

## Temporary Tactics for Radical Shade

Extreme urban heat is one of the most rapidly intensifying consequences of climate change. Increasing summer temperatures across the globe are resulting in more frequent and longer-lasting heat waves, posing a serious threat to public health and the climate. The severity of this climate emergency should prompt a more urgent response from shapers of the urban built environment. Cities experience the most intense impacts of extreme heat, worsened by the urban heat island effect. However, not all urban neighborhoods are affected equally. Low-income neighborhoods, communities of color, and environmental justice communities often face a disproportionate burden. These disparities are frequently rooted in the legacy of discriminatory housing policies, which have shaped the physical landscape of these areas. As a result, these neighborhoods tend to lack equitable access to cooling resources and are characterized by a high concentration of impervious surfaces and heat-generating infrastructure, with few mitigating features like mature tree canopies or shaded outdoor spaces.

Although extreme heat is the deadliest extreme weather event there is a notable lack of funding and political will in most U.S. cities to take the urgent action needed to develop short-term solutions to this issue. Unlike more visible climate events like hurricanes or wildfires, extreme urban heat is almost invisible, as it does not cause drastic infrastructure damage but presents severe threats to human health, ecosystems and even economies. While long-term, city-scale planning efforts are essential for heat mitigation and tend to prioritize environmental justice communities, they are often slow to materialize and challenging to implement at site scale, making these efforts insufficient to address immediate needs. An effective response to extreme heat must be multi-scaled, combining long-term planning with immediate, localized interventions that can deliver shade where it is needed most.

Trees provide multiple benefits to urban environments, such as cooling the surrounding air and casting shade. However, planting trees to increase urban forests for the next generation will not be enough: people need shade now. Trees take a decade or more to develop mature shade canopies. Therefore, built shade structures must also be implemented in the interim to provide temporary relief from extreme heat. This is a tactical urbanism approach: acting with urgency and readily available materials to create small-scale, temporary, and low-cost installations in public spaces. Tactical urbanism should be utilized to address shade inequities and provide shade installations in the short-term, while laying the groundwork for comprehensive, long-term heat mitigation efforts.

Increasing shade in urban environments through vegetation and built structures is one of the most effective methods to reduce heat. Shade can decrease the radiant temperature by up to 30°F, and decrease surface temperature by up to 20°F. Shade is a critical, life-saving resource that provides protection from extreme urban heat. However, from an institutional planning perspective shade is an undervalued resource; it has become a commodity, a monetized luxury, when it should be a fundamental civic resource for all. Therefore, what is needed in urban neighborhoods that suffer from extreme heat is radical shade. I use the term “radical shade,” to describe a concept where 1) shade is understood as a civic resource that should be equitably distributed, and 2) the process of establishing shade is reimaged in its ability to combat the pressing issue of intense urban heat.

This research was conducted as part of my master’s thesis in Landscape Architecture and Urban Planning at the University of Washington. The thesis, titled “Temporary Tactics for Radical Shade, Catalyzing Rapid Interventions for Extreme Urban Heat in Seattle,” can be

