



**Brandon M. Scott**  
Mayor

Effective Heat Mitigation Strategies

# **Enduring Baltimore's Urban Heat Island**

**PREPARED BY**

**Selenea Gibson**

**Mayor's Office of Performance and Innovation**

*July 19, 2024*

# Agenda

1. Baltimore City History
2. Identifying the Problem
3. Data Integration
4. Effective Heat Mitigation Strategies



**Office of  
Performance  
& Innovation**  
CitiStat • Data Fellows • i-team



# Baltimore City History



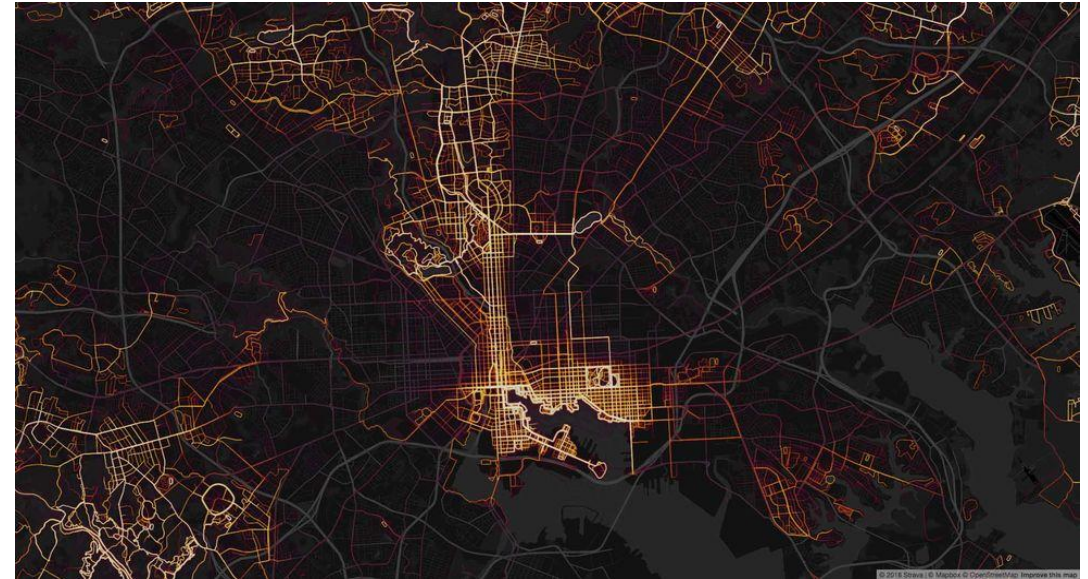
**Office of  
Performance  
& Innovation**  
CitiStat • Data Fellows • I-team



**Brandon M. Scott**  
Mayor

# White L and Black Butterfly

- The White L contains parts of the Inner Harbor, stretches north to the wealthy neighborhoods of Homeland and Guilford. Includes majority non-Hispanic White Individuals.
- The Black Butterfly surrounds the White L and is represented by lower-income and majority BIPOC (Black, Indigenous, and People of Color) individuals.



White L and Black Butterfly Strava Heat Map created by Lawrence Brown. Map shows the weighted population density of Non-Hispanic White vs. Black.

Source: *The black butterfly: The harmful politics of Race and space in America*. Johns Hopkins University Press.



**Office of  
Performance  
& Innovation**  
CitiStat • Data Fellows • i-team



# Identifying the Problem



**Office of  
Performance  
& Innovation**  
CitiStat • Data Fellows • I-team



**Brandon M. Scott**  
Mayor

# Baltimore City Heat

- Baltimore City is considered an Urban Heat Island due to several factors:



