

# **SOUTHEAST COMMUNITY SPRINGS: MITIGATING THE URBAN HEAT ISLAND**



Master of Urban and Regional Planning

COLLEGE OF ARCHITECTURE AND PLANNING

UNIVERSITY OF COLORADO **DENVER**

**AUTHOR**

Andrea Vaughn

**CLIENT**

Hannah VanNimwegan  
Colorado Springs Comprehensive Planning  
Department

**ADVISOR**

Ken Schroepel

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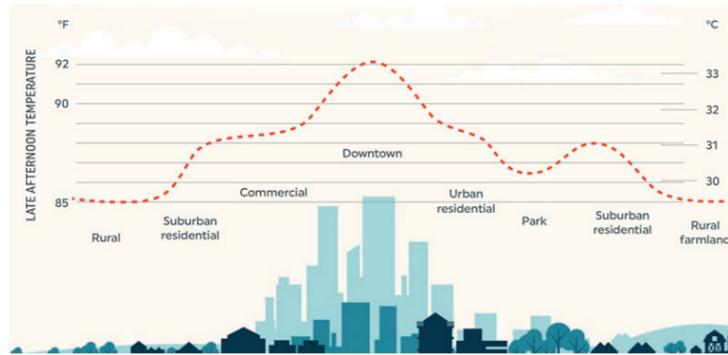


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CAPSTONE PROJECT SUBMITTED IN PARTIAL SATISFACTION OF THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF URBAN AND REGIONAL PLANNING, COLLEGE OF ARCHITECTURE AND PLANNING, UNIVERSITY OF  
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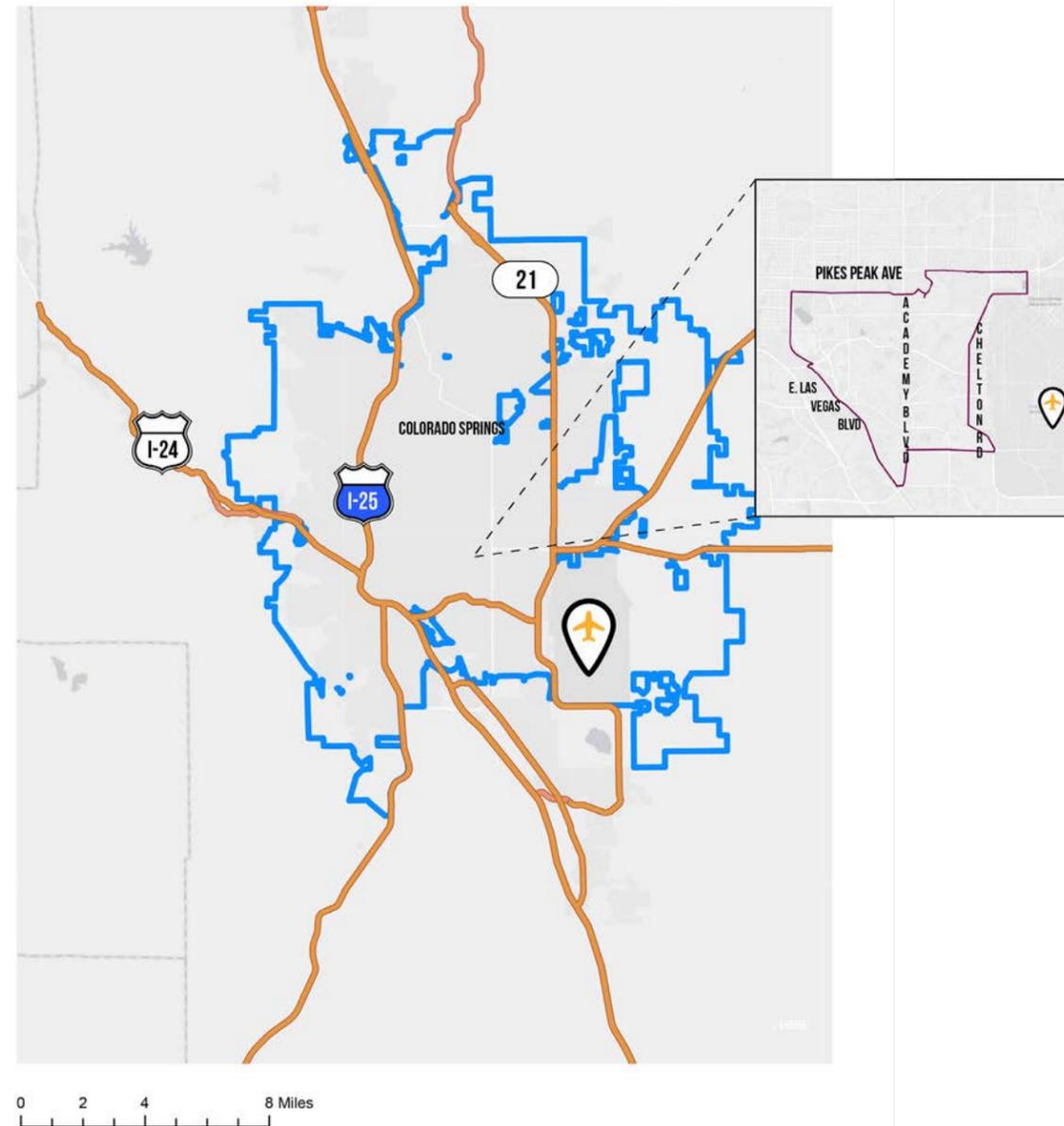
# EXECUTIVE SUMMARY

