2017



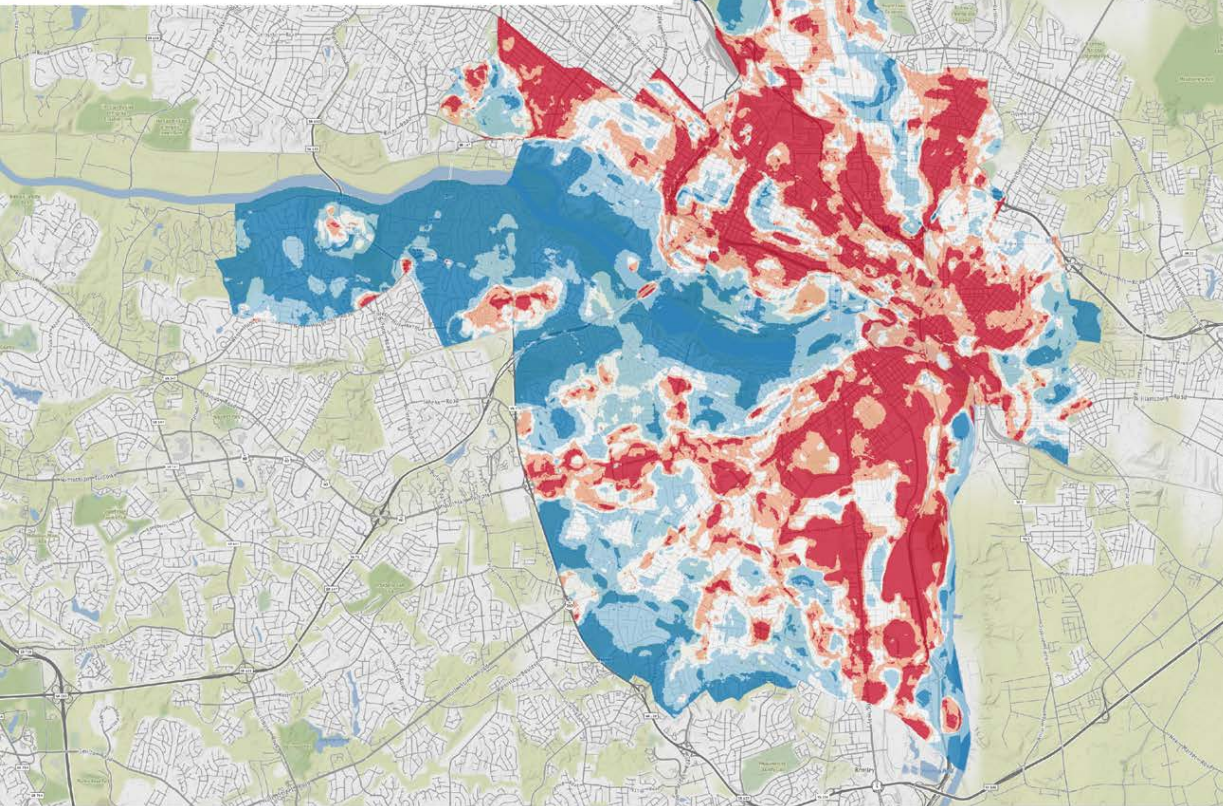
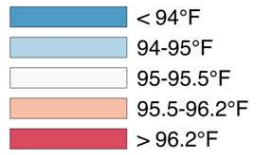
Shandas et al., 2019



EXTREME HEAT (2017)

