Bay Burnham

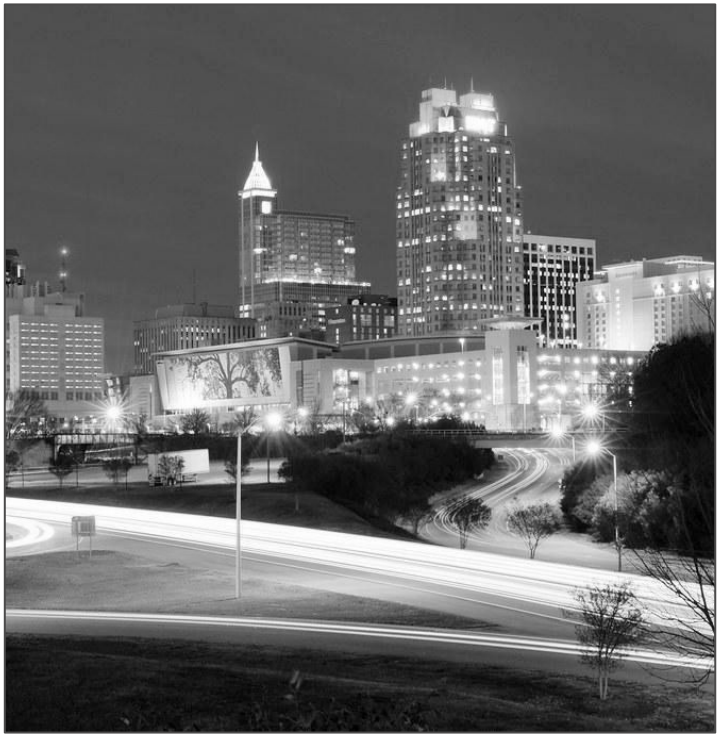
URBAN HEAT STUDY

RALEIGH, N.C.

Project SCOPE

Assessing Raleigh's Urban Heat differences across a 30 Block Area.

- Urban Heat Island
  - Vegetated Surfaces → Impervious Surfaces
  - Retain heat vs evapotranspiration
  - Metropolitan area
- Mapped differences in vegetation block-to-block
- Urban temperatures
- Goal: built environment affects average temperatures