## Introduction



The urban heat island (UHI) is a well-documented phenomenon in which urban areas tend to be approximately 20 degrees warmer than the surrounding rural areas. The UHI can be felt all year round, but is felt more acutely during the summer and can contribute to heat-related illness and death. Extreme heat events are contributing factors in approximately 714 deaths every year in the United States, more than any other extreme weather event. As our world becomes more urbanized and our climate continues to warm, mitigating the negative impacts of UHI has become an utmost priority for many communities.

## Background



Southeast Colorado Springs encompasses approximately 12 square miles and is home to approximately 74,000 residents (US Census, 2019). These residents make Southeast the most diverse community in Colorado Springs and are also the most impoverished. Southeast Colorado Springs is a community detached from the city, with high rates of crime that have given it a reputation as an undesirable community; this is in contrast with

the rebranding that the city has just undergone as “Olympic City”, which invokes a feeling of heroism and endless possibilities. The Southeast is not without its champions, though, and there is a strong grassroots energy that city planners are capitalizing on. The Southeast not only differs from the city in reputation, but in temperature.

A report from Colorado College presented to City Council in 2019 notes low-income communities are approximately 1.6 degrees Fahrenheit warmer than the rest of the city (McKindra & Kummel, 2019). In looking at the landscape of Southeast compared to Colorado Springs, it is apparent that the tree canopy coverage that marks the history of Colorado Springs does not extend to the Southeast. As Colorado Springs embarks on their first community planning efforts, the city planners are interested in exploring the inequities of heat distribution felt in the Southeast and develop mitigation efforts aimed to create a healthy environment and a vibrant community.

## Objective

The client for this project is the City of Colorado Springs’ Comprehensive Planning Division. The city is developing its first community planning effort and has chosen Southeast as its first community, signaling the city’s commitment to an developing an equitable city. As part of this planning effort, the city is seeking to understand how to build climate resiliency into their planning efforts and have tasked the student researcher to provide recommendations on how the UHI can best be mitigated.

of this report, it is also important that develop actions to mitigate gentrification that has been associated with both green infrastructure and redevelopment.