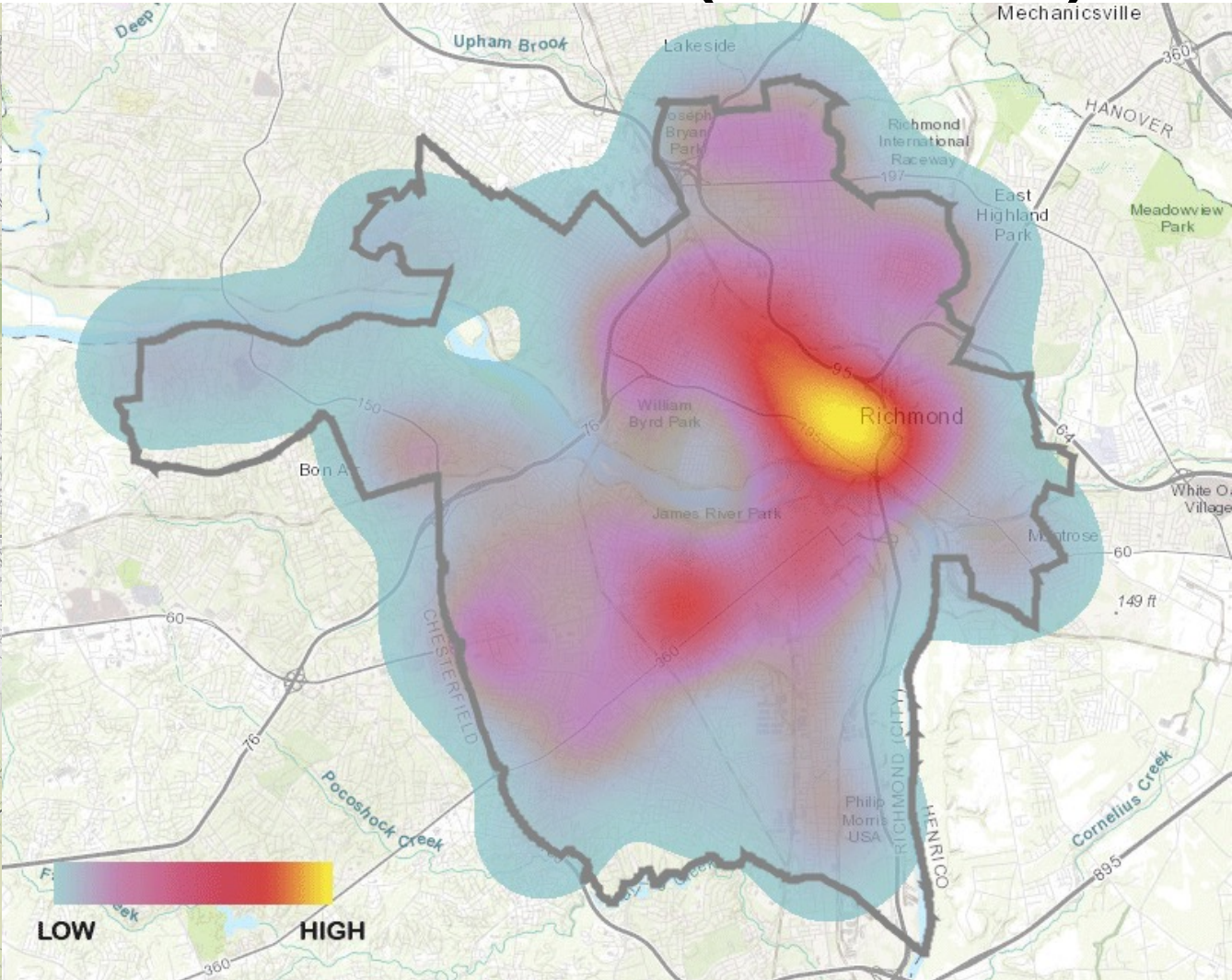
Richmond's Urban Heat Islands

Afternoon (3PM) Temperatures on July 13, 2017

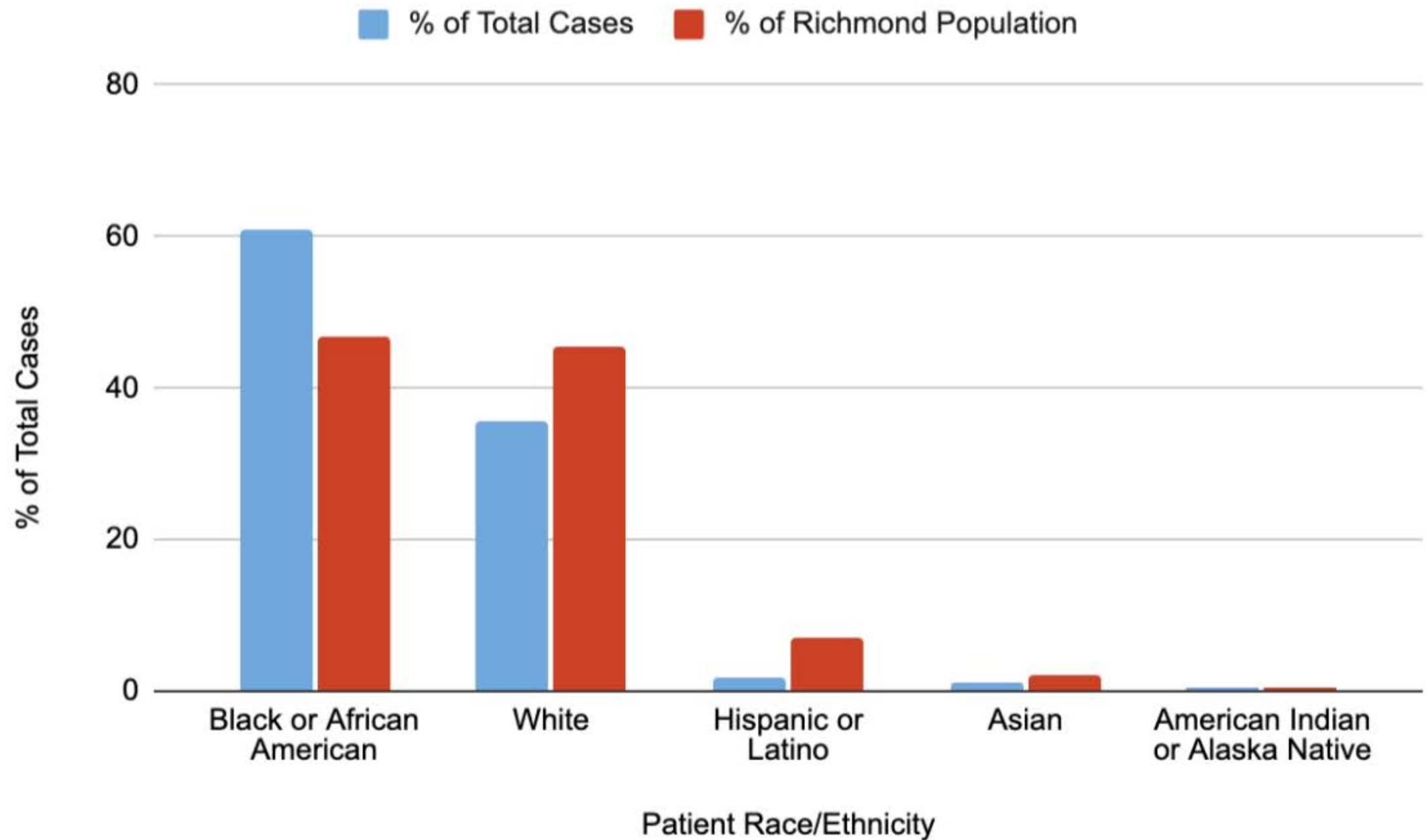


Shandas et al., 2019

AMBULANCE RESPONSES FOR HEAT ILLNESS (2015-2019)