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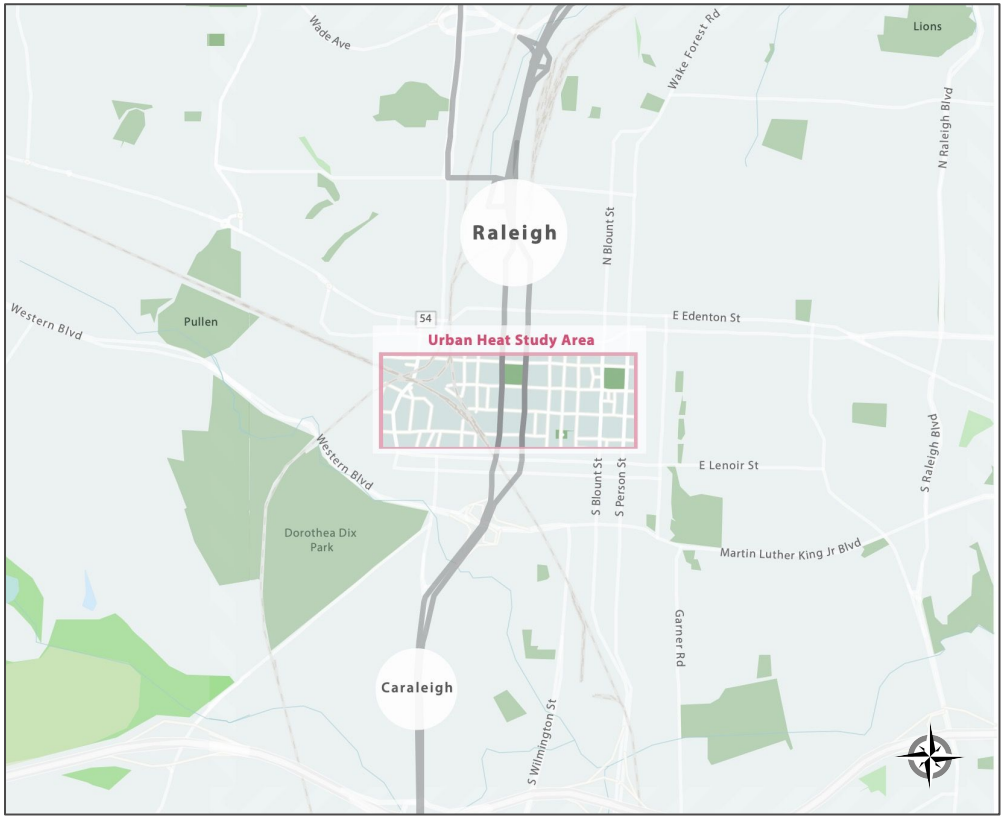
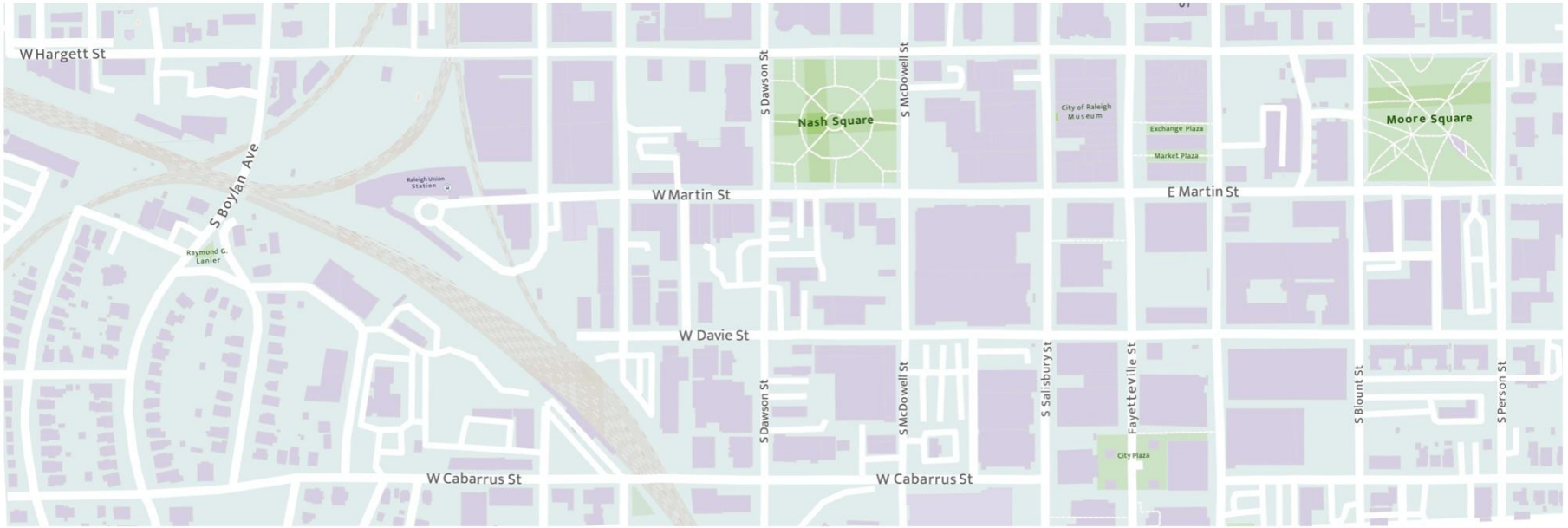
Context