Lack of  
vegetation



Construction



Transportation



Air Pollution



Infrastructure

# Data Integration



**Office of  
Performance  
& Innovation**  
CitiStat • Data Fellows • I-team



**Brandon M. Scott**  
Mayor

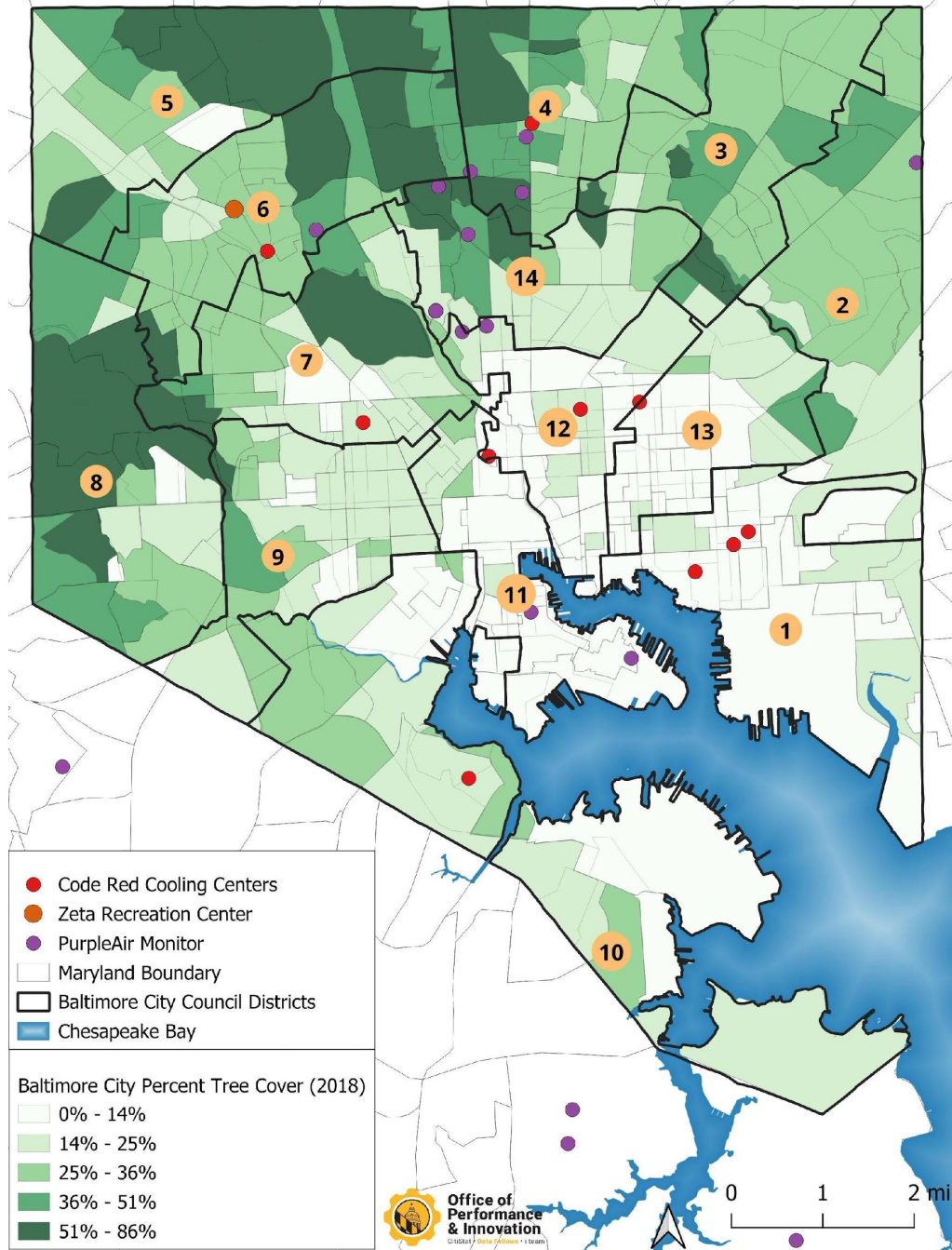
# Data/Sources

Data	Source
Percent Tree Canopy (2018)	Chesapeake Bay Conservatory
Afternoon and Morning Temperatures (2018)	NOAA NHIHIS
Infrastructure (Buildings, Hospitals, Libraries, Bus Routes) (2024)	Open Baltimore
Code Red Cooling Centers (2024)	Open Baltimore
PurpleAir Air Quality Monitors (2023)	PurpleAir API