Data: Richmond Ambulance Authority



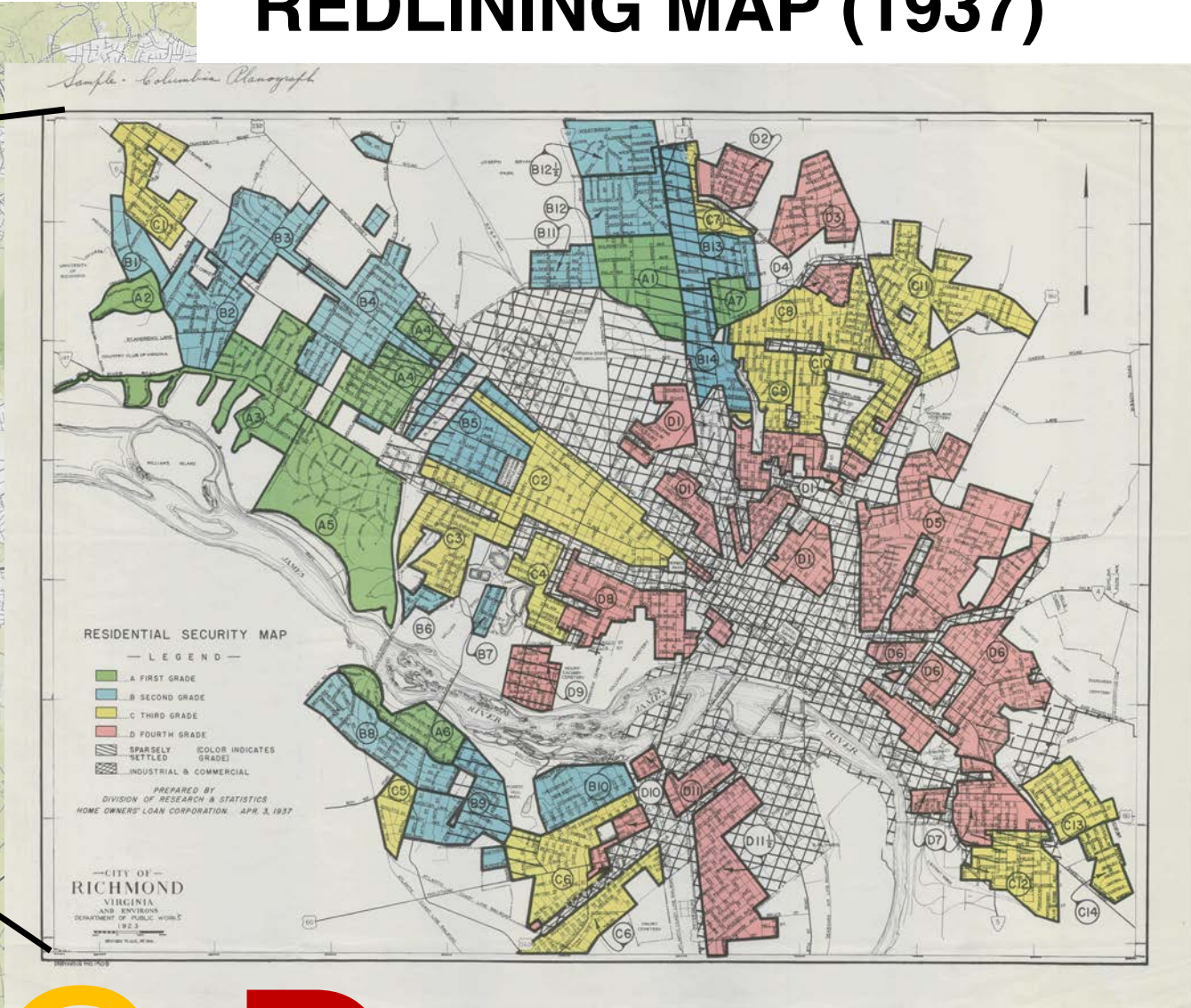
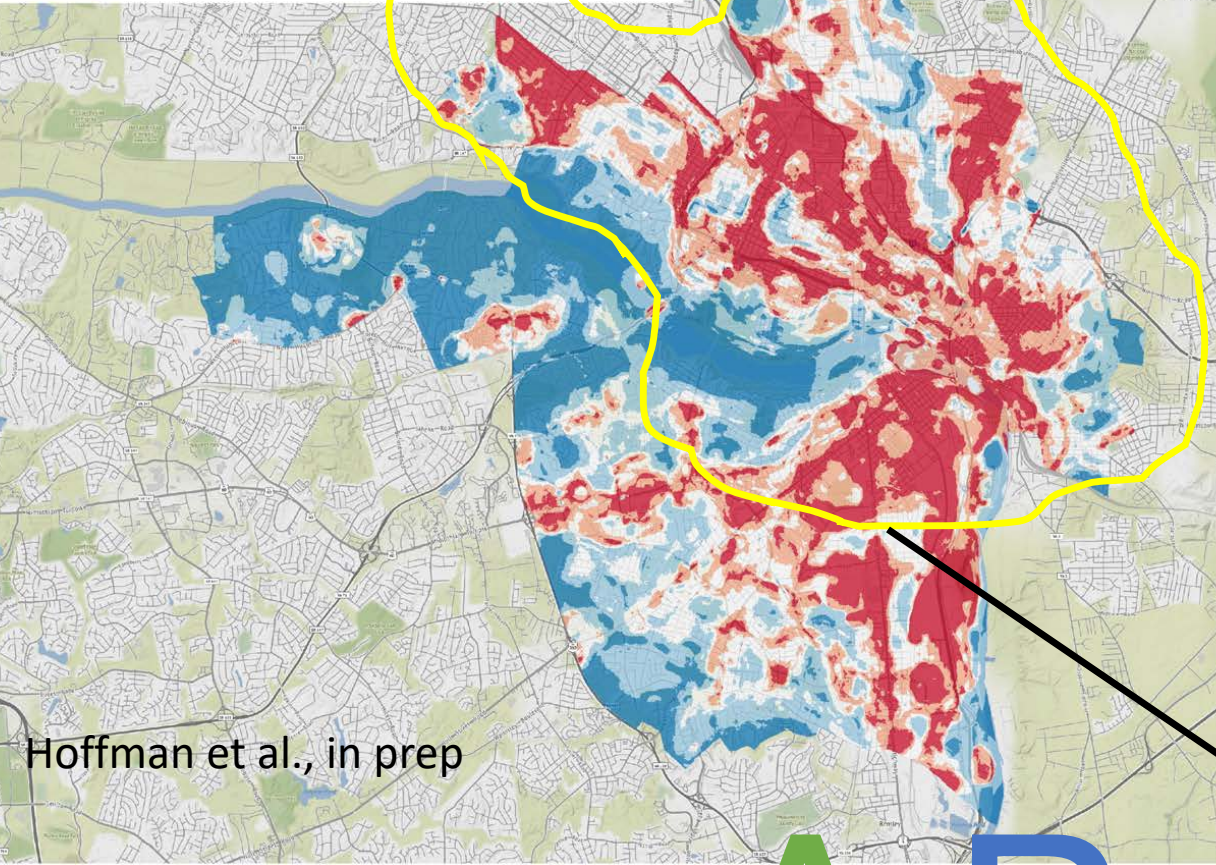
Richmond