MAP


Wade Ave
Wake Forest Rd
Lions
N Raleigh Blvd
Raleigh
N Blount St
Western Blvd
Pullen
54
E Edenton St
Urban Heat Study Area
Western Blvd
S Blount St
S Person St
E Lenoir St
S Raleigh Blvd
Dorothea Dix Park
Martin Luther King Jr Blvd
Garner Rd
Caraleigh
S Wilmington St

Map of Project Area – Street Scale

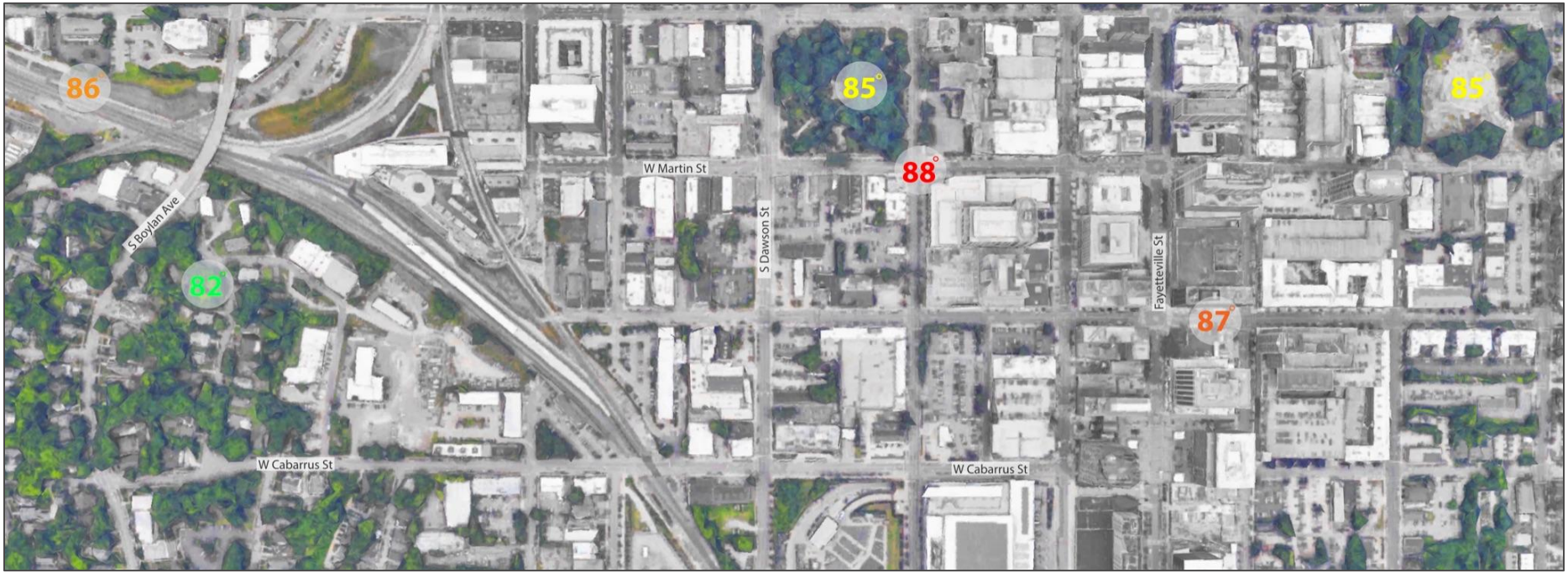


Analysis Diagram pt. 1 - Vegetation Coverage

Vegetated Surfaces

Impervious Surfaces

Analysis Diagram pt. 2 – Average Afternoon Temperatures, July 2021



Temperature Data taken from City of Raleigh, Mapping Urban Heat Islands (2022)

81℉

87℉


W Hargett St
S Boylan Ave
Raleigh Union Station
Raymond G. Lanier
W Martin St
S Dawson St
Nash Square
S McDowell St
City of Raleigh Museum
Exchange Plaza
Market Plaza
E Martin St
Moore Square
W Davie St
S Dawson St
S McDowell St
S Salisbury St
Fayetteville St
City Plaza
S Blount St
S Person St
W Cabarrus St
W Cabarrus St