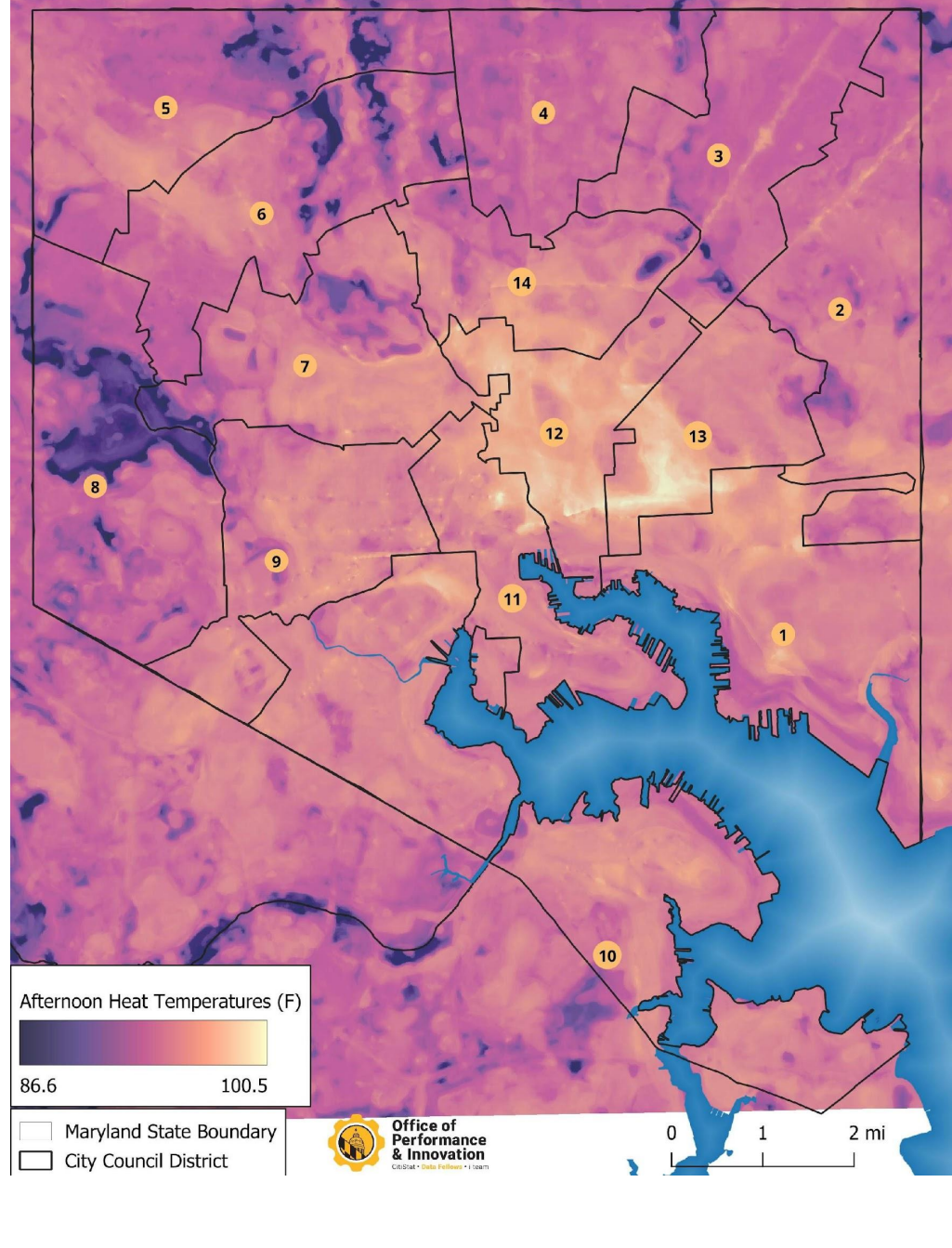




# Baltimore City, Maryland City Council Districts



# Baltimore City, Maryland Urban Heat Island



# Effective Heat Mitigation Strategies



**Office of  
Performance  
& Innovation**  
CitiStat • Data Fellows • I-Team



**Brandon M. Scott**  
Mayor

# Heat Mitigation Strategies

Strategies	Progress
More Cooling Centers (11 Currently)	Development Stage
Cooling Bus Stops	Development Stage
Filling in Data Gaps	In Progress
More Air Quality Monitors	Development Stage
Cool Roofs Installation	Development Stage



**Office of  
Performance  
& Innovation**  
CitiStat • Data Fellows • i-team



# Collaborations

Community  
Engagement



Bloomberg  
Center for Cities



Interagency/Organization  
Connections



# Thank you! Q&A



**Office of  
Performance  
& Innovation**  
CitiStat • Data Fellows • i-team



**Brandon M. Scott**  
Mayor

# Bibliography

- *The black butterfly: The harmful politics of Race and space in America.* Johns Hopkins University Press.
- <https://cities.harvard.edu/>
- <https://data.baltimorecity.gov/>
- <https://map.purpleair.com/1/i/mAQI/a10/p604800/cC0#10.96/39.312/-76.5805>
- [Chesapeake Bay Program Land Use/Land Cover Data Project - Chesapeake Conservancy](#)
- <https://health.baltimorecity.gov/coderedinfo>
- <https://www.baltimoresustainability.org/urban-heat-island-sensors/>
- <https://www.hyphae.net/>
- <http://www.skardaengineers.com/portfolio/beans-and-bread-resource-center/>



**Office of  
Performance  
& Innovation**  
CitiStat • Data Fellows • i-team



# For More Information

1. [Baltimore Office of Sustainability](#)
2. [Climate Action Plan - DOP](#)
3. [Projects - Sustainability](#)



**Office of  
Performance  
& Innovation**  
CitiStat • Data Fellows • i-team