VULNERABILITY

REDLINING MAP (1937)

Afternoon (3PM) Temperatures on July 13, 2017


- < 94°F
- 94-95°F
- 95-95.5°F
- 95.5-96.2°F
- > 96.2°F



Hoffman et al., in prep

A B C D

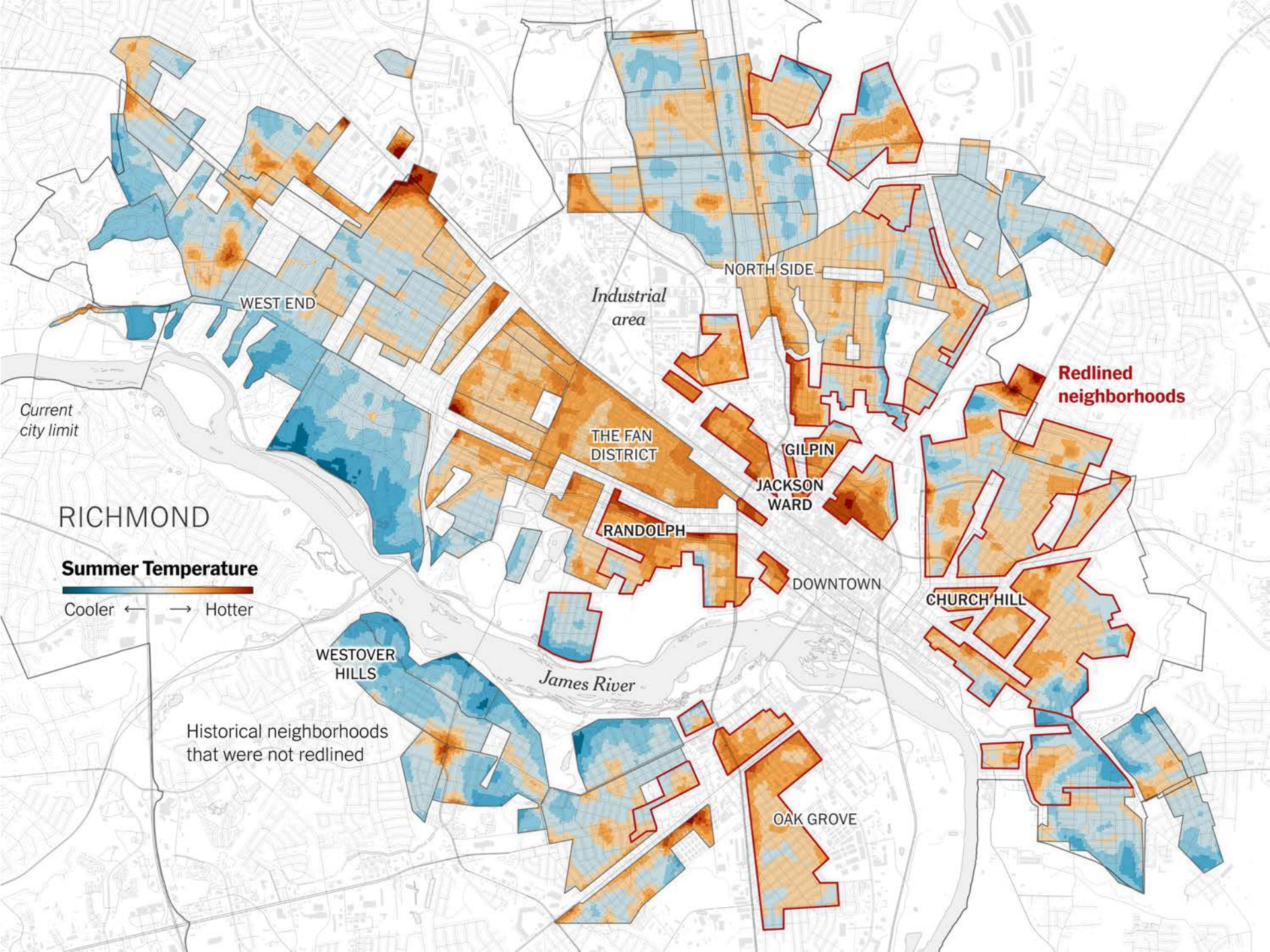


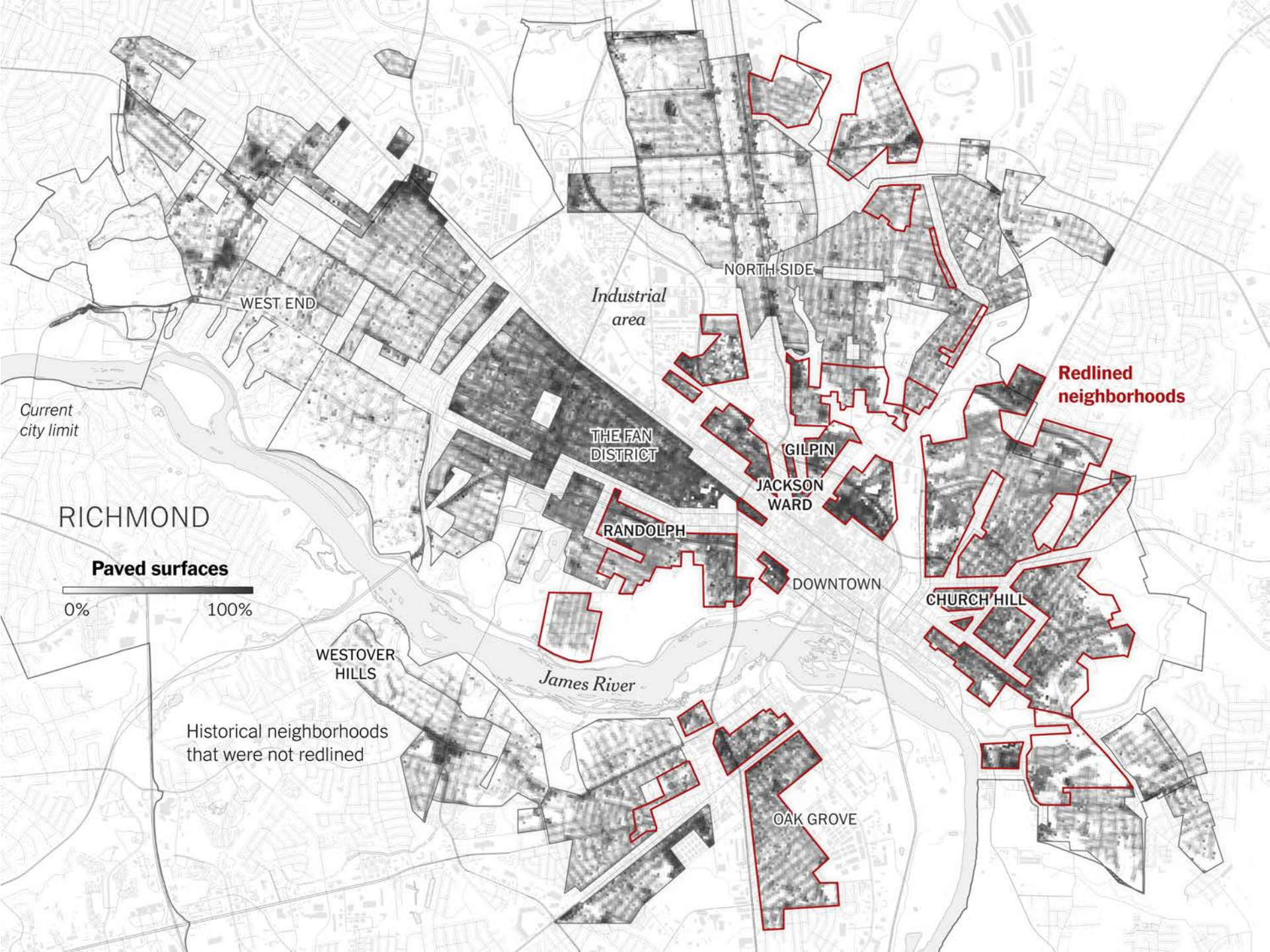


The New York Times