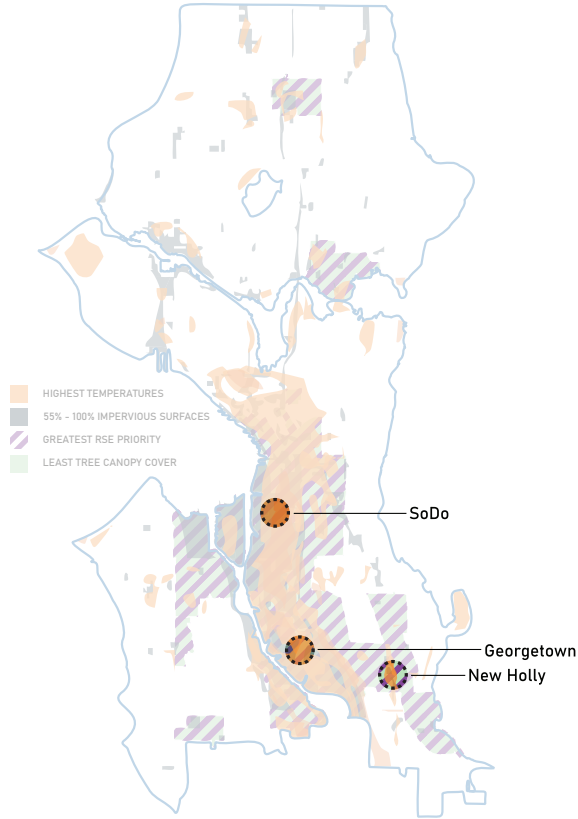
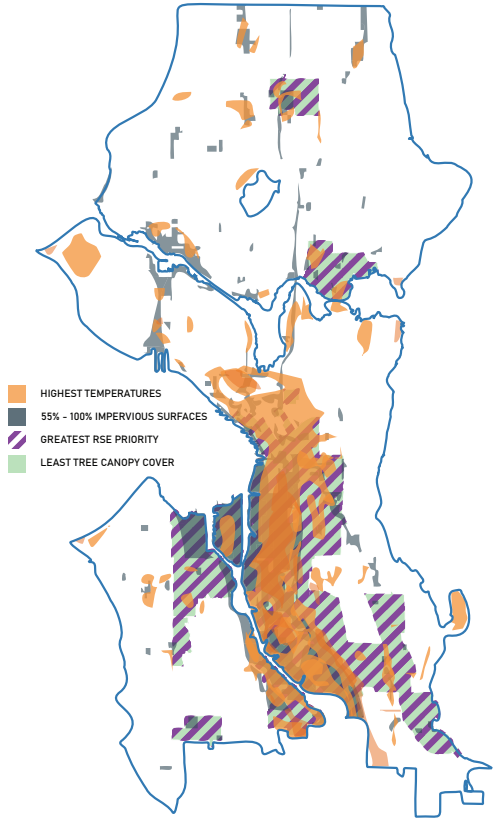
viewed [online](#). The thesis is a call to action for urban designers, local municipalities, and community organizers, as well as a design-research study of what a tactical approach toward radical shade might look like in Seattle as the case study. Although typically a more moderate climate, Seattle is not immune from steadily increasing summer temperatures (Figure 1). To determine locations in Seattle that are in the greatest need of shade interventions, I conducted a city-wide site suitability analysis that led to a composite heat vulnerability map (Figure 2). From this map I selected three sites within the public right-of-way for design interventions. At each site, I developed a series of design proposals that explore how tactical and temporary intervention can create invaluable shade. These proposals were developed following a Design Phasing Framework that I created to outline three separate phases (tactical, temporary, and transformative urbanism) to ideally establish shade as a civic resource (Figure 3). The Framework is designed to guide urgent, short-term responses and to create site- and community-responsive strategies that inform long-term planning efforts aimed at expanding cooling infrastructure and expanding shade equity across neighborhoods.

This thesis does not suggest that tactical urbanism alone can solve the challenges posed by extreme urban heat. Rather, tactical urbanism represents an initial step in building awareness around this urgent issue and enacting a rapid response that offers tangible shade relief in the public realm. The proposed tactical design interventions serve as catalysts; they spark conversations about extreme heat in our neighborhoods and provide functional heat relief. The interventions would provide uses beyond just a respite from the heat. Tactical installations in the public realm invite people to interact with one another and the space in a different manner, which may create new social connections or social capital amongst site users. With the integration of community organizations and volunteer stewards, the proposed designs offer the chance to build community capacity, and establish stronger social ties in resilience to climate disasters like extreme heat (Figures 4-6).

# DAYS ABOVE 90 DEGREE HEAT IN SEATTLE, 1944-2024



# COMPOSITE HEAT VULNERABILITY



# DESIGN PHASING FRAMEWORK

PHASE

## PHASE 1 tactical urbanism

TIME

as needed in response  
to heat waves

ACTORS

\*community organizers  
design activists  
government agencies

DESIGN

functional  
quick response  
advocate + demonstrate

## PHASE 2 temporary urbanism

seasonal: summer  
(1-2 years)