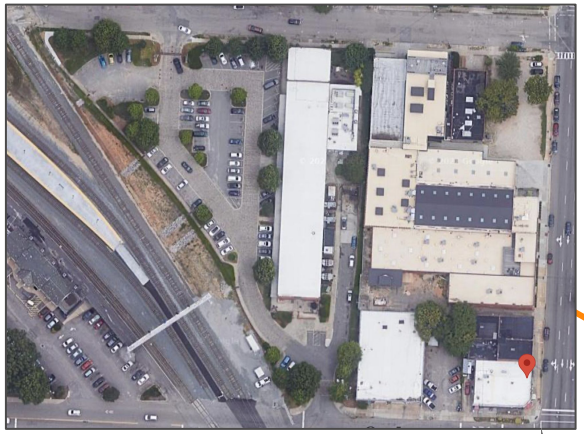
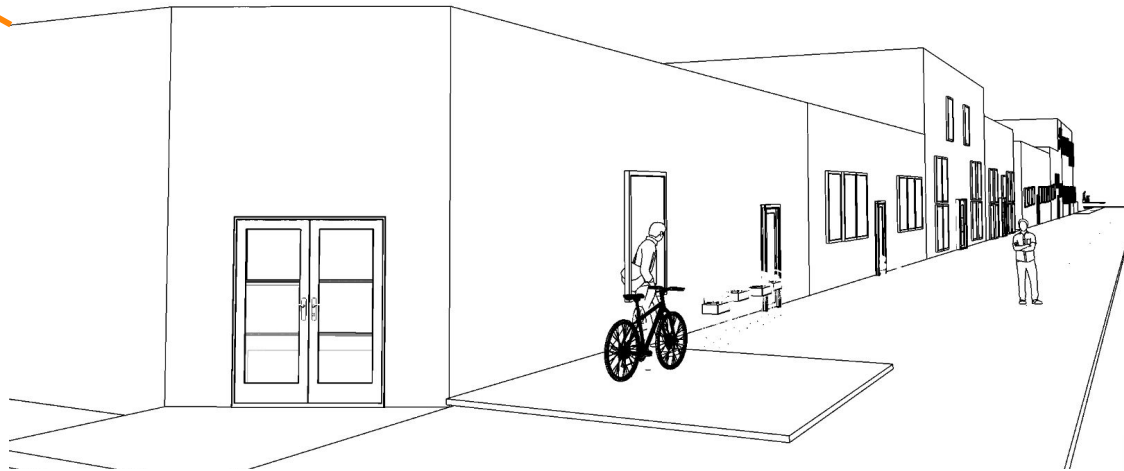
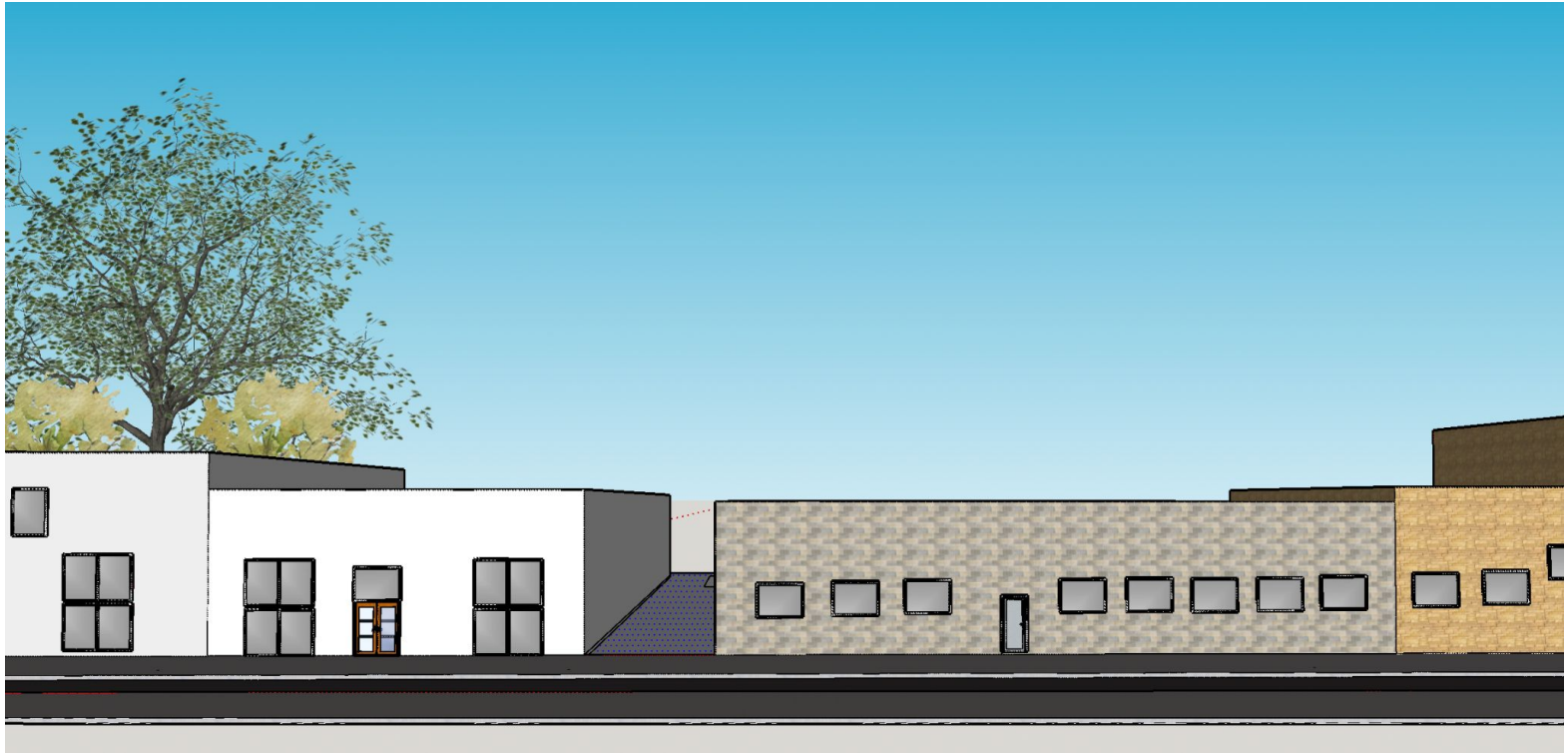


Image taken from Google Maps (2022)

87℉





Sample Drawing - Suburban Neighborhood

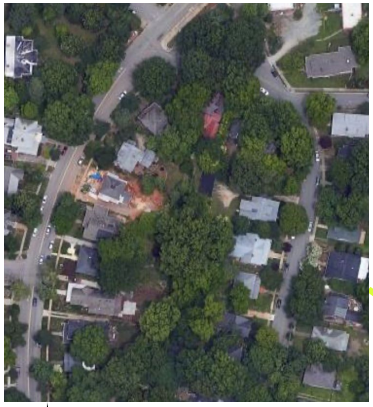


Image taken from Google Maps (2022)

Concluding THOUGHTS

- Vegetated areas typically experience lower average temperatures compared to built environments
- Urban Heat Islands affect human health, climate change will likely exasperate disparities among metropolitan neighborhoods
- Parks can provide cool temperature refuge
- Personal challenges: using consistent style, colors, weaving the story together, wanted to create an infographic of urban heat island effect (had difficulty figuring out what software to use and how to make it look like what I wanted)

THANKS!

Additional Sources:

(Compass) Clipart Library