How Decades of Racist Housing Policy Left Neighborhoods Sweltering

By Brad Plumer and Nadja Popovich
Photographs by Brian Palmer Aug. 24, 2020





Current city limit

RICHMOND

Paved surfaces



Historical neighborhoods that were not redlined

Redlined neighborhoods

WEST END

Industrial area

NORTH SIDE

THE FAN DISTRICT

GILPIN

JACKSON WARD

RANDOLPH

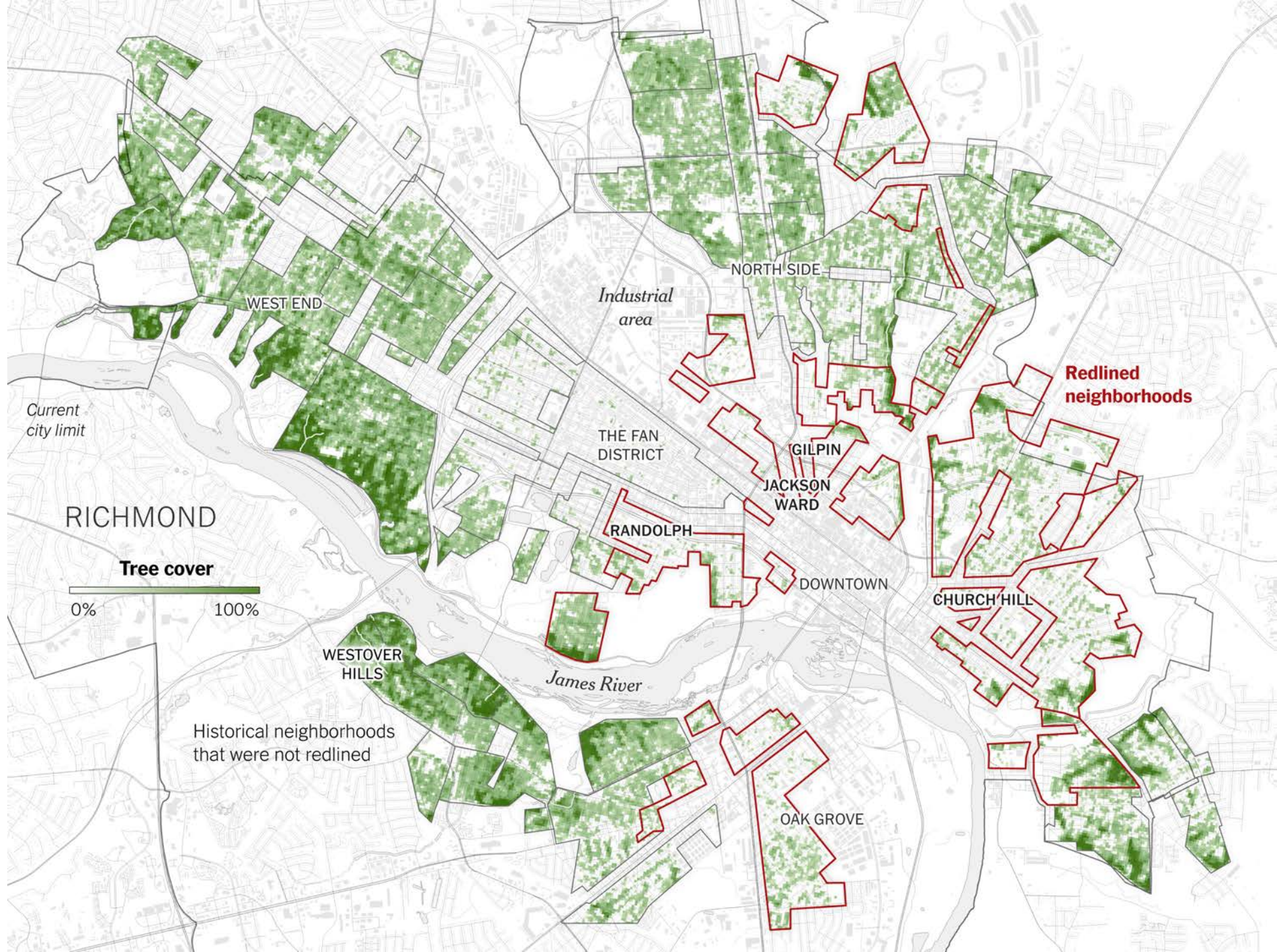
DOWNTOWN

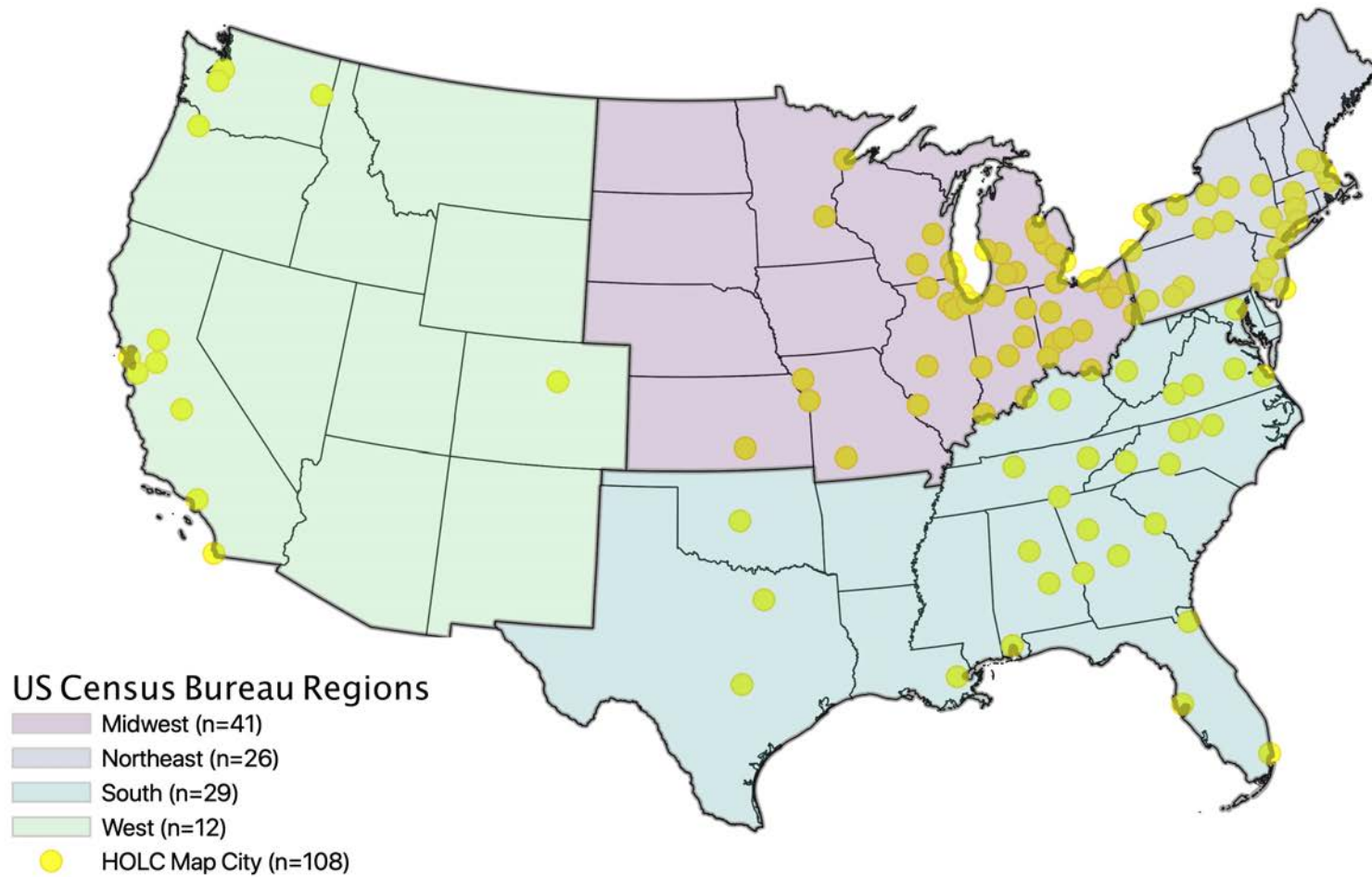
CHURCH HILL

WESTOVER HILLS

James River

OAK GROVE





In 94% of the cities studied, this pattern was observed.

So what do we do now?