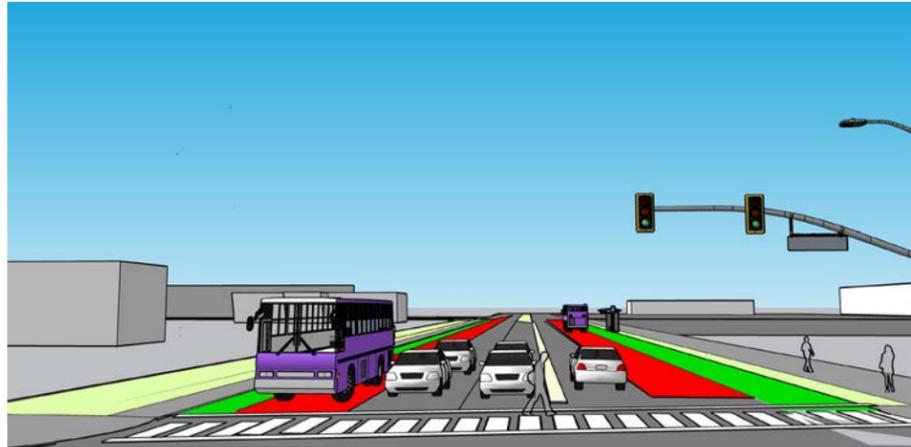
The following are specific recommendations for implementation into a form-based code aimed at combatting UHI:

# EXECUTIVE SUMMARY

## Recommendations

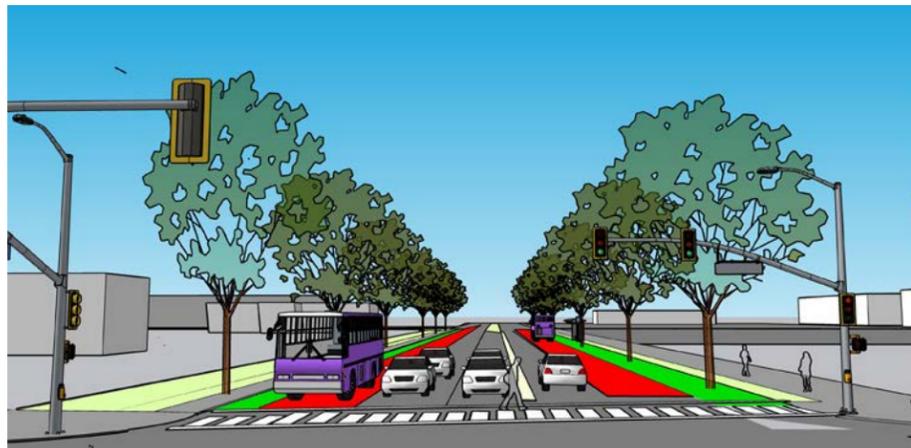
The final recommendation from this research is to adopt a form-based code along Academy Boulevard, with regulations aimed at mitigation measures designed to combat UHI. Unlike conventional zoning, a form-based code directs the focus of policy away from uses and focuses on the interaction of development and the built environment to encourage the development of pedestrian-oriented places. Through the redirection of regulations from the use of a parcel to its relationship to its surroundings, planners can begin to build resiliency into their community planning efforts and foster a healthy relationship with the community by developing a new zoning code that is built on and codifies community vision. The benefits of a FBC extend beyond climate resiliency and could help spur development along the corridor to bring much needed jobs and tax revenue to the corridor.

Though the development of a FBC with specific measures to combat UHI was the goal of



### ROAD DIET

- » Remove one lane in each direction along Academy Boulevard
- » Install bike lanes and dedicated bus lanes to encourage multi-modal transit use and



### LANDSCAPING

- » Discourage the use of rock-scaped landscaping
- » Encourage landscaping that meets the public right of way
- » Require low-water maintenance landscaping



### BUILDINGS:

- » Require cool roofs on new developments
- » Require open-space dedications for new developments

### PAVEMENTS:

- » Require shade trees in public right of ways
- » Adopt parking maximums and consider removing parking requirements at future transit hubs
- » Require parking lots be paved with lighter materials, provide pedestrian paseos or walkways and shade parking stalls with landscaping or solar paneled stalls