\*design activists  
community organizers  
government agencies

experimental  
engage + activate  
plan + strategize

## PHASE 3 transformative urbanism

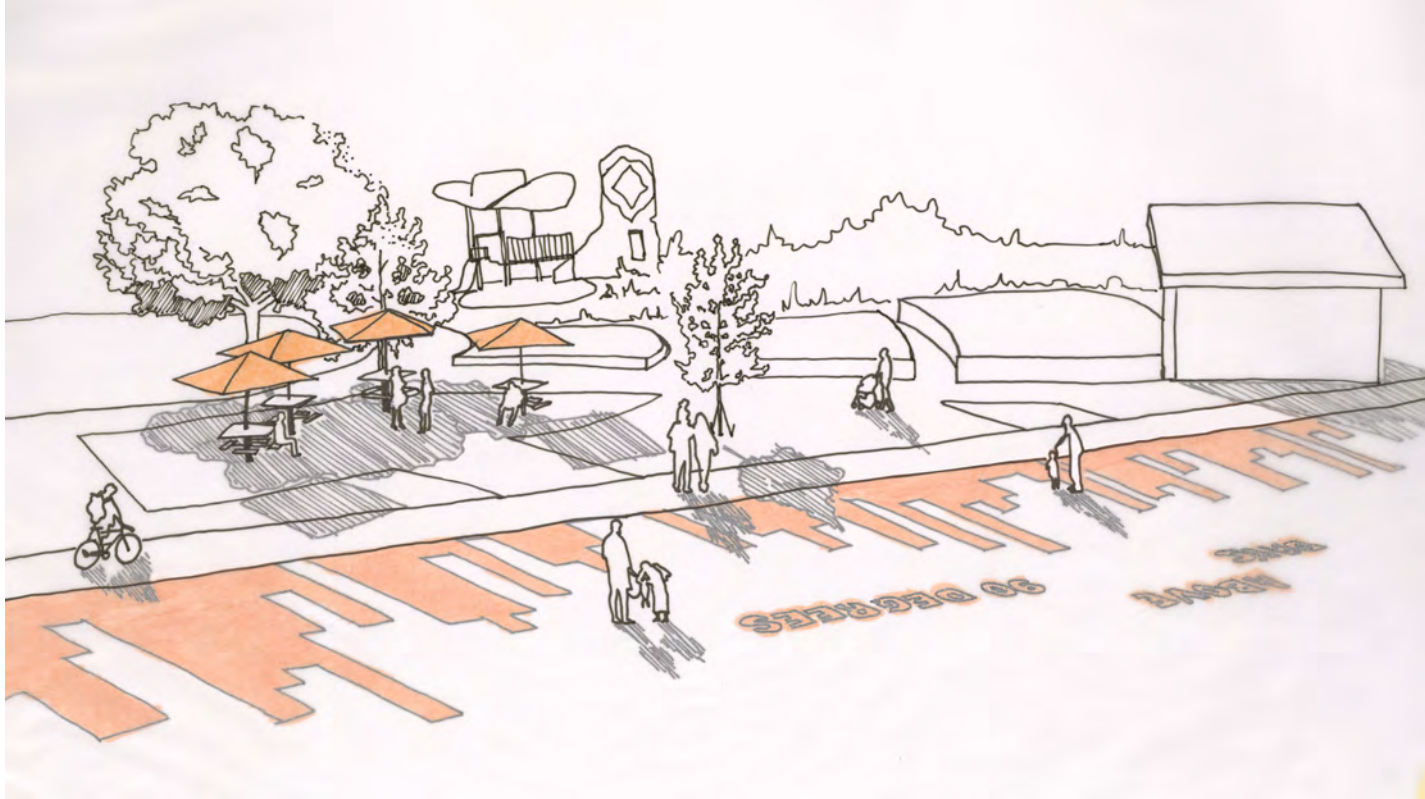
year round  
(2-5 years and beyond)

\*government agencies  
design activists  
community organizers

systematic  
implement + operate  
repurpose + practice

# PHASE 1: TACTICAL URBANISM

SITE 1: CARLETON AVE



# PHASE 2: TEMPORARY URBANISM

SITE 1: CARLETON AVE



# PHASE 3: TRANSFORMATIVE URBANISM

SITE 1: CARLETON AVE