P A S R E P O R T 6 0 0

PLANNING FOR URBAN HEAT RESILIENCE

Ladd Keith, PHD, and Sara Meerow, PHD

Solutions

Heat mitigation

Reducing the built environment's contribution to urban heat



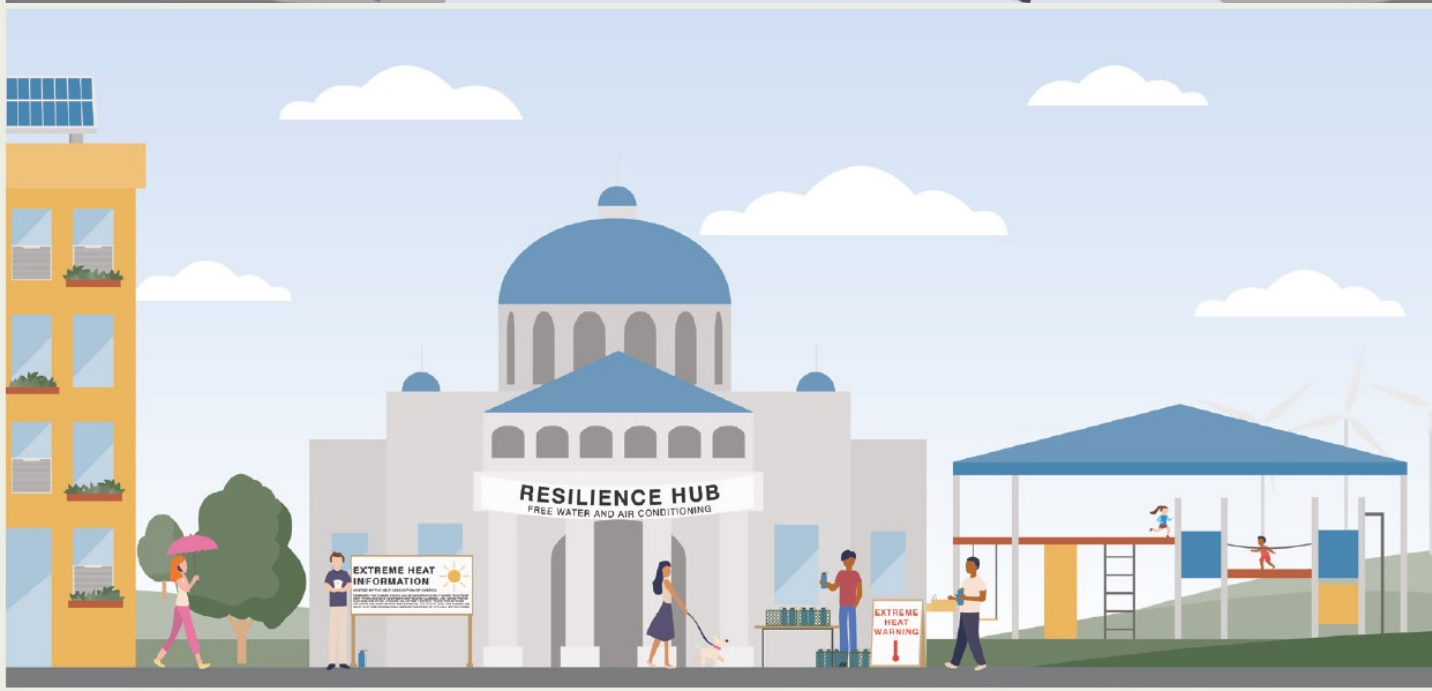
Heat management

Preparing and responding to chronic and acute heat risk



Heat-resilient communities

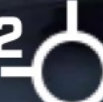


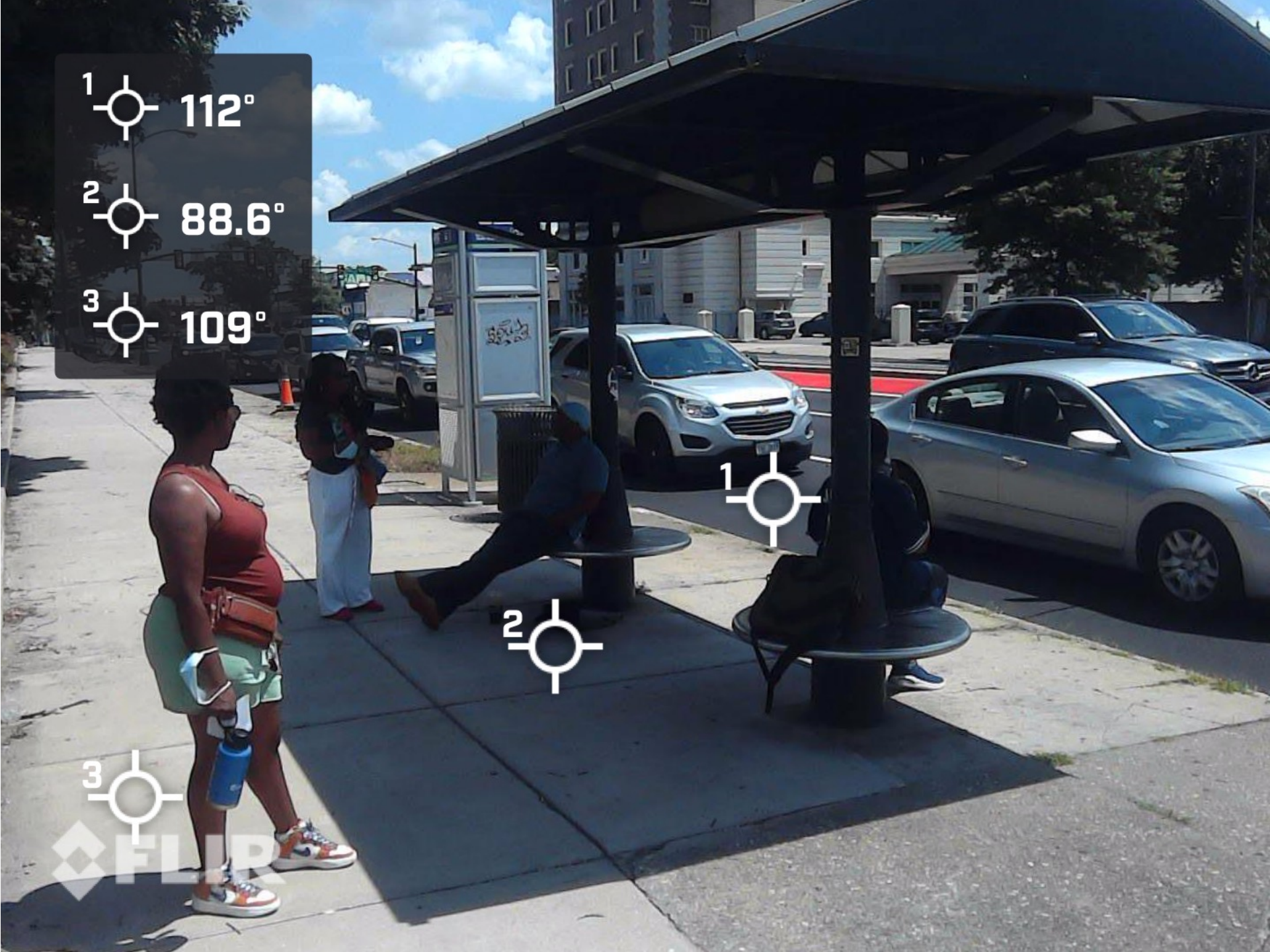


1  112°
2  88.6°
3  109°

3 


1 

2 





SOUTHSIDE ReLEAF

City of Richmond

RVAgreen
2050



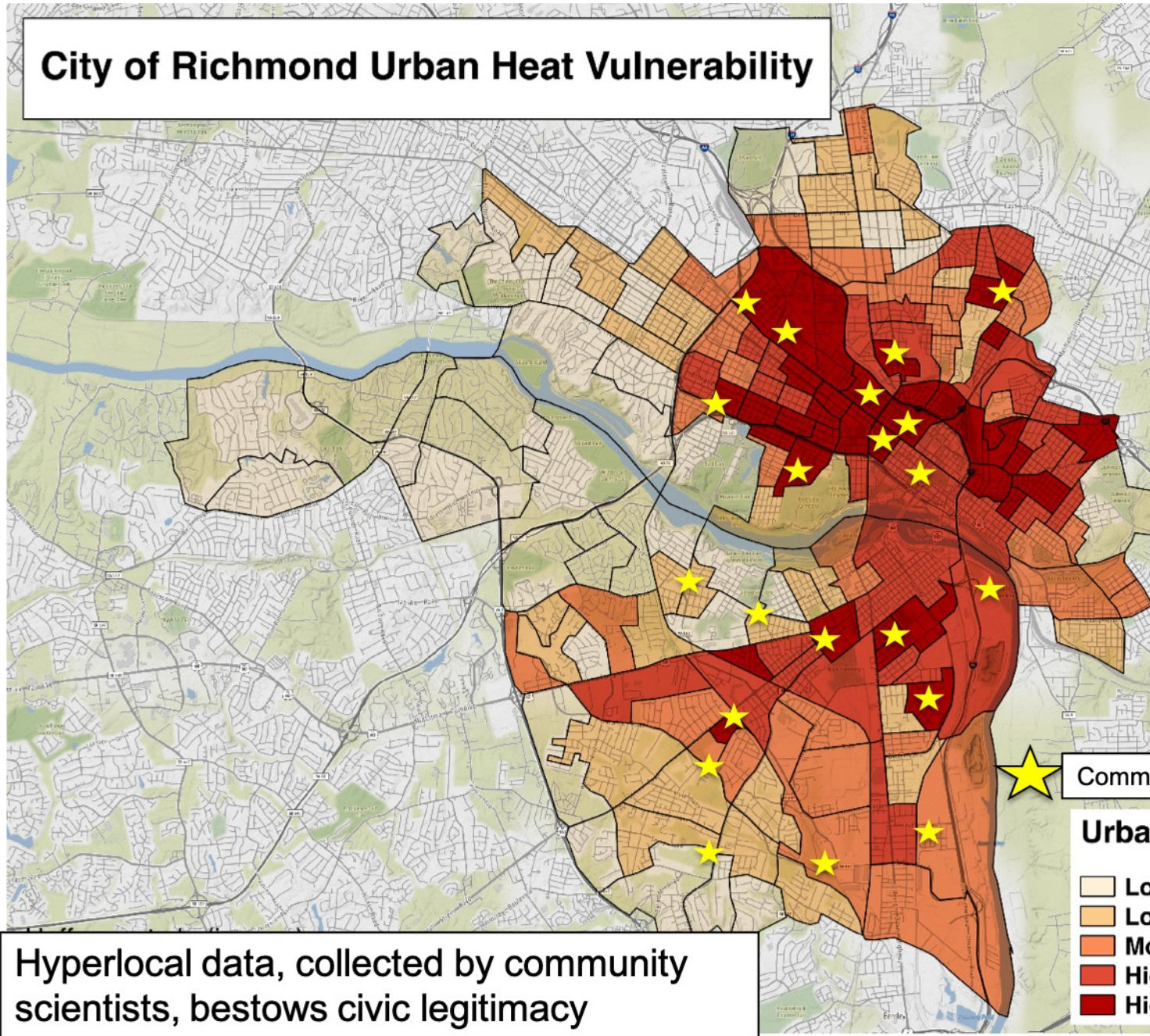
12 ABOUT TOWN

Mayor Stoney announces 5 new green spaces in Richmond's southside



Mayor Levar Stoney (Source: NBC12)

City of Richmond Urban Heat Vulnerability



Hyperlocal data, collected by community scientists, bestows civic legitimacy

Community-Driven Tree Projects

- ### Urban Heat Vulnerability
- Lowest Vulnerability
 - Low Vulnerability
 - Moderate Vulnerability
 - High Vulnerability
 - Highest Vulnerability











Thanks!

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